MITSUBISHI ELECTRIC

Changes for the Better

CE

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

May 2010

No.OC183
REVISED EDITION-E

TECHNICAL & SERVICE MANUAL

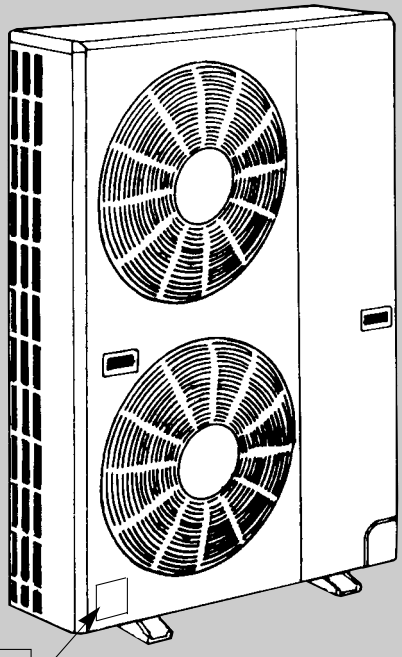
R22

Outdoor unit

[Model names]	[Service Ref.]
PUMY-71VM	PUMY-71VM
	PUMY-71VM$_1$
	PUMY-71VM$_2$
PUMY-125VM	PUMY-125VM
	PUMY-125VM$_1$
	PUMY-125VM$_2$
PUMY-125YM	PUMY-125YM
	PUMY-125YM$_1$
PUMY-125VMA	PUMY-125VMA
	PUMY-125VMA$_1$
PUMY-125YMA	PUMY-125YMA

Revision:
- "8-5.INTERNAL SWITCH FUNCTION TABLE" has been modified.
- "12. PARTS LIST" has been modified.

- Please void OC183 REVISED EDITION-D.



Model name indication

OUTDOOR UNIT

CONTENTS

Revision:
"12. PARTS LIST" has been modified on page 129, 131 and 133

Page	Revise point	Service Ref.	Incorrect	Correct
129	FUNCTIONAL PARTS No.3 THERMISTOR (OUTDOOR TEMPERATURE DETECTION)	PUMY-71VM/VM$_1$/VM$_2$	R01 E29 202	R01 E31 202
129	FUNCTIONAL PARTS No.19 THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)	PUMY-71VM/VM$_1$/VM$_2$	R01 E31 202	R01 E29 202
131	FUNCTIONAL PARTS No.21 THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)	PUMY-125VM/VM$_1$/VM$_2$	R01 E31 202	R01 E29 202
131	FUNCTIONAL PARTS No.22 THERMISTOR (OUTDOOR TEMPERATURE DETECTION)	PUMY-125VM/VM$_1$/VM$_2$	R01 E29 202	R01 E31 202
133	FUNCTIONAL PARTS No.20 THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)	PUMY-125YM/YM$_1$/YMA	R01 E31 202	R01 E29 202
133	FUNCTIONAL PARTS No.21 THERMISTOR (OUTDOOR TEMPERATURE DETECTION)	PUMY-125YM/YM$_1$/YMA	R01 E29 202	R01 E31 202

1 TECHNICAL CHANGE

Change of the service parts. Refer to the parts list for the details.

CHANGE POINTS	CONTENTS OF CHANGE	PUMY-		
	Outdoor unit Service Ref.	71VM$_2$	125VM$_2$	125YM$_1$
	Base outdoor unit Service Ref.	71VM$_1$	125VM$_1$	125YM
FAN MOTOR CAPACITOR	3.5μF ⟹ 3.0μF	◎	—	—
FAN MOTOR	PA6V40-UB ⟹ PU6V60-GB	◎	—	—
	PA6V40-UA ⟹ PU6V60-GA	◎	—	—
	PA6V60-UC ⟹ PU6V60-GB	—	◎	—
	PA6V60-UB ⟹ PU6V60-GA	—	◎	—
	PA6V60-UE ⟹ PU6V60-GD	—	—	◎
	PA6V60-UD ⟹ PU6V60-GC	—	—	◎
COMPRESSOR	CHV253FAA ⟹ EHV33FAG	◎	—	—
	EHV46FAA ⟹ EHV46FAG	—	◎	—
	EHV46FAD ⟹ EHV46FAK	—	—	◎
HIGH PRESSURE SENSOR	Change of manufacturer (Substrate connection wiring is attached.) ⟹ (Substrate connection wiring is not provided.)	◎	◎	◎
SEPARATOR ASSY	Change in accordance with high pressure sensor.	◎	◎	◎
MULTI CONTROLLER BOARD	Change in accordance with high pressure sensor.	◎	◎	◎

PUMY-125YM spare compressor is changed to EHV46FAK from EHV46FAD.

OC183 REVISED EDITION-D

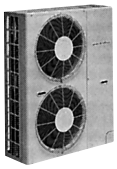
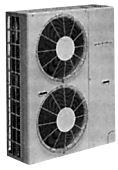
PUMY-125VMA ➔ PUMY-125VMA$_1$

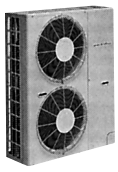
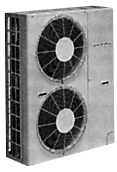
•Partial Change on Electrical Wiring:

Change of reactor (DCL).
Only 2 reactor (DCL1,2) are adopted. (Previously 4)

2 OVERVIEW OF UNITS

2-1. UNIT CONSTRUCTION

		3HP	5HP
Outdoor unit		PUMY-71VM	PUMY-125VM PUMY-125YM
			
Indoor unit that can be connected	**Capacity**	Type 20~Type 125	
	Number of units	2~4units	2~5units
	Total systemwide capacity	50~130% of outdoor unit capacity	

		3HP	5HP
Outdoor unit		PUMY-71VM$_1$ PUMY-71VM$_2$	PUMY-125VM$_1$ PUMY-125YM PUMY-125VM$_2$ PUMY-125YM$_1$ PUMY-125VMA PUMY-125YMA PUMY-125VMA$_1$
			
Indoor unit that can be connected	**Capacity**	Type 20~Type 80	Type 20~Type 125
	Number of units	1~4units	1~8units
	Total systemwide capacity	50~130% of outdoor unit capacity	

Branching pipe components	CMY-Y62-C-E	CMY-Y64-C	CMY-Y68	CMY-S65
	Branch header (2 branches)	Branch header (4 branches)	Branch header (8 branches)	Multi distribution Piping on outdoor unit (5 branches)

Model / Capacity	Cassette Ceiling			Ceiling Concealed	Ceiling mounted built-in	Wall Mounted	Ceiling Suspended	Floor standing	
	4-way flow	2-way flow	1-way flow					Exposed	Concealed
	PLFY-P	PLFY-P	PMFY-P	PEFY-P	PDFY-P	PKFY-P	PCFY-P	PFFY-P	PFFY-P
20	-	20VLMD	20VBM	20VML / VMM	20VM	20VAM	-	20VLEM	20VLRM
25	-	25VLMD	25VBM	25VML / VMM	25VM	25VAM	-	25VLEM	25VLRM
32	32VKM	32VLMD	32VBM	32VML / VMM	32VM	32VGM	-	32VLEM	32VLRM
40	40VKM	40VLMD	40VBM	40VMH / VMM	40VM	40VGM	40VGM	40VLEM	40VLRM
50	50VKM	50VLMD	-	50VMH / VMM	50VM	50VGM	-	50VLEM	50VLRM
63	63VKM	63VLMD	-	63VMH / VMM	63VM	63VFM	63VGM	63VLEM	63VLRM
71	-	-	-	71VMH / VMM	71VM	-	-	-	-
80	80VAM	80VLMD	-	80VMH / VMM	80VM	-	-	-	-
100	100VAM	100VLMD	-	100VMH / VMM	100VM	100VFM	100VGM	-	-
125	125VAM	125VLMD	-	125VMH / VMM	125VM	-	125VGM	-	-

Decorative panel

Remote controller	Name	M-NET remote controller	MA remote controller
	Model number	PAR-F27MEA-E	PAR-20MAA-E
	Functions	• A handy remote controller for use in conjunction with the Melans centralized management system. • Addresses must be set.	• Addresses setting is not necessary. • Only the indoor unit for MA remote controller (the end of model name is -A) can be used.

2-2. UNIT SPECIFICATIONS

(1) Outdoor Unit

Service Ref.		PUMY-71VM PUMY-71VM$_1$ ※1	PUMY-71VM$_2$ ※2	PUMY-125VM PUMY-125VM$_1$ ※1 PUMY-125YM	PUMY-125VM$_2$ PUMY-125YM$_1$ ※2 PUMY-125VMA PUMY-125VMA$_1$ PUMY-125YMA
Capacity	Cooling (kW)	8.3	8.0	14.5	14.0
	Heating (kW)	9.3	9.0	16.3	16.0
Motor for compressor (kW)		2.6	2.6	3.5	3.5

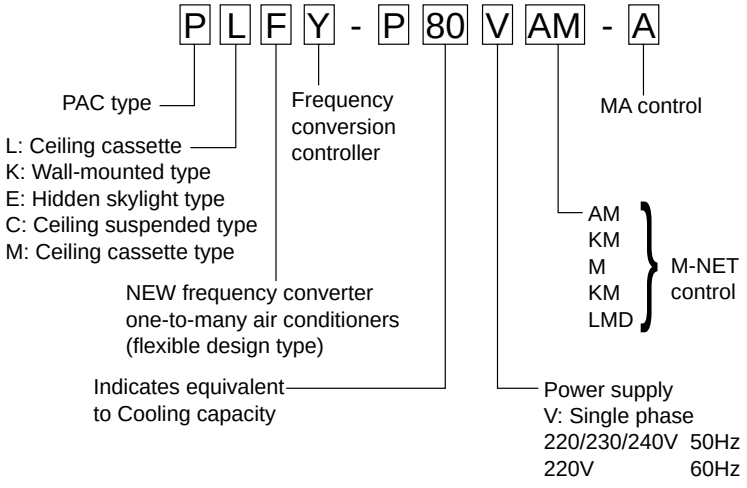
Cooling / Heating capacity indicates the maximum value at operation under the following condition.

※1. Cooling Indoor : D.B. 27°C / W.B. 19.5°C
Outdoor : D.B. 35°C
Heating Indoor : D.B. 21°C
Outdoor : D.B. 9°C / W.B. 6°C

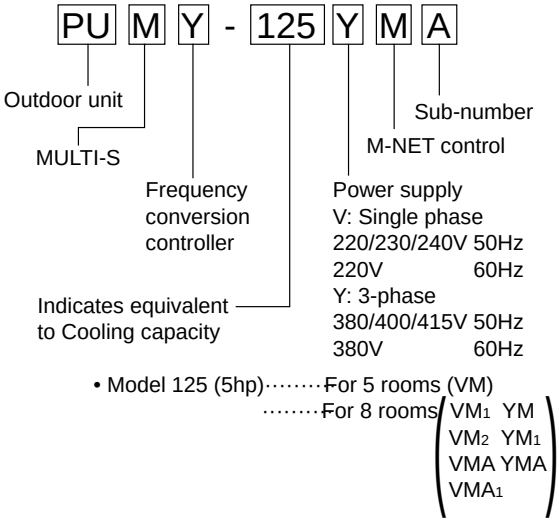
※2. Cooling Indoor : D.B. 27°C / W.B. 19.0°C
Outdoor : D.B. 35°C
Heating Indoor : D.B. 20°C
Outdoor : D.B. 7°C / W.B. 6°C

(2) Method for identifying MULTI-S model

■ Indoor unit < When using Model 80 >



■ Outdoor unit <When using model 125 >



(3) Operating temperature range

	Cooling	Heating
Indoor-side intake air temperature	W.B. 15~24°C	D.B. 15~27°C
Outdoor-side intake air temperature	D.B. -5~46°C	W.B. -15~15.5°C

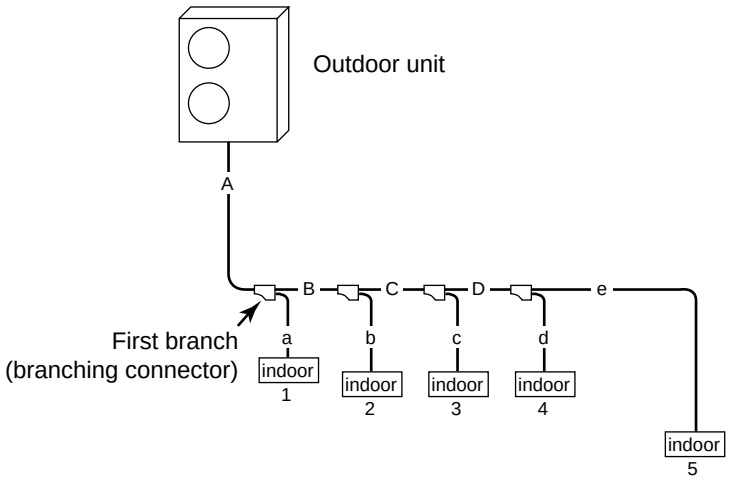
Notes D.B. : Dry Bulb Temperature
W.B. : Wet Bulb Temperature

2-3. SYSTEM LAYOUT

2-3-1. System layout

One outdoor unit using branching connectors can be connected to a maximum of five or eight indoor units.

■ Examples of a branching method



2-3-2. Notes on the connection of indoor and outdoor units

Note: When the total capacity of indoor units exceeds the capacity of the outdoor unit (more than 100%), the rated power of each indoor unit will be less when they are running simultaneously.

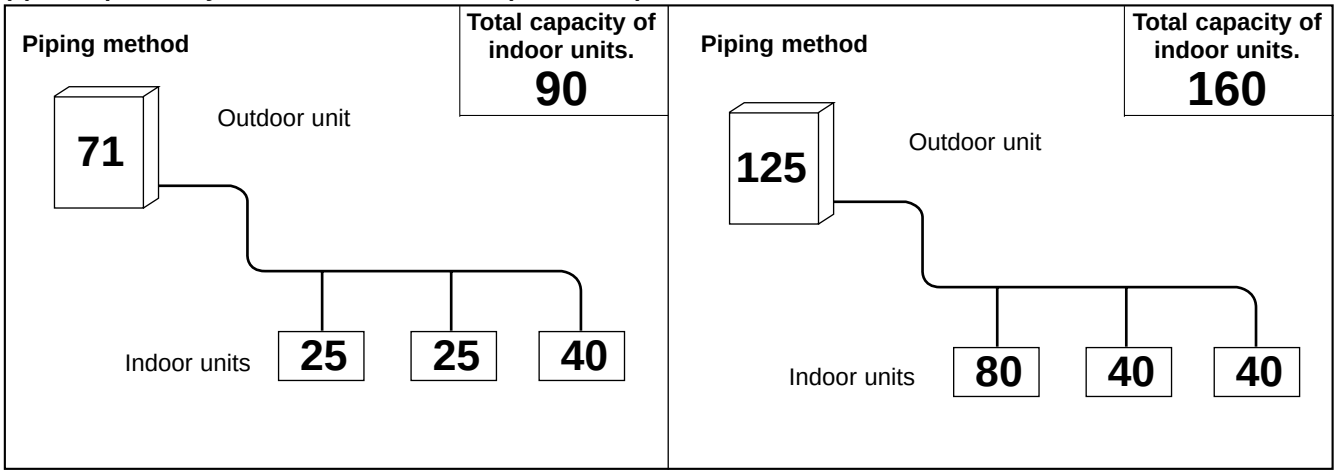
Indoor unit \ Outdoor unit	PUMY-71VM	PUMY-125VM	PUMY-71VM$_1$ PUMY-71VM$_2$	PUMY-125VM$_1$ PUMY-125VM$_2$ PUMY-125YM PUMY-125YM$_1$ PUMY-125VMA PUMY-125VMA$_1$ PUMY-125YMA
Indoor unit that can connected	2~4 units	2~5 units	1~4 units	1~8 units
Available capacity of indoor unit	Type 20 ~ Type 80		Type 20 ~ Type 125	
Total capacity of units that can be included system (50-130% of outdoor unit capacity)	35~92	63~163	35~92	63~163

2-3-3. Capacity for outdoor unit

(1) Branching pipe

Model		NUMBER OF BRANCHING POINTS
Branching connector	CMY-Y62C-E	2
	CMY-Y64-C	4
	CMY-Y68	8
	CMY-S65	5

(2) Examples of System Construction (All models)



3 SPECIFICATIONS

Item \ Service Ref			Unit	PUMY-71VM	PUMY-125VM
Standard performance	Cooling	Rated Cooling capacity	kcal/h	7,100	12,500
		Rated power consumption	kW	3.50	6.57
		Operating current	A	17.5-16.7-16.0	34.9-33.5-32.2
		Operating power factor	%	91	85
		Starting current	A	15.0	22.0
	Heating	Rated Heating capacity	kcal/h	8,000	14,000
		Rated power consumption	kW	3.65	6.10
		Operating current	A	18.2-17.4-16.7	32.6-31.2-29.9
		Operating power factor	%	91	85
		Starting current	A	15.0	22.0
	Rated power supply			Single phase 220-230-240V 50Hz	
External finish (Munsell colour-coded markings)				Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>	
Dimensions H × W × D (Note 1)			mm	1280 × 900 × 320 (+30)	1280 × 1020 × 350 (+30)
Heat exchanger type				Crossover fin	
Compressor	Model			CHV253FAA	EHV46FAA
	Type × quantity			Fully enclosed type × 1	
	Starting method			Frequency converter start	
	Motor output		kW	2.6	3.5
	Capacity control		%	Cooling 27-100% Heating 24-100%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity		Legal tons	1.1 (110Hz)	1.9 (104Hz)
	Heater <crankcase>		W	25-28-30	38-41-45
	Refrigerating oil (Model)		L	1.07 (MS56)	1.4 (MS32)
Fan	Type × quantity			Propeller (direct) × 2	
	Airflow		m^3/min	95	90
	Motor output		W	40 × 2	60 × 2
Defrost method				Reverse cycle	
Pressure gauge				—	
Protection devices	High pressure protection			High pressure pressure sensor (3.0MPa)	
	Compressor protection			Thermal switch	
	Blower protection			Thermal switch	
	Frequency converter circuit			Overheating, Over current protection	
Noise level			dB	52	54
Weight			kg	93	130
Refrigerant pipe size		Gas	ϕ mm	15.88	19.05
		Liquid	ϕ mm	9.52	9.52
Refrigerant	Type × charge amount		kg	R22 × 5	R22 × 8.5
	Control method			Expansion valve	

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8615)

Cooling : Indoor : D.B. 27℃ W.B. 19.5℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 21℃

: Outdoor : D.B. 7℃ W.B. 6℃

Item / Service Ref			Unit	PUMY-71VM1	PUMY-125VM1
Standard performance	Cooling	Rated Cooling capacity	kcal/h	7,100	12,500
		Rated power consumption	kW	3.50 / 3.63	6.57 / 6.43
		Operating current	A	17.5-16.7-16.0 / 18.1	34.9-33.5-32.2 / 33.6
		Operating power factor	%	91	85 / 87
		Starting current	A	15.0	22.0
	Heating	Rated Heating capacity	kcal/h	8,000	14,000
		Rated power consumption	kW	3.65 / 3.53	6.10 / 6.03
		Operating current	A	18.2-17.4-16.7 / 17.6	32.6-31.2-29.9 / 31.5
		Operating power factor	%	91	85 / 87
		Starting current	A	15.0	22.0
	Rated power supply			Single phase 220-230-240V 50Hz / 220V 60Hz	
External finish (Munsell colour-coded markings)				Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>	
Dimensions H × W × D (Note 1)			mm	1280 × 900 × 320 (+30)	1280 × 1020 × 350 (+30)
Heat exchanger type				Crossover fin	
Compressor	Model			CHV253FAA	EHV46FAA
	Type × quantity			Fully enclosed type × 1	
	Starting method			Frequency converter start	
	Motor output		kW	2.6	3.5
	Capacity control		%	Cooling 27-100% Heating 24-100%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity		Legal tons	1.1 (110Hz)	1.9 (104Hz)
	Heater <crankcase>		W	—	—
	Refrigerating oil (Model)		L	1.07 (MS56)	1.4 (MS32)
Fan	Type × quantity			Propeller (direct) × 2	
	Airflow		m^3/min	95	90
	Motor output		W	40 × 2	60 × 2
Defrost method				Reverse cycle	
Pressure gauge				—	
Protection devices	High pressure protection			High pressure pressure sensor (3.0MPa)	
	Compressor protection			Thermal switch	
	Blower protection			Thermal switch	
	Frequency converter circuit			Overheating, Over current protection	
Noise level			dB	52	54
Weight			kg	93	130
Refrigerant pipe size		Gas	ϕ mm	15.88	19.05
		Liquid	ϕ mm	9.52	9.52
Refrigerant	Type × charge amount		kg	R22 × 5	R22 × 8.5
	Control method			Expansion valve	

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8615)

Cooling : Indoor : D.B. 27℃ W.B. 19.5℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 21℃

: Outdoor : D.B. 7℃ W.B. 6℃

Item		Service Ref	Unit	PUMY-71VM2	PUMY-125VM2
Standard performance	Cooling	Rated Cooling capacity	kW	8.0	14.0
		Rated power consumption	kW	3.50 / 3.63	6.57 / 6.43
		Operating current	A	17.5-16.7-16.0 / 18.1	34.9-33.5-32.2 / 33.6
		Operating power factor	%	91	85 / 87
		Starting current	A	15.0	22.0
	Heating	Rated Heating capacity	kW	9.0	16.0
		Rated power consumption	kW	3.65 / 3.53	6.10 / 6.03
		Operating current	A	18.2-17.4-16.7 / 17.6	32.6-31.2-29.9 / 31.5
		Operating power factor	%	91	85 / 87
		Starting current	A	15.0	22.0
	Rated power supply			Single phase 220-230-240V 50Hz / 220V 60Hz	
External finish (Munsell colour-coded markings)				Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>	
Dimensions H × W × D (Note 1)			mm	1280 × 900 × 320 (+30)	1280 × 1020 × 350 (+30)
Heat exchanger type				Crossover fin	
Compressor	Model			EHV33FAG	EHV46FAG
	Type × quantity			Fully enclosed type × 1	
	Starting method			Frequency converter start	
	Motor output		kW	2.6	3.5
	Capacity control		%	Cooling 36-100% Heating 32-100%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity		Legal tons	1.1 (83Hz)	1.9 (104Hz)
	Heater <crankcase>		W	—	—
	Refrigerating oil (Model)		L	1.4 (MS32)	1.4 (MS32)
Fan	Type × quantity			Propeller (direct) × 2	
	Airflow		m^3/min	95	90
	Motor output		W	40 × 2	60 × 2
Defrost method				Reverse cycle	
Pressure gauge				—	
Protection devices	High pressure protection			High pressure pressure sensor (3.0MPa)	
	Compressor protection			Thermal switch	
	Blower protection			Thermal switch	
	Frequency converter circuit			Overheating, Over current protection	
Noise level			dB	52	54
Weight			kg	102	130
Refrigerant pipe size		Gas	ϕ mm	15.88	19.05
		Liquid	ϕ mm	9.52	9.52
Refrigerant	Type × charge amount		kg	R22 × 5	R22 × 8.5
	Control method			Expansion valve	

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8616)

Cooling : Indoor : D.B. 27℃ W.B. 19.0℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 20℃

: Outdoor : D.B. 7℃ W.B. 6℃

Item / Service Ref			Unit	PUMY-125YM
Standard performance	Cooling	Rated Cooling capacity	kcal/h	12,500
		Rated power consumption	kW	5.95
		Operating current	A	9.6-9.1-8.8
		Operating power factor	%	94
		Starting current	A	8.0
	Heating	Rated Heating capacity	kcal/h	14,000
		Rated power consumption	kW	5.58
		Operating current	A	9.0-8.6-8.3
		Operating power factor	%	94
		Starting current	A	8.0
		Rated power supply		3 phase 380-400-415V 50Hz
External finish (Munsell colour-coded markings)				Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>
Dimensions H × W × D (Note 1)			mm	1280 × 1020 × 350 (+30)
Heat exchanger type				Crossover fin
Compressor	Model			EHV46FAD
	Type × quantity			Fully enclosed type × 1
	Starting method			Frequency converter start
	Motor output		kW	3.5
	Capacity control		%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity		Legal tons	1.9 (104Hz)
	Heater <crankcase>		W	—
	Refrigerating oil (Model)		L	1.4 (MS32)
Fan	Type × quantity			Propeller (direct) × 2
	Airflow		m^3/min	90
	Motor output		W	60 × 2
Defrost method				Reverse cycle
Pressure gauge				—
Protection devices	High pressure protection			High pressure pressure sensor (3.0MPa)
	Compressor protection			Thermal switch
	Blower protection			Thermal switch
	Frequency converter circuit			Overheating, Over current protection
Noise level			dB	54
Weight			kg	127
Refrigerant pipe size		Gas	ϕ mm	19.05
		Liquid	ϕ mm	9.52
Refrigerant	Type × charge amount		kg	R22 × 8.5
	Control method			Expansion valve

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8615)

Cooling : Indoor : D.B. 27℃ W.B. 19.5℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 21℃

: Outdoor : D.B. 7℃ W.B. 6℃

Item / Service Ref			Unit	PUMY-125YM1
Standard performance	Cooling	Rated Cooling capacity	kW	14.0
		Rated power consumption	kW	5.95
		Operating current	A	9.6-9.1-8.8 / 9.6
		Operating power factor	%	94
		Starting current	A	8.0
	Heating	Rated Heating capacity	kW	16.0
		Rated power consumption	kW	5.58
		Operating current	A	9.0-8.6-8.3 / 9.0
		Operating power factor	%	94
		Starting current	A	8.0
	Rated power supply			3 phase 380-400-415V 50Hz / 380V 60Hz
External finish (Munsell colour-coded markings)				Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>
Dimensions H × W × D (Note 1)			mm	1280 × 1020 × 350 (+30)
Heat exchanger type				Crossover fin
Compressor	Model			EHV46FAK
	Type × quantity			Fully enclosed type × 1
	Starting method			Frequency converter start
	Motor output		kW	3.5
	Capacity control		%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity		Legal tons	1.9 (104Hz)
	Heater <crankcase>		W	—
	Refrigerating oil (Model)		L	1.4 (MS32)
Fan	Type × quantity			Propeller (direct) × 2
	Airflow		m^3/min	90
	Motor output		W	60 × 2
Defrost method				Reverse cycle
Pressure gauge				—
Protection devices	High pressure protection			High pressure pressure sensor (3.0MPa)
	Compressor protection			Thermal switch
	Blower protection			Thermal switch
	Frequency converter circuit			Overheating, Over current protection
Noise level			dB	54
Weight			kg	127
Refrigerant pipe size		Gas	ϕ mm	19.05
		Liquid	ϕ mm	9.52
Refrigerant	Type × charge amount		kg	R22 × 8.5
	Control method			Expansion valve

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8616)

Cooling : Indoor : D.B. 27℃ W.B. 19.0℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 20℃

: Outdoor : D.B. 7℃ W.B. 6℃

Item			Service Ref	Unit	PUMY-125VMA PUMY-125VMA1
Standard performance	Cooling	Rated Cooling capacity		kW	14.0
		Rated power consumption		kW	6.10/6.04
		Operating current		A	28.3-27.1-26.0/28.0
		Operating power factor		%	98
		Starting current		A	17
	Heating	Rated Heating capacity		kW	16.0
		Rated power consumption		kW	5.58/5.79
		Operating current		A	27.2-26.0-24.9/26.9
		Operating power factor		%	98
		Starting current		A	17
		Rated power supply			Single phase 220-230-240V 50Hz / 220V 60Hz
External finish (Munsell colour-coded markings)					Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>
Dimensions H × W × D (Note 1)				mm	1280 × 1020 × 350 (+30)
Heat exchanger type					Crossover fin
Compressor	Model				EHV46FAM1
	Type × quantity				Fully enclosed type × 1
	Starting method				Frequency converter start
	Motor output			kW	3.5
	Capacity control			%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity			Legal tons	1.9 (104Hz)
	Heater <crankcase>			W	—
	Refrigerating oil (Model)			L	1.4 (MS32)
Fan	Type × quantity				Propeller (direct) × 2
	Airflow			m^3/min(CFM)	90(3,177)
	Motor output			W	60 × 2
Defrost method					Reverse cycle
Pressure gauge					—
Protection devices	High pressure protection				High pressure pressure sensor (3.0MPa)
	Compressor protection				Thermal switch
	Blower protection				Thermal switch
	Frequency converter circuit				Overheating, Over current protection
Noise level				dB	54
Weight				kg(lbs)	128(282)
Refrigerant pipe size			Gas	ϕ mm	19.05
			Liquid	ϕ mm	9.52
Refrigerant	Type × charge amount			kg	R22 × 8.5
	Control method				Expansion valve

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8616)

Cooling : Indoor : D.B. 27℃ W.B. 19.0℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 20℃

: Outdoor : D.B. 7℃ W.B. 6℃

Item			Service Ref	Unit	PUMY-125YMA
Standard performance	Cooling	Rated Cooling capacity		kW	14.0
		Rated power consumption		kW	5.95
		Operating current		A	9.6-9.1-8.8
		Operating power factor		%	94
		Starting current		A	8.0
	Heating	Rated Heating capacity		kW	16.0
		Rated power consumption		kW	5.58
		Operating current		A	9.0-8.6-8.3
		Operating power factor		%	94
		Starting current		A	8.0
		Rated power supply			3 phase 380-400-415V 50Hz
External finish (Munsell colour-coded markings)					Molten-galvanized steel plate (with polyester coating), ivory white <5Y 8/1>
Dimensions H × W × D (Note 1)				mm	1280 × 1020 × 350 (+30)
Heat exchanger type					Crossover fin
Compressor	Model				EHV46FAK
	Type × quantity				Fully enclosed type × 1
	Starting method				Frequency converter start
	Motor output			kW	3.5
	Capacity control			%	Cooling 27-100% Heating 25-100%
	Daily cooling capacity			Legal tons	1.9 (104Hz)
	Heater <crankcase>			W	—
	Refrigerating oil (Model)			L	1.4 (MS32)
Fan	Type × quantity				Propeller (direct) × 2
	Airflow			m^3/min	90
	Motor output			W	60 × 2
Defrost method					Reverse cycle
Pressure gauge					—
Protection devices	High pressure protection				High pressure pressure sensor (3.0MPa)
	Compressor protection				Thermal switch
	Blower protection				Thermal switch
	Frequency converter circuit				Overheating, Over current protection
Noise level				dB	54
Weight				kg	127
Refrigerant pipe size			Gas	ϕ mm	19.05
			Liquid	ϕ mm	9.52
Refrigerant	Type × charge amount			kg	R22 × 8.5
	Control method				Expansion valve

Note 1: External dimensions in parentheses indicate the dimensions of protruding parts.

Note 2: Rating conditions (JIS B 8616)

Cooling : Indoor : D.B. 27℃ W.B. 19.0℃

: Outdoor : D.B. 35℃ W.B. 24℃

Heating : Indoor : D.B. 20℃

: Outdoor : D.B. 7℃ W.B. 6℃

4 DATA

4-1. COOLING AND HEATING CAPACITY AND CHARACTERISTICS

4-1-1. Method for obtaining system cooling and heating capacity:

To obtain the system cooling and heating capacity and the electrical characteristics of the outdoor unit, first add up the ratings of all the indoor units connected to the outdoor unit (see table below), and then use this total to find the standard capacity with the help of the tables on page14-30.

(1) Capacity of indoor unit

Model Number for indoor unit	Model 20	Model 25	Model 32	Model 40	Model 50	Model 63	Model 71	Model 80	Model 100	Model 125
Model Capacity	22	28	36	45	56	71	80	90	112	140
	20	25	32	40	50	63	71	80	100	125

As for PUMY-71VM$_2$, 125VM$_2$, 125YM$_1$, 125YMA, 125VMA and 125VMA$_1$, see the value here to check the stadard capaity.

(2) Sample calculation

①System assembled from indoor and outdoor unit (in this example the total capacity of the indoor units is greater than that of the outdoor unit)

- Outdoor unit PUMY-125YM
- Indoor unit PKFY-P25VAM × 2 , PLFY-P50VLMD × 2

②According to the conditions in ①, the total capacity of the indoor unit will be: 25 × 2 + 50 × 2 = 150

③The following figures are obtained from the 150 total capacity row of the standard capacity table (page 24):

Capacity (kcal/h)		Outdoor unit power consumption (kW)		Outdoor unit current (A)	
Cooling	Heating	Cooling	Heating	Cooling	Heating
Ⓐ 13,026	Ⓑ 14,288	6.15	5.98	9.4	9.2

4-1-2. Method for obtaining the heating and cooling capacity of an indoor unit:

(1) The capacity of each indoor unit (kcal/h) = the capacity Ⓐ (or Ⓑ) × $\frac{\text{model capacity}}{\text{total model capacity of all indoor units}}$

(2) Sample calculation using the system described above in 4-1-1. (2)

During cooling

• The total model capacity of the indoor unit is :
25 × 2 + 50 × 2=150 kcal/h
Therefore, the capacity of PKFY-P25VAM and PLFY-P50VLMD will be calculated as follows by using the formula in 4-1-2. (1) :

Model 25=13,026 × $\frac{25}{150}$ = 2,171 kcal/h

Model 50=13,026 × $\frac{50}{150}$ = 4,342 kcal/h

During heating

• The total model capacity of indoor unit is :
28 × 2 + 56 × 2=168 kcal/h
Therefore, the capacity of PKFY-P25VAM and PLFY-P50VLMD will be calculated as follows by using the formula in 4-1-2. (1) :

Model 25=14,288 × $\frac{28}{168}$ = 2,381 kcal/h

Model 50=14,288 × $\frac{56}{168}$ = 4,762 kcal/h

4-2. STANDARD CAPACITY DIAGRAM

• PUMY-71VM, PUMY-71VM$_1$ STANDARD CAPACITY DIAGRAM

220V, 50Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
40	4000	4500	2.02	2.41	10.1	12.0
41	4100	4610	2.07	2.45	10.4	12.2
42	4200	4720	2.12	2.49	10.6	12.4
43	4300	4830	2.17	2.53	10.8	12.7
44	4400	4940	2.22	2.58	11.1	12.9
45	4500	5050	2.27	2.63	11.3	13.1
46	4600	5160	2.31	2.67	11.6	13.3
47	4700	5270	2.36	2.71	11.8	13.5
48	4800	5380	2.41	2.75	12.0	13.7
49	4900	5490	2.46	2.79	12.3	13.9
50	5000	5600	2.51	2.83	12.5	14.2
51	5100	5715	2.55	2.87	12.7	14.4
52	5200	5831	2.59	2.92	13.0	14.6
53	5300	5946	5.64	2.96	13.2	14.8
54	5400	6062	2.69	3.00	13.4	15.0
55	5500	6177	2.74	3.04	13.7	15.2
56	5600	6292	2.79	3.08	13.9	15.4
57	5700	6408	2.83	3.12	14.2	15.6
58	5800	6523	2.88	3.16	14.4	15.8
59	5900	6638	2.93	3.20	14.6	16.0
60	6000	6754	2.98	3.24	14.9	16.2
61	6100	6869	3.02	3.28	15.1	16.4
62	6200	6985	3.07	3.31	15.3	16.5
63	6300	7100	3.11	3.35	15.6	16.7
64	6400	7213	3.16	3.39	15.8	16.9
65	6500	7325	3.21	3.42	16.0	17.1
66	6600	7438	3.26	3.46	16.3	17.3
67	6700	7550	3.31	3.49	16.5	17.5
68	6800	7663	3.36	3.54	16.8	17.7
69	6900	7775	3.40	3.58	17.0	17.9
70	7000	7888	3.45	3.61	17.2	18.0
71	7100	8000	3.50	3.65	17.5	18.2
72	7122	8012	3.50	3.64	18.7	19.5
73	7144	8024	3.51	3.63	18.8	19.4
74	7166	8036	3.51	3.61	18.8	19.3
75	7189	8049	3.52	3.60	18.8	19.2
76	7211	8061	3.52	3.58	18.8	19.1
77	7223	8073	3.53	3.57	18.9	19.1
78	7255	8085	3.53	3.55	18.9	19.0
79	7277	8097	3.54	3.54	18.9	18.9
80	7299	8109	3.54	3.52	18.9	18.8
81	7322	8121	3.55	3.51	19.0	18.7
82	7344	8133	3.55	3.48	19.0	18.6
83	7366	8146	3.56	3.47	19.0	18.6
84	7388	8158	3.56	3.45	19.0	18.5
85	7410	8170	3.57	3.44	19.1	18.4
86	7432	8182	3.57	3.42	19.1	18.3
87	7455	8194	3.58	3.41	19.1	18.2
88	7477	8206	3.58	3.39	19.1	18.1
89	7499	8218	3.59	3.38	19.2	18.1
90	7542	8231	3.60	3.36	19.2	18.0
91	7543	8243	3.60	3.35	19.2	17.9
92	7566	8255	3.61	3.33	19.3	17.8
93	7588	8267	3.61	3.32	19.3	17.7

• PUMY-71VM$_1$ STANDARD CAPACITY DIAGRAM

220V, 60Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
35	3500	3906	1.86	2.11	9.6	10.8
36	3600	4025	1.91	2.15	9.8	11.0
37	3700	4144	1.96	2.19	10.1	11.2
38	3800	4263	2.01	2.24	10.3	11.5
39	3900	4381	2.06	2.28	10.6	11.7
40	4000	4500	2.10	2.33	10.8	11.9
41	4100	4610	2.15	2.37	11.0	12.1
42	4200	4720	2.20	2.41	11.3	12.3
43	4300	4830	2.25	2.45	11.5	12.5
44	4400	4940	2.30	2.50	11.8	12.7
45	4500	5050	2.35	2.54	12.0	12.9
46	4600	5160	2.40	2.58	12.2	13.1
47	4700	5270	2.45	2.62	12.5	13.3
48	4800	5380	2.50	2.66	12.7	13.5
49	4900	5490	2.55	2.70	13.0	13.7
50	5000	5600	2.60	2.74	13.2	13.9
51	5100	5715	2.64	2.78	13.4	14.1
52	5200	5831	2.69	2.82	13.7	14.3
53	5300	5946	2.74	2.86	13.9	14.5
54	5400	6062	2.79	2.90	14.2	14.7
55	5500	6177	2.84	2.94	14.4	14.9
56	5600	6292	2.89	2.98	14.6	15.1
57	5700	6408	2.94	3.02	14.9	15.2
58	5800	6523	2.99	3.06	15.1	15.4
59	5900	6638	3.04	3.09	15.3	15.6
60	6000	6754	3.09	3.13	15.6	15.8
61	6100	6869	3.13	3.17	15.8	16.0
62	6200	6985	3.18	3.20	16.0	16.1
63	6300	7100	3.23	3.24	16.3	16.3
64	6400	7213	3.28	3.28	16.5	16.5
65	6500	7325	3.33	3.31	16.7	16.7
66	6600	7438	3.38	3.35	17.0	16.8
67	6700	7550	3.43	3.38	17.2	17.0
68	6800	7663	3.48	3.42	17.4	17.2
69	6900	7775	3.53	3.46	17.7	17.3
70	7000	7778	3.58	3.49	17.9	17.5
71	7100	8000	3.63	3.53	18.1	17.6
72	7122	8012	3.63	3.52	18.2	17.6
73	7144	8024	3.64	3.51	18.2	17.6
74	7166	8036	3.64	3.49	18.2	17.5
75	7189	8049	3.65	3.48	18.2	17.4
76	7211	8061	3.65	3.46	18.3	17.4
77	7233	8073	3.66	3.45	18.3	17.3
78	7255	8085	3.66	3.43	18.3	17.2
79	7277	8097	3.67	3.42	18.3	17.1
80	7299	8109	3.67	3.40	18.4	17.1
81	7322	8121	3.68	3.39	18.4	17.0
82	7344	8133	3.68	3.37	18.4	16.9
83	7366	8146	3.69	3.36	18.4	16.9
84	7388	8158	3.69	3.34	18.5	16.8
85	7410	8170	3.70	3.33	18.5	16.7
86	7432	8182	3.70	3.31	18.5	16.6
87	7455	8194	3.71	3.30	18.5	16.6
88	7477	8206	3.71	3.28	18.6	16.5
89	7499	8218	3.72	3.27	18.6	16.4
90	7521	8231	3.73	3.25	18.6	16.4
91	7543	8243	3.73	3.24	18.6	16.3
92	7566	8255	3.74	3.22	18.7	16.2
93	7588	8267	3.74	3.21	18.7	16.2

• PUMY-71VM$_2$ STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

220V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		220V, 50Hz				220V, 60Hz			
			Power consumption (kW)		Current (A)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
40	4.00	4.44	1.83	2.05	9.1	10.3	1.90	1.99	9.5	9.9
41	4.10	4.56	1.87	2.09	9.3	10.5	1.94	2.02	9.7	10.1
42	4.20	4.67	1.91	2.13	9.5	10.6	1.98	2.06	9.9	10.3
43	4.30	4.78	1.95	2.16	9.8	10.8	2.02	2.09	10.1	10.4
44	4.40	4.89	1.99	2.20	10.0	11.0	2.07	2.13	10.3	10.6
45	4.50	5.00	2.03	2.24	10.2	11.2	2.11	2.16	10.5	10.8
46	4.60	5.12	2.08	2.27	10.4	11.4	2.16	2.20	10.8	11.0
47	4.70	5.24	2.12	2.30	10.6	11.5	2.20	2.23	11.0	11.1
48	4.80	5.35	2.15	2.35	10.8	11.7	2.23	2.27	11.2	11.4
49	4.90	5.47	2.21	2.39	11.0	11.9	2.29	2.31	11.4	11.5
50	5.00	5.59	2.25	2.42	11.2	12.1	2.33	2.34	11.6	11.7
51	5.10	5.71	2.29	2.27	11.4	12.3	2.37	2.20	11.8	11.9
52	5.20	5.83	2.33	2.50	11.6	12.5	2.41	2.42	12.1	12.1
53	5.30	5.94	2.37	2.53	11.8	12.6	2.45	2.45	12.3	12.2
54	5.40	6.06	2.41	2.57	12.0	12.8	2.50	2.49	12.5	12.4
55	5.50	6.18	2.45	2.62	12.2	13.1	2.54	2.53	12.7	12.6
56	5.60	6.30	2.50	2.66	12.5	13.3	2.59	2.57	12.9	12.8
57	5.70	6.41	2.54	2.68	12.7	13.4	2.63	2.60	13.2	13.0
58	5.80	6.53	2.57	2.73	12.8	13.6	2.66	2.64	13.3	13.2
59	5.90	6.64	2.62	2.77	13.1	13.8	2.72	2.68	13.6	13.4
60	6.00	6.75	2.66	2.81	13.3	14.0	2.76	2.72	13.8	13.6
61	6.10	6.87	2.70	2.86	13.5	14.3	2.80	2.76	14.0	13.8
62	6.20	6.98	2.75	2.90	13.7	14.5	2.85	2.80	14.3	14.0
63	6.30	7.10	2.78	2.93	13.9	14.7	2.89	2.84	14.4	14.2
64	6.40	7.20	2.82	2.98	14.1	14.9	2.93	2.88	14.6	14.4
65	6.50	7.32	2.87	3.02	14.3	15.1	2.98	2.92	14.9	14.6
66	6.60	7.43	2.91	3.05	14.6	15.2	3.02	2.95	15.1	14.7
67	6.70	7.54	2.95	3.10	14.8	15.5	3.06	2.99	15.3	15.0
68	6.80	7.66	2.99	3.14	15.0	15.7	3.11	3.04	15.5	15.2
69	6.90	7.77	3.03	3.18	15.2	15.9	3.15	3.08	15.7	15.4
70	7.00	7.88	3.08	3.23	15.4	16.1	3.19	3.12	15.9	15.6
71	7.10	8.00	3.13	3.27	15.6	16.3	3.24	3.16	16.2	15.8
72	7.20	8.11	3.17	3.31	15.8	16.5	3.28	3.20	16.4	16.0
73	7.30	8.22	3.20	3.35	16.0	16.8	3.32	3.24	16.6	16.2
74	7.40	8.33	3.25	3.39	16.2	16.9	3.37	3.28	16.8	16.4
75	7.50	8.44	3.29	3.43	16.4	17.1	3.41	3.32	17.0	16.6
76	7.60	8.56	3.33	3.48	16.6	17.4	3.45	3.36	17.2	16.8
77	7.70	8.67	3.38	3.53	16.9	17.6	3.50	3.41	17.5	17.0
78	7.80	8.78	3.41	3.56	17.0	17.8	3.54	3.45	17.7	17.2
79	7.90	8.89	3.45	3.61	17.2	18.0	3.58	3.49	17.9	17.4
80	8.00	9.00	3.50	6.65	17.5	18.2	3.63	3.53	18.1	17.6
81	8.02	9.01	3.50	6.65	17.5	18.2	3.63	3.53	18.1	17.6
82	8.05	9.03	3.50	3.63	17.5	18.1	3.63	3.51	18.1	17.5
83	8.07	9.04	3.51	3.62	17.5	18.1	3.64	3.50	18.2	17.5
84	8.09	9.05	3.51	3.60	17.5	18.0	3.64	3.48	18.2	17.4
85	8.12	9.06	3.52	3.58	17.6	17.9	3.65	3.47	18.2	17.3
86	8.14	9.08	3.52	3.57	17.6	17.8	3.65	3.46	18.2	17.3
87	8.16	9.09	3.53	3.55	17.6	17.8	3.66	3.44	18.3	17.2
88	8.19	9.10	3.53	3.54	17.6	17.7	3.66	3.43	18.3	17.1
89	8.21	9.11	3.54	3.53	17.7	17.6	3.67	3.41	18.3	17.0
90	8.23	9.13	3.54	3.52	17.7	17.6	3.67	3.40	18.3	17.0
91	8.25	9.14	3.55	3.51	17.7	17.5	3.68	3.39	18.4	16.9
92	8.28	9.15	3.55	3.49	17.7	17.4	3.68	3.37	18.4	16.8
93	8.30	9.16	3.56	3.48	17.8	17.4	3.69	3.36	18.4	16.8
94	8.32	9.18	3.56	3.46	17.8	17.3	3.69	3.35	18.4	16.7
95	8.35	9.19	3.57	3.44	17.8	17.2	3.70	3.33	18.5	16.6
96	8.37	9.20	3.57	3.41	17.8	17.0	3.70	3.30	18.5	16.5
97	8.39	9.21	3.58	3.40	17.9	17.0	3.71	3.29	18.6	16.4
98	8.41	9.23	3.58	3.39	17.9	16.9	3.71	3.28	18.6	16.4
99	8.44	9.24	3.59	3.38	17.9	16.9	3.72	3.27	18.6	16.3
100	8.46	9.25	3.59	3.37	17.9	16.8	3.72	3.26	18.6	16.3
101	8.48	9.26	3.59	3.36	17.9	16.8	3.72	3.25	18.6	16.2
102	8.51	9.28	3.59	3.33	17.9	16.7	3.72	3.23	18.6	16.1
103	8.53	9.29	3.60	3.33	18.0	16.6	3.73	3.22	18.7	16.1
104	8.55	9.30	3.60	3.31	18.0	16.5	3.73	3.20	18.7	16.0

• PUMY-125VM, PUMY-125VM$_1$ STANDARD CAPACITY DIAGRAM

220V, 50Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
63	6300	7100	2.74	2.88	14.6	15.4
64	6400	7213	2.78	2.92	14.9	15.6
65	6500	7325	2.83	2.97	15.1	15.9
66	6600	7438	2.87	3.01	15.4	16.1
67	6700	7550	2.92	3.07	15.6	16.4
68	6800	7663	2.96	3.11	15.8	16.6
69	6900	7776	3.01	3.15	16.1	16.8
70	7000	7888	3.06	3.20	16.3	17.1
71	7100	8000	3.11	3.24	16.6	17.3
72	7200	8111	3.16	3.29	16.9	17.6
73	7300	8222	3.21	3.33	17.2	17.8
74	7400	8333	3.25	3.38	17.4	18.1
75	7500	8445	3.30	3.43	17.6	18.3
76	7600	8556	3.35	3.47	17.9	18.6
77	7700	8667	3.40	3.52	18.2	18.8
78	7800	8778	3.45	3.57	18.5	19.1
79	7900	8889	3.51	3.61	18.8	19.3
80	8000	9000	3.57	3.66	19.1	19.6
81	8100	9110	3.62	3.71	19.3	19.9
82	8200	9220	3.67	3.76	19.6	20.1
83	8300	9330	3.73	3.80	19.9	20.3
84	8400	9440	3.78	3.85	20.2	20.6
85	8500	9550	3.84	3.90	20.5	20.9
86	8600	9660	3.89	3.96	20.8	21.2
87	8700	9770	3.95	4.01	21.1	21.4
88	8800	9880	4.01	4.06	21.4	21.7
89	8900	9990	4.07	4.11	21.7	22.0
90	9000	10100	4.13	4.16	22.1	22.2
91	9100	10210	4.19	4.21	22.4	22.5
92	9200	10320	4.25	4.26	22.7	22.8
93	9300	10430	4.31	4.31	23.1	23.0
94	9400	10540	4.37	4.36	23.4	23.3
95	9500	10650	4.43	4.41	23.7	23.6
96	9600	10760	4.50	4.46	24.0	23.9
97	9700	10870	4.56	4.51	24.4	24.1
98	9800	10980	4.62	4.57	24.7	24.5
99	9900	11090	4.68	4.62	25.0	24.7
100	10000	11200	4.75	4.67	25.4	25.0
101	10100	11312	4.81	4.72	25.7	25.3
102	10200	11424	4.88	4.78	26.1	25.6
103	10300	11536	4.95	4.84	26.4	25.9
104	10400	11648	5.02	4.89	26.8	26.1
105	10500	11760	5.08	4.95	27.2	26.5
106	10600	11872	5.15	5.00	27.5	26.7
107	10700	11984	5.22	5.05	27.9	27.0
108	10800	12096	5.29	5.11	28.3	27.3
109	10900	12208	5.35	5.16	28.6	27.6
110	11000	12320	5.43	5.22	29.0	27.9
111	11100	12432	5.50	5.27	29.4	28.2
112	11200	12544	5.57	5.33	29.8	28.5
113	11300	12656	5.64	5.38	30.2	28.8
114	11400	12768	5.72	5.44	30.6	29.1
115	11500	12880	5.79	5.50	31.0	29.4
116	11600	12992	5.86	5.55	31.4	29.7
117	11700	13104	5.94	5.61	31.7	30.0
118	11800	13216	6.02	5.68	32.2	30.3

• PUMY-125VM, PUMY-125VM$_1$ STANDARD CAPACITY DIAGRAM

220V, 50Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
119	11900	13328	6.09	5.73	32.6	30.6
120	12000	13440	6.17	5.79	33.0	30.9
121	12100	13552	6.24	5.85	33.4	31.3
122	12200	13664	6.32	5.91	33.8	31.6
123	12300	13776	6.40	5.97	34.2	31.9
124	12400	13888	6.48	6.02	34.6	32.2
125	12500	14000	6.57	6.10	34.9	32.6
126	12521	14012	6.57	6.08	34.9	32.5
127	12542	14023	6.57	6.06	34.9	32.4
128	12563	14035	6.57	6.04	34.9	32.3
129	12584	14046	6.58	6.03	35.2	32.2
130	12605	14058	6.58	6.01	35.2	32.1
131	12626	14069	6.58	5.99	35.2	32.0
132	12647	14081	6.58	5.97	35.2	31.9
133	12668	14092	6.58	5.95	35.2	31.8
134	12689	14104	6.59	5.93	35.2	31.7
135	12710	14115	6.59	5.91	35.2	31.6
136	12731	14127	6.59	5.89	35.2	31.5
137	12753	14138	6.59	5.88	35.2	31.4
138	12774	14150	6.60	5.86	35.3	31.3
139	12795	14161	6.60	5.84	35.3	31.2
140	12816	14173	6.60	5.82	35.3	31.1
141	12837	14184	6.60	5.80	35.3	31.0
142	12859	14196	6.60	5.78	35.3	30.9
143	12879	14207	6.60	5.76	35.3	30.8
144	12900	14219	6.61	5.74	35.4	30.7
145	12921	14230	6.61	5.73	35.4	30.6
146	12942	14242	6.61	5.71	35.4	30.5
147	12963	14253	6.61	5.69	35.4	30.4
148	12984	14265	6.62	5.67	35.4	30.3
149	13005	14276	6.62	5.64	35.4	30.2
150	13026	14288	6.62	5.62	35.4	30.1
151	13047	14299	6.62	5.60	35.4	30.0
152	13068	14311	6.62	5.58	35.4	29.9
153	13089	14322	6.63	5.57	35.5	29.8
154	13110	14334	6.63	5.55	35.5	29.7
155	13131	14345	6.63	5.53	35.5	29.6
156	13153	14357	6.63	5.51	35.5	29.5
157	13174	14368	6.64	5.49	35.5	29.4
158	13195	14380	6.64	5.47	35.5	29.3
159	13216	14391	6.64	5.45	35.5	29.2
160	13237	14403	6.64	5.43	35.5	29.0
161	13258	14414	6.64	5.42	35.5	29.0
162	13279	14426	6.65	5.40	35.6	28.9
163	13300	14437	6.65	5.38	35.6	28.8

• PUMY-125VM$_1$ STANDARD CAPACITY DIAGRAM

220V, 60Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
63	6300	7100	2.68	2.85	14.2	15.1
64	6400	7213	2.72	2.89	14.4	15.3
65	6500	7325	2.77	2.94	14.6	15.5
66	6600	7438	2.81	2.98	14.9	15.8
67	6700	7550	2.86	3.03	15.1	16.0
68	6800	7663	2.90	3.07	15.3	16.2
69	6900	7775	2.95	3.11	15.6	16.4
70	7000	7888	2.99	3.16	15.8	16.7
71	7100	8000	3.04	3.20	16.1	16.9
72	7200	8111	3.09	3.25	16.3	17.1
73	7300	8222	3.14	3.29	16.5	17.4
74	7400	8333	3.18	3.34	16.8	17.6
75	7500	8445	3.23	3.39	17.1	17.9
76	7600	8556	3.28	3.43	17.3	18.1
77	7700	8667	3.33	3.48	17.6	18.3
78	7800	8778	3.38	3.53	17.8	18.6
79	7900	8889	3.44	3.57	18.1	18.8
80	8000	9000	3.49	3.62	18.4	19.1
81	8100	9110	3.54	3.67	18.7	19.3
82	8200	9220	3.59	3.72	18.9	19.6
83	8300	9330	3.65	3.76	19.2	19.8
84	8400	9440	3.70	3.81	19.5	20.1
85	8500	9550	3.76	3.86	19.8	20.3
86	8600	9660	3.81	3.91	20.1	20.6
87	8700	9770	3.87	3.96	20.4	20.8
88	8800	9880	3.92	4.01	20.7	21.1
89	8900	9990	3.98	4.06	20.9	21.3
90	9000	10100	4.04	4.11	21.2	21.6
91	9100	10210	4.10	4.16	21.5	21.9
92	9200	10320	4.16	4.21	21.9	22.1
93	9300	10430	4.22	4.26	22.2	22.4
94	9400	10540	4.28	4.31	22.5	22.6
95	9500	10650	4.34	4.36	22.8	22.9
96	9600	10760	4.40	4.41	23.1	23.2
97	9700	10870	4.46	4.46	23.4	23.4
98	9800	10980	4.52	4.52	23.7	23.7
99	9900	11090	4.58	4.57	24.1	24.0
100	10000	11200	4.65	4.62	24.4	24.2
101	10100	11312	4.71	4.67	24.7	24.5
102	10200	11424	4.78	4.73	25.1	24.8
103	10300	11536	4.84	4.78	25.4	25.1
104	10400	11648	4.91	7.83	25.7	25.3
105	10500	11760	4.97	4.89	26.1	25.6
106	10600	11872	5.04	4.94	26.4	25.9
107	10700	11984	5.11	4.99	26.8	26.2
108	10800	12096	5.18	5.05	27.1	26.5
109	10900	12208	5.24	5.10	27.5	26.7
110	11000	12320	5.31	5.16	27.8	27.0
111	11100	12432	5.38	5.21	28.2	27.3
112	11200	12544	5.45	5.27	28.5	27.6
113	11300	12656	5.52	5.32	28.9	27.9
114	11400	12768	5.60	5.38	29.3	28.2
115	11500	12880	5.67	5.44	29.6	28.5
116	11600	12992	5.74	5.49	30.0	28.7
117	11700	13104	5.81	5.55	30.4	29.0
118	11800	13216	5.89	5.61	30.8	29.3
119	11900	13328	5.96	5.66	31.2	29.6

• PUMY-125VM$_1$ STANDARD CAPACITY DIAGRAM

220V, 60Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
120	12000	13440	6.04	5.72	31.5	29.9
121	12100	13552	6.11	5.78	31.9	30.2
122	12200	13664	6.19	5.84	32.3	30.5
123	12300	13776	6.26	5.90	32.7	30.8
124	12400	13888	6.34	5.95	33.1	31.1
125	12500	14000	6.43	6.03	33.6	31.5
126	12521	14012	6.43	6.01	33.6	31.4
127	12542	14023	6.43	5.99	33.6	31.3
128	12563	14035	6.43	5.97	33.6	31.2
129	12584	14046	6.44	5.96	33.6	31.1
130	12605	14058	6.44	5.94	33.6	31.0
131	12626	14069	6.44	5.92	33.6	30.9
132	12647	14081	6.44	5.90	33.6	30.8
133	12668	14092	6.44	5.88	33.6	30.7
134	12689	14104	6.45	5.86	33.6	30.6
135	12710	14115	6.45	5.84	33.6	30.5
136	12731	14127	6.45	5.82	33.7	30.5
137	12753	14138	6.45	5.81	33.7	30.4
138	12774	14150	6.46	5.79	33.7	30.3
139	12795	14161	6.46	5.77	33.7	30.2
140	12816	14173	6.46	5.75	33.7	30.1
141	12837	14184	6.46	5.73	33.7	30.0
142	12858	14196	6.46	5.71	33.7	29.9
143	12879	14207	6.47	5.69	33.7	29.8
144	12900	14219	6.47	5.67	33.7	29.7
145	12921	14230	6.47	5.66	33.8	29.6
146	12942	14242	6.47	5.64	33.8	29.5
147	12963	14253	6.47	5.62	33.8	29.4
148	12984	14265	6.48	5.60	33.8	29.3
149	13005	14276	6.48	5.58	33.8	29.2
150	13026	14288	6.48	5.56	33.8	29.1
151	13047	14299	6.48	5.54	33.8	29.0
152	13068	14311	6.48	5.52	33.8	28.9
153	13089	14322	6.49	5.51	33.8	28.8
154	13110	14334	6.49	5.49	33.9	28.7
155	13131	14345	6.49	5.47	33.9	28.6
156	13153	14357	6.49	5.45	33.9	28.5
157	13174	14368	6.50	5.43	33.9	28.4
158	13195	14380	6.50	5.41	33.9	28.3
159	13216	14391	6.50	5.39	33.9	28.2
160	13237	14403	6.50	5.37	33.9	28.1
161	13258	14414	6.50	5.36	33.9	28.0
162	13279	14426	6.51	5.34	33.9	27.9
163	13300	14437	6.51	5.32	33.9	27.9

• PUMY-125VM$_2$ STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

220V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		220V, 50Hz				220V, 60Hz			
			Power consumption (kW)		Current (A)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
70	7.00	7.88	2.73	2.88	14.6	15.4	2.67	2.84	13.9	14.8
71	7.10	8.00	2.76	2.91	14.8	15.6	2.70	2.87	14.1	15.0
72	7.20	8.11	2.80	2.95	15.0	15.8	2.74	2.92	14.3	15.2
73	7.30	8.22	2.84	2.98	15.2	16.0	2.78	2.95	14.5	15.4
74	7.40	8.33	2.88	3.03	15.4	16.2	2.82	2.99	14.7	15.6
75	7.50	8.44	2.92	3.06	15.6	16.4	2.85	3.03	14.9	15.8
76	7.60	8.56	2.96	3.10	15.8	16.6	2.90	3.07	15.1	16.0
77	7.70	8.67	3.00	3.14	16.1	16.8	2.94	3.10	15.4	16.2
78	7.80	8.78	3.05	3.18	16.3	17.0	2.98	3.14	15.6	16.4
79	7.90	8.89	3.09	3.21	16.5	17.2	3.03	3.18	15.8	16.6
80	8.00	9.00	3.12	3.26	16.7	17.4	3.06	3.22	16.0	16.8
81	8.10	9.10	3.17	3.30	16.9	17.7	3.10	3.26	16.2	17.1
82	8.20	9.20	3.21	3.33	17.2	17.8	3.14	3.30	16.4	17.2
83	8.30	9.30	3.26	3.38	17.4	18.1	3.19	3.34	16.7	17.4
84	8.40	9.40	3.30	3.42	17.7	18.3	3.23	3.38	16.9	17.7
85	8.50	9.50	3.35	3.45	17.9	18.5	3.27	3.41	17.1	17.8
86	8.60	9.60	3.39	3.50	18.1	18.7	3.32	3.46	17.3	18.1
87	8.70	9.70	3.45	3.54	18.4	18.9	3.37	3.50	17.6	18.3
88	8.80	9.80	3.49	3.57	18.7	19.1	3.41	3.53	17.8	18.5
89	8.90	9.90	3.53	3.62	18.9	19.4	3.46	3.58	18.1	18.7
90	9.00	10.00	3.58	3.66	19.1	19.6	3.50	3.62	18.3	18.9
91	9.10	10.10	3.63	3.71	19.4	19.8	3.56	3.66	18.6	19.1
92	9.20	10.22	3.68	3.75	19.7	20.1	3.60	3.71	18.8	19.4
93	9.30	10.33	3.72	3.79	19.9	20.3	3.64	3.75	19.0	19.6
94	9.40	10.45	3.78	3.84	20.2	20.5	3.70	3.79	19.3	19.8
95	9.50	10.56	3.82	3.88	20.4	20.8	3.74	3.84	19.5	20.0
96	9.60	10.67	3.88	3.92	20.7	21.0	3.79	3.88	19.8	20.3
97	9.70	10.79	3.92	3.96	21.0	21.2	3.84	3.91	20.0	20.4
98	9.80	10.90	3.98	4.01	21.3	21.5	3.89	3.97	20.3	20.7
99	9.90	11.02	4.03	4.06	21.6	21.7	3.94	4.01	20.6	20.9
100	10.00	11.13	4.07	4.10	21.8	21.9	3.99	4.05	20.8	21.2
101	10.10	11.24	4.13	4.14	22.1	22.2	4.04	4.10	21.1	21.4
102	10.20	11.36	4.18	4.19	22.4	22.4	4.10	4.14	21.4	21.6
103	10.30	11.47	4.24	4.23	22.7	22.6	4.15	4.18	21.7	21.9
104	10.40	11.59	4.28	4.27	22.9	22.9	4.19	4.23	21.9	22.1
105	10.50	11.70	4.34	4.32	23.2	23.1	4.25	4.27	22.2	22.3
106	10.60	11.81	4.39	4.36	23.5	23.3	4.30	4.31	22.5	22.5
107	10.70	11.93	4.45	4.42	23.8	23.6	4.36	4.37	22.8	22.8
108	10.80	12.04	4.51	4.46	24.1	23.9	4.41	4.41	23.0	23.0
109	10.90	12.16	4.56	4.50	24.4	24.1	4.46	4.45	23.3	23.3
110	11.00	12.27	4.62	4.55	24.7	24.3	4.52	4.50	23.6	23.5
111	11.10	12.38	4.68	4.60	25.0	24.6	4.58	4.55	23.9	23.8
112	11.20	12.50	4.74	4.65	25.3	24.8	4.64	4.59	24.2	24.0
113	11.30	12.63	4.79	4.70	25.6	25.1	4.69	4.65	24.5	24.3
114	11.40	12.75	4.85	4.74	25.9	25.4	4.74	4.69	24.8	24.5
115	11.50	12.88	4.90	4.79	26.2	25.6	4.80	4.73	25.1	24.7
116	11.60	13.00	4.97	4.84	26.6	25.9	4.86	4.79	25.4	25.0
117	11.70	13.13	5.02	4.89	26.9	26.1	4.92	4.83	25.7	25.2
118	11.80	13.25	5.09	4.94	27.2	26.4	4.98	4.88	26.0	25.5
119	11.90	13.38	5.15	4.98	27.5	26.7	5.04	4.93	26.3	25.7
120	12.00	13.50	5.21	5.04	27.9	26.9	5.10	4.98	26.6	26.0
121	12.10	13.63	5.27	5.08	28.2	27.2	5.15	5.03	26.9	26.3
122	12.20	13.75	5.33	5.14	28.5	27.5	5.22	5.08	27.3	26.5
123	12.30	13.88	5.39	5.18	28.8	27.7	5.27	5.12	27.6	26.8
124	12.40	14.00	5.45	5.24	29.2	28.0	5.34	5.18	27.9	27.0
125	12.50	14.13	5.52	5.29	29.5	28.3	5.40	5.23	28.2	27.3
126	12.60	14.25	5.58	5.33	29.8	28.5	5.46	5.27	28.5	27.6
127	12.70	14.38	5.64	5.39	30.2	28.8	5.52	5.33	28.9	27.8
128	12.08	14.50	5.71	5.44	30.5	29.1	5.59	5.38	29.2	28.1

• PUMY-125VM$_2$ STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

220V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		220V, 50Hz				220V, 60Hz			
			Power consumption (kW)		Current (A)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
129	12.90	14.63	5.77	5.50	30.9	29.4	5.65	5.44	29.5	28.4
130	13.00	14.75	5.84	5.54	31.2	29.6	5.72	5.48	29.9	28.6
131	13.10	14.88	5.91	5.60	31.6	29.9	5.78	5.53	30.2	28.9
132	13.20	15.00	5.97	5.65	31.9	30.2	5.85	5.59	30.5	29.2
133	13.30	15.13	6.04	6.71	32.3	30.5	5.91	5.64	30.9	29.5
134	13.40	15.25	6.11	6.76	32.7	30.8	5.98	5.70	31.2	29.8
135	13.50	15.38	6.17	5.82	33.0	31.1	6.04	5.75	31.6	30.0
136	13.60	15.50	6.24	5.86	33.4	31.2	6.11	5.79	31.9	30.3
137	13.70	15.63	6.30	5.91	33.7	31.6	6.17	5.85	32.2	30.5
138	13.80	15.75	6.37	5.97	34.1	31.9	6.24	5.90	32.6	30.8
139	13.90	15.88	6.45	6.02	34.5	32.2	6.31	5.95	33.0	31.1
140	14.00	16.00	6.57	6.10	34.9	32.6	6.43	6.03	33.6	31.5
141	14.02	16.01	6.58	6.09	35.2	32.6	6.44	6.02	33.7	31.4
142	14.04	16.02	6.58	6.07	35.2	32.4	6.44	6.00	33.7	31.3
143	14.06	16.03	6.58	6.05	35.2	32.3	6.44	5.98	33.7	31.2
144	14.08	16.04	6.59	6.03	35.3	32.3	6.45	5.97	33.7	31.2
145	14.10	16.06	6.59	6.01	35.3	32.2	6.45	5.94	33.7	31.1
146	14.12	16.07	6.59	6.00	35.3	32.1	6.45	5.93	33.7	31.0
147	14.15	16.08	6.60	5.98	35.3	32.0	6.46	5.91	33.8	30.9
148	14.17	16.09	6.60	5.97	35.3	31.9	6.46	5.90	33.8	30.8
149	14.19	16.10	6.60	5.95	35.3	31.8	6.46	5.88	33.8	30.7
150	14.21	16.12	6.61	5.94	35.4	31.7	6.47	5.87	33.8	30.7
151	14.23	16.13	6.61	5.91	35.4	31.6	6.47	5.85	33.8	30.5
152	14.25	16.14	6.61	5.89	35.4	31.5	6.47	5.82	33.8	30.4
153	14.27	16.15	6.61	5.88	35.4	31.5	6.47	5.81	33.8	30.4
154	14.30	16.16	6.63	5.86	35.4	31.3	6.48	5.79	33.9	30.3
155	14.32	16.17	6.63	5.85	35.4	31.3	6.48	5.78	33.9	30.2
156	14.34	16.19	6.63	5.83	35.4	31.2	6.48	5.76	33.9	30.1
157	14.36	16.20	6.64	5.82	35.5	31.1	6.49	5.75	33.9	30.0
158	14.38	16.21	6.64	5.79	35.5	31.0	6.49	5.73	33.9	29.9
159	14.40	16.22	6.64	5.77	35.5	30.9	6.49	5.71	33.9	29.8
160	14.42	16.23	6.65	5.76	35.5	30.8	6.51	5.70	34.0	29.8
161	14.45	16.25	6.65	5.74	35.5	30.7	6.51	5.67	34.0	29.6
162	14.47	16.26	6.65	5.73	35.5	30.6	6.51	5.66	34.0	29.6
163	14.49	16.27	6.66	5.71	35.6	30.5	6.52	5.64	34.0	29.5
164	14.51	16.28	6.66	5.70	35.6	30.5	6.52	5.63	34.0	29.4
165	14.53	16.29	6.66	5.67	35.6	30.3	6.52	5.61	34.0	29.3
166	14.55	16.31	6.66	5.65	35.6	30.2	6.52	5.59	34.0	29.2
167	14.57	16.32	6.67	5.64	35.7	30.2	6.53	5.58	34.1	29.1
168	14.60	16.33	6.67	5.62	35.7	30.0	6.53	5.55	34.1	29.0
169	14.62	16.34	6.67	5.61	35.7	30.0	6.53	5.54	34.1	29.0
170	14.64	16.35	6.68	5.59	35.7	29.9	6.54	5.52	34.2	28.9
171	14.66	16.36	6.68	5.58	35.7	29.8	6.54	5.51	34.2	28.8
172	14.68	16.38	6.68	5.55	35.7	29.7	6.54	5.49	34.2	28.7
173	14.70	16.39	6.69	5.53	35.8	29.6	6.55	5.47	34.2	28.6
174	14.72	16.40	6.69	5.52	35.8	29.5	6.55	5.46	34.2	28.5
175	14.75	16.41	6.69	5.50	35.8	29.4	6.55	5.44	34.2	28.4
176	14.77	16.42	6.70	5.49	35.8	29.3	6.56	5.42	34.3	28.3
177	14.79	16.44	6.70	5.47	35.8	29.2	6.56	5.40	34.3	28.2
178	14.81	16.45	6.70	5.46	35.8	29.2	6.56	5.39	34.3	28.2
179	14.83	16.46	6.70	5.43	35.8	29.1	6.56	5.37	34.3	28.1
180	14.85	16.47	6.71	5.41	35.9	28.9	6.57	5.35	34.3	27.9
181	14.87	16.48	6.71	5.40	35.9	28.9	6.57	3.34	34.3	27.9
182	14.89	16.50	6.71	5.38	35.9	28.8	6.57	5.32	34.3	27.8

• PUMY-125YM STANDARD CAPACITY DIAGRAM

400V, 50Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
63	6300	7100	2.48	2.64	3.8	4.0
64	6400	7213	2.52	2.67	3.9	4.1
65	6500	7325	2.56	2.72	3.9	4.2
66	6600	7438	2.60	2.76	4.0	4.2
67	6700	7550	2.65	2.80	4.1	4.3
68	6800	7663	2.68	2.84	4.1	4.4
69	6900	7776	2.73	2.88	4.2	4.4
70	7000	7888	2.77	2.92	4.2	4.5
71	7100	8000	2.81	2.96	4.3	4.5
72	7200	8111	2.86	3.01	4.4	4.6
73	7300	8222	2.91	3.04	4.5	4.7
74	7400	8333	2.94	3.09	4.5	4.7
75	7500	8445	2.99	3.14	4.6	4.8
76	7600	8556	3.04	3.17	4.7	4.9
77	7700	8667	3.08	3.22	4.7	4.9
78	7800	8778	3.13	3.27	4.8	5.0
79	7900	8889	3.18	3.30	4.9	5.1
80	8000	9000	3.23	3.35	5.0	5.1
81	8100	9110	3.28	3.40	5.0	5.2
82	8200	9220	3.32	3.44	5.1	5.3
83	8300	9330	3.38	3.48	5.2	5.3
84	8400	9440	3.42	3.53	5.3	5.4
85	8500	9550	3.48	3.57	5.3	5.5
86	8600	9660	3.53	3.62	5.4	5.6
87	8700	9770	3.58	3.66	5.5	5.6
88	8800	9880	3.63	3.71	5.6	5.7
89	8900	9990	3.68	3.76	5.7	5.8
90	9000	10100	3.74	3.80	5.7	5.8
91	9100	10210	3.79	3.85	5.8	5.9
92	9200	10320	3.85	3.90	5.9	6.0
93	9300	10430	3.90	3.94	6.0	6.1
94	9400	10540	3.96	3.99	6.1	6.1
95	9500	10650	4.02	4.03	6.2	6.2
96	9600	10760	4.07	4.08	6.3	6.3
97	9700	10870	4.13	4.13	6.3	6.3
98	9800	10980	4.18	4.18	6.4	6.4
99	9900	11090	4.24	4.23	6.5	6.5
100	10000	11200	4.30	4.28	6.6	6.6
101	10100	11312	4.36	4.32	6.7	6.6
102	10200	11424	4.42	4.38	6.8	6.7
103	10300	11536	4.48	4.42	6.9	6.8
104	10400	11648	4.54	4.47	7.0	6.9
105	10500	11760	4.60	4.53	7.1	6.9
106	10600	11872	4.66	4.57	7.2	7.0
107	10700	11984	4.73	4.62	7.3	7.1
108	10800	12096	4.79	4.67	7.4	7.2
109	10900	12208	4.85	4.72	7.4	7.2
110	11000	12320	4.91	4.77	7.5	7.3
111	11100	12432	4.98	4.82	7.6	7.4
112	11200	12544	5.04	4.88	7.7	7.5
113	11300	12656	5.11	4.92	7.8	7.6
114	11400	12768	5.18	4.98	8.0	7.6
115	11500	12880	5.25	5.03	8.1	7.7
116	11600	12992	5.31	5.08	8.2	7.8
117	11700	13104	5.38	5.14	8.3	7.9
118	11800	13216	5.45	5.19	8.4	8.0

• PUMY-125YM STANDARD CAPACITY DIAGRAM

400V, 50Hz

Total capacity of indoor units	Capacity (kcal/h)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
119	11900	13328	5.52	5.24	8.5	8.0
120	12000	13440	5.59	5.29	8.6	8.1
121	12100	13552	5.65	5.35	8.7	8.2
122	12200	13664	5.73	5.40	8.8	8.3
123	12300	13776	5.79	5.46	8.9	8.4
124	12400	13888	5.87	5.51	9.0	8.5
125	12500	14000	5.95	5.58	9.1	8.6
126	12521	14012	5.96	5.60	9.1	8.6
127	12542	14023	5.97	5.61	9.1	8.6
128	12563	14035	5.97	5.63	9.1	8.6
129	12584	14046	5.98	5.64	9.2	8.7
130	12605	14058	5.99	5.66	9.2	8.7
131	12626	14069	6.00	5.68	9.2	8.7
132	12647	14081	6.01	5.69	9.2	8.7
133	12668	14092	6.01	5.71	9.2	8.8
134	12689	14104	6.02	5.72	9.2	8.8
135	12710	14115	6.03	5.74	9.3	8.8
136	12731	14127	6.04	5.76	9.3	8.8
137	12753	14138	6.05	5.77	9.3	8.9
138	12774	14150	6.05	5.79	9.3	8.9
139	12795	14161	6.06	5.80	9.3	8.9
140	12816	14173	6.07	5.82	9.3	8.9
141	12837	14184	6.08	5.84	9.3	9.0
142	12858	14196	6.09	5.85	9.3	9.0
143	12879	14207	6.09	5.87	9.4	9.0
144	12900	14219	6.10	5.88	9.4	9.0
145	12921	14230	6.11	5.90	9.4	9.1
146	12942	14242	6.12	5.92	9.4	9.1
147	12963	14253	6.13	5.93	9.4	9.1
148	12984	14265	6.13	5.95	9.4	9.1
149	13005	14276	6.14	5.96	9.4	9.2
150	13026	14288	6.15	5.98	9.4	9.2
151	13047	14299	6.16	6.00	9.5	9.2
152	13068	14311	6.17	6.01	9.5	9.2
153	13089	14322	6.17	6.03	9.5	9.3
154	13110	14334	6.18	6.04	9.5	9.3
155	13131	14345	6.19	6.06	9.5	9.3
156	13153	14357	6.20	6.08	9.5	9.3
157	13174	14368	6.21	6.09	9.5	9.4
158	13195	14380	6.21	6.11	9.5	9.4
159	13216	14391	6.22	6.12	9.6	9.4
160	13237	14403	6.23	6.14	9.6	9.4
161	13258	14414	6.24	6.16	9.6	9.5
162	13279	14426	6.25	6.17	9.6	9.5
163	13300	14437	6.25	6.19	9.6	9.5

• PUMY-125YM$_1$, PUMY-125YMA STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

415V, 50Hz

※ Total capacity of indoor units	Capacity (kW)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
70	7.00	7.88	2.47	2.63	3.8	4.1
71	7.10	8.00	2.50	2.66	3.9	4.1
72	7.20	8.11	2.54	2.70	3.9	4.2
73	7.30	8.22	2.57	2.73	4.0	4.2
74	7.40	8.33	2.61	2.77	4.0	4.3
75	7.50	8.44	2.64	2.80	4.1	4.3
76	7.60	8.56	2.68	2.84	4.1	4.4
77	7.70	8.67	2.72	2.87	4.2	4.4
78	7.80	8.78	2.76	2.91	4.2	4.4
79	7.90	8.89	2.80	2.94	4.3	4.5
80	8.00	9.00	2.83	2.98	4.3	4.6
81	8.10	9.10	2.87	3.02	4.4	4.6
82	8.20	9.20	2.91	3.05	4.4	4.7
83	8.30	9.30	2.95	3.09	4.5	4.7
84	8.40	9.40	2.99	3.13	4.6	4.8
85	8.50	9.50	3.03	3.16	4.6	4.8
86	8.60	9.60	3.07	3.20	4.7	4.9
87	8.70	9.70	3.12	3.24	4.8	5.0
88	8.80	9.80	3.16	3.27	4.8	5.0
89	8.90	9.90	3.20	3.31	4.9	5.1
90	9.00	10.00	3.24	3.35	5.0	5.1
91	9.10	10.10	3.29	3.39	5.0	5.2
92	9.20	10.22	3.33	3.43	5.1	5.2
93	9.30	10.33	3.37	3.47	5.2	5.3
94	9.40	10.45	3.42	3.51	5.2	5.4
95	9.50	10.56	3.46	3.55	5.2	5.4
96	9.60	10.67	3.51	3.59	5.3	5.4
97	9.70	10.79	3.55	3.62	5.4	5.5
98	9.80	10.90	3.60	3.67	5.4	5.5
99	9.90	11.02	3.65	3.71	5.5	5.6
100	10.00	11.13	3.69	3.75	5.6	5.7
101	10.10	11.24	3.74	3.79	5.7	5.7
102	10.20	11.36	3.79	3.83	5.7	5.8
103	10.30	11.47	3.84	3.87	5.8	5.9
104	10.40	11.59	3.88	3.91	5.9	5.9
105	10.50	11.70	3.93	3.95	5.9	6.0
106	10.60	11.81	3.98	3.99	6.0	6.0
107	10.70	11.93	4.03	4.04	6.1	6.1
108	10.80	12.04	4.08	4.08	6.2	6.2
109	10.90	12.16	4.13	4.12	6.2	6.2
110	11.00	12.27	4.18	4.16	6.3	6.3
111	11.10	12.38	4.24	4.21	6.3	6.3
112	11.20	12.50	4.29	4.25	6.4	6.4
113	11.30	12.63	4.34	4.30	6.5	6.4
114	11.40	12.75	4.39	4.34	6.6	6.5
115	11.50	12.88	4.44	4.38	6.6	6.6
116	11.60	13.00	4.50	4.43	6.7	6.6
117	11.70	13.13	4.55	4.47	6.8	6.7
118	11.80	13.25	4.61	4.52	6.9	6.8
119	11.90	13.38	4.66	4.56	7.0	6.8
120	12.00	13.50	4.72	4.61	7.1	6.9
121	12.10	13.63	4.77	4.65	7.1	7.0
122	12.20	13.75	4.83	4.70	7.2	7.0
123	12.30	13.88	4.88	4.74	7.3	7.1
124	12.40	14.00	4.94	4.79	7.4	7.2
125	12.50	14.13	5.00	4.84	7.5	7.2

• PUMY-125YM1, PUMY-125YMA STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

415V, 50Hz

※ Total capacity of indoor units	Capacity (kW)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
126	12.60	14.25	5.05	4.88	7.6	7.3
127	12.70	14.38	5.11	4.93	7.6	7.4
128	12.80	14.50	5.17	4.98	7.7	7.4
129	12.90	14.63	5.23	5.03	7.7	7.4
130	13.00	14.75	5.29	5.07	7.8	7.5
131	13.10	14.88	5.35	5.12	7.9	7.6
132	13.20	15.00	5.41	5.17	8.0	7.7
133	13.30	15.13	5.47	5.22	8.1	7.7
134	13.40	15.25	5.53	5.27	8.2	7.8
135	13.50	15.38	5.59	5.32	8.3	7.9
136	13.60	15.50	5.65	5.36	8.4	7.9
137	13.70	15.63	5.71	5.41	8.5	8.0
138	13.80	15.75	5.77	5.46	8.5	8.1
139	13.90	15.88	5.84	5.51	8.6	8.2
140	14.00	16.00	5.95	5.58	8.8	8.3
141	14.02	16.01	5.96	5.57	8.8	8.2
142	14.04	16.02	5.96	5.55	8.8	8.2
143	14.06	16.03	5.96	5.53	8.8	8.2
144	14.08	16.04	5.97	5.52	8.8	8.2
145	14.10	16.06	5.97	5.50	8.8	8.1
146	14.12	16.07	5.97	5.49	8.8	8.1
147	14.15	16.08	5.98	5.47	8.9	8.1
148	14.17	16.09	5.98	5.46	8.9	8.1
149	14.19	16.10	5.98	5.44	8.9	8.1
150	14.21	16.12	5.99	5.43	8.9	8.0
151	14.23	16.13	5.99	5.41	8.9	8.0
152	14.25	16.14	5.99	5.39	8.9	8.0
153	14.27	16.15	5.99	5.38	8.9	8.0
154	14.30	16.16	6.00	5.36	8.9	7.9
155	14.32	16.17	6.00	5.35	8.9	7.9
156	14.34	16.19	6.00	5.33	8.9	7.9
157	14.36	16.20	6.01	5.32	8.9	7.9
158	14.38	16.21	6.01	5.30	8.9	7.8
159	14.40	16.22	6.01	5.28	8.9	7.8
160	14.42	16.23	6.02	5.27	8.9	7.8
161	14.45	16.25	6.02	5.25	8.9	7.8
162	14.47	16.26	6.02	5.24	8.9	7.8
163	14.49	16.27	6.03	5.22	8.9	7.7
164	14.51	16.28	6.03	5.21	8.9	7.7
165	14.53	16.29	6.03	5.19	8.9	7.7
166	14.55	16.31	6.03	5.17	8.9	7.7
167	14.57	16.32	6.04	5.16	8.9	7.6
168	14.60	16.33	6.04	5.14	8.9	7.6
169	14.62	16.34	6.04	5.13	8.9	7.6
170	14.64	16.35	6.05	5.11	9.0	7.6
171	14.66	16.36	6.05	5.10	9.0	7.6
172	14.68	16.38	6.05	5.08	9.0	7.6
173	14.70	16.39	6.06	5.06	9.0	7.6
174	14.72	16.40	6.06	5.05	9.0	7.6
175	14.75	16.41	6.06	5.03	9.0	7.5
176	14.77	16.42	6.07	5.02	9.0	7.5
177	14.79	16.44	6.07	5.00	9.0	7.5
178	14.81	16.45	6.07	4.99	9.0	7.5
179	14.83	16.46	6.07	4.97	9.0	7.4
180	14.85	16.47	6.08	4.95	9.0	7.4
181	14.87	16.48	6.08	4.94	9.0	7.4
182	14.89	16.50	6.08	4.92	9.0	7.4

• PUMY-125YM1, PUMY-125YMA STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

380V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
70	7.00	7.88	2.47	2.63	4.2	4.4
71	7.10	8.00	2.50	2.66	4.2	4.5
72	7.20	8.11	2.54	2.70	4.3	4.6
73	7.30	8.22	2.57	2.73	4.3	4.6
74	7.40	8.33	2.61	2.77	4.4	4.7
75	7.50	8.44	2.64	2.80	4.5	4.7
76	7.60	8.56	2.68	2.84	4.5	4.8
77	7.70	8.67	2.72	2.87	4.6	4.8
78	7.80	8.78	2.76	2.91	4.6	4.9
79	7.90	8.89	2.80	2.94	4.7	4.9
80	8.00	9.00	2.83	2.98	4.7	5.0
81	8.10	9.10	2.87	3.02	4.8	5.0
82	8.20	9.20	2.91	3.05	4.9	5.1
83	8.30	9.30	2.95	3.09	4.9	5.2
84	8.40	9.40	2.99	3.13	5.0	5.2
85	8.50	9.50	3.03	3.16	5.1	5.3
86	8.60	9.60	3.07	3.20	5.1	5.3
87	8.70	9.70	3.12	3.24	5.2	5.4
88	8.80	9.80	3.16	3.27	5.3	5.5
89	8.90	9.90	3.20	3.31	5.3	5.5
90	9.00	10.00	3.24	3.35	5.4	5.6
91	9.10	10.10	3.29	3.39	5.5	5.7
92	9.20	10.22	3.33	3.43	5.6	5.7
93	9.30	10.33	3.37	3.47	5.6	5.8
94	9.40	10.45	3.42	3.51	5.7	5.9
95	9.50	10.56	3.46	3.55	5.7	5.9
96	9.60	10.67	3.51	3.59	5.8	5.9
97	9.70	10.79	3.55	3.62	5.9	6.0
98	9.80	10.90	3.60	3.67	5.9	6.1
99	9.90	11.02	3.65	3.71	6.0	6.1
100	10.00	11.13	3.69	3.75	6.1	6.2
101	10.10	11.24	3.74	3.79	6.2	6.3
102	10.20	11.36	3.79	3.83	6.3	6.3
103	10.30	11.47	3.84	3.87	6.3	6.4
104	10.40	11.59	3.88	3.91	6.4	6.5
105	10.50	11.70	3.93	3.95	6.5	6.5
106	10.60	11.81	3.98	3.99	6.6	6.6
107	10.70	11.93	4.03	4.04	6.7	6.7
108	10.80	12.04	4.08	4.08	6.7	6.7
109	10.90	12.16	4.13	4.12	6.8	6.8
110	11.00	12.27	4.18	4.16	6.9	6.9
111	11.10	12.38	4.24	4.21	6.9	6.9
112	11.20	12.50	4.29	4.25	7.0	6.9
113	11.30	12.63	4.34	4.30	7.1	7.0
114	11.40	12.75	4.39	4.34	7.2	7.1
115	11.50	12.88	4.44	4.38	7.3	7.2
116	11.60	13.00	4.50	4.43	7.4	7.2
117	11.70	13.13	4.55	4.47	7.4	7.3
118	11.80	13.25	4.61	4.52	7.5	7.4
119	11.90	13.38	4.66	4.56	7.6	7.4
120	12.00	13.50	4.72	4.61	7.7	7.5
121	12.10	13.63	4.77	4.65	7.8	7.6
122	12.20	13.75	4.83	4.70	7.9	7.7
123	12.30	13.88	4.88	4.74	8.0	7.7
124	12.40	14.00	4.94	4.79	8.1	7.8
125	12.50	14.13	5.00	4.84	8.2	7.9

• PUMY-125YM1, PUMY-125YMA STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

380V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
126	12.60	14.25	5.05	4.88	8.3	8.0
127	12.70	14.38	5.11	4.93	8.3	8.1
128	12.80	14.50	5.17	4.98	8.4	8.0
129	12.90	14.63	5.23	5.03	8.5	8.1
130	13.00	14.75	5.29	5.07	8.6	8.2
131	13.10	14.88	5.35	5.12	8.6	8.3
132	13.20	15.00	5.41	5.17	8.7	8.4
133	13.30	15.13	5.47	5.22	8.8	8.4
134	13.40	15.25	5.53	5.27	8.9	8.5
135	13.50	15.38	5.59	5.32	9.0	8.6
136	13.60	15.50	5.65	5.36	9.1	8.7
137	13.70	15.63	5.71	5.41	9.2	8.7
138	13.80	15.75	5.77	5.46	9.3	8.8
139	13.90	15.88	5.84	5.51	9.4	8.9
140	14.00	16.00	5.95	5.58	9.6	9.0
141	14.02	16.01	5.96	5.57	9.6	9.0
142	14.04	16.02	5.96	5.55	9.6	9.0
143	14.06	16.03	5.96	5.53	9.6	8.9
144	14.08	16.04	5.97	5.52	9.6	8.9
145	14.10	16.06	5.97	5.50	9.6	8.9
146	14.12	16.07	5.97	5.49	9.6	8.9
147	14.15	16.08	5.98	5.47	9.7	8.8
148	14.17	16.09	5.98	5.46	9.7	8.8
149	14.19	16.10	5.98	5.44	9.7	8.8
150	14.21	16.12	5.99	5.43	9.7	8.8
151	14.23	16.13	5.99	5.41	9.7	8.7
152	14.25	16.14	5.99	5.39	9.7	8.7
153	14.27	16.15	5.99	5.38	9.7	8.7
154	14.30	16.16	6.00	5.36	9.7	8.7
155	14.32	16.17	6.00	5.35	9.7	8.6
156	14.34	16.19	6.00	5.33	9.7	8.6
157	14.36	16.20	6.01	5.32	9.7	8.6
158	14.38	16.21	6.01	5.30	9.7	8.6
159	14.40	16.22	6.01	5.28	9.7	8.5
160	14.42	16.23	6.02	5.27	9.7	8.5
161	14.45	16.25	6.02	5.25	9.7	8.5
162	14.47	16.26	6.02	5.24	9.7	8.5
163	14.49	16.27	6.03	5.22	9.7	8.4
164	14.51	16.28	6.03	5.21	9.7	8.4
165	14.53	16.29	6.03	5.19	9.7	8.4
166	14.55	16.31	6.03	5.17	9.7	8.4
167	14.57	16.32	6.04	5.16	9.8	8.3
168	14.60	16.33	6.04	5.14	9.8	8.3
169	14.62	16.34	6.04	5.13	9.8	8.3
170	14.64	16.35	6.05	5.11	9.8	8.3
171	14.66	16.36	6.05	5.10	9.8	8.3
172	14.68	16.38	6.05	5.08	9.8	8.3
173	14.70	16.39	6.06	5.06	9.8	8.3
174	14.72	16.40	6.06	5.05	9.8	8.3
175	14.75	16.41	6.06	5.03	9.8	8.2
176	14.77	16.42	6.07	5.02	9.8	8.2
177	14.79	16.44	6.07	5.00	9.8	8.2
178	14.81	16.45	6.07	4.99	9.8	8.2
179	14.83	16.46	6.07	4.97	9.8	8.1
180	14.85	16.47	6.08	4.95	9.8	8.1
181	14.87	16.48	6.08	4.94	9.8	8.1
182	14.89	16.50	6.08	4.92	9.8	8.0

• PUMY-125VMA, PUMY-125VMA$_1$ STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

220V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		220V, 50Hz				220V, 60Hz			
			Power consumption (kW)		Current (A)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
70	7.00	7.88	2.58	2.77	12.0	12.9	2.55	2.74	11.8	12.8
71	7.10	8.00	2.61	2.81	12.1	13.0	2.59	2.78	12.0	12.9
72	7.20	8.11	2.65	2.84	12.3	13.2	2.63	2.82	12.2	13.1
73	7.30	8.22	2.69	2.88	12.5	13.4	2.66	2.85	12.3	13.2
74	7.40	8.33	2.73	2.92	12.6	13.5	2.70	2.89	12.5	13.4
75	7.50	8.44	2.76	2.95	12.8	13.7	2.74	2.92	12.7	13.6
76	7.60	8.56	2.80	2.99	13.0	13.9	2.77	2.96	12.9	13.8
77	7.70	8.67	2.84	3.03	13.2	14.0	2.81	2.99	13.0	13.9
78	7.80	8.78	2.88	3.06	13.3	14.2	2.85	3.03	13.2	14.1
79	7.90	8.89	2.92	3.10	13.5	14.4	2.89	3.07	13.4	14.3
80	8.00	9.00	2.96	3.14	13.7	14.6	2.93	3.11	13.6	14.4
81	8.10	9.10	3.00	3.18	13.9	14.7	2.97	3.14	13.8	14.6
82	8.20	9.20	3.04	3.21	14.1	14.9	3.01	3.18	13.9	14.8
83	8.30	9.30	3.08	3.25	14.3	15.1	3.05	3.22	14.1	15.0
84	8.40	9.40	3.12	3.29	14.5	15.3	3.09	3.26	14.3	15.1
85	8.50	9.50	3.16	3.33	14.7	15.4	3.13	3.30	14.5	15.3
86	8.60	9.60	3.20	3.37	14.9	15.6	3.17	3.33	14.7	15.5
87	8.70	9.70	3.25	3.41	15.1	15.8	3.21	3.37	14.9	15.7
88	8.80	9.80	3.29	3.45	15.3	16.0	3.26	3.41	15.1	15.9
89	8.90	9.90	3.33	3.49	15.5	16.2	3.30	3.45	15.3	16.0
90	9.00	10.00	3.38	3.53	15.7	16.4	3.34	3.49	15.5	16.2
91	9.10	10.10	3.42	3.57	15.9	16.5	3.39	3.53	15.7	16.4
92	9.20	10.22	3.47	3.61	16.1	16.7	3.43	3.57	15.9	16.6
93	9.30	10.33	3.51	3.65	16.3	16.9	3.48	3.61	16.1	16.8
94	9.40	10.45	3.56	3.69	16.5	17.1	3.52	3.65	16.3	17.0
95	9.50	10.56	3.60	3.73	16.7	17.3	3.57	3.69	16.5	17.2
96	9.60	10.67	3.65	3.77	16.9	17.5	3.61	3.73	16.8	17.4
97	9.70	10.79	3.69	3.82	17.1	17.7	3.66	3.78	17.0	17.5
98	9.80	10.90	3.74	3.86	17.4	17.9	3.70	3.82	17.2	17.7
99	9.90	11.02	3.79	3.90	17.6	18.1	3.75	3.86	17.4	17.9
100	10.00	11.13	3.84	3.94	17.8	18.3	3.80	3.90	17.6	18.1
101	10.10	11.24	3.89	3.98	18.0	18.5	3.85	3.94	17.8	18.3
102	10.20	11.36	3.93	4.03	18.2	18.7	3.90	3.99	18.1	18.5
103	10.30	11.47	3.98	4.07	18.5	18.9	3.94	4.03	18.3	18.7
104	10.40	11.59	4.03	4.11	18.7	19.1	3.99	4.07	18.5	18.9
105	10.50	11.70	4.08	4.16	18.9	19.3	4.04	4.12	18.8	19.1
106	10.60	11.81	4.13	4.20	19.2	19.5	4.09	4.16	19.0	19.3
107	10.70	11.93	4.19	4.25	19.4	19.7	4.14	4.20	19.2	19.5
108	10.80	12.04	4.24	4.29	19.6	19.9	4.19	4.25	19.5	19.7
109	10.90	12.16	4.29	4.34	19.9	20.1	4.25	4.29	19.7	19.9
110	11.00	12.27	4.34	4.38	20.1	20.3	4.30	4.34	19.9	20.2
111	11.10	12.38	4.39	4.43	20.4	20.5	4.35	4.38	20.2	20.4
112	11.20	12.50	4.45	4.47	20.6	20.7	4.40	4.43	20.4	20.6
113	11.30	12.63	4.50	4.52	20.9	21.0	4.46	4.47	20.7	20.8
114	11.40	12.75	4.55	4.56	21.1	21.2	4.51	4.52	20.9	21.0
115	11.50	12.88	4.61	4.61	21.4	21.4	4.56	4.56	21.2	21.2
116	11.60	13.00	4.66	4.66	21.6	21.6	4.62	4.61	21.4	21.4
117	11.70	13.13	4.72	4.70	21.9	21.8	4.67	4.65	21.7	21.6
118	11.80	13.25	4.77	4.75	22.1	22.0	4.73	4.70	21.9	21.9
119	11.90	13.38	4.83	4.80	22.4	22.3	4.78	4.75	22.2	22.1
120	12.00	13.50	4.89	4.84	22.7	22.5	4.84	4.80	22.4	22.3
121	12.10	13.63	4.94	4.89	22.9	22.7	4.89	4.84	22.7	22.5
122	12.20	13.75	5.00	4.94	23.2	22.9	4.95	4.89	23.0	22.7
123	12.30	13.88	5.06	4.99	23.5	23.1	5.01	4.94	23.2	22.9
124	12.40	14.00	5.12	5.04	23.7	23.4	5.06	4.99	23.5	23.2
125	12.50	14.13	5.17	5.09	24.0	23.6	5.12	5.03	23.8	23.4

• PUMY-125VMA, PUMY-125VMA1 STANDARD CAPACITY DIAGRAM

※ Before calculating the sum of total capacity of indoor units, please convert the value into the kW model capacity following the table on page 13.

220V, 50Hz/60Hz

※ Total capacity of indoor units	Capacity (kW)		220V, 50Hz				220V, 60Hz			
			Power consumption (kW)		Current (A)		Power consumption (kW)		Current (A)	
	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
126	12.60	14.25	5.23	5.13	24.3	23.8	5.18	5.08	24.0	23.6
127	12.70	14.38	5.29	5.18	24.5	24.0	5.24	5.13	24.3	23.8
128	12.80	14.50	5.35	5.23	24.8	24.3	5.30	5.18	24.6	24.1
129	12.90	14.63	5.41	5.28	25.1	24.5	5.36	5.23	24.9	24.3
130	13.00	14.75	5.47	5.33	25.4	24.7	5.42	5.28	25.1	24.5
131	13.10	14.88	5.53	5.38	25.7	25.0	5.48	5.33	25.4	24.8
132	13.20	15.00	5.59	5.43	25.9	25.2	5.54	5.38	25.7	25.0
133	13.30	15.13	5.66	5.48	26.2	25.4	5.60	5.43	26.0	25.2
134	13.40	15.25	5.72	5.54	26.5	25.7	5.66	5.48	26.3	25.5
135	13.50	15.38	5.78	5.59	26.8	25.9	5.72	5.53	26.6	25.7
136	13.60	15.50	5.84	5.64	27.1	26.2	5.79	5.58	26.8	25.9
137	13.70	15.63	5.91	5.69	27.4	26.4	5.85	5.63	27.1	26.2
138	13.80	15.75	5.97	5.74	27.7	26.6	5.91	5.68	27.4	26.4
139	13.90	15.88	6.04	5.79	28.0	26.9	5.98	5.73	27.7	26.7
140	14.00	16.00	6.10	5.85	28.3	27.2	6.04	5.79	28.0	26.9
141	14.02	16.01	6.11	5.84	28.3	27.1	6.05	5.78	28.0	26.8
142	14.04	16.02	6.11	5.82	28.3	27.0	6.05	5.76	28.1	26.8
143	14.06	16.03	6.11	5.80	28.4	26.9	6.05	5.74	28.1	26.7
144	14.08	16.04	6.12	5.79	28.4	26.8	6.06	5.73	28.1	26.6
145	14.10	16.06	6.12	5.77	28.4	26.8	6.06	5.71	28.1	26.5
146	14.12	16.07	6.12	5.75	28.4	26.7	6.06	5.69	28.1	26.5
147	14.15	16.08	6.13	5.74	28.4	26.6	6.07	5.68	28.1	26.4
148	14.17	16.09	6.13	5.72	28.4	26.5	6.07	5.66	28.2	26.3
149	14.19	16.10	6.13	5.70	28.4	26.5	6.07	5.65	28.2	26.2
150	14.21	16.12	6.14	5.69	28.5	26.4	6.08	5.63	28.2	26.2
151	14.23	16.13	6.14	5.67	28.5	26.3	6.08	5.61	28.2	26.1
152	14.25	16.14	6.14	5.65	28.5	26.2	6.08	5.60	28.2	26.0
153	14.27	16.15	6.15	5.64	28.5	26.2	6.08	5.58	28.2	25.9
154	14.30	16.16	6.15	5.62	28.5	26.1	6.09	5.56	28.2	25.9
155	14.32	16.17	6.15	5.61	28.5	26.0	6.09	5.55	28.3	25.8
156	14.34	16.19	6.15	5.59	28.5	25.9	6.09	5.53	28.3	25.7
157	14.36	16.20	6.16	5.57	28.6	25.8	6.10	5.52	28.3	25.6
158	14.38	16.21	6.16	5.56	28.6	25.8	6.10	5.50	28.3	25.6
159	14.40	16.22	6.16	5.54	28.6	25.7	6.10	5.48	28.3	25.5
160	14.42	16.23	6.17	5.52	28.6	25.6	6.11	5.47	28.3	25.4
161	14.45	16.25	6.17	5.51	28.6	25.5	6.11	5.45	28.3	25.3
162	14.47	16.26	6.17	5.49	28.6	25.5	6.11	5.43	28.4	25.3
163	14.49	16.27	6.18	5.47	28.7	25.4	6.12	5.42	28.4	25.2
164	14.51	16.28	6.18	5.46	28.7	25.3	6.12	5.40	28.4	25.1
165	14.53	16.29	6.18	5.44	28.7	25.2	6.12	5.38	28.4	25.0
166	14.55	16.31	6.19	5.42	28.7	25.2	6.13	5.37	28.4	25.0
167	14.57	16.32	6.19	5.41	28.7	25.1	6.13	5.35	28.4	24.9
168	14.60	16.33	6.19	5.39	28.7	25.0	6.13	5.34	28.4	24.8
169	14.62	16.34	6.20	5.37	28.7	24.9	6.14	5.32	28.5	24.7
170	14.64	16.35	6.20	5.36	28.8	24.9	6.14	5.30	28.5	24.6
171	14.66	16.36	6.20	5.34	28.8	24.8	6.14	5.29	28.5	24.6
172	14.68	16.38	6.21	5.33	28.8	24.7	6.14	5.27	28.5	24.5
173	14.70	16.39	6.21	5.31	28.8	24.6	6.15	5.25	28.5	24.4
174	14.72	16.40	6.21	5.29	28.8	24.5	6.15	5.24	28.5	24.3
175	14.75	16.41	6.22	5.28	28.8	24.5	6.15	5.22	28.5	24.3
176	14.77	16.42	6.22	5.26	28.8	24.4	6.16	5.21	28.6	24.2
177	14.79	16.44	6.22	5.24	28.9	24.3	6.16	5.19	28.6	24.1
178	14.81	16.45	6.22	5.23	28.9	24.2	6.16	5.17	28.6	24.0
179	14.83	16.46	6.23	5.21	28.9	24.2	6.17	5.16	28.6	24.0
180	14.85	16.47	6.23	5.19	28.9	24.1	6.17	5.14	28.6	23.9
181	14.87	16.48	6.23	5.18	28.9	24.0	6.17	5.12	28.6	23.8
182	14.89	16.50	6.24	5.16	28.9	23.9	6.18	5.11	28.6	23.7

4-3. CORRECTING COOLING AND HEATING CAPACITY

4-3-1. Correcting Changes in Air Conditions

(1)The performance curve charts (Figure 1, 2, 3, 4) show the rated capacity (total capacity) under the stated conditions when standard length for piping (5m) is used. The rated power is derived from the capacity ratio and power ratio obtained for the indoor and outdoor intake temperatures at time 1.

• Standard conditions:

Service Ref	PUMY-VM/VM$_1$/YM	PUMY-VM$_2$/YM$_1$/VMA/VMA$_1$/YMA
Rated cooling capacity	Indoor D.B. 27°C / W.B. 19.5°C Outdoor D.B. 35°C	Indoor D.B. 27°C / W.B. 19.0°C Outdoor D.B. 35°C
Rated heating capacity	Indoor D.B. 21°C Outdoor D.B. 7°C / W.B. 6°C	Indoor D.B. 20°C Outdoor D.B. 7°C / W.B. 6°C

• Use the rated capacity and rated power values given in the characteristics table for each indoor unit.

• The capacity is the single value on the side of the outdoor unit; the capacity on the sides of each indoor unit must be added to obtain the total capacity.

(2)The capacity of each indoor unit may be obtained by multiplying the total capacity obtained in (1) by the ratio between the individual capacity at the rated time and the total capacity at the rated time.

$$\text{Individual capacity under stated conditions} = \text{total capacity under the stated conditions} \times \frac{\text{individual capacity at the rated time}}{\text{total capacity at the rated time}}$$

(3)Capacity correction factor curve

Figure 1. PUMY-VM Cooling performance curve
PUMY-VM$_1$
PUMY-YM

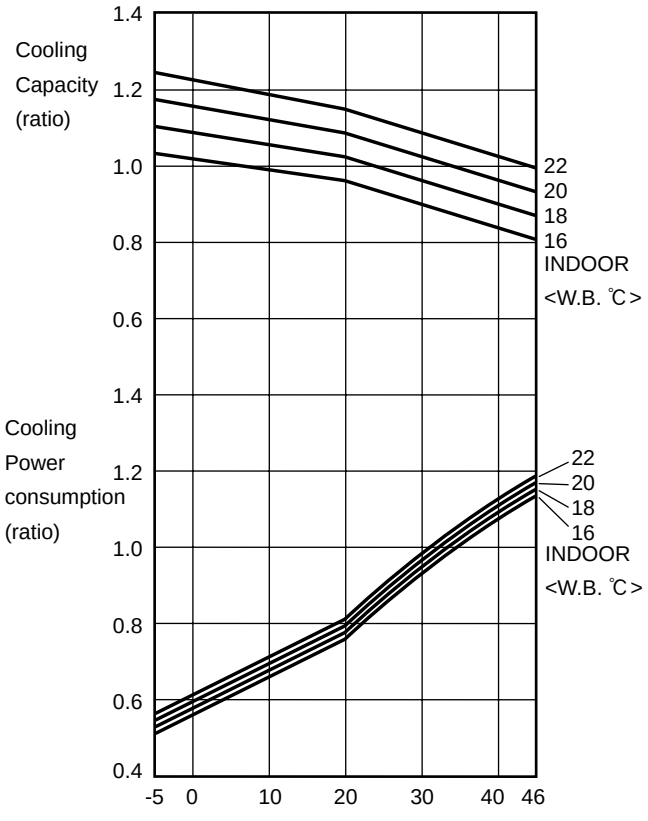


Figure 2. PUMY-VM Heating performance curve
PUMY-VM$_1$
PUMY-YM

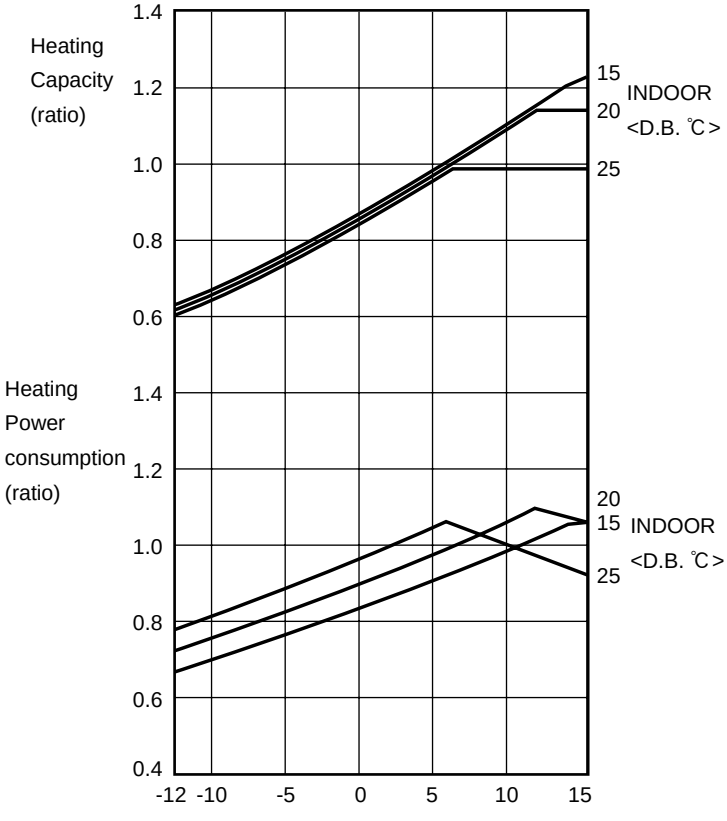


Figure 3. PUMY-VM$_2$ Cooling performance curve
PUMY-YM$_1$
PUMY-VMA
PUMY-VMA$_1$
PUMY-YMA

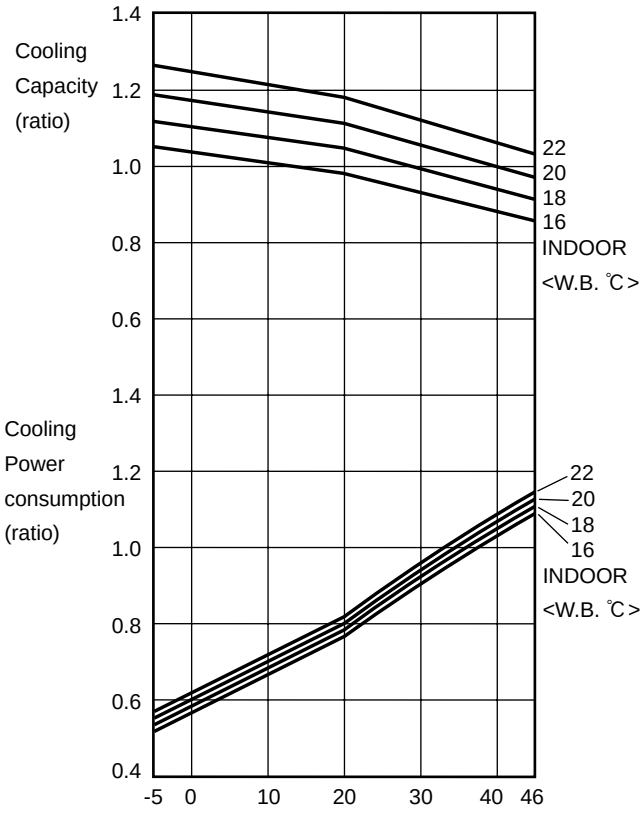
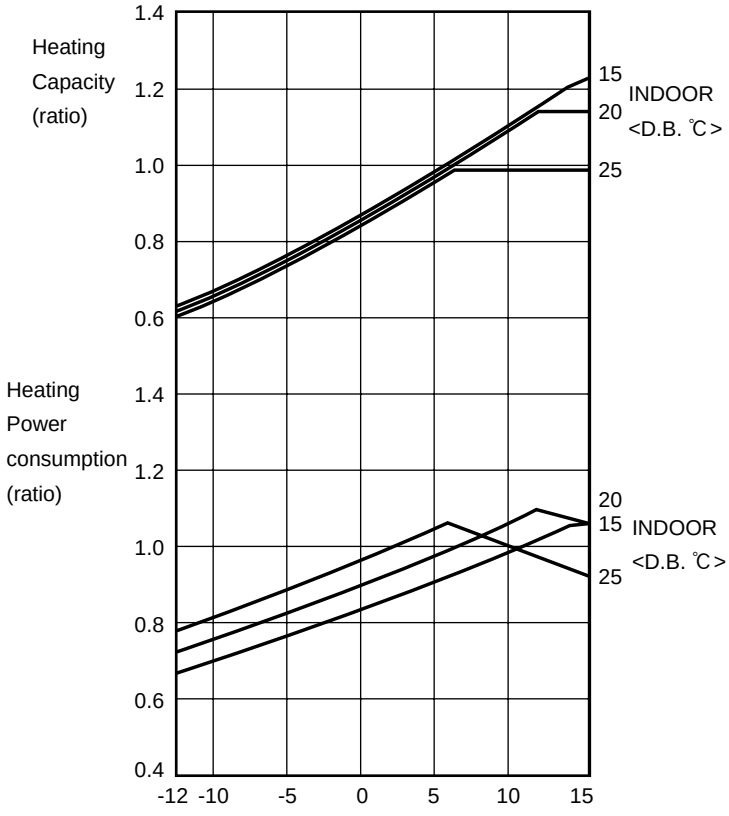


Figure 4. PUMY-VM$_2$ Heating performance curve
PUMY-YM$_1$
PUMY-VMA
PUMY-VMA$_1$
PUMY-YMA



4-3-2. Correcting Capacity for Changes in the Length of Refrigerant Piping

(1) During cooling, to obtain the ratio (and the equivalent piping length) of the outdoor units rated capacity and the total in-use indoor capacity, first find the capacity ratio corresponding to the standard piping length (5m) from figures 5 and 6 at first, and then multiply by the cooling capacity from Figure 1 to obtain the actual capacity.
(2) During heating, to find the equivalent piping length, first find the capacity ratio corresponding to standard piping length (5m) from Figure 7, and then multiply by the heating capacity from Figure 2 to obtain the actual capacity.

(1) Cooling capacity correction factor

Figure 5. PUMY-71VM, PUMY-71VM1, PUMY-71VM2
Cooling capacity correction curve

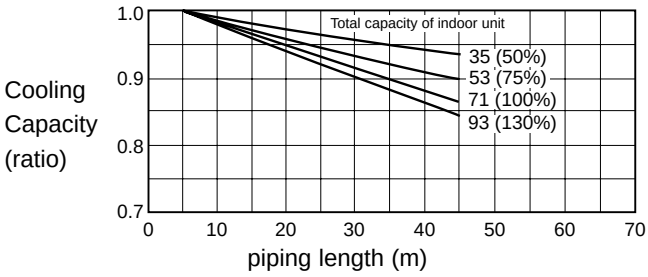
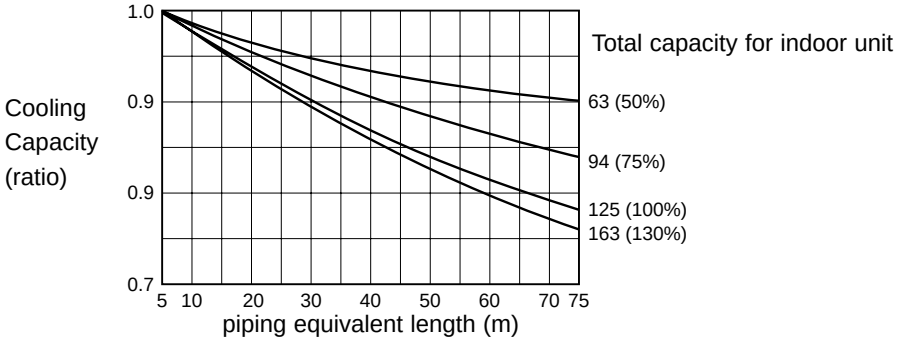
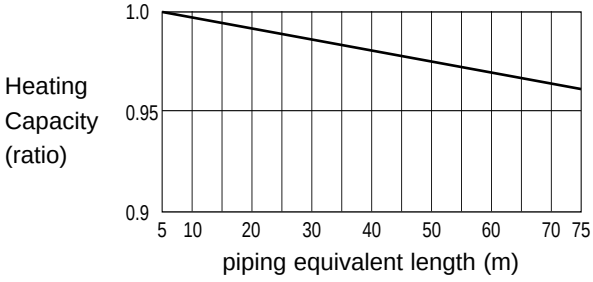


Figure 6. PUMY-125VM, PUMY-125VM1, PUMY-125VM2, PUMY-125YM, PUMY-125YM1, PUMY-125VMA, PUMY-125VMA1 PUMY-125YMA
Cooling capacity correction curve



(2) Heating capacity correction factor

Figure 7. PUMY Series Heating capacity correction curve



(3) Method for Obtaining the Equivalent Piping Length

Equivalent length for type 125 = (length of piping to farthest indoor unit) + (0.35 × number of bends in the piping) (m)
Length of piping to farthest indoor unit: type 125.....70m

4-3-3. Correction of Heating Capacity for Frost and Defrosting

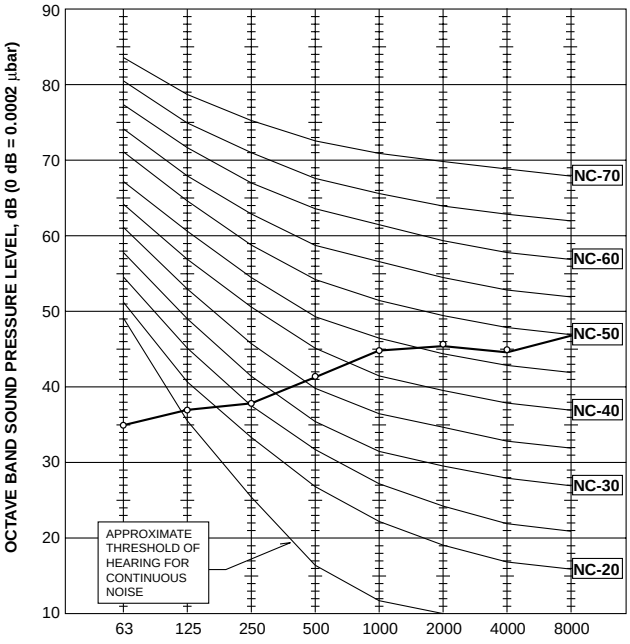
If heating capacity has been reduced due to frost formation or defrosting, multiply the capacity by the appropriate correction factor from the following table to obtain the actual heating capacity.

Correction factor diagram

Outdoor Intake temperature (°CWB)	6	4	2	0	-2	-4	-6	-8	-10
Correction factor	1.0	0.98	0.89	0.88	0.89	0.9	0.95	0.95	0.95

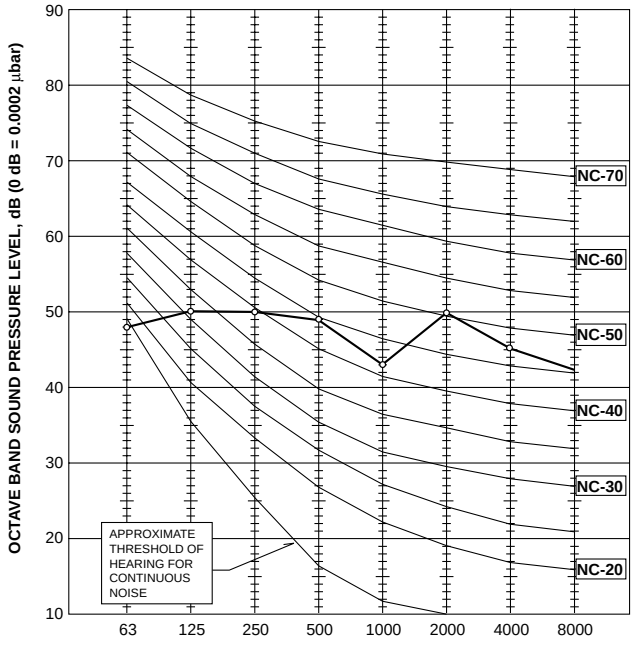
PUMY-71VM
PUMY-71VM$_1$
PUMY-71VM$_2$

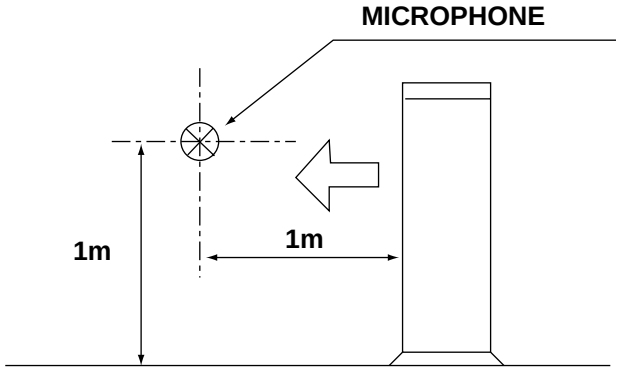
NOTCH	SPL(dB)	LINE
Hi	52	



PUMY-125VM
PUMY-125VM$_1$
PUMY-125VM$_2$
PUMY-125YM
PUMY-125YM$_1$
PUMY-125VMA
PUMY-125VMA$_1$
PUMY-125YMA

NOTCH	SPL(dB)	LINE
Hi	54	

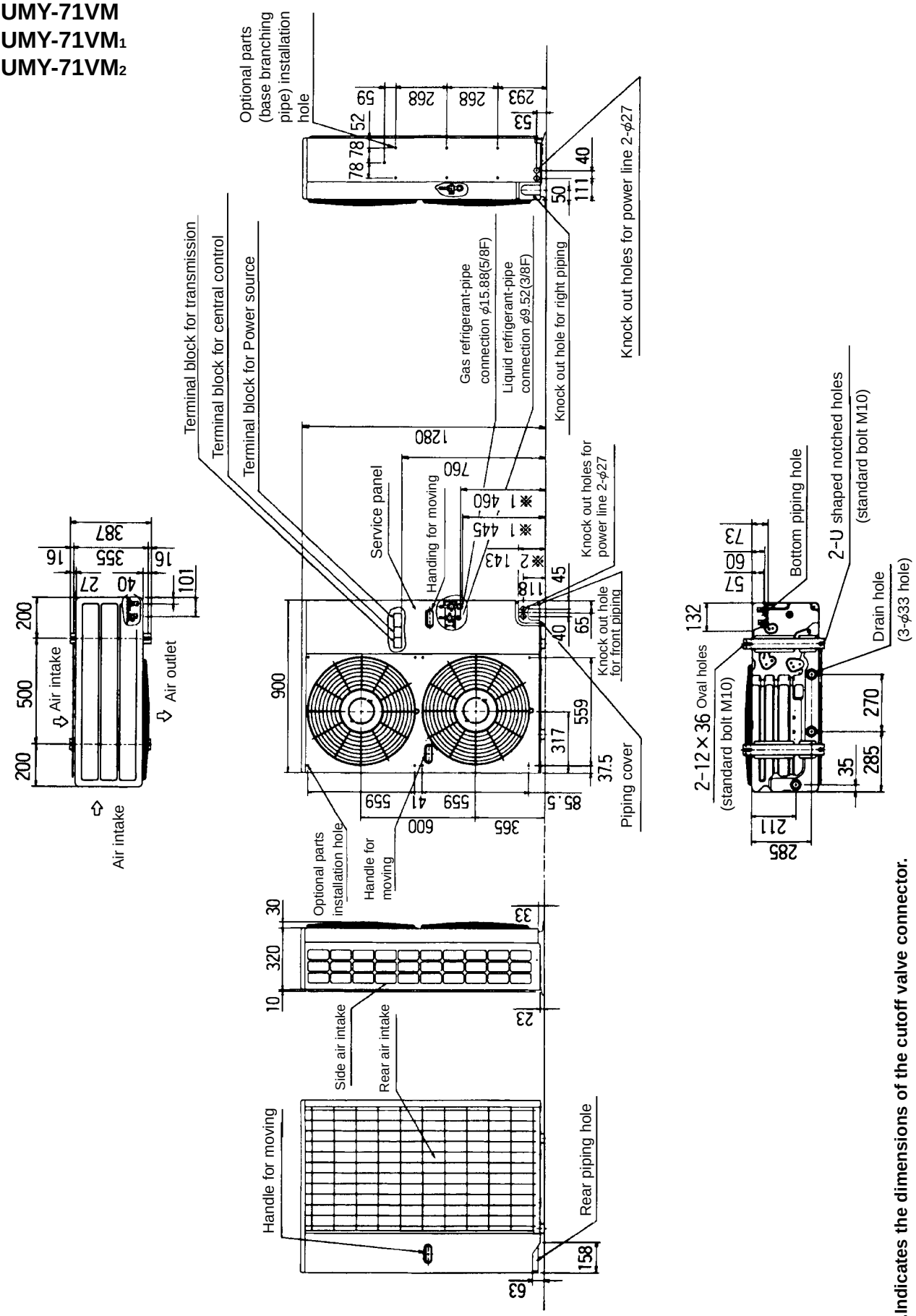




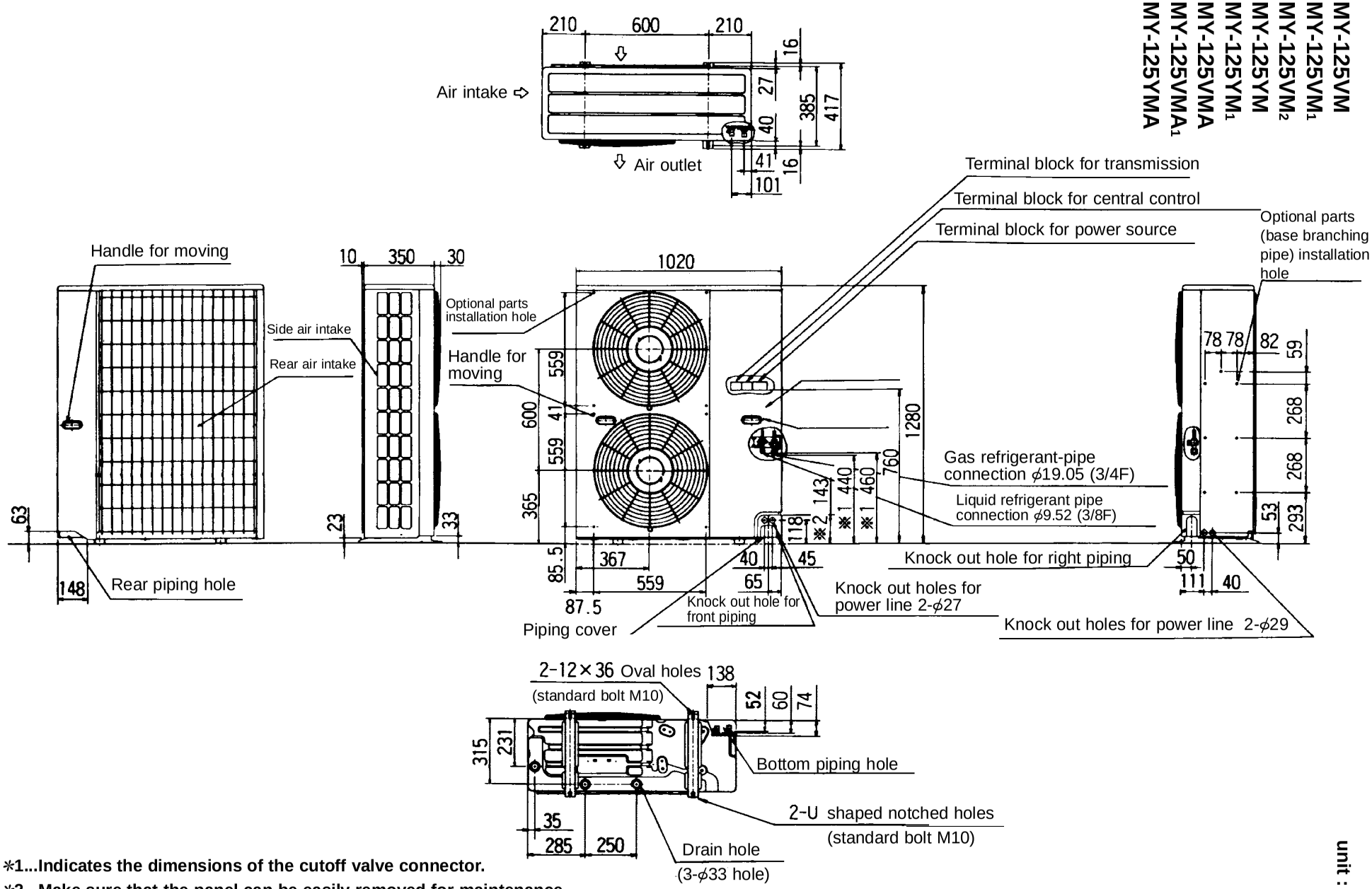
5 OUTLINES AND DIMENSIONS

OUTDOOR UNITS
PUMY-71VM
PUMY-71VM1
PUMY-71VM2

unit : mm



∗1...Indicates the dimensions of the cutoff valve connector.
∗2...Make sure that the panel can be easily removed for maintenance when a piping cover is used for aesthetic reasons.



⁎1...Indicates the dimensions of the cutoff valve connector.

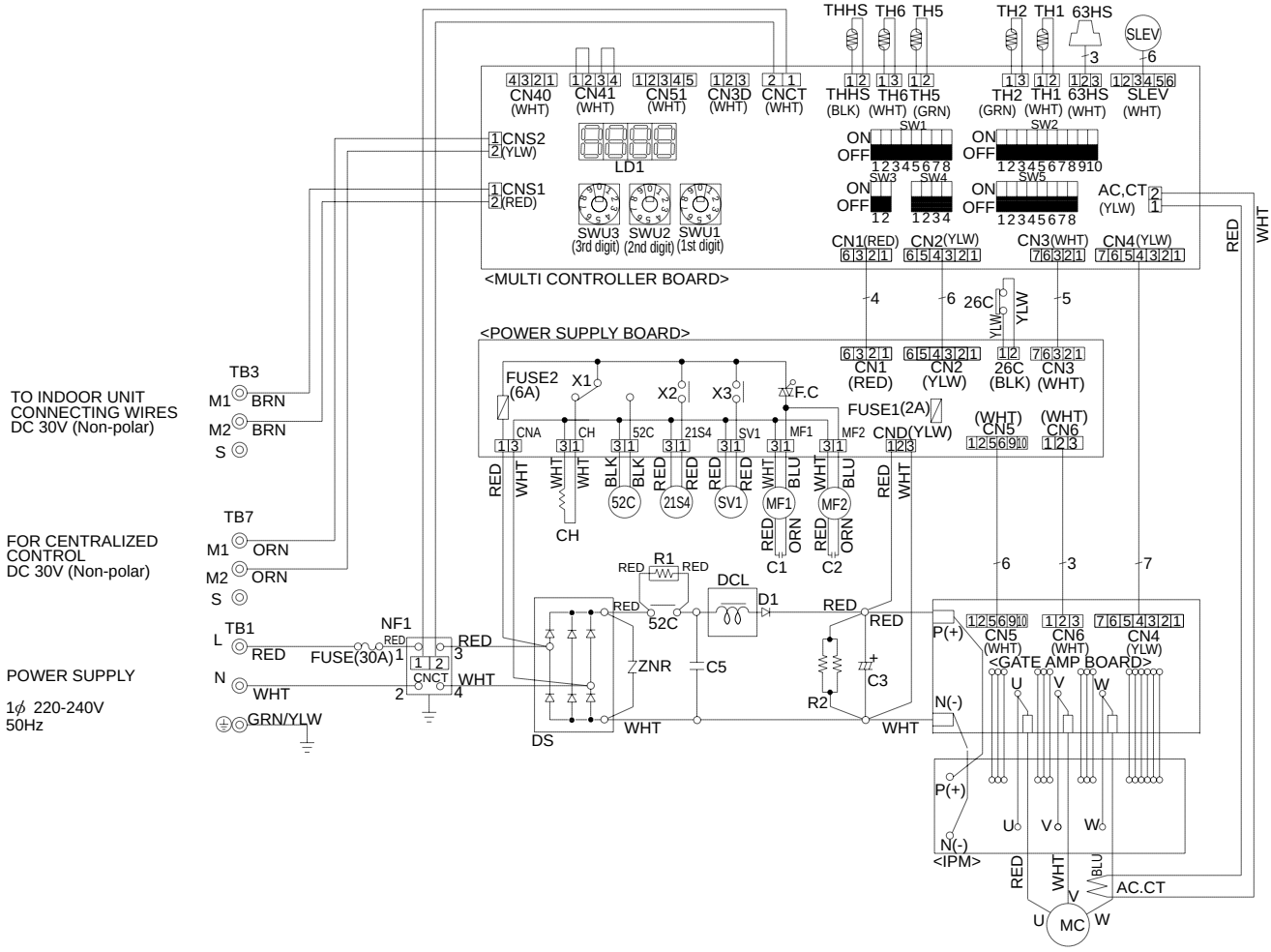
⁎2...Make sure that the panel can be easily removed for maintenance when a piping cover is used for aesthetic reasons.

unit : mm

6 WIRING DIAGRAM

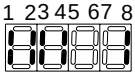
PUMY-71VM

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
AC,CT	CURRENT DETECTION	F.C	FAN CONTROL	TB3	TERMINAL BLOCK <TRANSMISSION>
CH	CRANKCASE HEATER	FUSE1	FUSE(2A)	TB7	TERMINAL BLOCK <TRANSMISSION> (CENTRALIZED CONTROL)
CNA	CONNECTOR <POWER SUPPLY>	FUSE2	FUSE(6A)		
CND	CONNECTOR <DC POWER SUPPLY>	FUSE	FUSE(30A)	THHS	THERMISTOR <IPM RADIATOR PANEL TEMPERATURE DETECTION>
CNS1	CONNECTOR <MULTI SYSTEM>	IPM	INTELLIGENT POWER MODULE		
CNS2	CONNECTOR <CENTRALIZED CONTROL>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	TH1	THERMISTOR<DISCHARGE TEMPERATURE DETECTION>
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>			TH2	THERMISTOR <LOW PRESSURE SATURATED TEMPERATURE DETECTION>
CN2	CONNECTOR <POWER SYNC SIGNAL, PROTECTION>	MC	COMPRESSOR		
CN3	CONNECTOR <POWER SUPPLY 30V, 12V, 5V>	MF1,2	FAN MOTOR (INNER THERMOSTAT)	TH5	THERMISTOR <PIPE TEMPERATURE DETECTION,JUDGING DEFROST>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	NF1	NOISE FILTER		
CN5	CONNECTOR <IPM POWER SUPPLY>	R1	RESISTOR<RUSH CURRENT PROTECT>	TH6	THERMISTOR<OUTDOOR TEMPERATURE DETECTION>
CN6	CONNECTOR <IPM POWER SUPPLY, TROUBLE OUTPUT>	R2	RESISTOR<DISCHARGE>	X1	RELAY <CRANKCASE HEATER,MAGNETIC CONTACTOR>
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	SLEV	EXPANSION VALVE		
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	SV1	SOLENOID COIL <HOT GAS BYPASS>	X2	RELAY<4-WAY VALVE>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	SW1	SWITCH <DISPLAY SELECTION SELFDIAGNOSIS>	X3	RELAY<SOLENOID VALVE>
CN3D	CONNECTOR <DEMAND SIGNAL,SILENT MODE INPUT>	SW2	SWITCH <FUNCTION SELECTION>	ZNR	VARISTOR
CNCT	CONNECTOR <CURRENT DETECTION>	SW3	SWITCH <TEST RUN>	21S4	4-WAY COIL
C1,2	FAN MOTOR CAPACITOR	SW4	SWITCH <MODEL SELECTION>	26C	THERMAL SWITCH <COMPRESSOR>
C3	CAPACITOR<SMOOTHING>	SW5	SWITCH <FUNCTION SELECTION>	52C	MAGNETIC CONTACTOR <INVERTER MAIN CIRCUIT>
C5	CAPACITOR<POWER FACTOR IMPROVEMENT>	SWU1	SWITCH <UNIT ADDRESS SELECTION,1ST DIGIT>		
DS	DIODE STACK	SWU2	SWITCH <UNIT ADDRESS SELECTION,2ND DIGIT>	63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>
D1	DIODE <POWER FACTOR IMPROVEMENT>	SWU3	SWITCH <UNIT ADDRESS SELECTION,3RD DIGIT>		
DCL	REACTOR	TB1	TERMINAL BLOCK <POWER SUPPLY>		



1.Refer to the wiring boards of the indoor units for details on wiring of each indoor unit.
2.The transmission line is two-wire type and has no polarity.
3.Mark ◎ shows the terminal board,mark □ the connector .Symbols in parentheses () show the colors of connectors.
4.Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.
LED indication : Set all contacts of SW1 to OFF.

•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

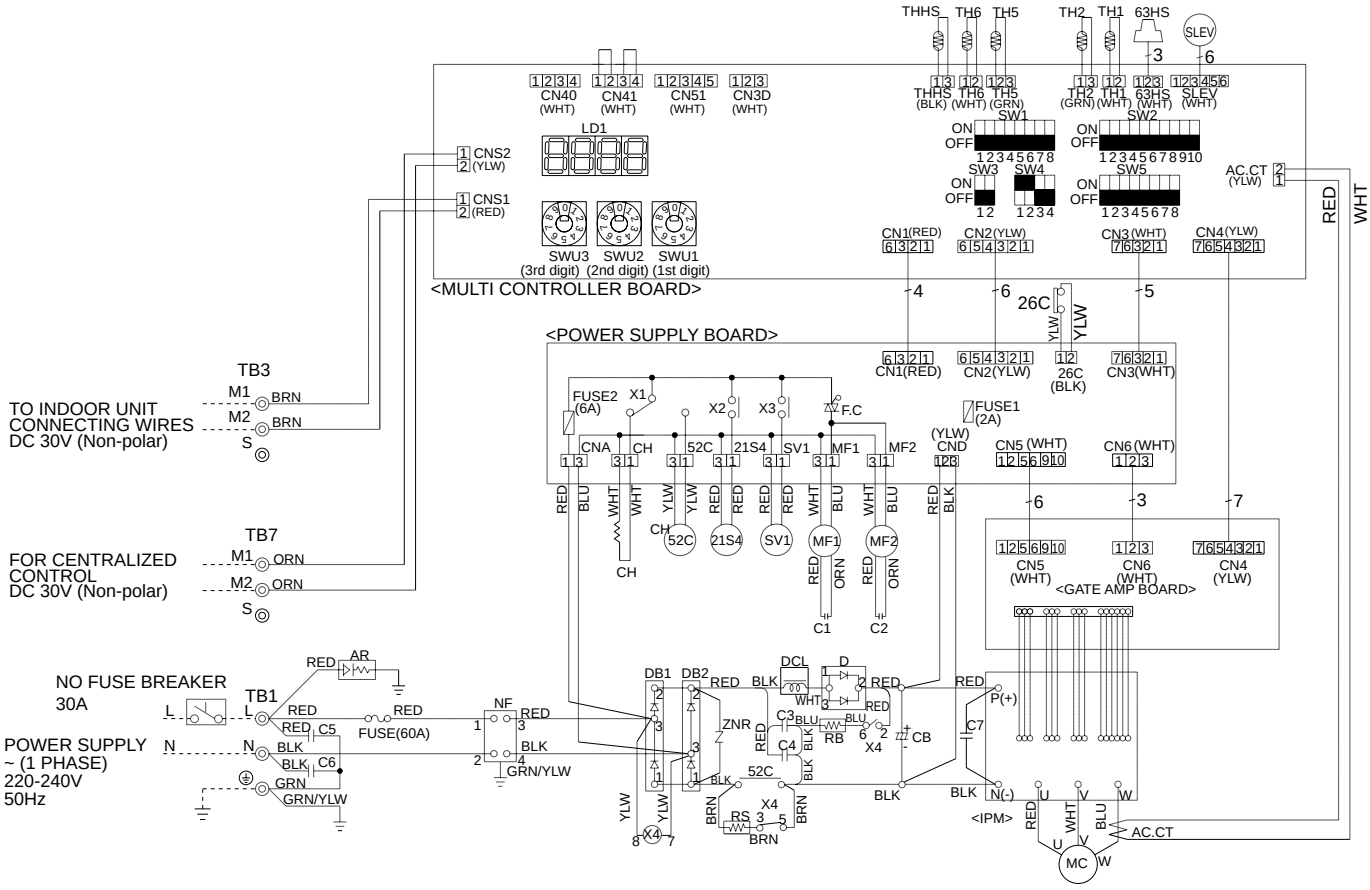


(Example)
When the compressor and SV1 are turned during heating operation.

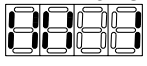
Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-125VM

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
AC,CT	CURRENT DETECTION	DCL	REACTOR	TB3	TERMINAL BLOCK <TRANSMISSION>
AR	SURGE ABSORBER	F.C	FAN CONTROL	TB7	TERMINAL BLOCK <TRANSMISSION> (CENTRALIZED CONTROL)
CB	SMOOTHING CAPACITOR	FUSE1	FUSE(2A)		
CH	CRANKCASE HEATER	FUSE2	FUSE(6A)	THHS	THERMISTOR <IPM RADIATOR PANEL TEMPERATURE DETECTION>
CNA	CONNECTOR <POWER SUPPLY>	FUSE	FUSE(60A)		
CND	CONNECTOR <DC POWER SUPPLY>	IPM	INTELLIGENT POWER MODULE	TH1	THERMISTOR <DISCHARGE TEMPERATURE DETECTION>
CNS1	CONNECTOR <MULTI SYSTEM>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	TH2	THERMISTOR <LOW PRESSURE SATURATED TEMPERATURE DETECTION>
CNS2	CONNECTOR <CENTRALIZED CONTROL>				
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>	MC	COMPRESSOR	TH5	THERMISTOR <PIPE TEMPERATURE DETECTION . JUDGING DEFROST>
CN2	CONNECTOR <POWER SYNC SIGNAL , PROTECTION>	MF1,2	FAN MOTOR (INNER THERMOSTAT)		
CN3	CONNECTOR <POWER SUPPLY 30V,12V,5V>	NF	NOISE FILTER	TH6	THERMISTOR <OUTDOOR TEMPERATURE DETECTION>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	RB	RESISTOR <DISCHARGE>		
CN5	CONNECTOR <IPM POWER SUPPLY>	RS	RESISTOR <RUSH CURRENT PROTECT>	X1	RELAY < MAGNETIC CONTACTOR / CRANKCASE HEATER>
CN6	CONNECTOR <IPM POWER SUPPLY , TROUBLE OUTPUT>	SLEV	EXPANSION VALVE		
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	SV1	SOLENOID COIL <HOT GAS BYPASS>	X2	RELAY<4-WAY VALVE>
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	SW1	SWITCH <DISPLAY SELECTION SELFDIAGNOSIS>	X3	RELAY<SOLENOID VALVE>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	SW2	SWITCH <FUNCTION SELECTION>	X4	RELAY
CN3D	CONNECTOR <DEMAND SIGNAL , SILENT MODE INPUT>	SW3	SWITCH <TEST RUN>	ZNR	VARISTOR
C1,2	FAN MOTOR CAPACITOR	SW4	SWITCH <MODEL SELECTION>	21S4	4-WAY COIL
C3,4	CAPACITOR <POWER FACTOR IMPROVEMENT>	SW5	SWITCH <FUNCTION SELECTION>	26C	THERMAL SWITCH <COMPRESSOR>
C5,6	CAPACITOR	SWU1	SWITCH <UNIT ADDRESS SELECTION,1ST DIGIT>	52C	MAGNETIC CONTACTOR <INVERTER MAIN CIRCUIT>
C7	CAPACITOR <FILTER>	SWU2	SWITCH <UNIT ADDRESS SELECTION, 2ND DIGIT>		
D	DIODE <POWER FACTOR IMPROVEMENT>	SWU3	SWITCH <UNIT ADDRESS SELECTION, 3RD DIGIT>	63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>
DB1,DB2	DIODE STACK	TB1	TERMINAL BLOCK <POWER SUPPLY>		



1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2.The transmission line is two-wire type and has no polarity.
3.Mark ◎ shows the terminal board, mark □ the connector. Symbols in parentheses() show the colors of connectors.
4.Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.
LED indication:Set all contacts of SW1 to OFF.
•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

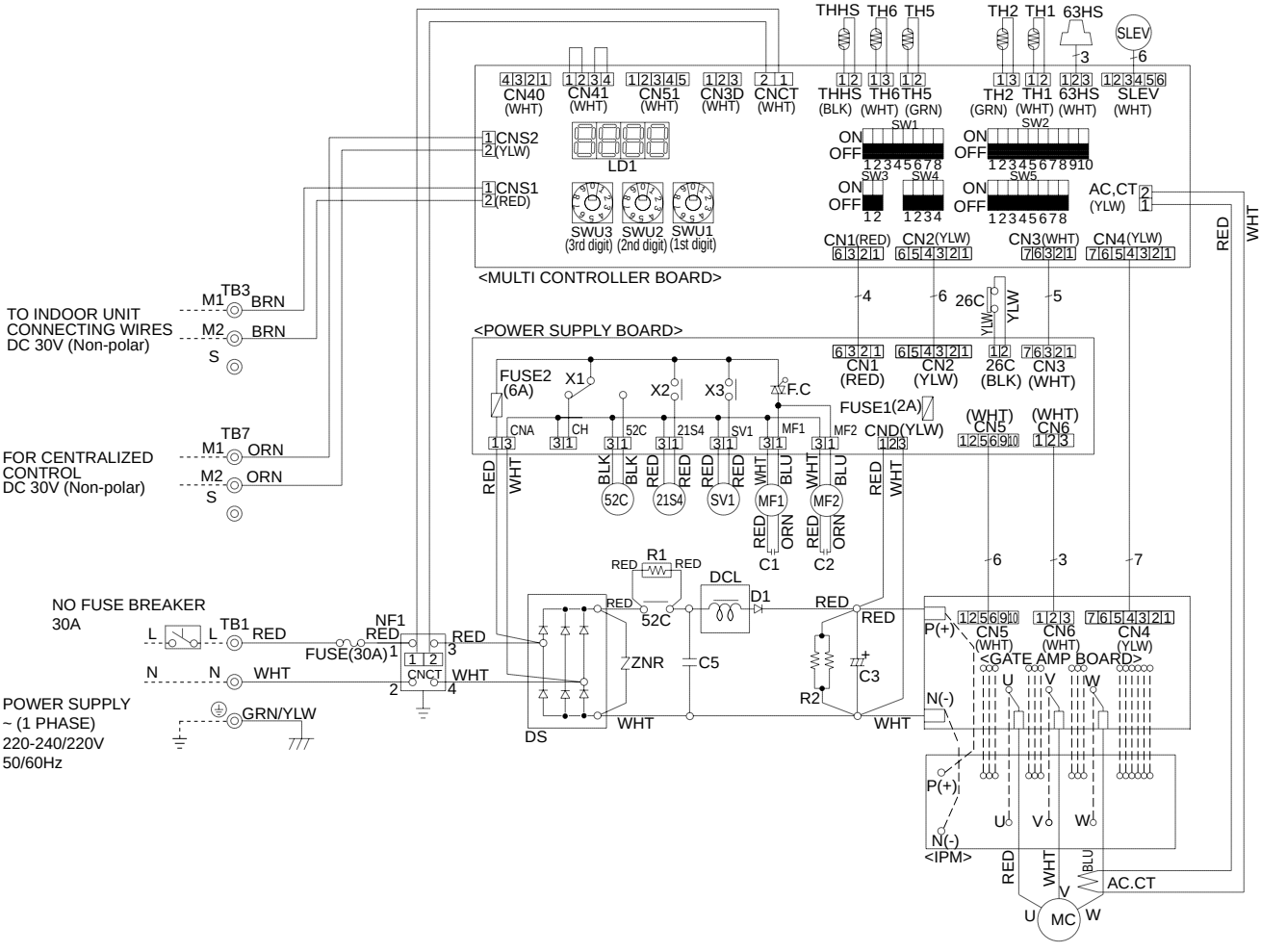


(Example)
When the compressor and SV1 are turned during heating operation.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-71VM1

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
AC,CT	CURRENT DETECTION	F.C	FAN CONTROL	TB1	TERMINAL BLOCK <POWER SUPPLY>
CNA	CONNECTOR <POWER SUPPLY>	FUSE1	FUSE(2A)	TB3	TERMINAL BLOCK <TRANSMISSION>
CND	CONNECTOR <DC POWER SUPPLY>	FUSE2	FUSE(6A)	TB7	TERMINAL BLOCK
CNS1	CONNECTOR <MULTI SYSTEM>	FUSE	FUSE(30A)		<TRANSMISSION> (CENTRALIZED CONTROL)
CNS2	CONNECTOR <CENTRALIZED CONTROL>	IPM	INTELLIGENT POWER MODULE	THHS	THERMISTOR
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>	LD1	DIGITAL INDICATION LED		<IPM RADIATOR PANEL TEMPERATURE DETECTION>
CN2	CONNECTOR <POWER SYNC SIGNAL , PROTECTION>		<OPERATION INSPECTION INDICATION>	TH1	THERMISTOR<DISCHARGE TEMPERATURE DETECTION>
CN3	CONNECTOR <POWER SUPPLY 30V , 12V , 5V>	MC	COMPRESSOR	TH2	THERMISTOR
CN4	CONNECTOR <INVERTER SIGNAL 5V>	MF1,2	FAN MOTOR (INNER THERMOSTAT)		<LOW PRESSURE SATURATED TEMPERATURE DETECTION>
CN5	CONNECTOR <IPM POWER SUPPLY>	NF1	NOISE FILTER	TH5	THERMISTOR
CN6	CONNECTOR <IPM POWER SUPPLY , TROUBLE OUTPUT>	R1	RESISTOR<RUSH CURRENT PROTECT>		<PIPE TEMPERATURE DETECTION,JUDGING DEFROST>
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	R2	RESISTOR<DISCHARGE>	TH6	THERMISTOR<OUTDOOR TEMPERATURE DETECTION>
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	SLEV	EXPANSION VALVE	X1	RELAY <MAGNETIC CONTACTOR>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	SV1	SOLENOID COIL <HOT GAS BYPASS>	X2	RELAY<4-WAY VALVE>
CN3D	CONNECTOR <DEMAND SIGNAL,SILENT MODE INPUT>	SW1	SWITCH <DISPLAY SELECTION SELFDIAGNOSIS>	X3	RELAY<SOLENOID VALVE>
CNCT	CONNECTOR <CURRENT DETECTION>	SW2	SWITCH <FUNCTION SELECTION>	ZNR	VARISTOR
C1,2	FAN MOTOR CAPACITOR	SW3	SWITCH <TEST RUN>	21S4	4-WAY COIL
C3	CAPACITOR<SMOOTHING>	SW4	SWITCH <MODEL SELECTION>	26C	THERMAL SWITCH <COMPRESSOR>
C5	CAPACITOR<POWER FACTOR IMPROVEMENT>	SW5	SWITCH <FUNCTION SELECTION>	52C	MAGNETIC CONTACTOR
DS	DIODE STACK	SWU1	SWITCH <UNIT ADDRESS SELECTION,1ST DIGIT>		<INVERTER MAIN CIRCUIT>
D1	DIODE <POWER FACTOR IMPROVEMENT>	SWU2	SWITCH <UNIT ADDRESS SELECTION,2ND DIGIT>	63HS	HIGH PRESSURE SENSOR
DCL	REACTOR	SWU3	SWITCH <UNIT ADDRESS SELECTION,3RD DIGIT>		<DISCHARGE PRESSURE DETECTION>



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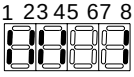
LED indication : Set all contacts of SW1 to OFF.

•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

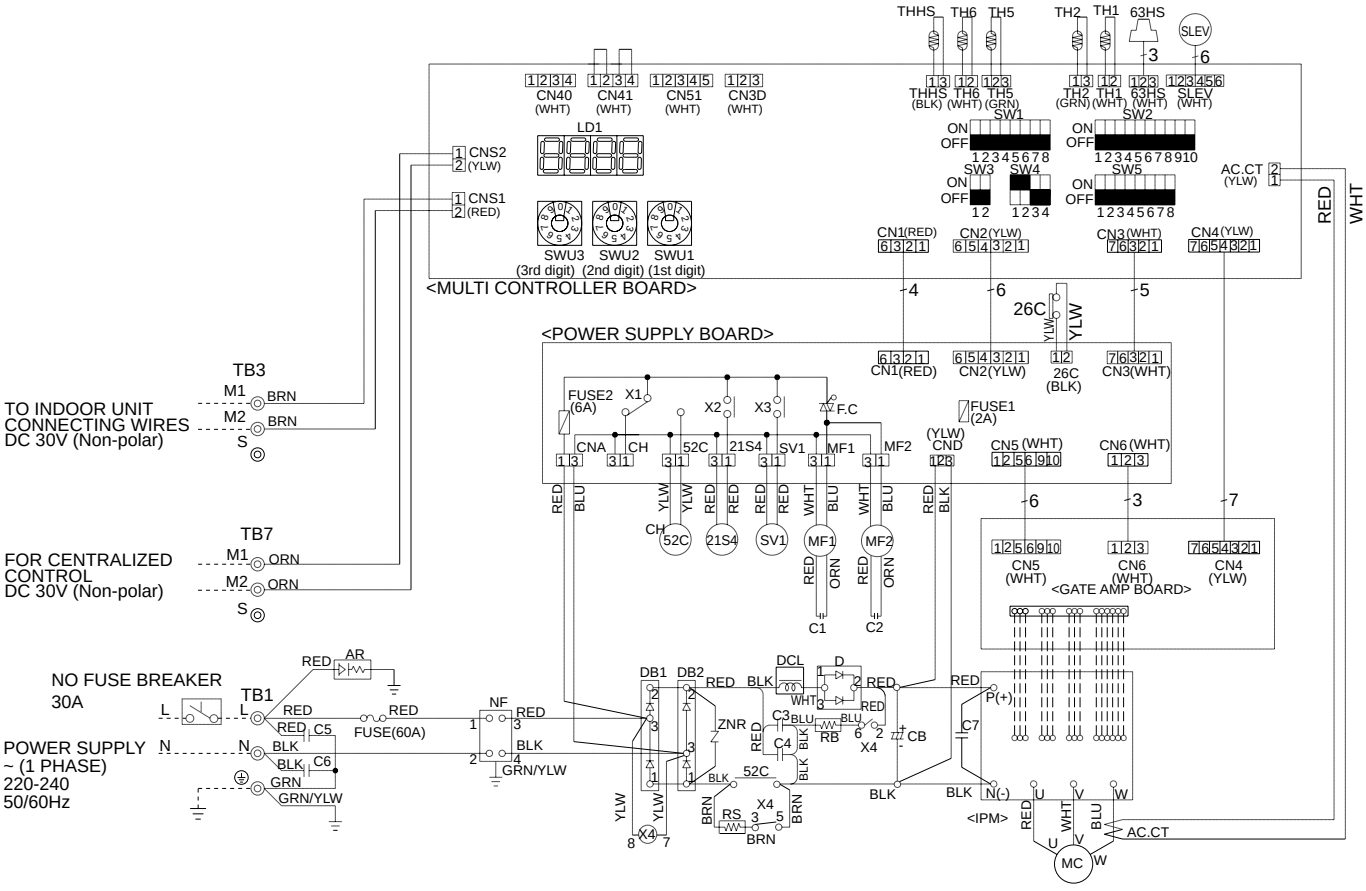


(Example)
When the compressor and SV1 are turned during heating operation.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-125VM1

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
AC,CT	CURRENT DETECTION	DCL	REACTOR	TB1	TERMINAL BLOCK <POWER SUPPLY>
AR	SURGE ABSORBER	F.C	FAN CONTROL	TB3	TERMINAL BLOCK <TRANSMISSION>
CB	SMOOTHING CAPACITOR	FUSE1	FUSE(2A)	TB7	TERMINAL BLOCK <TRANSMISSION> (CENTRALIZED CONTROL)
CNA	CONNECTOR <POWER SUPPLY>	FUSE2	FUSE(6A)		
CND	CONNECTOR <DC POWER SUPPLY>	FUSE	FUSE(60A)	THHS	THERMISTOR <IPM RADIATOR PANEL TEMPERATURE DETECTION>
CNS1	CONNECTOR <MULTI SYSTEM>	IPM	INTELLIGENT POWER MODULE		
CNS2	CONNECTOR <CENTRALIZED CONTROL>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	TH1	THERMISTOR <DISCHARGE TEMPERATURE DETECTION>
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>			TH2	THERMISTOR <LOW PRESSURE SATURATED TEMPERATURE DETECTION>
CN2	CONNECTOR <POWER SYNC SIGNAL, PROTECTION>	MC	COMPRESSOR		
CN3	CONNECTOR <POWER SUPPLY 30V,12V,5V>	MF1,2	FAN MOTOR (INNER THERMOSTAT)	TH5	THERMISTOR <PIPE TEMPERATURE DETECTION . JUDGING DEFROST>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	NF	NOISE FILTER		
CN5	CONNECTOR <IPM POWER SUPPLY>	RB	RESISTOR <DISCHARGE>	TH6	THERMISTOR <OUTDOOR TEMPERATURE DETECTION>
CN6	CONNECTOR <IPM POWER SUPPLY, TROUBLE OUTPUT>	RS	RESISTOR <RUSH CURRENT PROTECT>		
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	SLEV	EXPANSION VALVE	X1	RELAY < MAGNETIC CONTACTOR>
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	SV1	SOLENOID COIL <HOT GAS BYPASS>	X2	RELAY <4-WAY VALVE>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	SW1	SWITCH <DISPLAY SELECTION SELFDIAGNOSIS>	X3	RELAY <SOLENOID VALVE>
CN3D	CONNECTOR <DEMAND SIGNAL, SILENT MODE INPUT>	SW2	SWITCH <FUNCTION SELECTION>	X4	RELAY
C1,2	FAN MOTOR CAPACITOR	SW3	SWITCH <TEST RUN>	ZNR	VARISTOR
C3,4	CAPACITOR <POWER FACTOR IMPROVEMENT>	SW4	SWITCH <MODEL SELECTION>	21S4	4-WAY COIL
C5,6	CAPACITOR	SW5	SWITCH <FUNCTION SELECTION>	26C	THERMAL SWITCH <COMPRESSOR>
C7	CAPACITOR <FILTER>	SWU1	SWITCH <UNIT ADDRESS SELECTION, 1ST DIGIT>	52C	MAGNETIC CONTACTOR <INVERTER MAIN CIRCUIT>
D	DIODE <POWER FACTOR IMPROVEMENT>	SWU2	SWITCH <UNIT ADDRESS SELECTION, 2ND DIGIT>		
DB1,DB2	DIODE STACK	SWU3	SWITCH <UNIT ADDRESS SELECTION, 3RD DIGIT>	63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>



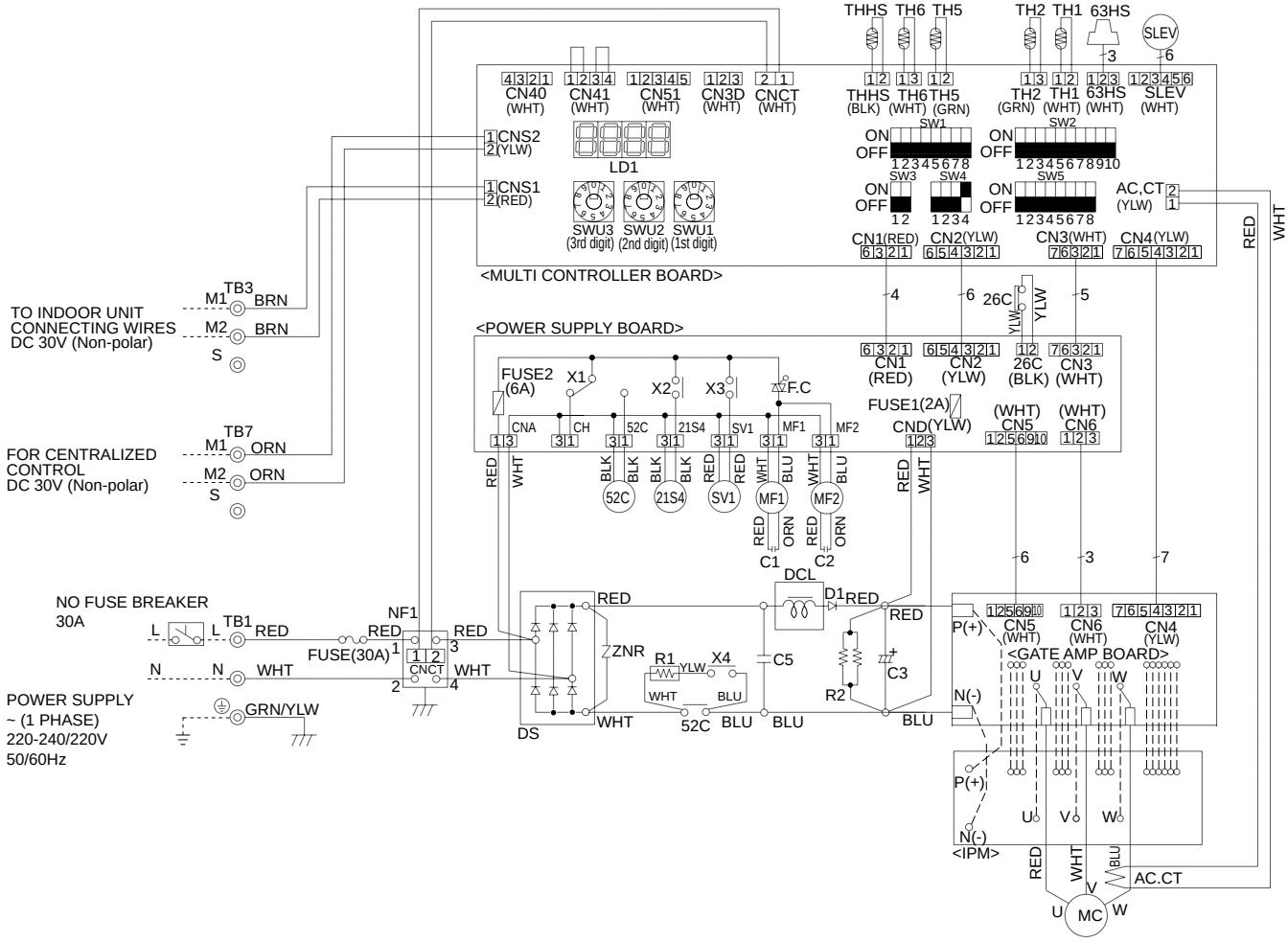
1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2.The transmission line is two-wire type and has no polarity.
3.Mark ◎ shows the terminal board, mark □ the connector. Symbols in parentheses() show the colors of connectors.
4.Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.
LED indication:Set all contacts of SW1 to OFF.
•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

(Example)
When the compressor and SV1 are turned during heating operation.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-71VM2

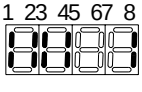
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
AC,CT	CURRENT DETECTION	FUSE1	FUSE(2A)	TB7	TERMINAL BLOCK <TRANSMISSION> (CENTRALIZED CONTROL)
CNA	CONNECTOR <POWER SUPPLY>	FUSE2	FUSE(6A)		
CND	CONNECTOR <DC POWER SUPPLY>	FUSE	FUSE(30A)	THHS	THERMISTOR <IPM RADIATOR PANEL TEMPERATUER DETECTION>
CNS1	CONNECTOR <MULTI SYSTEM>	IPM	INTELLIGENT POWER MODULE		
CNS2	CONNECTOR <CENTRALIZED CONTROL>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	TH1	THERMISTOR<DISCHARGE TEMPERATUER DETECTION>
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>			TH2	THERMISTOR <LOW PRESSURE SATURATED TEMPERATUER DETECTION>
CN2	CONNECTOR <POWER SYNC SIGNAL , PROTECTION>	MC	COMPRESSOR		
CN3	CONNECTOR <POWER SUPPLY 30V , 12V , 5V>	MF1,2	FAN MOTOR (INNER THERMOSTAT)	TH5	THERMISTOR <PIPE TEMPERATUER DETECTION,JUDGING DEFROST>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	NF1	NOISE FILTER		
CN5	CONNECTOR <IPM POWER SUPPLY>	R1	RESISTOR<RUSH CURRENT PROTECT>	TH6	THERMISTOR<OUTDOOR TEMPERATUER DETECTION>
CN6	CONNECTOR <IPM POWER SUPPLY , TROUBLE OUTPUT>	R2	RESISTOR<DISCHARGE>	X1	RELAY<MAGNETIC CONTACTOR>
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	SLEV	EXPANSION VALVE	X2	RELAY<4-WAY VALVE>
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	SV1	SOLENOID COIL <HOT GAS BYPASS>	X3	RELAY<SOLENOID VALVE>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	SW1	SWITCH <DISPLAY SELECTION SELFDIAGNOSIS>	ZNR	VARISTOR
CN3D	CONNECTOR <DEMAND SIGNAL,SILENT MODE INPUT>	SW2	SWITCH <FUNCTION SELECTION>	21S4	4-WAY COIL
CNCT	CONNECTOR <CURRENT DETECTION>	SW3	SWITCH <TEST RUN>	26C	THERMAL SWITCH <COMPRESSOR>
C1,2	FAN MOTOR CAPACITOR	SW4	SWITCH <MODEL SELECTION>	52C	MAGNETIC CONTACTOR <INVERTER MAIN CIRCUIT>
C3	CAPACITOR<SMOOTHING>	SW5	SWITCH <FUNCTION SELECTION>		
C5	CAPACITOR<POWER FACTOR IMPROVEMENT>	SWU1	SWITCH <UNIT ADDRESS SELECTION,1ST DIGIT>	63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>
DS	DIODE STACK	SWU2	SWITCH <UNIT ADDRESS SELECTION,2ND DIGIT>		
D1	DIODE <POWER FACTOR IMPROVEMENT>	SWU3	SWITCH <UNIT ADDRESS SELECTION,3RD DIGIT>	X4	RELAY
DCL	REACTOR	TB1	TERMINAL BLOCK <POWER SUPPLY>		
F.C	FAN CONTROL	TB3	TERMINAL BLOCK <TRANSMISSION>		



1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2.The transmission line is two-wire type and has no polarity.
3.Mark ◎ shows the terminal block, mark □ the connector.Symbols in parentheses() show the colors of connectors.
4.Self-diagnosis function

The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.
LED indication:Set all contacts of SW1 to OFF.

•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

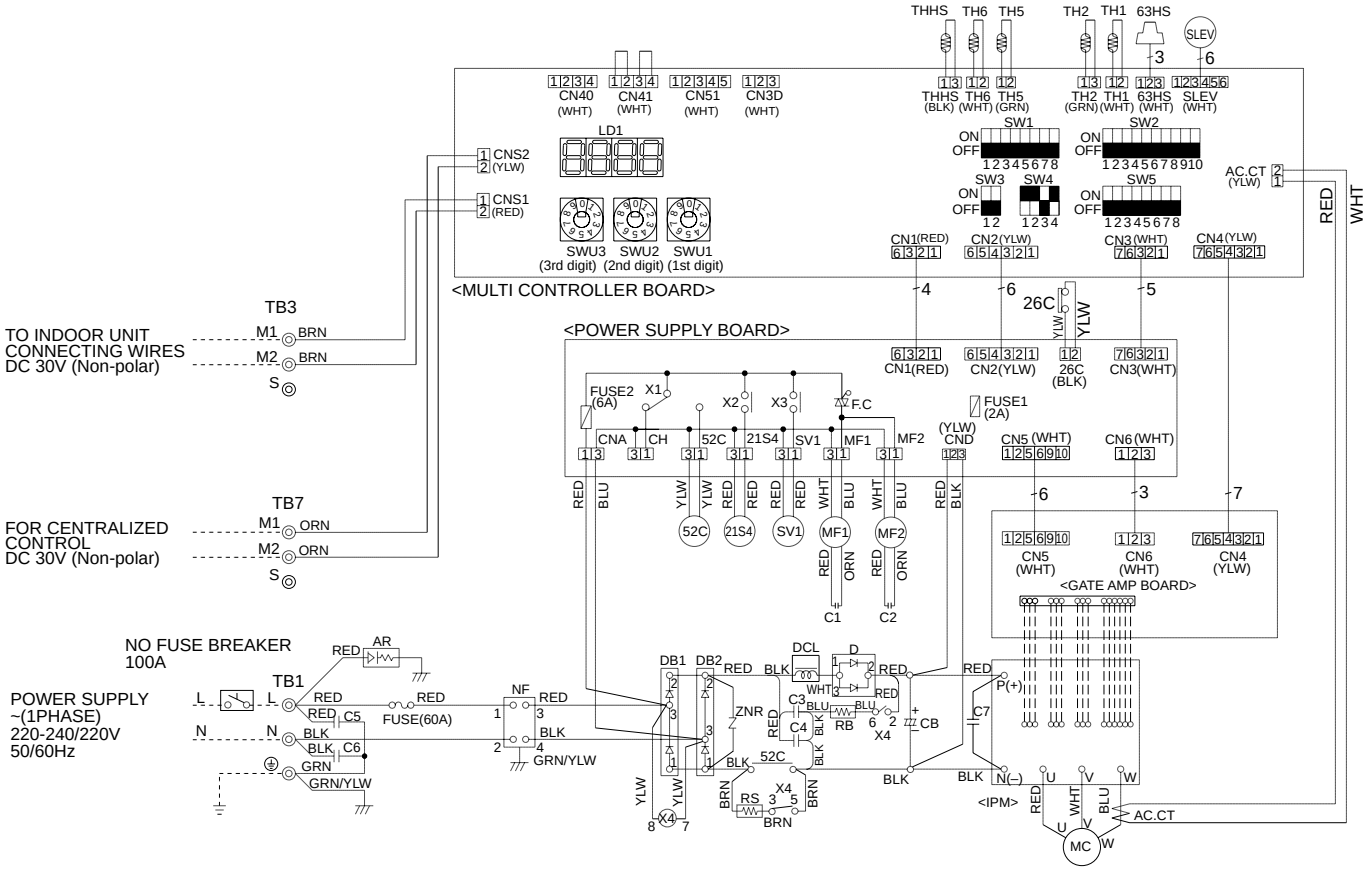


(Example)
When the compressor and SV1 are turned during heating operation.

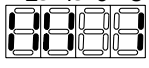
Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-125VM2

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
AC,CT	CURRENT DETECTION	F.C	FAN CONTROL	TB7	TERMINAL BLOCK <TRANSMISSION> (CENTRALIZED CONTROL)
AR	SURGE ABSORBER	FUSE1	FUSE(2A)		
CB	SMOOTHING CAPACITOR	FUSE2	FUSE(6A)	THHS	THERMISTOR <IPM RADIATOR PANEL TEMPERATURE DETECTION>
CNA	CONNECTOR <POWER SUPPLY>	FUSE	FUSE(60A)		
CND	CONNECTOR <DC POWER SUPPLY>	IPM	INTELLIGENT POWER MODULE	TH1	THERMISTOR <DISCHARGE TEMPERATURE DETECTION>
CNS1	CONNECTOR <MULTI SYSTEM>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	TH2	THERMISTOR <LOW PRESSURE SATURATED TEMPERATURE DETECTION>
CNS2	CONNECTOR <CENTRALIZED CONTROL>				
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>	MC	COMPRESSOR	TH5	THERMISTOR <PIPE TEMPERATURE DETECTION . JUDGING DEFROST>
CN2	CONNECTOR <POWER SYNC SIGNAL , PROTECTION>	MF1,2	FAN MOTOR (INNER THERMOSTAT)		
CN3	CONNECTOR <POWER SUPPLY 30V,12V,5V>	NF	NOISE FILTER	TH6	THERMISTOR <OUTDOOR TEMPERATURE DETECTION>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	RB	RESISTOR <DISCHARGE>		
CN5	CONNECTOR <IPM POWER SUPPLY>	RS	RESISTOR <RUSH CURRENT PROTECT>	X1	RELAY<MAGNETIC CONTACTOR>
CN6	CONNECTOR <IPM POWER SUPPLY , TROUBLE OUTPUT>	SLEV	EXPANSION VALVE	X2	RELAY<4-WAY VALVE>
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	SV1	SOLENOID COIL <HOT GAS BYPASS>	X3	RELAY<SOLENOID VALVE>
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	SW1	SWITCH <DISPLAY SELECTION SELF DIAGNOSIS>	X4	RELAY
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	SW2	SWITCH <FUNCTION SELECTION>	ZNR	VARISTOR
CN3D	CONNECTOR <DEMAND SIGNAL , SILENT MODE INPUT>	SW3	SWITCH <TEST RUN>	21S4	4-WAY COIL
C1,2	FAN MOTOR CAPACITOR	SW4	SWITCH <MODEL SELECTION>	26C	THERMAL SWITCH <COMPRESSOR>
C3,4	CAPACITOR <POWER FACTOR IMPROVEMENT>	SW5	SWITCH <FUNCTION SELECTION>	52C	MAGNETIC CONTACTOR <INVERTER MAIN CIRCUIT>
C5,6	CAPACITOR	SWU1	SWITCH <UNIT ADDRESS SELECTION, 1ST DIGIT>		
C7	CAPACITOR <FILTER>	SWU2	SWITCH <UNIT ADDRESS SELECTION, 2ND DIGIT>	63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>
D	DIODE <POWER FACTOR IMPROVEMENT>	SWU3	SWITCH <UNIT ADDRESS SELECTION, 3RD DIGIT>		
DB1,DB2	DIODE STACK	TB1	TERMINAL BLOCK <POWER SUPPLY>		
DCL	REACTOR	TB3	TERMINAL BLOCK <TRANSMISSION>		



1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2.The transmission line is two-wire type and has no polarity.
3.Mark ◎ shows the terminal block, mark □ the connector. Symbols in parentheses() show the colors of connectors.
4.Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.
LED indication:Set all contacts of SW1 to OFF.



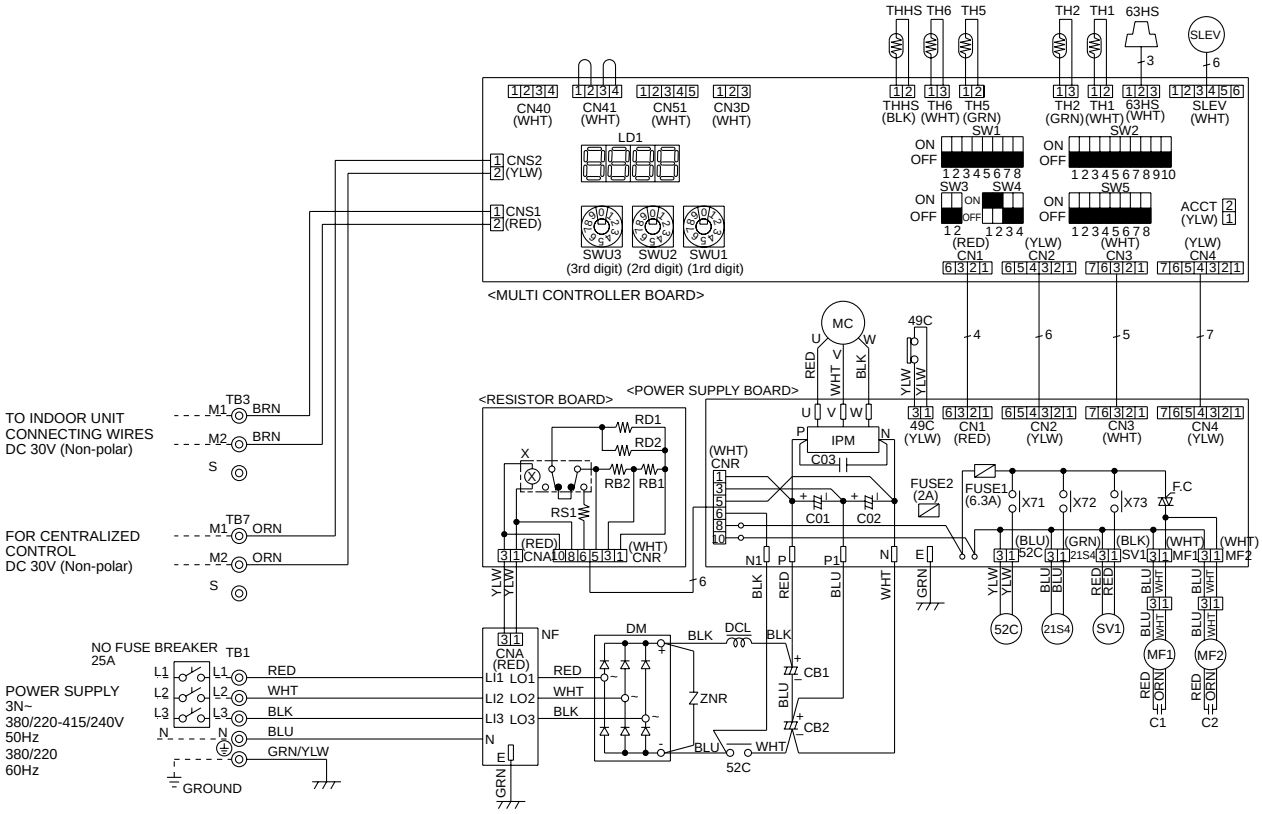
(Example)
When the compressor and SV1 are turned during heating operation.

•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

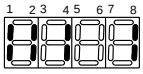
Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-125YM

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
ACCT	CURRENT DETECTION	C1,C2	FAN MOTOR CAPACITOR	SV1	SOLENOID COIL <HOT GAS BYPASS>	TH2	THERMISTOR <LOW PRESSURE SATURATED TEMP. DETECTION>
CB1,CB2	SMOOTHING CAPACITOR	DM	DIODE MODULE	SW1	SWITCH <DISPLAY SELECTION>		
CNA	CONNECTOR <POWER SUPPLY>	DCL	REACTOR	SW2	SWITCH <FUNCTION SELECTION>	TH5	THERMISTOR <PIPE TEMP. DETECTION:JUDGING DEFROST>
CNR	CONNECTOR <DISCHARGE CIRCUIT,POWER SUPPLY>	F.C	FAN CONTROL	SW3	SWITCH <TEST RUN>		
CNS1	CONNECTOR <MULTI SYSTEM>	FUSE1	FUSE(6.3A)	SW4	SWITCH <MODEL SELECTION>	TH6	THERMISTOR <OUTDOOR TEMP. DETECTION>
CNS2	CONNECTOR <CENTRALIZED CONTROL>	FUSE2	FUSE(2A)	SW5	SWITCH <FUNCTION SELECTION>	X	RELAY
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>	IPM	INTELLIGENT POWER MODULE	SWU1	SWITCH <UNIT ADDRESS SELECTION,1ST DIGIT>	X71	RELAY <MAGNETIC CONTACTOR>
CN2	CONNECTOR <POWER SYNC SIGNAL,PROTECTION>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	SWU2	SWITCH <UNIT ADDRESS SELECTION,2ND DIGIT>	X72	RELAY <4-WAY VALVE>
CN3	CONNECTOR <POWER SUPPLY 30V,12V,5V>			SWU3	SWITCH <UNIT ADDRESS SELECTION,3RD DIGIT>	X73	RELAY <SOLENOID VALVE>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	MC	COMPRESSOR(INNER THERMOSTAT)	TB1	TERMINAL BLOCK <POWER SUPPLY>	ZNR	VARISTOR
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	MF1,MF2	FAN MOTOR(INNER THERMOSTAT)	TB3	TERMINAL BLOCK <TRANSMISSION>	21S4	4-WAY COIL
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	NF	NOISE FILTER	TB7	TERMINAL BLOCK <CENTRALIZED CONTROL>	49C	THERMAL SWITCH <COMPRESSOR>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	RS1	RESISTOR <RUSH CURRENT PROTECT>	THHS	THERMISTOR <IPM RADIATOR PANEL TEMP. DETECTION>	52C	MAGNETIC CONTACTOR
CN3D	CONNECTOR <DEMAND SIGNAL/SILENT MODE INPUT>	RB1,RB2	RESISTOR <VOLTAGE BALANCE ADJUSTMENT>			63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>
C01,C02	SMOOTHING CAPACITOR	RD1,RD2	RESISTOR <DISCHARGE>	TH1	THERMISTOR <DISCHARGE TEMP. DETECTION>		
C03	CAPACITOR <FILTER>	SLEV	EXPANSION VALVE				



1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2.Symbols used in wiring diagram above are. ◎:Terminal block, □□□:Connector, ▯ :Insertion tab.
3.Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.
LED indication : Set all contacts of SW1 to OFF.
•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

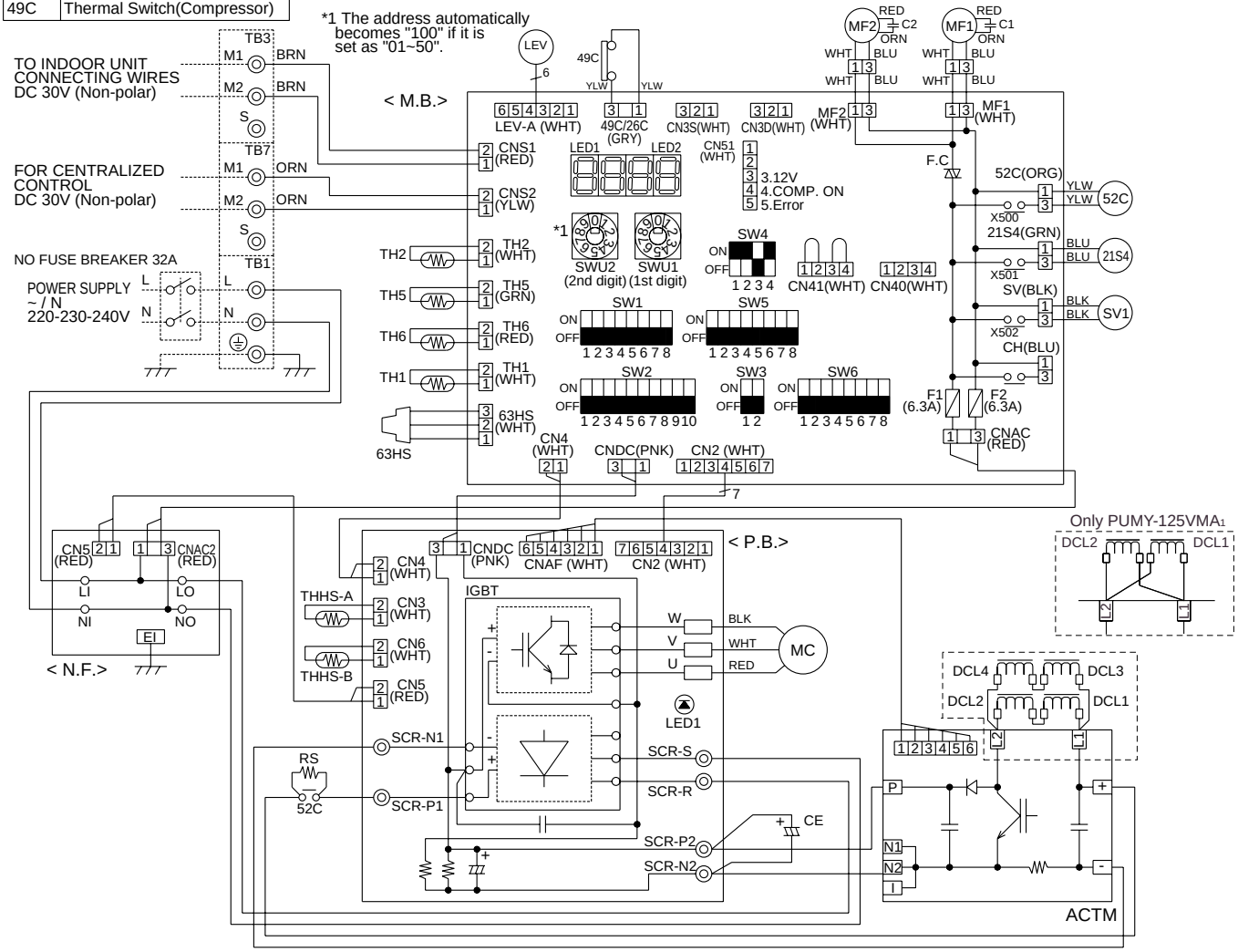


(Example)
When the compressor and SV1 are turned during heating operation.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

PUMY-125VMA PUMY-125VMA1

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
TB1	Terminal Block(Power Supply)	52C	Magnetic Contactor	N.F.	Noise Filter Circuit Board	CNS1	Connector(Multi system)
TB3	Terminal Block(Transmission)	21S4	4-Way Valve	LI/LO	Connection Lead(L-Phase)	CNS2	Connector(Centralized Control)
TB7	Terminal Block(Centralized Control)	SV	Solenoide Valve(Hot Gas Bypass)	NI/NO	Connection Lead(N-Phase)	CN4	Connector
CE	Smoothing Capacitor	LEV(A)	Expansion Valve	EI	Connection Terminal(Ground)	CN40	Connector(Centralized Control Power Supply)
C1,C2	Fan Motor Capacitor	MF1,MF2	Fan Motor(Inner Thermostat)	CNAC2	Connector	CN41	Connector(For String Jumper Connector)
DCL1~4	Reactor(PUMY-125VMA)	MC	Compressor(Inner Thermostat)	CN5	Connector	CN51	Connector(Connected for Option) Compressor drive signal,Error signal
DCL1,2	Reactor(PUMY-125 VMA1)						
RS	Resistor(Rush Current Protection)	P.B.	Power Circuit Board	M.B.	Multi Circuit Board	CN3D	Connector(Connected for Option) Auto Change Over Signal
ACTM	Active Filter Module	U/V/W	Connection Terminal(U/V/W Phase)	F1,F2	Fuse(6.3A)		
TH1	Thermistor(Discharge Temperature Detection)	CN2~6	Connector	SW1	Switch(Display Selection)	CN3S	Connector(Connected for Option) Demand Signal
TH2	Thermistor (Low Pressure Saturated Temperature Detection)	CNDC	Connector	SW2	Switch(Function Selection)		
		CNAF	Connector	SW3	Switch(Test Run)	X500	Relay(Magnetic Contactor)
TH5	Thermistor (Pipe Temperature Detection / Judging Defrost)	IGBT	Converter, Inverter	SW4	Switch(Model Selection)	X501	Relay(4-Way Valve)
		LED1	Light Emitting Diode(Inverter Control Status)	SW5	Switch(Function Selection) SW5-1 Auto Change Over OFF;disabled ON;enabled	X502	Relay(Solenoid Valve)
TH6	Thermistor(Outdoor Temp.Detection)	SC-S,R	Screw Type Terminal(L./N-Phase)			LED1,2	Digital Indication LED Operation Inspection Indication
THHS A/B	Thermistor(Radiator Panel) A:ACTM,B:IGBT	SC-P1,P2	Screw Type Terminal(DC Voltage)	SW6	Switch(Function Selection)		
63HS	High Pressuer Sensor (Discharge Pressure Detection)	SC-N1,N2	Screw Type Terminal(DC Voltage)	SWU1	Switch(Unit Address Selection,1st digit)		
				SWU2	Switch(Unit Address Selection,2nd digit)		
49C	Thermal Switch(Compressor)						

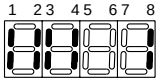


NOTES: 1. Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2. Symbols used in wiring diagram above are.◎:Terminal block,□□□:Connector, ▯:Insertion tab.
3. Self-diagnosis function
The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LED1,2 (LED indication)found on the multi-controller of the outdoor unit.
LED indication : Set all contacts of SW1 to OFF.
4. The input for CN3D 1-2(AUTO CHANGE OVER EXTERNAL SIGNEL)is as follows.
Short;heating Open;Cooling(It differs from Service ref.PUMY-(P)125YMA)

•During normal operation
The LED indicates the drive state of the controller in the outdoor unit.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

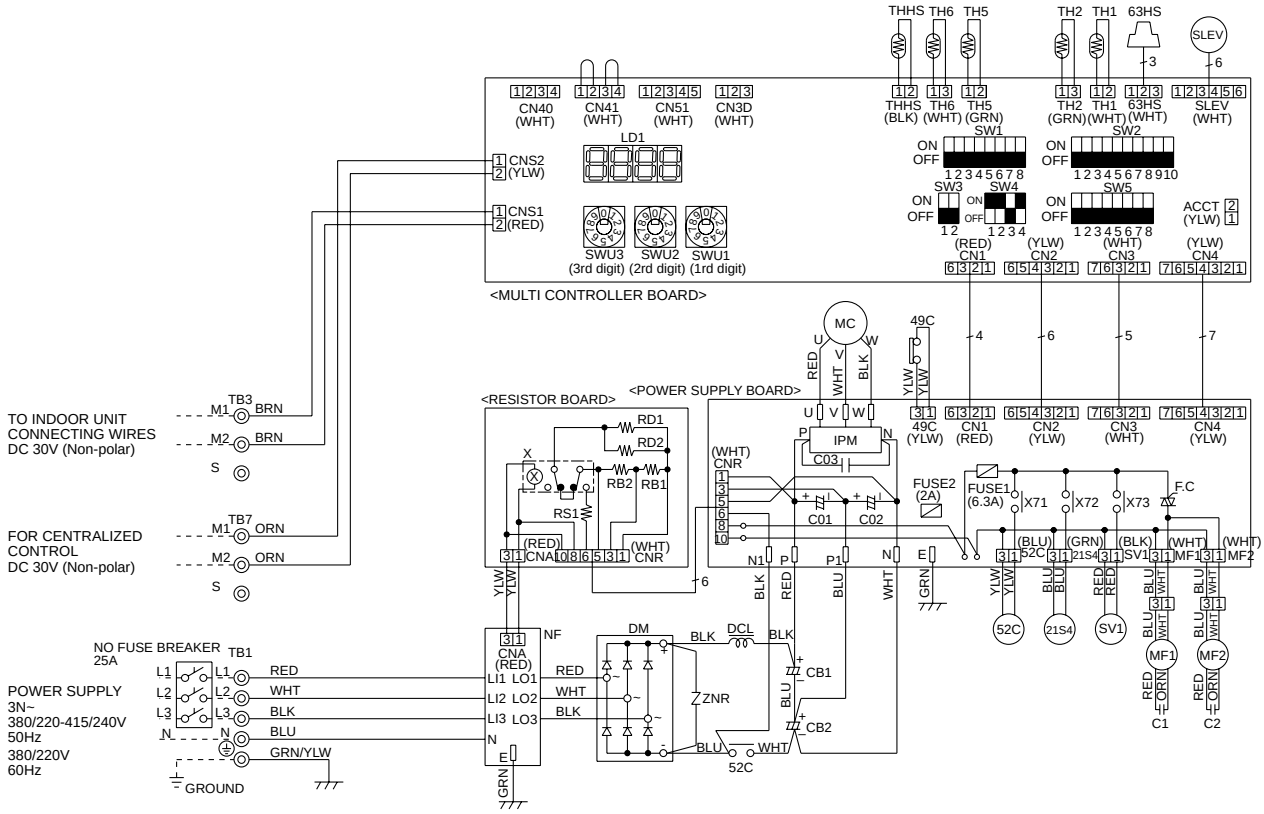
(Example)
When the compressor and SV1 are turned during cooling operation.



•When fault requiring inspection has occurred
The LED alternately indicates the inspection code and the location of the unit in which the fault has occurred.

PUMY-125YM$_1$ PUMY-125YMA

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
ACCT	CURRENT DETECTION	C1,C2	FAN MOTOR CAPACITOR	SV1	SOLENOID COIL <HOT GAS BYPASS>	TH2	THERMISTOR <LOW PRESSURE SATURATED TEMP. DETECTION>
CB1,CB2	SMOOTHING CAPACITOR	DM	DIODE MODULE	SW1	SWITCH <DISPLAY SELECTION>		
CNA	CONNECTOR <POWER SUPPLY>	DCL	REACTOR	SW2	SWITCH <FUNCTION SELECTION>	TH5	THERMISTOR <PIPE TEMP. DETECTION:JUDGING DEFROST>
CNR	CONNECTOR <DISCHARGE CIRCUIT,POWER SUPPLY>	F.C	FAN CONTROL	SW3	SWITCH <TEST RUN>		
CNS1	CONNECTOR <MULTI SYSTEM>	FUSE1	FUSE(6.3A)	SW4	SWITCH <MODEL SELECTION>	TH6	THERMISTOR <OUTDOOR TEMP. DETECTION>
CNS2	CONNECTOR <CENTRALIZED CONTROL>	FUSE2	FUSE(2A)	SW5	SWITCH <FUNCTION SELECTION>	X	RELAY
CN1	CONNECTOR <CONTROLLER DRIVE CONTROL>	IPM	INTELLIGENT POWER MODULE	SWU1	SWITCH <UNIT ADDRESS SELECTION,1ST DIGIT>	X71	RELAY <MAGNETIC CONTACTOR>
CN2	CONNECTOR <POWER SYNC SIGNAL,PROTECTION>	LD1	DIGITAL INDICATION LED <OPERATION INSPECTION INDICATION>	SWU2	SWITCH <UNIT ADDRESS SELECTION,2ND DIGIT>	X72	RELAY <4-WAY VALVE>
CN3	CONNECTOR <POWER SUPPLY 30V,12V,5V>			SWU3	SWITCH <UNIT ADDRESS SELECTION,3RD DIGIT>	X73	RELAY <SOLENOID VALVE>
CN4	CONNECTOR <INVERTER SIGNAL 5V>	MC	COMPRESSOR(INNER THERMOSTAT)	TB1	TERMINAL BLOCK <POWER SUPPLY>	ZNR	VARISTOR
CN40	CONNECTOR <CENTRALIZED CONTROL POWER SUPPLY>	MF1,MF2	FAN MOTOR(INNER THERMOSTAT)	TB3	TERMINAL BLOCK <TRANSMISSION>	21S4	4-WAY COIL
CN41	CONNECTOR <FOR STORING JUMPER CONNECTOR>	NF	NOISE FILTER	TB7	TERMINAL BLOCK <CENTRALIZED CONTROL>	49C	THERMAL SWITCH <COMPRESSOR>
CN51	CONNECTOR <COMPRESSOR DRIVE SIGNAL OUTPUT>	RS1	RESISTOR <RUSH CURRENT PROTECT>	THHS	THERMISTOR <IPM RADIATOR PANEL TEMP. DETECTION>	52C	MAGNETIC CONTACTOR
CN3D	CONNECTOR <DEMAND SIGNAL/SILENT MODE INPUT>	RB1,RB2	RESISTOR <VOLTAGE BALANCE ADJUSTMENT>			63HS	HIGH PRESSURE SENSOR <DISCHARGE PRESSURE DETECTION>
C01,C02	SMOOTHING CAPACITOR	RD1,RD2	RESISTOR <DISCHARGE>	TH1	THERMISTOR <DISCHARGE TEMP. DETECTION>		
C03	CAPACITOR <FILTER>	SLEV	EXPANSION VALVE				



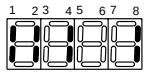
1.Refer to the wiring diagrams of the indoor units for details on wiring of each indoor unit.
2.Symbols used in wiring diagram above are. ◎:Terminal block, □□□:Connector, ▯ :Insertion tab.
3.Self-diagnosis function

The indoor and outdoor units can be diagnosed automatically using the self-diagnosis switch(SW1) and LD1(LED indication) found on the multi-controller of the outdoor unit.

LED indication : Set all contacts of SW1 to OFF.

•During normal operation

The LED indicates the drive state of the controller in the outdoor unit.



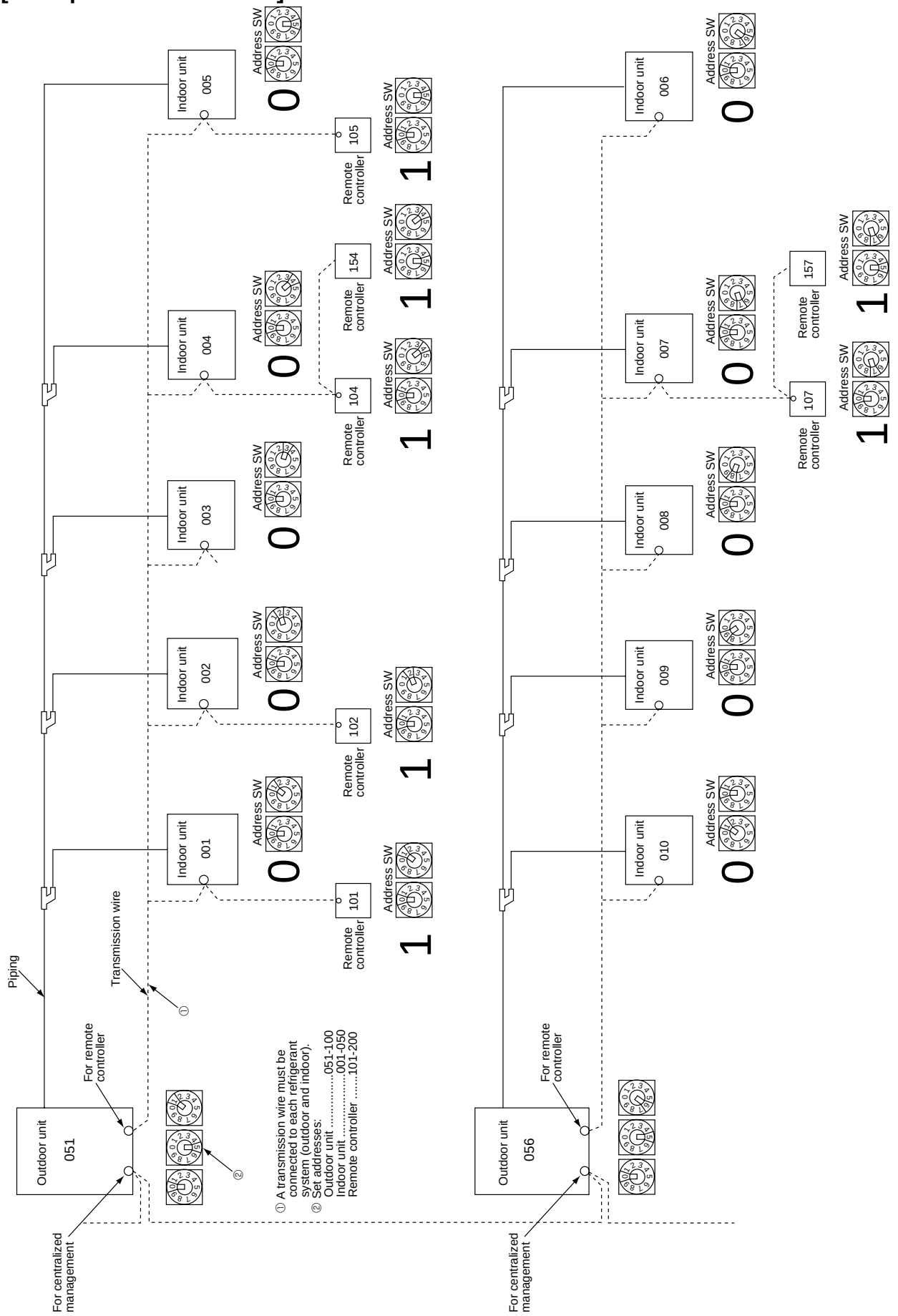
(Example)
When the compressor and SV1 are turned during heating operation.

Bit	1	2	3	4	5	6	7	8
Indication	Compressor operated	52C	21S4	SV1	-	-	-	Always lit

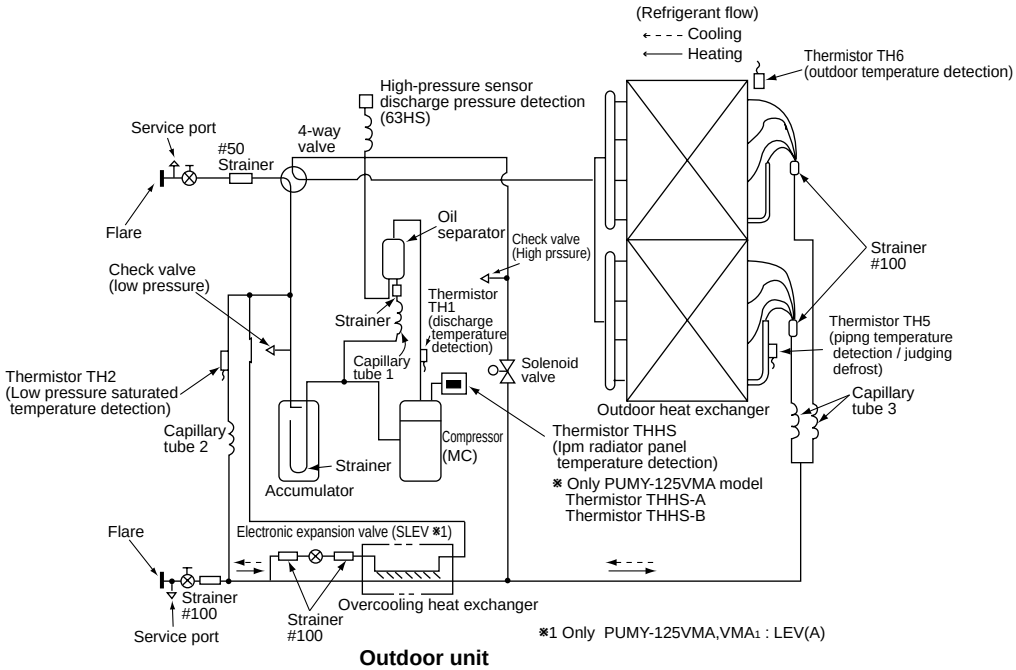
7 NECESSARY CONDITIONS FOR SYSTEM CONSTRUCTION

7-1. TRANSMISSION SYSTEM SETUP

[Example : PUMY-125VM$_1$]



7-2. REFRIGERANT SYSTEM DIAGRAM



Outdoor unit

Refrigerant Piping Specifications (dimensions of flared connector)

Unit : mm <inch>

Capacity / Item		Liquid piping	Gas piping
Indoor unit	20 , 25 , 32 , 40	ϕ6.35 <1/4">	ϕ12.7 <1/2">
	50 , 63 , 71, 80	ϕ9.52 <3/8">	ϕ15.88 <5/8">
	100 , 125	ϕ9.52 <3/8">	ϕ19.05 <3/4">
Outdoor unit	71	ϕ9.52 <3/8">	ϕ15.88 <5/8">
	125	ϕ9.52 <3/8">	ϕ19.05 <3/4">

	Capillary tube 1(for return of oil from oil separator)	Capillary tube 2 (for Evaporating temperature detection)	Capillary tube 3(for maintaining equilibrium between upper and lower coils)
PUMY-71VM PUMY-71VM1 PUMY-71VM2	ϕ2.5 × ϕ0.6 × 500 ℓ	ϕ2.5 × ϕ0.6 × 500 ℓ	(ϕ4 × ϕ3.0 × 500 ℓ) × 2
PUMY-125VM PUMY-125VM1 PUMY-125VM2 PUMY-125YM PUMY-125YM1 PUMY-125VMA PUMY-125VMA1 PUMY-125YMA	ϕ2.5 × ϕ0.6 × 500 ℓ	ϕ2.5 × ϕ0.6 × 500 ℓ	(ϕ4 × ϕ3.0 × 200 ℓ) × 2

About the Compressor

This system has a scroll compressor. This compressor uses a low pressure shell that typically has a temperature in the range 30-80°C.

In addition, compressor wiring should be in the direction of rotation to the right. Wire colors are red (U), white(V), blue or black (W), yellow and yellow (thermal switch).

7-3. SYSTEM CONTROL

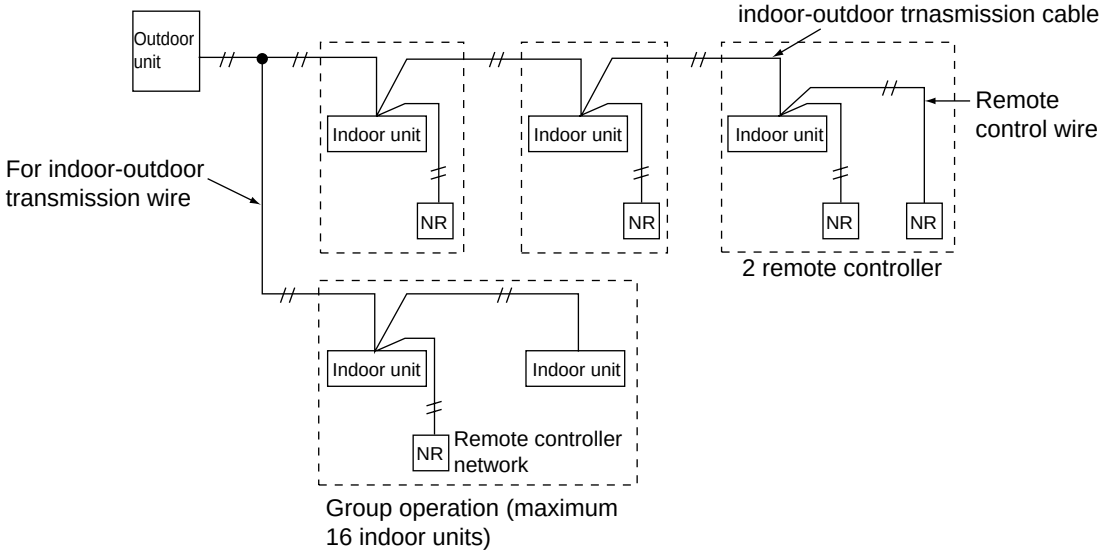
7-3-1. Operating a Single Refrigerant System

When operating either alone or as part of a group, a M-NET remote controller (NR) may be used to control a single refrigerant system that does not overlap with any other system.

<Example of system arrangement>

Using a M-NET remote controller (NR)

✻ Address setting must be performed.
✻ The NR wire and indoor and outdoor transmission wires must be a non-polar two wire cable.
✻ One NR may be connected to a maximum of 16 indoor unit.
✻ Two NR units may be used to perform control tasks (the second one pressed will have priority if two are pressed simultaneously).

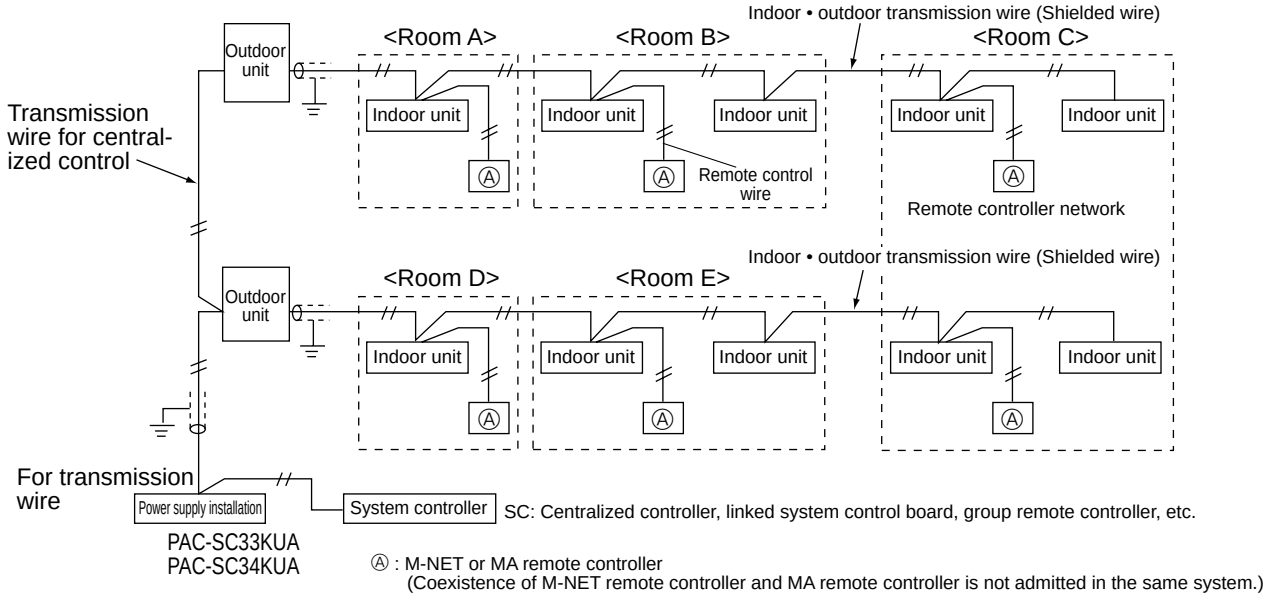


✻ If the user plans to install multiple refrigerant systems and a centralized controller in the future, it is strongly suggested that a NR be used.

7-3-2. System Controller (SC) to Perform Centralized Control

<Example of System Arrangement>

The following diagram shows the use of system controller (SC) to control a system that includes the multiple outdoor unit.



Note 1) The NR, SC, indoor and outdoor unit all require address settings.

Indoor unit	Linked settings must be made within a group.	1 ~ 50
Outdoor unit	The lowest address of an indoor unit within a refrigerant system is +50.	51 ~ 100 ※
M-NET Remote controller (Main)	The lowest address of an indoor unit within a group is +100.	101 ~ 150
M-NET Remote controller (Sub)	The address of the main remote controller is +50.	151 ~ 200
SC		0 or 201 ~ 250
MA Remote controller	Unnecessary address setting (Necessary main/sub setting)	—

※ The address automatically becomes "100" if it is set as "01~50". (PUMY-125VMA, PUMY-125VMA$_1$)

2) Indoor unit that may be connected with an SC are shown as follows.

Centralized controller	50 group /50 units
Multi-unit controller board	24 group /50 units
Group controller	8 group /16 units

3) There may be a maximum of two controllers when a group has 16 indoor units or less.

4) The transmission wire must have a power supply when an SC is used. Please connect the power supply for the transmission wire to the centralized controller transmission wire.

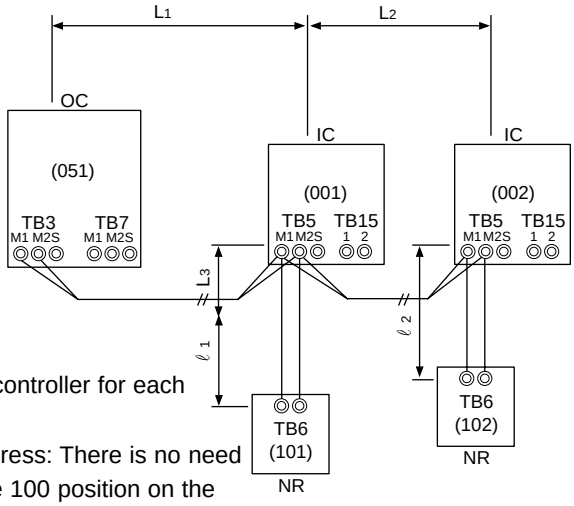
SC with 2 units or less	Power supply for transmission wire PAC-SC33KU
SC with 3 to 5 units	Power supply for transmission wire PAC-SC34KU

5) Use the shielded wire of at least 1.25mm^2 for the indoor, outdoor, and centralized controller transmission wires. In addition, all shielded wires in a system must be grounded at one point. If the length of the remote control wire exceeds 10m, use an insulated wire for the extra portion.

7-3-3. Example for the System

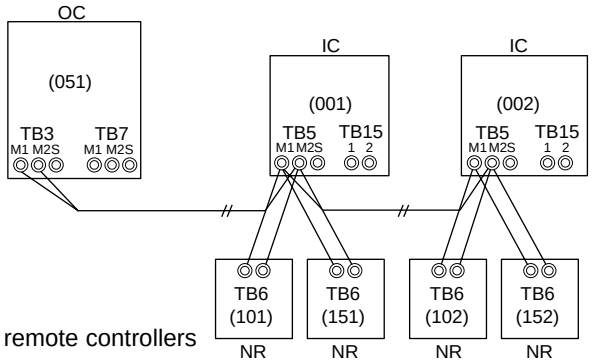
• Example for wiring control cables, wiring method and address setting, permissible lengths, and the prohibited items are listed in the standard system with detailed explanation.
The explanation for the system in this section : Use one single outdoor unit and multiple outdoor units for M-NET remote control system.
Use one single outdoor unit and multiple indoor units in the multiple outdoor units for the M-NET remote control system.

A. Example of a M-NET remote controller system (address setting is necessary.)

Example of wiring control cables	Wiring Method and Address Setting
1. Standard operation  • One remote controller for each indoor unit. • Inside ( ) Address: There is no need for setting the 100 position on the remote controller.	a. Use feed wiring to connect terminals M1 and M2 on transmission cable block (TB3) for the outdoor unit (OC) to terminals M1 and M2 on the transmission cable block (TB5) of each indoor unit (IC). Use non-polarized two wire. b. Connect terminals M1 and M2 on transmission cable terminal block (TB5) for each indoor unit with the terminal block (TB6) for the remote controller (NR). c. Set the address setting switch as shown below.

Unit	Range	Setting Method
Indoor unit (IC)	001 to 050	—
Outdoor unit (OC)	051 to 100	Use the most recent address of all the indoor unit plus 50.
Remote controller (NR)	101 to 150	Indoor unit address plus 100.

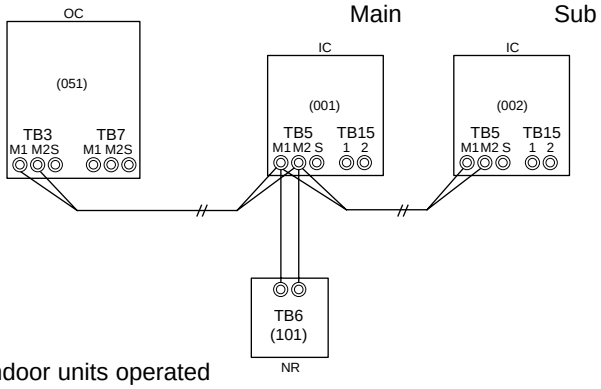
2. Operation using two remote controllers	a. Same as above. b. Same as above. c. Set address switch as shown below.



• Using two remote controllers for each indoor unit.

Unit	Range	Setting Method
Indoor Unit (IC)	001 to 050	—
Outdoor unit (OC)	051 to 100	Use the most recent address of all the indoor units plus 50.
Main Remote Controller (NR)	101 to 150	Indoor unit address plus 100.
Sub Remote Controller (NR)	151 to 200	Indoor unit address plus 150.

3. Group operation	a. Same as above. b. Connect terminals M1 and M2 on transmission cable terminal block (TB5) of the IC main unit with the most recent address within the same indoor unit (IC) group to terminal block (TB6) on the remote controller. c. Set the address setting switch as shown below.



• Multiple indoor units operated together by one remote controller

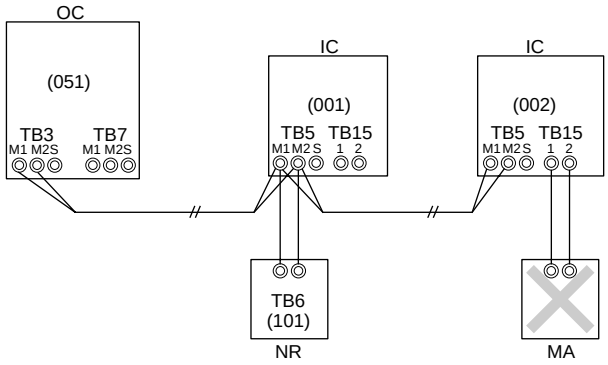
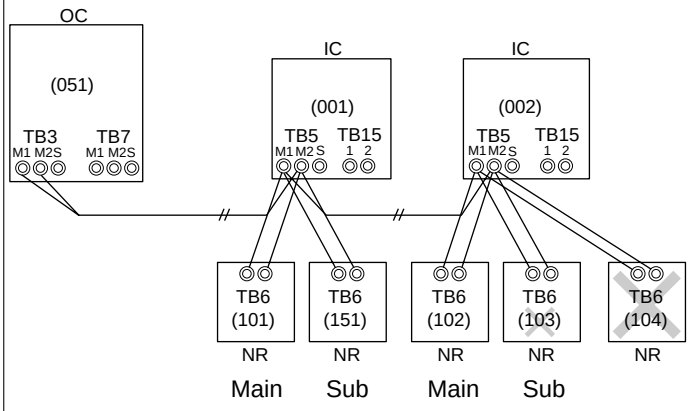
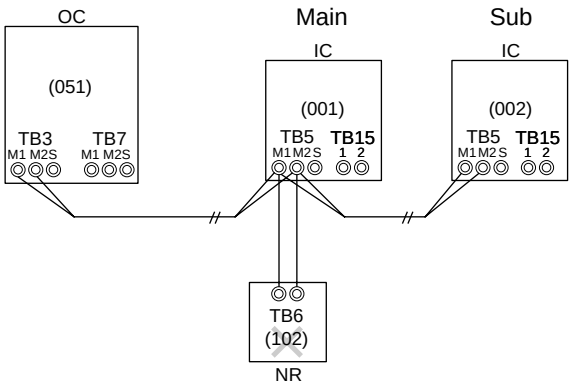
Unit	Range	Setting Method
IC (Main)	001 to 050	Use the most recent address within the same group of indoor units.
IC (Sub)	001 to 050	Use an address, other than that of the IC (Main) from among the units within the same group of indoor units. This must be in sequence with the IC (Main).
Outdoor Unit	051 to 100	Use the most recent address of all the indoor units plus 50.
Main Remote Controller	101 to 150	Set at an IC (Main) address within the same group plus 100.
Sub Remote Controller	151 to 200	Set at an IC (Main) address within the same group plus 150.

d. Use the indoor unit (IC) within the group with the most functions as the IC (Main) unit.

The system 1-3 shown above are also available in combination.

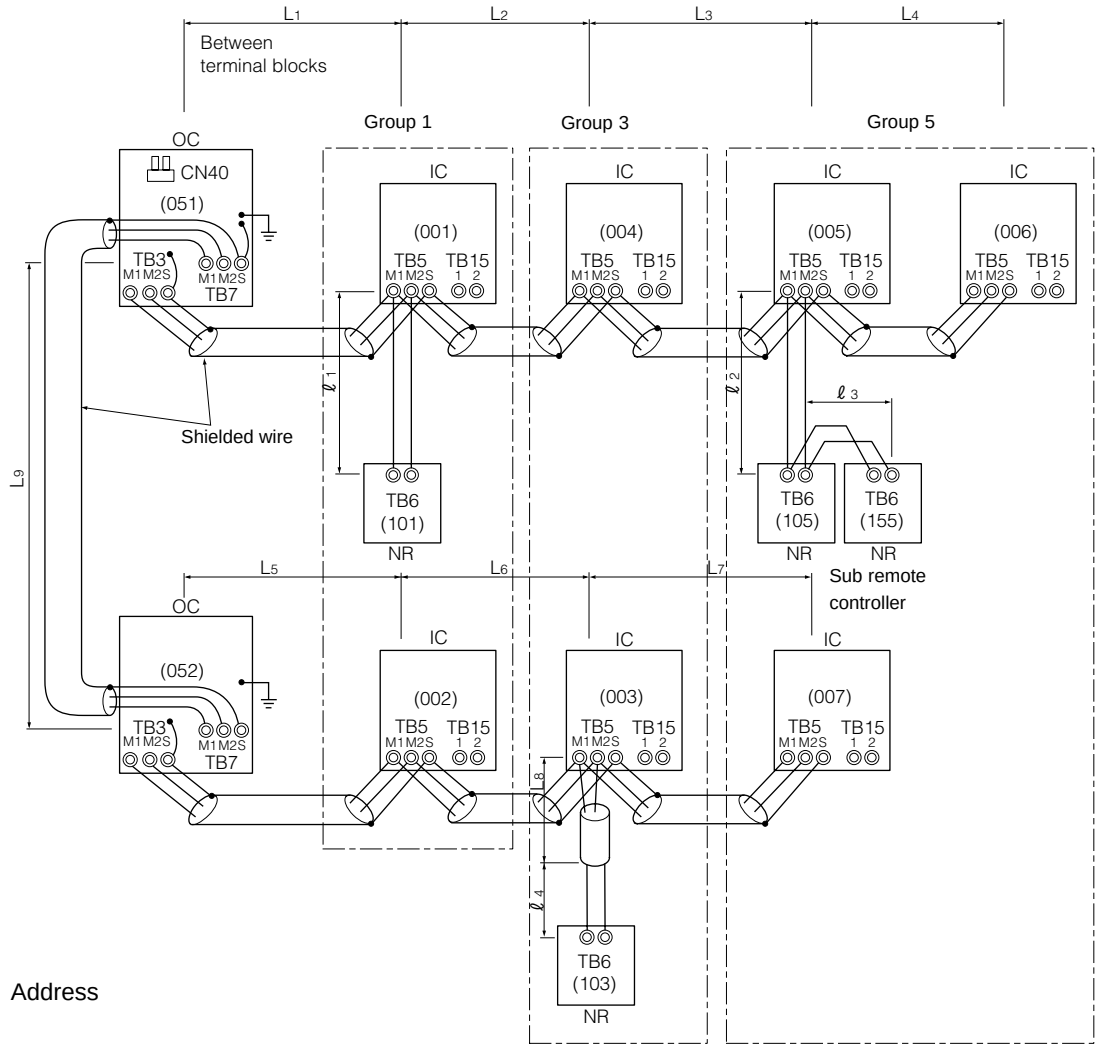
• Name, Symbol and the Maximum Units for Connection

Name	Symbol	Maximum units for connection	
Outdoor unit	OC		
Indoor unit	IC	VM	One OC unit can be connect to 2-5 units (Type 71:2-4units)
		$VM_1/VM_2/VMA/VMA_1$	One OC unit can be connect to 1-8 units (Type 71:1-4units)
		$YM/YM_1/YMA$	One OC unit can be connect to 1-8 units
Network remote controller	NR	VM	Maximum two units for one, Maximum 10 units for one OC (Type 71:8units)
		$VM_1/VM_2/VMA/VMA_1$	Maximum two units for one, Maximum 10 units for one OC (Type 71:8units)
		$YM/YM_1/YMA$	Maximum two units for one, Maximum 16 units for one OC

Permissible Lengths	Prohibited items
Longest transmission cable length (1.25 mm^2) $L_1 + L_2$, $L_2 + L_3$, $L_3 + L_1 \leqq 200m$ Remote controller cable length 1. If 0.5 to 0.75 mm^2 ℓ_1, $\ell_2 \leqq 10m$ 2. If the length exceeds 10 meters, the exceeding section should be 1.25 mm^2 and that section should be a value within the total extension length of the transmission cable and maximum transmission cable length. (L_3)	• M-NET remote controller(NR) and MA remote controller(MA) cannot be used together. • Do not connect anything with TB15 of indoor unit(IC). 
Same as above	 • Use the indoor unit(IC) address plus 150 as the sub remote controller address. In this case, it should be 152. • Three or more remote controller (NR) cannot be connected to one indoor unit.
Same as above	 • The remote controller address is the indoor unit main address plus 100. In this case, it should be 101.

B. Example of a group operation system with two or more outdoor units and a M-NET remote controller.
(Shielding wires and address settings are necessary.)

Examples of Transmission Cable Wiring



Wiring Method Address Settings

a. Always use shielded wire when making connections between the outdoor unit (OC) and the indoor unit (IC), as well for all OC-OC, and IC-IC wiring intervals.
b. Use feed wiring to connect terminals M1 and M2 and the ground terminal on the transmission cable terminal block (TB3) of each outdoor unit (OC) to terminals M1 and M2 on the terminal S on the transmission cable block of the indoor unit (IC).
c. Connect terminals M1 and M2 on the transmission cable terminal block of the indoor unit (IC) that has the most recent address within the same group to the terminal block (TB6) on the remote controller (NR).
d. Connect together terminals M1, M2 and terminal S on the terminal block for central control (TB7) for the outdoor unit (OC).
e. Use the grounded wire to connect the S-terminal on the transmission terminal of the outdoor unit (OC) and the grounded terminal for the electrical components box.
f. On one outdoor unit only, change the jumper connector on the control panel from CN41 to CN40.
g. Connect the terminal S on the terminal block for central control (TB7) for the outdoor unit (OC) for the unit into which the jumper connector was inserted into CN40 in Step above to the ground terminal ⏚ in the electrical component box.
h. Set the address setting switch as follows.

Unit	Range	Setting Method
IC (Main)	001 to 050	Use the most recent address within the same group of indoor units.
IC (Sub)	001 to 050	Use an address, other than that of the IC (Main) from among the units within the same group of indoor units. This must be in sequence with the IC (Main).
Outdoor Unit	051 to 100	Use the most recent address of all the indoor units plus 50.
Main Remote Controller	101 to 150	Set at an IC (Main) address within the same group plus 100.
Sub Remote Controller	151 to 200	Set at an IC (Main) address within the same group plus 150.

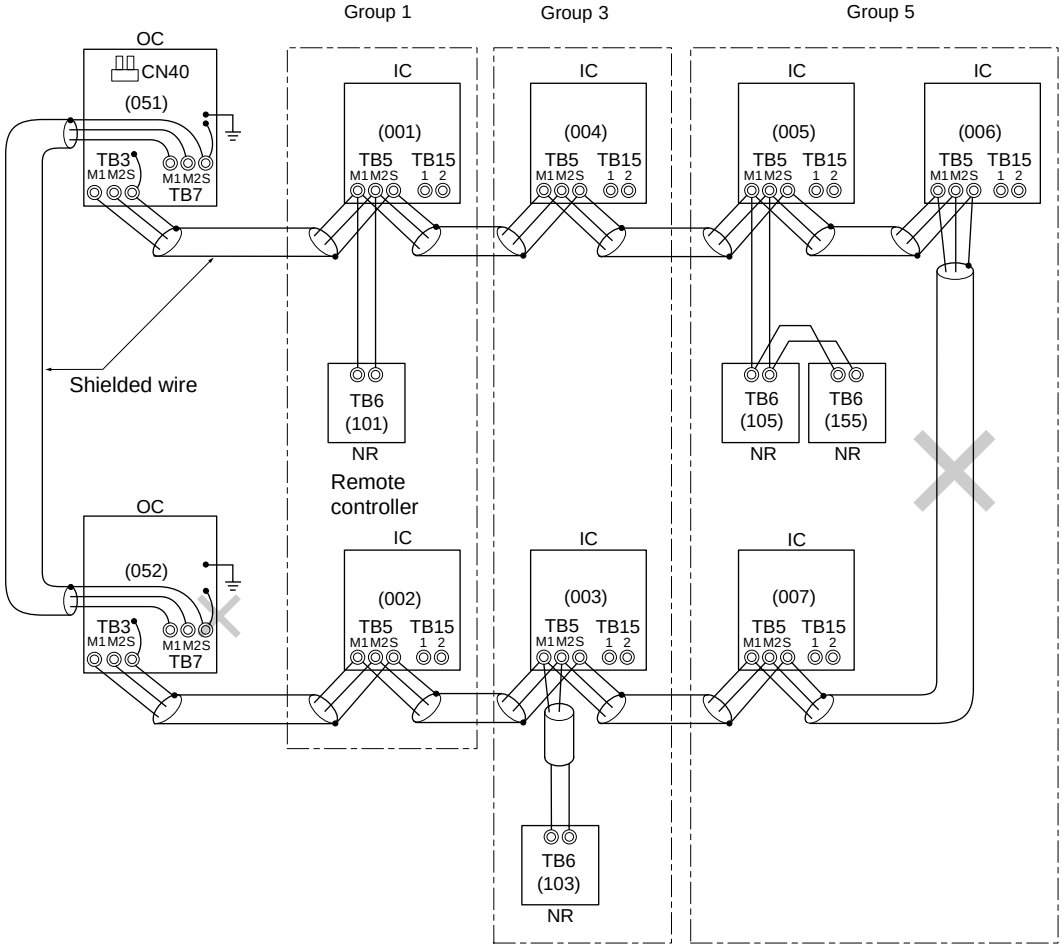
i. The group setting operations among the multiple indoor units is done by the remote controller (NR) after the electrical power has been turned on.

• Name, Symbol, and the Maximum Units for Connection

Permissible Length

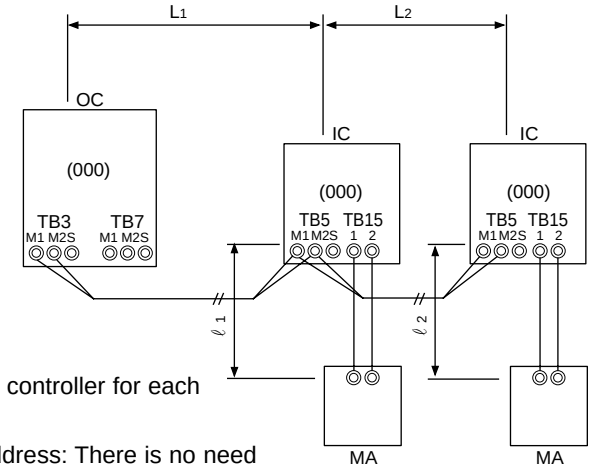
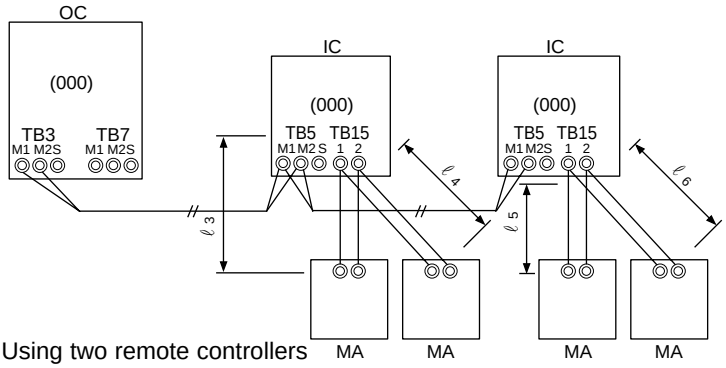
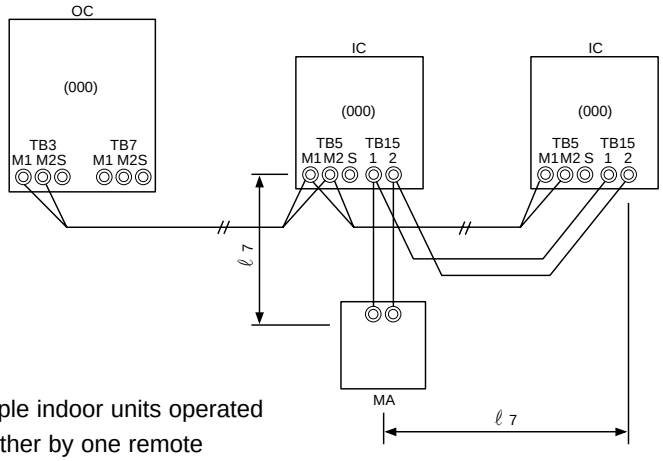
- Max length via outdoor units : $L_1+L_2+L_3+L_4+L_5+L_6+L_7+L_9$
  $L_1+L_2+L_3+L_4+L_5+L_6+L_8+L_9 \leqq 500$ meters (1.25mm²)
- Max transmission cable length : $L_1+L_2+L_3+L_4$, $L_5+L_6+L_7$, $L_5+L_6+L_8$, $L_7+L_8 \leqq 200$ meters (1.25mm²)
- Remote controller cable length : $\ell_1, \ell_2, \ell_3, \ell_4 \leqq 10$ meters (0.5 to 0.75mm²)
  If the length exceeds 10 meters, use a 1.25 mm² shielded wire. The length of this section (L_8) should be included in the calculation of the maximum length and overall length.

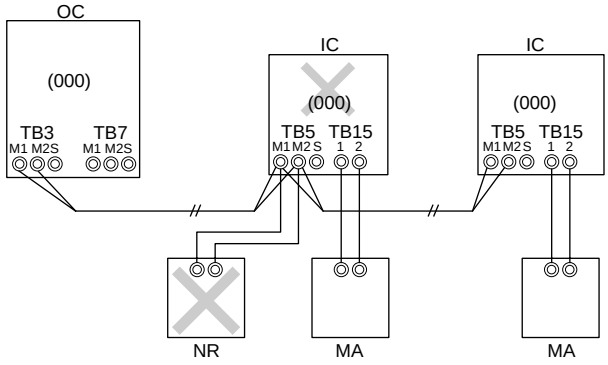
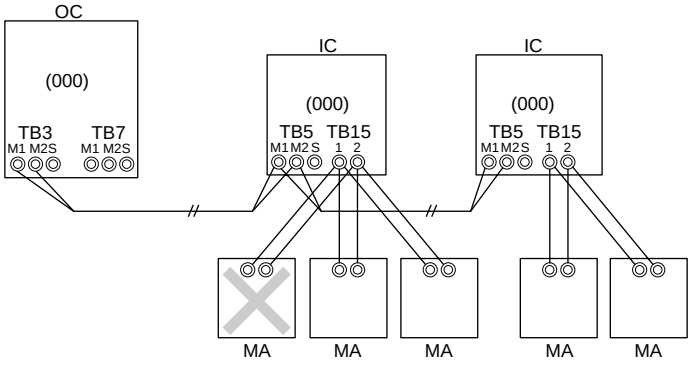
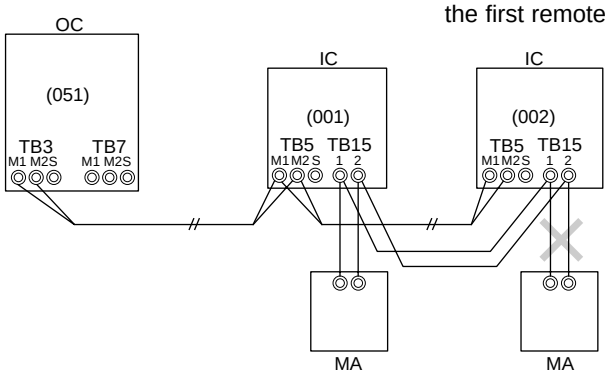
Prohibited items



- The terminal S on the terminal block (TB7) for the central control panel should be connected to the ground terminal ⏚ of the electric components box for one outdoor unit only.
- Never connect together the terminal blocks (TB5) for transmission wires for indoor units (IC) that have been connected to different outdoor units (OC).
- Set all addresses to ensure that they are not overlapped.
- M-NET remote controller and MA remote controller cannot be connected with indoor unit of the same group using together.

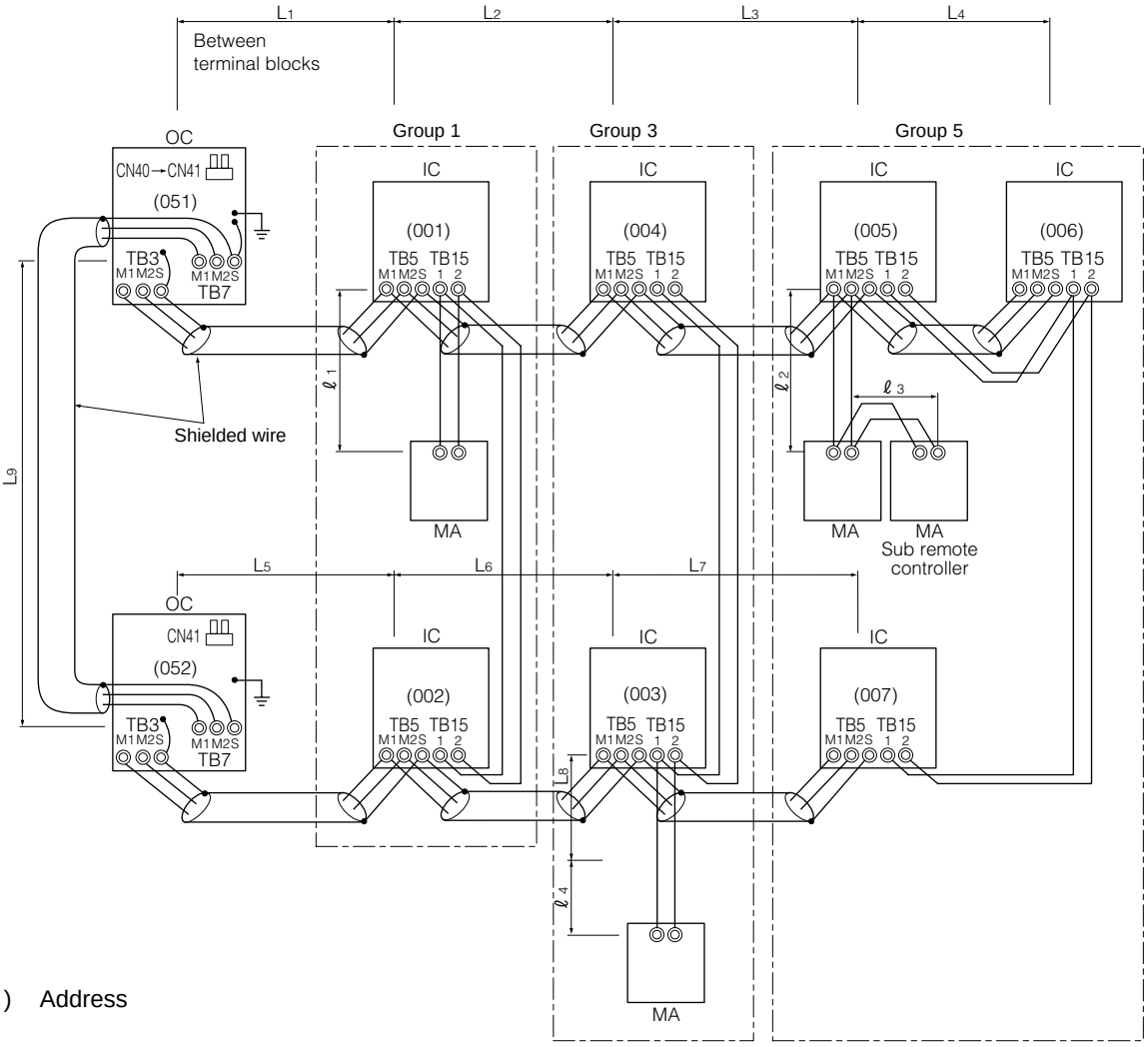
C. Example of a MA remote controller system (address setting is not necessary.)
NOTE : In the case of same group operation, need to set the address that is only main indoor unit.

Example of wiring control cables	Wiring Method and Address Setting
1. Standard operation  • One remote controller for each indoor unit. • Inside ( ) Address: There is no need for setting the 100 position on the remote controller.	a. Use feed wiring to connect terminals M1 and M2 on transmission cable block (TB3) for the outdoor unit (OC) to terminals M1 and M2 on the transmission cable block (TB5) of each indoor unit (IC). Use non-polarized two wire. b. Connect terminals 1 and 2 on transmission cable terminal block (TB15) for each indoor unit with the terminal block for the MA remote controller (MA).
2. Operation using two remote controllers  • Using two remote controllers for each indoor unit.	a. The same as above. b. The same as above. c. In the case of using tow remote controllers, connect terminals 1 and 2 on transmission cable terminal block (TB15) for each indoor unit with the terminal block for tow remote controllers. · Set the sub remote controller position for one of MA remote controller's main switch. Refer to the installation manual of MA remote controller
3. Group operation  • Multiple indoor units operated together by one remote controller	a. The same as above. b. The same as above. c. Connect terminals 1 and 2 on transmission cable terminal block (TB15) of each indoor unit, which is doing group operation with the terminal block the MA remote controller. Use non-polarized tow wire. d. In the case of same group operation, need to set the address that is only main indoor unit. Please set the address of the indoor unit with the most functions in the same group in the number that 01-50 is young.
The system 1-3 shown above are also available in combination.	

Permissible Lengths	Prohibited items
Longest transmission cable length $L_1 + L_2 \leqq 200m$ (1.25 mm^2) MA remote controller cable length $\ell_1, \ell_2 \leqq 200m$ (0.3 ~ 1.25 mm^2)	The MA remote controller and the M-NET remote controller cannot be used together with the indoor unit the of the same group. 
Longest transmission cable length The same as above. MA remote controller cable length $\ell_3 + \ell_4, \ell_5 + \ell_6 \leqq 200m$ (0.3 ~ 1.25 mm^2)	Three MA remote controller or more cannot be connect with the indoor unit of the same group. 
Longest transmission cable length The same as above. MA remote controller cable length $\ell_7 + \ell_8 \leqq 200m$ (0.3 ~ 1.25 mm^2)	The second MA remote control is connected with the terminal block(TB15) for the MA remote control of the same indoor unit(IC) as the first remote control. 

D. Example of a group operation with two or more outdoor units and a MA remote controller.
(Shielding wires and address settings are necessary.)

Examples of Transmission Cable Wiring



Wiring Method Address Settings

a. Always use shielded wire when making connections between the outdoor unit (OC) and the indoor unit (IC), as well for all OC-OC, and IC-IC wiring intervals.
b. Use feed wiring to connect terminals M1, M2 and S and the ground terminal on the transmission cable terminal block (TB3) of each outdoor unit (OC) to terminals M1, M2 and S on the transmission cable block (TB15) of the indoor unit (IC).
c. Connect terminals M1 and M2 on the transmission cable terminal block of the indoor unit (IC) that has the most recent address within the same group to the terminal block on the remote controller (MA).
d. Connect together terminals M1, M2 and terminal S on the terminal block for central control (TB7) for the outdoor unit (OC).
e. Use the grounded wire to connect the S-terminal on the transmission terminal of the outdoor unit (OC) and the grounded terminal for the electrical components box.
f. On one outdoor unit only, change the jumper connector on the control panel from CN41 to CN40.
g. Connect the terminal S on the terminal block for central control (TB7) for the outdoor unit (OC) for the unit into which the jumper connector was inserted into CN40 in Step above to the ground terminal ⏚ in the electrical component box.
h. Set the address setting switch as follows.

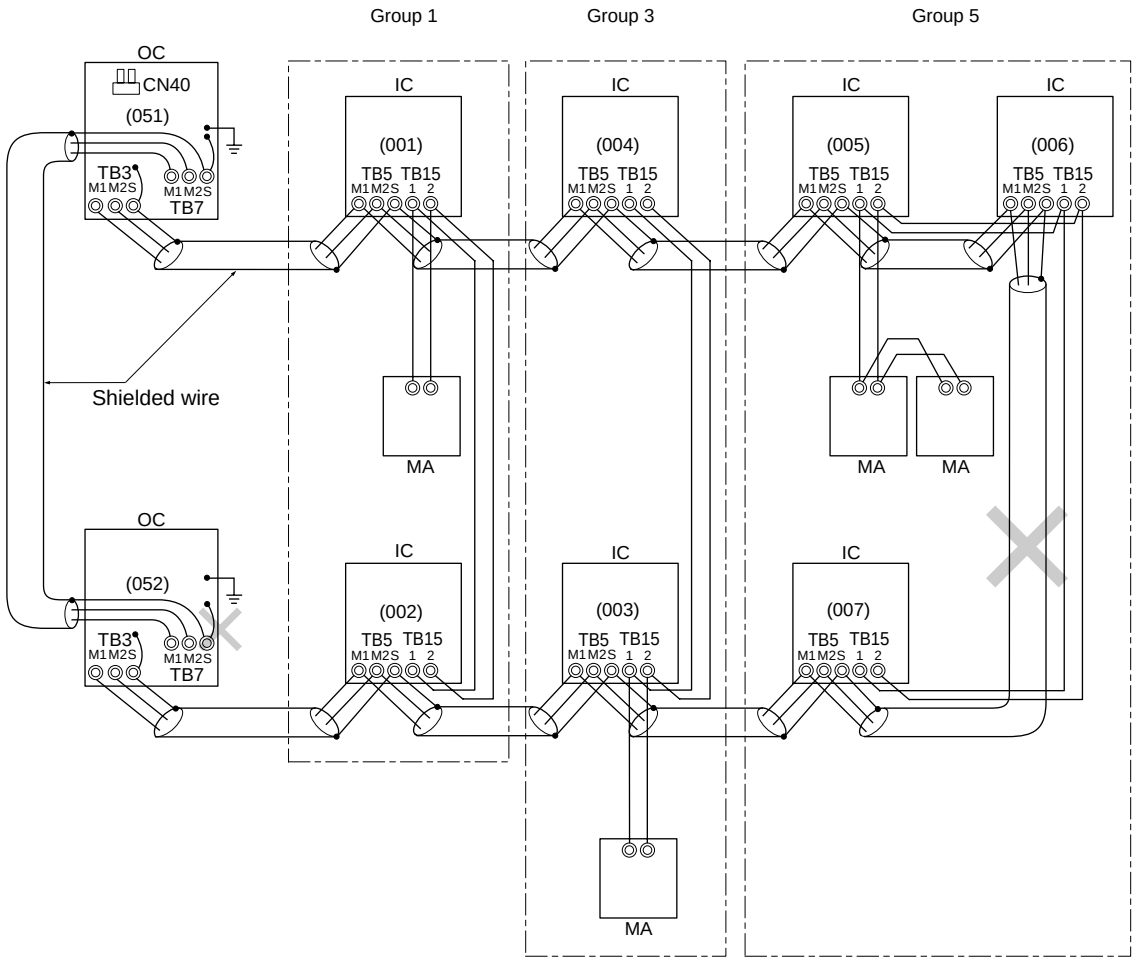
Unit	Range	Setting Method
IC (Main)	001 to 050	Use the most recent address within the same group of indoor units.
IC (Sub)	001 to 050	Use an address, other than that of the IC (Main) from among the units within the same group of indoor units. This must be in sequence with the IC (Main).
Outdoor Unit	051 to 100	Use the most recent address of all the indoor units plus 50.

• Name, Symbol, and the Maximum Units for Connection

Permissible Length

- Max length via outdoor units : $L_1+L_2+L_3+L_4+L_5+L_6+L_7+L_9$
  $L_1+L_2+L_3+L_4+L_5+L_6+L_8+L_9 \leqq 500$ meters (1.25mm²)
- Max transmission cable length : $L_1+L_2+L_3+L_4$, $L_5+L_6+L_7$, $L_5+L_6+L_8$, $L_7+L_8 \leqq 200$ meters (1.25mm²)
- Remote controller cable length : $\ell_1, \ell_2, \ell_3, \ell_4 \leqq 10$ meters (0.5 to 0.75mm²)
  If the length exceeds 10 meters, use a 1.25 mm² shielded wire. The length of this section (L_8) should be included in the calculation of the maximum length and overall length.

Prohibited items



- The terminal S on the terminal block (TB7) for the central control panel should be connected to the ground terminal ⏚ of the electric components box for one outdoor unit only.
- Never connect together the terminal blocks (TB5) for transmission wires for indoor units (IC) that have been connected to different outdoor units (OC).
- M-NET remote controller and MA remote controller cannot be connected with the indoor unit of the same group wring together

8 TROUBLESHOOTING

8-1. CHECK POINTS FOR TEST RUN

8-1-1. Procedures of test run

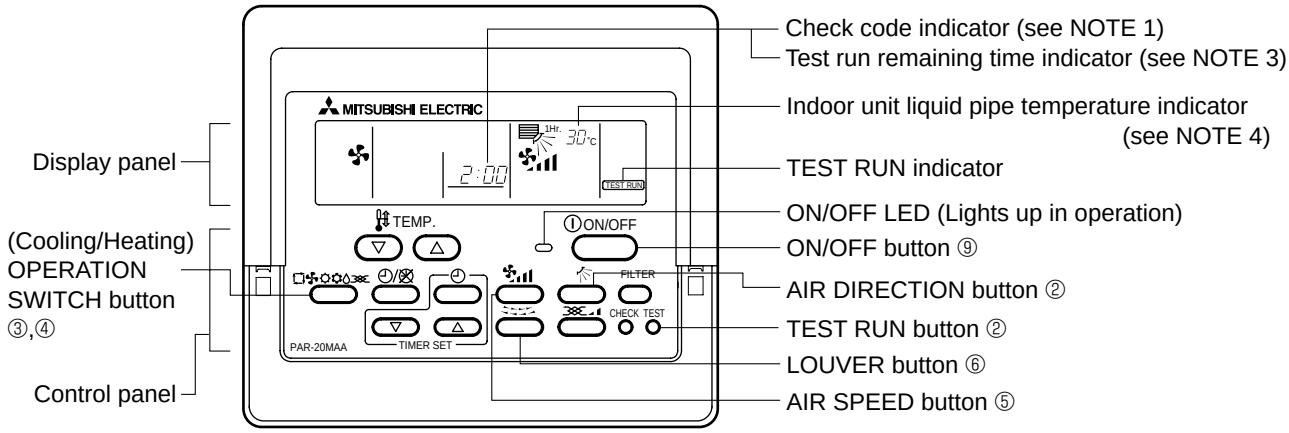
(1) Before test run, make sure that following work is completed.
- Installation related :
  Make sure that the panel of cassette type and electrical wiring is done.
  Otherwise electrical functions like auto vane will not operate normally.
- Piping related :
  Perform leakage test of refrigerant and drain piping.
  Make sure that all joints are perfectly insulated.
  Check stop valves on both liquid and gas side for full open.
- Electrical wiring related :
  Check ground wire, transmission cable, remote controller cable, and power supply cable for secure connection.
  Make sure that all switch settings of address or adjustments for special specification systems are correctly settled.

(2) Safety check :
With the insulation tester of 500V, inspect the insulation resistance.
Do not touch the transmission cable and remote controller cable with the tester.
The resistance should be over 1.0 MΩ. Do not proceed inspection if the resistance in under 1.0 MΩ.
Inspect between the outdoor unit power supply terminal block and ground first, metallic parts like refrigerant pipes or the electrical box next, then inspect all electrical wiring of outdoor unit, indoor unit, and all linked equipment .

(3) Before operation :
a) Turn the power supply switch of the outdoor unit to on for compressor protection. For a test run, wait at least 12 hours from this point.
b) Register control systems into remote controller(s). Never touch the on/ off switch of the remote controller(s). Refer to " 8-1-2 M-NET Remote Controller Settings" on page 59 as for settings . In MA remote controller(s), this registration is unnecessary.

(4) More than 12 hours later form power supply to the outdoor unit, turn all power switch to on for test run. Perform test run according to the "Operation procedure" table of the bottom of this page. While test running, make test run reports .

(5) When you deliver the unit after test run, instruct the end user for proper usage of the system using owners' manual and the test run report you made to certificate normal operation. If abnormalities are detected during test run, refer to " 8-1-3 Countermeasures for Error During Test Run" on page 61. As for DIP switch setting of outdoor unit, refer to" 8-5. INTERNAL SWITCH FUNCTION TABLE" on page 84.



	Operation procedure
①	Turn on the main power supply the all units at least 12 hrs. before test run. "HO" appears on display panel for 3 min.
②	12 hrs later, press TEST RUN button twice to perform test run. "TEST RUN " appears on display panel.
③	Press OPERATION SWITCH button to make sure that air blows out.
④	Select Cooling (or Heating) by OPERATION SWITCH button to make sure that cool (or warm) air blow out.
⑤	Press Fan speed button to make sure that fan speed in changed by the button.
⑥	Press AIR DIRECTION button or LOUVER button to make sure that air direction is adjustable(horizontal, downward, upward, and each angle).
⑦	Check outdoor fans for normal operation.
⑧	Check interlocked devices (like ventilator) for normal operation, if any. This is the end of test run operation.
⑨	Press ON/OFF button to stop and cancel test run.

NOTE 1 : If error code appears on remote controller or remote controller malfunction , refer to " 8-1-3 Countermeasures for Error During Run" on page 61.
NOTE 2 : During test run operation 2-hours off timer activates automatically and remaining time is on remote controller and test run stops 2 later.
NOTE 3 : During test run, the indoor liquid pipe temperature is displayed on remote controller instead of room temperature.
NOTE 4 : Depend on a model, "This function is not available" is appears when air direction button is pressed, however, this is not malfunction.

8-1-2. Special Function Operation and Settings for M-NET Remote Controller

- It is necessary to perform “group settings” and “paired settings” at making group settings of different refrigerant systems (multiple outdoor unit).
  (A) Group settings: Enter the indoor unit controlled by the remote controller, check the content of entries, and clear entries, etc.
  (B) Paired settings: Used to set the linked operation of a Lossnay unit.

(1) Entering address: Follow the steps below to enter the addresses of the indoor unit using the remote controller.

a) Group settings

- Turning off the remote controller: Press the ON/OFF button to stop operation (the indicator light will go off).
- Changing to indoor unit address display mode: If the FILTER and buttons on the remote controller are pressed simultaneously and held for two seconds, the display shown in Figure 1 will appear.
- Changing address: Press the temperature adjustment buttons to change the displayed address to the address to be entered.
- Entering the displayed address: Press the TEST RUN button to enter the indoor unit with the displayed address. The type of the unit will be displayed as shown in Figure 2 if entry is completed normally. If a selected indoor unit does not exist, an error signal will be displayed as shown in Figure 3. When this happens, check whether the indoor unit actually exists and perform entry again.
- Returning to the normal mode after completing entry: Press the FILTER and buttons simultaneously and hold for two seconds to return to the normal mode.

Figure 1 (A) Group setting display

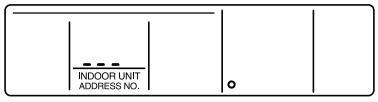
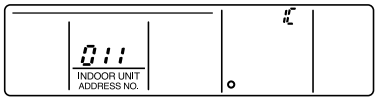
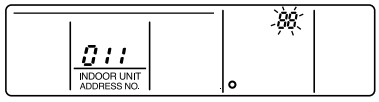


Figure 2 Normal completion of entry



Type of unit is displayed

Figure 3 Entry error signal



Flashing “88” indicates entry error

b) Paired Settings

- Turn off the remote controller: Press the remote controller’s ON/OFF button to turn it off (the indicator light will go off).
- Put in indoor unit address display mode: Press the FILTER and buttons on the remote controller simultaneously and hold for two seconds.

∗The above steps are the same as when making group settings (A).

- Changing to the linked operation unit address display state: The display shown in Figure 4 will appear when the button on the remote control is pressed.
- Displaying the address of the Lossnay unit and linked indoor unit: In this situation, the indoor unit number will be the lowest address of the group. The Lossnay unit will not operate if this setting is incorrect.

∗If the temperature adjustment buttons are pressed, the address may be changed to the indoor unit that are to be linked.

∗If the time setting buttons are pressed, the address of the linked units may be changed to the address where it is desired to enter the Lossnay .

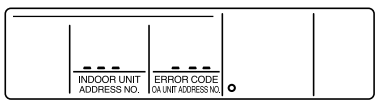
- Linking the Lossnay and the indoor unit: The display shown in Figure 5 will appear when the TEST RUN button is pressed. The indoor unit whose address is displayed and the Lossnay unit with a linked address will operate in a linked manner.

∗If it is desired to display the address of the Lossnay in the indoor unit address, display the indoor unit address in the linked unit address, and the above content will also be recorded.

∗ Apart from the indoor unit with the lowest address in the group, display and enter the addresses of the other indoor unit that are to be linked with the Lossnay unit.

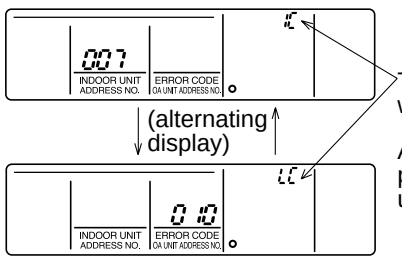
- Returning to the normal mode after completing entry: Press the FILTER and buttons on the remote controller simultaneously and hold for two seconds to return to the normal mode.

Figure 4 (B) Making paired settings



The addresses of indoor unit and linked units are displayed simultaneously.

Figure 5 Completing normal entry



These alternating IC or LC displays will appear when entry is completed normally.

A flashing “88” will appear if there is a problem with the entry (indicating that the unit does not exist).

(2) Address check: Refer to section (1) regarding address entry.

a) In making group settings:

- Turn off the remote controller: Press the remote controller's ON/OFF button to stop operation (the indicator light will go off).
- Locate the indoor unit address display mode: Press the FILTER and buttons on the remote controller simultaneously and hold for two seconds.
- Display indoor unit address: The entered indoor units address and type will be displayed each time the button is pressed.
  ✻ When one entry is made, only one address will be displayed no matter how many times the button is pressed.
- Returning to the normal mode after completing check: Simultaneously press the FILTER and buttons on the remote controller and hold for two seconds to return to the normal mode.

b) In making paired settings:

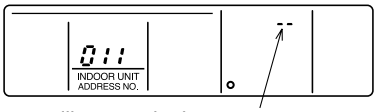
- Turn off the remote controller: Press the remote controller's ON/OFF button to stop operation (the indicator light will go off).
- Put in indoor unit address display mode: Press the FILTER and buttons on the remote controller simultaneously and hold for two seconds.
- Changing to the linked operation unit address display state: Press the button on the remote control.
- Displaying the address of the indoor unit to be checked: Change the address to that of the indoor unit to be checked by pressing the temperature adjustment buttons
- Displaying the address of the linked Lossnay unit: Press the button to display the addresses of the linked Lossnay and indoor unit in alternation.
- Displaying the addresses of other entered units: The addresses of the other entered units will be displayed in alternating fashion after resting the button again.
- Returning to the normal mode after completing the check: Simultaneously press the FILTER and buttons on the remote controller and hold for two seconds to return to the normal mode.

(3) Clearing an address: Refer to section (1) regarding the address entry and section (2) regarding checking addresses.

a) In making group settings:

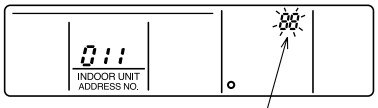
- Turn off the remote controller: The procedure is same as **a)** in (2) Address check.
- Put in the indoor unit address display mode: The procedure is same as **a)** in (2) Address check.
- Displaying the indoor unit address to be cleared: The procedure is same as **a)** in (2) Address check.
- Clearing indoor unit address : .....Pressing the button on the remote controller twice will clear the address entry of the displayed indoor unit, resulting in the display shown in Figure 6.
  The display shown in Figure 7 will appear if an abnormality occurs and the entry is not cleared.
  Please repeat the clearing procedure.
- Returning to the normal mode after clearing an address: The procedure is same as **a)** in (2) Address check.

Figure 6 Display after address has been cleared normally



"--" will appear in the room temperature display location.

Figure 7 Display when an abnormality has occurred during clearing

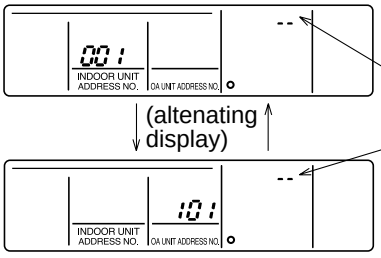


"88" will appear in the room temperature display location.

b) In making paired settings:

- Turn off the remote controller: The procedure is same as **b)** in (2) Address check.
- Put into the indoor unit address display mode: The procedure is same as **b)** in (2) Address check.
- Put into the linked unit address display mode: The procedure is same as **b)** in (2) Address check.
- Display the address of the Lossnay unit or the indoor unit to be cleared.
- Deleting the address of a linked indoor unit: Pressing the button on the remote controller twice will clear the address entry of the displayed indoor unit, resulting in the display shown in Figure 8.
- Returning to the normal mode after clearing an address: The procedure is same as **b)** in (2) Address check.

Figure 8 Display after address has been cleared normally



"--" will appear in the unit type display location when an address has been cleared normally.

"88" will appear in the unit type display location when an abnormality has occurred during clearing.

8-1-3. Countermeasures for Error During Test Run

• If a problems occurs during test run, a code number will appear in the temperature display area on the remote controller (or LD1 on the outdoor unit), and the air conditioning system will automatically cease operating.

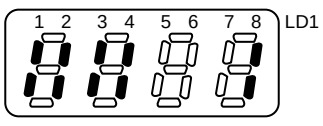
Determine the nature of the abnormality and apply corrective measures.

Check code	Trouble	Check code	Trouble
1102	Discharge temperature trouble	6600	Duplicated unit address setting
1108	Compressor's inner thermal sensor trouble	6602	Transmission error (Transmission processor hardware error)
1302	High pressure trouble		
1500	Excessive refrigerant replenishment	6603	Transmission error (Transmission route BUSY)
1501	Insufficient refrigerant	6606	Transmission and reception error (Communication trouble with transmission processor)
1505	Vacuum operation protection		
2502	Drain pump trouble	6607	Transmission and reception error (No ACK error)
2503	Drain sensor trouble (THd)	6608	No response
4115	Power synchronization signal trouble	6831	MA communication receive signal error (no receive signal)
4116	Indoor unit fan rotation trouble		
4220	Inverter main voltage drop	6832	MA communication send signal error (starting bit detection error)
4230	Overheat protection of radiator panel		
4250	Multiple IPM errors (Over current trouble)	6833	MA communication send error (H/W error)
5101	Intake thermistor trouble (TH21) or discharge thermistor trouble (TH1)	6834	MA communication receive error (Synchronous recovery error)
5102	Liquid pipe thermistor trouble (TH22) or low pressure saturation thermistor trouble (TH2)	7100	Total capacity error
		7101	Capacity code error
5103	Gas pipe temperature sensor trouble (TH23)	7102	Connecting unit number error
5105	Piping temperature sensor trouble (TH5)	7105	Address set error
5106	Outdoor temperature sensor trouble (TH6)	7111	Remote controller sensor trouble
5110	ACTM/IGBT Radiator panel thermistor trouble (THHS-A/B) (PUMY-125VMA PUMY-125VMA$_1$)	0403	Communication trouble with Power Board (PUMY-125VMA PUMY-125VMA$_1$)
	IPM Radiator panel thermistor trouble (THHS) (PUMY-71VM PUMY-125VM PUMY-125YM / PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$ / PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA)		
5201	Pressure sensor trouble (63HS)		
5300	Current sensor error (PUMY-125VMA PUMY-125VMA$_1$)		

The operational status of the outdoor unit controller is displayed on the LD1 of the outdoor unit under normal conditions (when all SW1's are OFF)

Field	1	2	3	4	5	6	7	8
Display item	Compressor is operating	52C	21S4	SV1	—	—	—	Lit steadily

Example: When the air conditioner is in the heating mode and the SV1 and compressor turned on.

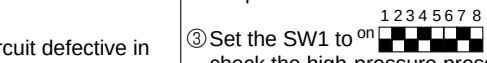
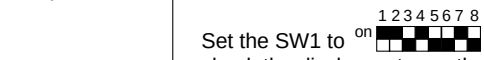
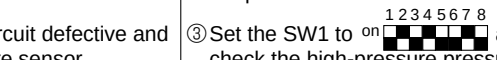
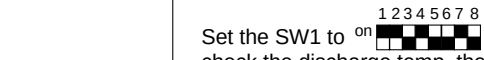
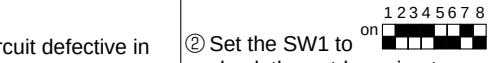
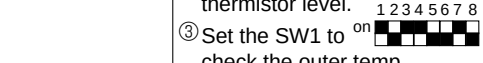


52C : Compressor Contactor
21S4 : 4-way coil ※1
SV1 : Solenoid coil ※2

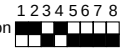
Only PUMY-125VMA model
※1 4-way valve
※2 Solenoid valve

Display	Meaning and detecting method	Causes	Check points
1102	Discharge temperature abnormality ① When the discharge temperature thermistor (TH1) detects 125℃or more (1st detection), the compressor stops and restarts operation in 3 minutes. ② When the thermistor detects 125℃or more again (2nd detection) within 30 minutes since the compressor has stopped, the compressor stops and restarts operation in 3 minutes. ③ When the thermistor detects 125℃or more again (3rd detection) within 30 minutes since the compressor has stopped 2 times, the compressor stops abnormally. <1102> is displayed. ④ When the thermistor detects 125℃ or more after 30 minutes since the compressor has stopped (1st or 2nd time), it becomes the 1st detection or the same performance as above-mentioned ①. ⑤ It is being delay for abnormal stop during 30 minutes since the compressor has stopped. In this time, check delay code <1202> will be displayed.	1) Gas leakage, Gas shortage 2) Overloaded operation 3) Indoor linear expansion valve operation defective 4) Ball valve operation defective 5) Outdoor fan block and defective of fan motor (heating mode) 6) Gas leakage between high and low pressure (Defective of 4-way valve or compressor) 7) Solenoid valve (SV1) performance defective (control failure to prevent the discharge temp. from rising by SV1) 8) Thermistor defective 9) Input circuit defective of multi controller board	Check the refrigerant amount. Check the indoor/outdoor unit operating condition and status. Perform cool or heat operation to check the condition. Check ball valve is fully opened. Check the outdoor fan motor. Check the operating condition. Check the solenoid valve performance. Check the thermistor resistance. Check the intake temperature in discharge temperature thermistor (TH1) by LD1. (See 5101 Discharge temperature thermistor error)
1108	Compressor inner thermo abnormality ① When the inner thermo performs (1st detection) during the compressor operation, the compressor stops and restarts operation in 3 minutes. ② When the inner thermo performs again (2nd detection) within 30 minutes since the compressor has stopped, or does not recover within 30 minutes, it stops abnormally. In this time <1108> is displayed. ③ When the inner thermo performs after 30 minutes since the compressor has stopped (1st stop), it is the 1st detection and becomes the same performance as above-mentioned ①. ④ It is being delay for abnormal stop during 30 minutes since the compressor has stopped. In this time, check delay code <1208> will be displayed.	1) Low voltage supplied to power supply terminal block 2) Power supply L2 or L3 phase is opened. (When L1 phase is opened, power supply of the micro computer is not supplied.) 3) Compressor failure (Over current by motor rare short, etc.) 4) Overloaded operation 5) Gas leakage, Gas shortage 6) Inner thermo defective 7) Input circuit defective of multi controller board or power supply board	Measure the terminal voltage. Check the voltage reduction. Check the open phase. Check the coil resistance. Check the indoor/outdoor unit operating condition and status. Check the refrigerant amount. Check the current flows in inner thermo. When the inner thermo is normal and input circuit is defective, even if the inner thermo performs, the compressor does not operate and becomes error in 30 minutes.
1302	High-pressure pressure abnormality ① When high-pressure pressure sensor detects 2.94MPa or more (1st detection) during the compressor operation, the compressor stops and restarts operation in 3 minutes	1) Indoor unit short cycle 2) Indoor unit filter clogging 3) Air flow capacity decrease due to indoor fan dirt 4) Indoor heat exchanger dirt	Check the indoor unit. Check the indoor unit filter. Check the indoor fan. Check the indoor unit heat exchanger.

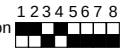
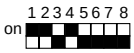
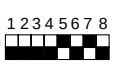
Display	Meaning and detecting method	Causes	Check points
1302	② When the sensor detects 2.94MPa or more again (2nd detection) within 30 minutes since the compressor has stopped, the compressor stops again and restarts operation in 3 minutes. ③ When the sensor detects 2.94MPa or more again (3rd detection) within 30 minutes since the compressor has stopped, the compressor stops again and restarts operation in 3 minutes. ④ When the sensor detects 2.94MPa or more again (4th detection) within 30 minutes after 3rd compressor stop, it stops abnormally. In this time <1302> is displayed. ⑤ When the sensor detects 2.94MPa or more after 30 minutes since the compressor has stopped (1st or 2nd or 3rd time), it becomes the 1st detection or the same performance as above-mentioned ①. ⑥ It is being delay for abnormal stop during 30 minutes since the compressor has stopped. In this time, check delay code <1402> will be displayed. Note) For first 7 minutes in COOL or HEAT starting, error detected pressure of high-pressure pressure sensor is 3.14MPa.	5) Indoor fan motor lock 6) Indoor fan motor failure 7) 4-way valve performance failure (Stop in the middle of performance) 8) Ball valve performance failure (not full-opened) 9) Pipe clogged or broken 10) Indoor linear expansion valve performance failure 11) Outdoor fan motor lock 12) Outdoor fan motor failure 13) Outdoor unit short cycle 14) Outdoor heat exchanger dirt 15) Decrease in airflow capacity which the outdoor unit intakes because of intake defective of outer temperature thermistor. (Intake less than the actual outer air) 16) Indoor unit capacity codes miss setting (If the capacity code is set greatly, initial frequency rises and high-pressure is easy to rise.) 17) Solenoid valve (SV1) performance failure (High-pressure pressure cannot be controlled by SV1) 18) Indoor thermistor (liquid pipe temperature detection) detecting failure (thermistor removed) (Hot adjust time becomes long.) 19) High-pressure pressure sensor defective 20) High-pressure pressure sensor input circuit defective in multi controller board.	Check the indoor fan motor. Check the indoor fan motor. Change COOL/HEAT operation mode to perform the 4-way valve. If any defective, replace the 4-way valve. Check the ball valve full-opened. Repair the defective points. Operate COOL or HEAT operation, and check the operation condition. Check the outdoor unit fan motor. Check the outdoor unit fan motor. Check the outdoor unit. Check the outdoor unit heat exchanger. Check intake temperature of the outer temperature thermistor by LD1. (See 5106 Outer temperature thermistor error) Check the capacity set switch in the indoor controller board. If it is wrong setting reset it. Check is available for the outdoor unit. (See 7101 Capacity code error) Check the solenoid valve performance. Check the thermistor installed condition. Operate in trial mode and check the pipe temperature change by the remote controller. Check the high-pressure pressure sensor. Check the high-pressure pressure sensor.
1500	Refrigerant over charged abnormality ①When below 5 conditions are satisfied during the compressor operation (1st detection), the compressor stops and restarts operation in 3 minutes. 1. Cool mode, outer temp. is 20℃ or more Heat mode, outer temp. is 15℃ or less	1) Refrigerant over charged 2) Light-loaded operation (Wrong determination) 3) Performance defective of the indoor's linear expansion valve and outdoor's electronic expansion valve.	Check the refrigerant amount. Check the indoor/outdoor unit operating condition and status. Perform cool or heat operation to check the condition.

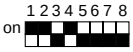
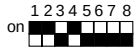
Display	Meaning and detecting method	Causes	Check points
1500	2. The compressor has operated consecutively 20 minutes or more, since the indoor unit operation capacity had changed (including the compressor operation start). 3. Operation frequency is 80Hz or more. 4. Discharge super heat is below 10℃. 5. Sub cool step continues for 5 minutes or more by SN=4. ② Same condition as ① is satisfied again within 60 minutes since the compressor has stopped, it stops abnormally. In this time, <1500> is displayed. ③ Same condition as ① is satisfied again after 60 minutes since the compressor has stopped (1st time), it becomes the first detection and same performance as ①. ④ It is being delay for abnormal stop during 60 minutes since the compressor has stopped. In this time, check delay code <1600> will be displayed.	4) Discharge super heat detection error ① High-pressure pressure sensor failure ② Discharge temperature thermistor failure ③ Thermistor input circuit defective in the multi controller board., and high-pressure pressure sensor input circuit failure	① Check the high-pressure pressure sensor. ② Check the resistance of discharge temp. thermistor. ③ Set the SW1 to  and check the high-pressure pressure sensor level. Set the SW1 to  and check the discharge temp. thermistor level. When the high-pressure pressure sensor and discharge temp. thermistor are normal, if the above mentioned detecting pressure level and temp. are big different from the actual pressure and temp., replace the multi controller board.
1501	Refrigerant shortage abnormality ① When the conditions of below detecting mode Ⅰ or Ⅱ are satisfied (1st detection) during the compressor operation, the compressor stops and restarts operation in 3 minutes. <Detecting mode Ⅰ> When the below conditions are satisfied completely. 1. SW5-5 is OFF. 2. Compressor is operating in HEAT mode. 3. Discharge super heat is 70℃ or more. 4. Difference of outer temperature thermistor (TH6) and outdoor piping temp. thermistor (TH5) applies to the formula of (TH6-TH5)<5℃. 5. High-pressure pressure sensor is below 1.18MPa. <Detecting mode Ⅱ> When the below conditions are satisfied completely. 1. Compressor is operating. 2. When cooling, discharge super heat is 80℃ or more. When heating, discharge super heat is 90℃ or more. ② When the conditions of detecting mode Ⅰ and Ⅱ are satisfied again (2nd detection) within 30 minutes since the compressor has stopped, it stops abnormally. In this time, <1501> is displayed. ③ When the conditions of detecting mode Ⅰ and Ⅱ are satisfied again after 30 minutes since the compressor has stopped (1st time), it becomes the 1st detection and same performance as above ①. ④ It is being delay for abnormal stop during 30 minutes since the compressor has stopped. In this time, check delay code <1600> will be displayed.	1) Gas leakage, Gas shortage 2) When heating operation, refrigerant shortage feeling operation (When heating, air flow or thermo OFF are mixed-operation, it cause a refrigerant shortage operation.) 3) Ball valve performance failure (not full opened.) 4) Error detection of discharge super heat ① High-pressure pressure sensor defective ② Discharge temperature thermistor defective ③ Thermistor input circuit defective and high-pressure pressure sensor defective in multi controller board 5) Error detection of TH5/TH6 ① Thermistor defective ② Thermistor input circuit defective in multi controller board	Check the refrigerant amount. Check the operation condition and refrigerant amount. Check the ball valve is full opened. ① Check the high-pressure pressure sensor. ② Check the resistance of discharge temperature thermistor. ③ Set the SW1 to  and check the high-pressure pressure sensor level. Set the SW1 to  and check the discharge temp. thermistor level. When the high-pressure pressure sensor and discharge temp. thermistor are normal, if the above mentioned detecting pressure level and temp. are big different from the actual pressure and temp. replace the multi controller board. ① Check the resistance of thermistor. ② Set the SW1 to  and check the outdoor pipe temp. thermistor level. ③ Set the SW1 to  and check the outer temp. thermistor level.

Display	Meaning and detecting method	Causes	Check points
1505	Vacuum operation protection **PUMY-125VMA PUMY-125VMA$_1$** When the suction pressure saturation temperature thermistor (TH2) detects -13℃ or less and "[indoor temperature-liquid pipe temperature]≦ 8deg" for 3minutes continuously, the 1st COOL operation (compressor operation) after power supply on, it stops abnormally. In this time, <1505> is displayed **PUMY-71VM PUMY-125VM PUMY-125YM PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$ PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA** When the suction pressure saturation temperature thermistor(TH2) detects -20℃ or less for 4 consecutive minutes or more during the 1st COOL operation (compressor operation) after power supply on, it stops abnormally. In this time, <1505> is displayed	1) Ball valve performance failure (not full opened.) 2) Light-loaded operation (When outer temperature is low, the operation is liable to change to this mode.) 3) Low-pressure over suction by refrigerant shortage 4) Pipe clogging and broken 5) Indoor linear expansion valve performance defective	Check the ball valve is full opened. Check the indoor/outdoor unit operating condition and status. Check the refrigerant amount. Repair the defective points. Perform cool or heat operation to check the condition.
2502	Drain pump abnormality ① When either of the undermentioned condition is satisfied (when determined drain sensor goes under water) while the indoor unit operation (excluding the case of abnormal stop) and after 3minutes since the drain pump has operated, the indoor unit stops abnormally (however fan continues the normal control). In this time, <2502> is displayed. · Turn on the side heater of drain sensor, then when temperature up from the detected temperature before turning on is below 20℃ during 40 seconds. · The detected temperature is below 63℃ after 40seconds since the side heater of drain sensor has turned on. ② When condition which the outdoor unit is stopped forcibly consists, or the drain sensor detects continuously to go under water 5 times, and also detects "[liquid pipe temperature-suction temperature]≦ -10deg" for 30minutes continuously, the indoor unit stops abnormally (however, fan operates by normal control) that indoor unit and excluding [Fan mode or OFF] in same refrigerant system. Also, the outdoor unit which is connected to that indoor unit with refrigerant system stops abnormality (compressor is inhibited to operation). In this time, <2502> is displayed.	1) Drain pump trouble 2) Drain defective · Drain pump clogging · Drain pipe clogging 3) Open circuit of drain sensor side heater 4) Contact failure of drain sensor connector 5) Dew condensation on drain sensor · Drain water descends along lead wire. · Drain water waving due to filter clogging. 6) Indoor controller board defective · Drain pump drive circuit failure · Drain heater output circuit failure 7) Both of above mentioned 1)~6) and the indoor linear expansion valve full-closed failure (leakage) happens synchronistically.	Check the drain pump. Performance Please confirm whether water can be drained. Confirm the resistance of the drain sensor side heater. (approx. 82Ω at normal between connector CN50 1 and 3 in the indoor controller board) Check the connector contact failure. ① Check the drain sensor lead- wire mounted. ② Check the filter clogging If the above mentioned checkpoints has any problem, replace the indoor controller board. Check whether the indoor linear expansion valve leaks or not.

Display	Meaning and detecting method	Causes	Check points
2502	Drain pump abnormality (Note) Address/Attribute displayed on the remote controller shows the indoor unit which is cause of trouble. <Detected timing> Always detecting regardless of the indoor unit status. <Abnormality clear> Abnormality is cleared by either of two of the following; · Reset power supply of the indoor unit and outdoor unit in same refrigerant system, which is the cause of trouble in the refrigerant system. · Reset power supply of the indoor unit, which is the cause of trouble. (However, power supply interception of 10 minutes or more is necessary.) (Note) Above ① and ② detects independently.		
2503	Drain sensor (THd, DS) abnormality When the drain sensor detects short/open while the operation. Short: detection of 90℃ or more Open: detection of -40℃ or less	1) Connector (CN50) contact failure (insertion failure) 2) Thermistor wiring disconnection or half disconnection 3) Thermistor defective 4) Indoor controller board (detecting circuit) failure	① Check whether the indoor controller board connector (CN50) is disconnected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor. 0℃‥15kΩ 10℃‥9.6 kΩ 20℃‥6.3 kΩ 30℃‥4.3 kΩ 40℃‥3.0 kΩ ④ If abnormality is not found in the method of the above-mentioned from ① to ③, it is defective of the indoor controller board.
4115	Power supply synchronous signal abnormality ① When power supply synchronous signal (once a second) is not read, stop the compressor and restarts operation in 3 minutes. (When the synchronous signal is not read just before compressor start, the compressor does not start and stops operation 3 minutes.) ② For 30minutes after the compressor stop (PUMY-125VMA PUMY-125VMA1: 4minutes), it is being to delay abnormal stop. Then, when SW1 is set, the outdoor units address No. and check code <4165> blinks on the 4 digit digital display alternately. SW1 setting  ③ When power supply synchronous signal (once a second) is not read again during abnormal delay, the compressor stops abnormally. Then, the outdoor units address No. and check code <4115> blinks on the 4 digit digital display alternately.	1) Disconnection or contact failure by loose of connector (CN2) is connected to power supply board. 2) Power supply synchronous detected circuit failures in the power supply board. 3) Power supply synchronous detected circuit failure in the multi controller board.	Check the connector insertion. Replace the power supply board. Replace the multi controller board.

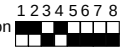
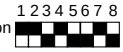
Display	Meaning and detecting method	Causes	Check points
4116	Fan rotational frequency abnormality (Detected only PKFY-P·VAM-A) ① When rotational frequency of the fan is detected 180rpm or less, or 2000rpm or more (1st detection) while the indoor unit fan operation, the fan stops for 30seconds. ② When the rotational frequency of the fan is detected 180rpm or less, or 2000rpm or more again after the fan restarts, the indoor unit stop abnormally (fan stops). In this time, <4116> is displayed.	1) Fan rotational frequency detecting connector (CN33) disconnection in the indoor controller board. 2) Fan output connector (FAN1) disconnection in the indoor power board. 3) Fan rotational frequency detecting connector (CN33) wiring breakage in the controller board or fan output connector (FAN1) breakage in the indoor power board 4) Filter clogging 5) Indoor fan motor trouble 6) Fan rotational frequency detecting circuit failure in the indoor controller board or fan output circuit failure in the indoor power board.	① Check whether the connector (CN33) in the indoor controller board is disconnected or not. ② Check whether the connector (FAN1) in the indoor power board is disconnected or not. ③ Check whether the wiring is disconnected or not. ④ Check the filter. ⑤ Check the indoor fan motor. ⑥ When there is no problem in the above-mentioned from ① to ⑤; (1) In the case of abnormality after the fan operation; Replace the indoor controller board. When the fan does not recover even if the indoor controller board is replaced, replace the indoor power board. (2) In the case of abnormality without fan operation, replace the indoor power board.
4220	**PUMY-125VMA PUMY-125VMA$_1$** Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit Abnormal if any of followings are detected during compressor operation; • Decrease of DC bus voltage to 270V • Instantaneous decrease of DC bus voltage to 200V • Increase of DC bus voltage to 400V	1) Decrease of power supply voltage 2) Disconnection of compressor wiring 3) Defective 52C 4) Disconnection or loose connection of CN52C 5) Defective active filter module (ACTM) 6) Defective active filter module (ACTM) drive circuit of outdoor power board 7) Disconnection or loose connection of CNAF 8) Defective 52C drive circuit of outdoor control board 9) Disconnection or loose connection of CN5 10) Disconnection or loose connection of CN2	① Check the facility of power supply. ② Correct the wiring (U•V•W phase) to compressor. ③ Replace 52C. ④ Check CN52C wiring. ⑤ Replace active filter module (ACTM) . ⑥ Replace outdoor power board. ⑦ Check CNAF wiring. ⑧ Replace outdoor controller board. ⑨ Check CN5 wiring. ⑩ Check CN2 wiring.

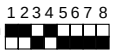
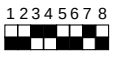
Display	Meaning and detecting method	Causes	Check points
4220	**PUMY-71VM PUMY-125VM PUMY-125YM** **PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$** **PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA** Shortage abnormality of inverter bus-bar voltage ① When direct current bus-bar voltage reduces extremely during the compressor operation, the compressor stops and restarts operation in 3minutes. ② It is being delay to stop abnormally for 30 minutes after the compressor stop. Then, when SW1 is set, the outdoor unit address No. and check code <4320> blinks alternately on the 4 digit digital display. SW1 setting  ③ When detecting abnormality of direct bus-bar voltage decrease again during being delay abnormality, it performs the same action as ①. Also, when the abnormality is not detected, it operates normally. Hereafter, action ① is repeated until 5th abnormal detection. ④ When the 6th voltage decrease of direct bus bar is detected during being delay abnormality, it stops abnormally. In this time, the outdoor unit address No. and check code <4220> blinks alternately on the 4 digit digital display.	1) Power supply terminal voltage is low. 2) Power supply L2,L3-phase is opened. 3) Diode stack (Diode module) defective. 4) Connector lead wire disconnection, contact failure. Power supply board connecting connector (CND)-Between smoothing capacitor (CB1 and CB2). Power supply board connecting connector (52C)-Between electron-magnetic contactor (52C) 5) Connector (CN2) disconnection, contact failure. 6) Instant power failure 7) Lightening serge, single interruption by external noise. 8) Direct bus-bar voltage shortage detecting circuit failure in power supply board	Measure the terminal voltage, and check whether the voltage decreases or not. Check the power supply is opened. Check the resistance of diode stack. Check the defective points. Check the connector insertion. It happens by accident, and does not have the possibility to happen again. It happens by accident, and does not have the possibility to happen again. Replace the power supply board.
4230	Radiator panel shield temperature ① When the radiator panel temperature thermistor (THHS(A/B)) detects abnormality (1w detection) stops the outdoor unit once and restarts operation in 3minutes. ② It is being delay to stop abnormally for 30minutes after the compressor stop. (PUMY-125VMA PUMY-125VMA$_1$: 10 minutes) Then, when SW1 is set, outdoor unit address No. and check delay code <4330> blinks alternately on the 4 digit digital display.  ③ When the radiation shield temperature thermistor (THHS(A/B)) detects abnormality again (2nd detection) during delay abnormality, perform the same action as ①. ④ When the radiation shield temperature thermistor (THHS(A/B)) detects abnormality on 3rd time during delay abnormality, it stops abnormally. (PUMY-125VMA PUMY-125VMA$_1$: 5 minutes) Then, the outdoor unit address No. check code <4230> blinks alternately on the 4 digit digital display. Abnormality detecting temperature in radiation shield temperature thermistor Type / Abnormal temperature (℃) 71VM/VM$_1$/VM$_2$ — 73 125VM/VM$_1$/VM$_2$ 125YM/YM$_1$/YMA — 84 125VMA/VMA$_1$ — 85	1) Outdoor fan motor lock 2) Outdoor fan motor trouble 3) Block of duct which cooled air passes 4) Surrounding temperature-rise 5) Thermistor failure 6) Thermistor input circuit failure in the multi controller board	Check the outdoor fan motor. Check the outdoor fan motor. Check whether the air duct for cooling is opened. Check whether there is a heat source in surroundings of the outdoor unit. (Surroundings temperature upper limit is 46℃) ① Check the resistance of thermistor. (Use tester) ② Change the SW1 to  and check the temperature in radiation shield temperature thermistor. When there is a big difference between the detected temp. and thermistor temp. replace the multi controller board.

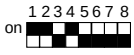
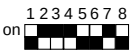
Display	Meaning and detecting method	Causes	Check points
4250	IPM abnormality Over current limited (When the compressor is interrupted by over current at its start-up.) ① When over current limit is detected within 30seconds from start-up, the compressor stops and restarts in 3minutes. ② While the compressor stops for 3minutes, confine the current-carry. ③ When SW1 setting during delay of interruption abnormality stop, the outdoor unit address No. and check delay code <4350> blinks alternately on the 4 digit digital display. SW1 setting  ④ When the compressor is interrupted again by over current after restarting in 3minutes, it stops and restarts in 3minutes. Perform the same action as ② and ③. ⑤ When the compressor is not interrupted within 30seconds after restarting in 3minutes, clear the delay of limited abnormal stop and back to normal. ⑥ When the above action ④ is repeated and the compressor is interrupted within 30seconds after 7th start-up (PUMY-125VMA PUMY-125VMA$_1$: after 15th start-up), or the compressor is interrupted during confined the current-carry, it stops abnormally. Then, the outdoor unit address No. and check delay code <4250> blinks alternately on the 4 digit digital display. (When the compressor is interrupted by over current during the operation) ① When over current limit is detected after 30seconds from start-up, the compressor stops and restarts in 3minutes. ② The compressor is being delay to stop abnormally for 5minutes after the compressor stop. (PUMY-125VMA PUMY-125VMA$_1$: 6minutes) Then, the outdoor unit address No. and check delay code <4350> blinks alternately on the 4 digit digital display. SW1 setting  ③ When the compressor is interrupted again within 2minutes after restarting in 3minutes, it stops abnormally. Then, the outdoor unit address No. and check delay code <4250> blinks alternately on the 4 digit digital display. PUMY-125VMA : 6minutes, 4minutes. ④ When the compressor is not interrupted within 2minutes (PUMY-125VMA PUMY-125VMA$_1$: 3minutes) after restarting in 3minutes, it becomes the 1st detection and performs the same action as ① and ②.	**PUMY-71VM PUMY-125VM PUMY-125YM** **PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$** **PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA** 1) Single interruption by external noise. 2) Single interruption by lightening serge 3) Power supply abnormality (a) Voltage decrease to 340V or less. (b) Power supply open-phase (Current increase in the compressor by the voltage decrease) 4) Diode stack defective When it is opened-phase, same phenomenon occurs as power supply open-phase. 5) Disconnection of connector and lead wire, and miss-wiring Between multi controller board (CN4) and power supply board (CN4) 6) IPM (intelligent power module) drive circuit in the gate amplifier defective 7) IPM (intelligent power module) drive signal output circuit defective, power factor detecting circuit failure in the multi controller board. 8) Current detection defective (AC,CT) 9) Compressor lock 10) Liquid sealing start-up of the compressor 11) Open-phase at the compressor side 12) IPM (intelligent power module) failure 13) Power supply board abnormality detecting circuit failure and IPM drive power supply circuit failure	The interruption happens by accident. Since the interception only once returns automatically after restarting in 3minutes, the possibility to stop abnormally is very few. ① Measure a receiving voltage and check the power supply capacity ② Check whether the phase is opened or not. Check from 4) to 13) by following procedure; ③ Start-up the compressor and check the status of interrupting. (1) When the compressor stops (output signal stop) after immediately after output signal comes out and is interrupted abnormally. ⇒Generation of short-circuit current is assumed. (5),6),7),12),13)) (2) After 5seconds of start-up, when the compressor stops by interruption, being delay and repeats to confine current-carry for 3minutes → restart-up → interruption → to confine current-carry → restart-up and becomes interruption-abnormality after approx. 18minutes from start-up. ⇒The compressor is assumed not to start-up by torque shortage or lock. (5), 6), 7), 9), 10), 11), 12)) (3) When the compressor stops after a while by the interception though the compressor starts once, and restarts in 3minutes. ⇒It is presumed to stop since the frequency goes up and the load grows though the compressor starts. (4), 5), 6), 7), 8)) ④ Check the miss-wiring, terminal loosing and disconnection of connector and lead wire. ⇒ Repair of defective points. (5), 11)) ⑤ Check the resistance of IPM. ⇒ In the case of abnormality, replace the gate ampere board and IPM. ⑥ Check the resistance of diode stack. ⇒In the case of abnormality, replace the diode stack. ⑦ When excluding of ④⑤⑥, Switch off and disconnect the connection of the compressor after confirming charge of main circuit electrolysis capacitor is discharged enough. Then, switch on and operate in no-load. (1) When the compressor is interrupted again. ⇒ Replace the power supply board when the compressor does not back to normal even if the gate amplifier board is replaced. ⇒Replace the multi controller board when the compressor does not back to normal even if the power supply board is replaced. (2) Check the balance of inverter output voltage. If it is unbalanced,… ⇒Replace the power supply board when the compressor does not back to normal even if the gate ampere is replaced. ⇒Replace the multi controller board when the compressor does not back to normal even if the power supply board is replaced.

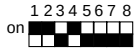
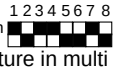
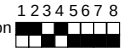
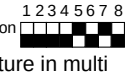
To be continued on the next page.

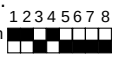
From the preceding page.

Display	Meaning and detecting method	Causes	Check points
4250			⑧ When not applying from ④ to ⑦, it applies to 9) and 10). ⇒Check the compressor. ⇒In case of 10), recheck the compressor again after 12 hours with former power supply.
		PUMY-125VMA PUMY-125VMA1 1) Stop valve of outdoor unit is closed.	① Open stop valve.
		2) Decrease of power supply voltage	② Check facility of power supply.
		3) Looseness, disconnection or converse of compressor wiring connection	③ Correct the wiring (U•V•W phase) to compressor.
		4) Defective fan of indoor/outdoor units	④ Check indoor/outdoor fan.
		5) Short cycle of indoor/outdoor units	⑤ Solve short cycle.
		6) Defective input circuit of outdoor controller board	⑥ Replace outdoor controller board.
		7) Defective compressor	⑦ Check compressor.
5101	Suction temperature thermistor (TH21) abnormality When controller detects short (high temp.)/open (low temp.) in thermistor during the operation, the operation stops and the operation changes to protect mode of restarting in 3minutes. If the thermistor does not recover in 3minutes, the operation stops abnormally. In this time, <5101> is displayed. Then, if the thermistor recover in 3minutes, it operates normally. Short: Detected 90℃ or more Open: Detected —40℃ or less	1) Connector (CN20) contact failure	① Check whether the connector (CN20) in the indoor controller board is connected or not.
		2) Thermistor wiring disconnection or half disconnection	② Check whether the thermistor wiring is disconnected or not.
		3) Thermistor failure	③ Check the resistance of thermistor; 0℃‥15kΩ 10℃‥9.6kΩ 20℃‥6.3kΩ 30℃‥4.3kΩ 40℃‥3.0kΩ
		4) Detecting circuit failure in the indoor controller board	④ When there is no problem in above mentioned ①②③,replace the indoor controller board.
	Discharge temperature thermistor (TH1) abnormality ① When controller detects short/open in thermistor during the operation, the outdoor unit stops once and restarts operation in 3minutes. When the detected temperature is normal just before restarting, the outdoor unit restarts.	1) Connector (TH1) contact failure	① Check whether the connector (TH1) in the multi controller board is connected or not.
	② When controller detects short/open in thermistor at just before of restarting, the unit stops abnormally. In this time, <5101> is displayed.	2) Thermistor wiring disconnection or half disconnection	② Check whether the thermistor wiring is disconnected or not.
	③ While the compressor is protected not to restart in 3minutes, the unit is delayed abnormal stop. Then, the outdoor unit address No. and check delay code <1202> blinks alternately on the 4 digit digital display. SW1 setting 	3) Thermistor failure	③ Check the resistance of thermistor; When the resistance is not below value, replace the thermistor. 0℃‥about 700kΩ 10℃‥about 410kΩ 20℃‥about 250kΩ 30℃‥about 160kΩ 40℃‥about 104kΩ
	④ For 10 minutes after starting compressor, for defrosting or for 3minutes after recover of defrosting, above-mentioned short/open are not detected. Short: 216℃or more (1kΩ) Open: 0℃ or less (700kΩ) Note) When outer temperature thermistor (TH6) is 5℃ or less on cooling, open detecting is not determined as abnormality.	4) Multi controller board input circuit failure	④ Set the SW1 to  When the temperature in multi controller board is not an actual temperature, replace the multi controller board. -99.9: Open 999.9: Short

Display	Meaning and detecting method	Causes	Check points
5102	Liquid pipe temperature thermistor (TH22) abnormality When the thermistor detects short/open during the operation, the operation stops and the operation changes to protect mode of restarting in 3minutes. If the thermistor does not recover in 3minutes, the operation stops abnormally. In this time, <5102> is displayed. Then, if the thermistor recover in 3minutes, it operates normally. Short: Detected 90℃ or more Open: Detected -40℃ or less	1) Connector (CN21) contact failure 2) Thermistor wiring disconnection or half disconnection 3) Thermistor failure 4) Detecting circuit failure in the indoor controller board	① Check whether the connector (CN21) in the indoor controller board is connected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor; 0℃‥15kΩ 10℃‥9.6kΩ 20℃‥6.3kΩ 30℃‥4.3kΩ 40℃‥3.0kΩ ④ When there is no problem in above mentioned ①②③,replace the indoor controller board.
	Low pressure saturation temperature thermistor (TH2) abnormality ① When controller detects short/open in thermistor during the operation, the outdoor unit stops once and restarts operation in 3minutes. When the detected temperature is normal just before restarting, the outdoor unit restarts. ② When controller detects short/open in thermistor at just before of restarting, the unit stops abnormally. In this time, <5102> is displayed. ③ While the compressor is protected not to restart in 3minutes, the unit is delayed abnormal stop. Then, the outdoor unit address No. and check delay code <1211> blinks alternately on the 4 digit digital display. SW1 setting  ④ For 10 minutes after starting compressor, for defrosting or for 3minutes after recover of defrosting, above-mentioned short/open are not detected. Short: 100℃ or more (0.5kΩ) Open: -46℃ or less (200kΩ)	1) Connector (TH2) contact failure 2) Thermistor wiring disconnection or half disconnection 3) Thermistor failure 4) Multi controller board input circuit failure	① Check whether the connector (TH2) in the multi controller board is connected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor; 0℃‥15kΩ 10℃‥9.6kΩ 20℃‥6.3kΩ 30℃‥4.3kΩ 40℃‥3.0kΩ ④ Set the SW1 to  When the temperature in multi controller board is not an actual temperature, replace the multi controller board. -99.9: Open 999.9: Short

Display	Meaning and detecting method	Causes	Check points
5103	Gas pipe temperature thermistor (TH23) abnormality When the thermistor detects short/open after 3minutes-continuous thermostat ON during cooling or dry operation, the operation stops and the operation changes to protect mode of restarting in 3minutes. If the thermistor does not recover in 3minutes, the the operation stops abnormally. In this time, <5103> is displayed. Then, if the thermistor recover in 3minutes, it operates normally. Short: Detected 90℃ or more Open: Detected -40℃ or less	1) Connector (CN29) contact failure 2) Thermistor wiring disconnection or half disconnection 3) Thermistor failure 4) Detecting circuit failure in the indoor controller board	① Check whether the connector (CN29) in the indoor controller board is connected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor; 0℃‥15kΩ 10℃‥9.6kΩ 20℃‥6.3kΩ 30℃‥4.3kΩ 40℃‥3.0kΩ ④ When there is no problem in above mentioned ①②③,replace the indoor controller board.
5105	Paipe temperature / judging defrost thermistor (TH5) abnormality ① When controller detects short/open in thermistor during the operation, the outdoor unit stops once and restarts operation in 3minutes. When the detected temperature is normal just before restarting, the outdoor unit restarts. ② When controller detects short/open in thermistor at just before of restarting, the unit stops abnormally. In this time, <5105> is displayed. ③ While the compressor is protected not to restart in 3minutes, the unit is delayed abnormal stop. Then, the outdoor unit address No. and check delay code <1205> blinks alternately on the 4 digit digital display. SW1 setting  ④ For 10 minutes after starting compressor, for defrosting or for 3minutes after recover of defrosting, above-mentioned short/open are not detected. Short: 88℃ or more (0.4kΩ) Open: -39℃ or less (115kΩ)	1) Connector (TH5) contact failure 2) Thermistor wiring disconnection or half disconnection 3) Thermistor failure 4) Multi controller board input circuit failure	① Check whether the connector (TH5) in the multi controller board is connected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor; When the resistance is not below value, replace the thermistor. 0℃‥15kΩ 10℃‥9.6kΩ 20℃‥6.3kΩ 30℃‥4.3kΩ 40℃‥3.0kΩ ④ Set the SW1 to  When the temperature in multi controller board is not an actual temperature, replace the multi controller board. -99.9: Open 999.9: Short

Display	Meaning and detecting method	Causes	Check points
5106	Outdoor temperature detection thermistor (TH6) abnormality ① When controller detects short/open in thermistor during the operation, the outdoor unit stops once and restarts operation in 3minutes. When the detected temperature is normal just before restarting, the outdoor unit restarts. ② When controller detects short/open in thermistor just before restarting, the unit stops abnormally. In this time, <5106> is displayed. ③ While the compressor is protected not to restart in 3minutes, the unit is delayed abnormal stop. Then, the outdoor unit address No. and check delay code <1221> blinks alternately on the 4 digit digital display. SW1 setting  ④ For 10 minutes after starting compressor, for defrosting or for 3minutes after recover of defrosting, above-mentioned short/open are not detected. Short: 88℃ or more (0.4kΩ) Open: -39℃ or less (115kΩ)	1) Connector (TH6) contact failure 2) Thermistor wiring disconnection or half disconnection 3) Thermistor failure 4) Multi controller board input circuit failure	① Check whether the connector (TH6) in the multi controller board is connected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor; When the resistance is not below value, replace the thermistor. 0℃···15kΩ 10℃···9.6kΩ 20℃···6.3kΩ 30℃···4.3kΩ 40℃···3.0kΩ ④ Set the SW1 to  When the temperature in multi controller board is not an actual temperature, replace the multi controller board. -99.9: Open 999.9: Short
5110	**PUMY-125VMA PUMY-125VMA$_1$:** Radiator panel temperature thermistor (THHS-A, THHS-B) abnormality **PUMY-71VM PUMY-125VM PUMY-125YM** **PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$** **PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA:** IPM radiator panel temperature thermistor (THHS) abnormality ① When controller detects short/open in thermistor during the operation, the outdoor unit stops once and restarts operation in 3minutes. When the detected temperature is normal just before restarting, the outdoor unit restarts. ② When controller detects short/open in thermistor just before restarting, the unit stops abnormally. In this time, <5110> is displayed. ③ While the compressor is protected not to restart in 3minutes, the unit is delayed abnormal stop. Then, the outdoor unit address No. and check delay code <1214> blinks alternately on the 4 digit digital display. SW1 setting  ④ For 10 minutes after starting compressor, for defrosting or for 3minutes after recover of defrosting, above-mentioned short/open are not detected. (PUMY-71VM PUMY-125VM PUMY-125YM PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$ PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA) **PUMY-125VMA PUMY-125VMA$_1$:** Short:102℃ or more (2.9kΩ) Open: -27℃ or less (950kΩ) **PUMY-71VM PUMY-125VM PUMY-125YM** **PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$** **PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA:** Short:132℃ or more (1.2kΩ) Open: -30℃ or less (1200kΩ)	1) Connector (THHS(A/B)) contact failure 2) Thermistor wiring disconnection or half disconnection 3) Thermistor failure 4) Multi controller board input circuit failure	① Check whether the connector (THHS(A/B)) in the multi controller board is connected or not. ② Check whether the thermistor wiring is disconnected or not. ③ Check the resistance of thermistor; When the resistance is not below value, replace the thermistor. 0℃···180kΩ 10℃···105kΩ 20℃···63kΩ 30℃···39kΩ 40℃···25kΩ ④ Set the SW1 to  When the temperature in multi controller board is not an actual temperature, replace the multi controller board. -99.9: Open 999.9: Short

Display	Meaning and detecting method	Causes	Check points
5201	Pressure sensor (63HS) abnormality		
	① When detected pressure in high-pressure pressure sensor is 1MPa or less during the operation, the compressor stops and restarts operation in 3minutes.	1) High-pressure pressure sensor failure	① Check the high-pressure pressure sensor.
	② When the detected pressure is 1MPa or less at just before of restarting, the compressor stops abnormally. In this time, <5201> is displayed.	2) Internal pressure decrease by gas leakage	② Check the internal pressure.
	③ For 3minutes after the compressor stops, the unit delays to abnormal stop. Then, the outdoor unit address No. and check delay code <1402> blinks alternately on the 4digit digital display. SW1 setting 	3) Connector contact failure, disconnection	③ Check the high-pressure pressure sensor.
	④ For 3minutes after starting compressor, for defrosting or for 3minutes after recover of defrosting, abnormality is not determined as abnormality.	4) Multi controller board input circuit failure	④ Check the high-pressure pressure sensor.
5300	**Current sensor error** (PUMY-125VMA PUMY-125VMA1) ① Abnormal if current sensor detects –1.5A to 1.5A during compressor operation. (This error is ignored in case of SW6-3 ON.) ② 1. When input current sensor on N.F. circuit board detects 34A or more, compressor stops and restarts in 3 minutes. 2. When the sensor detects 34A or more again (2nd detection) within 10 minutes, since the compressor has stopped, the compressor stops again and restarts operation in 3 minutes. 3. When the sensor detects 34A or more again (10th detection) within 10 minutes, it stops abnormally. In this time <5300> error is displayed. 4. It is being delay for abnormal stop during 10 minutes since the compressor has stopped. In this time, check delay code <5350> will be displayed.	1) Disconnection of compressor wiring 2) Defective circuit of current sensor on outdoor power board 3) Low voltage supplied to power supply terminal block.	① Correct the wiring (U•V•W phase) to compressor. ② Replace outdoor power board. ③ Check the facility of power supply.
6600	Duplex address error Detected error when transmission of unit with the same address is confirmed, Note) Address/Attribute displayed on the remote controller shows the controller detecting abnormality.	1) There are 2units or more with the same address among the outdoor unit or indoor unit or lossnay controller, remote controller.	① Look for the unit, which is source of abnormality with the same address. When the same address is found, correct the address and turn off power supply of outdoor unit, indoor unit, and lossnay for 2minutes or more as the same time. Then, turn on power supply.
		2) When noise has occurred in the transmission signal, and the signal has changed.	② Check the transmitted wave and the noise on the transmission line.
6602	Transmission processor H/W error " 1 " shows on the transmission line though the transmission processor transmitted " 0". Note) Address/Attribute displayed on the remote controller shows the controller detecting abnormality.	1) When the wiring for either of the indoor unit, the outdoor unit or lossnay transmission line is constructed or polarity is changed with the power supply turned on, the transmission waves change in case that the transmission data collides mutually. It causes to detect error.	① When the transmission line is constructed with the current flowed, turn off power supply of outdoor unit, indoor unit and lossnay for 2minutes or more as the same time. Then, turn on power supply.
		2) Transmission processor circuit failure 3) When the transmission data has changed by the noise.	② Check the transmitted wave and the noise on the transmission line.

Display	Meaning and detecting method	Causes	Check points
6603	Transmission bus busy error ① Over error by collision Abnormality when the state, which cannot be transmitted by collision of transmission, is consecutive for 8 to 10minutes. ② The state that data cannot to be output to the transmission line by the noise happens for 8 to 10minutes consecutively. Note) Address/Attribute displayed on the remote controller shows the controller detecting abnormality.	1) The transmission processor cannot be transmitted since a short cycle voltage of the noise etc. mixes on the transmission line consecutively. 2) The transmission volume increases and cannot be transmitted since the wiring method is mistaken and the routing technique to the terminal board (TB3) for the transmission line of the outdoor unit and the terminal board (TB7) for centralized control cannot be transmitted. 3) The share becomes high since the data exists together to other transmitted data by a defective repeater (function which connects and intercepts the transmission of controlling system and centralized control system), and it causes abnormal detection.	① Check whether the transmission line of the indoor unit, fresh master, lossnay and remote controller is connected to the outdoor unit terminal board (TB7) for centralized controller or not. ② Check whether the transmission line with the other refrigerant system of the indoor unit and lossnay is connected to the outdoor unit terminal board (TB3) for transmission or not. ③ Check whether the outdoor unit terminal board for transmission line (TB3) and for centralized controller (TB7) are connected or not. ④ Check the transmitted wave and the noise on the transmission line.
6606	Signal communication error with transmission processor Signal communication error between unit processor and transmission processor Note) Address/Attribute displayed on the remote controller shows the controller detecting abnormality.	1) It happened since the noise and lightening serge that happened by chance had not normally transmitted the data of the unit/transmission processor. 2) The address transmission from the unit processor was not normally transmitted by the hardware of transmission processor defective.	Turn off power supply of outdoor unit, indoor unit, and lossnay for 2minutes or more at the same time. Then, turn on power supply. It recovers normally at the malfunction that happens by chance. When same abnormality occurs again, it is defective of a generation former controller.

Display	Meaning and detecting method	Causes	Check points
6607	No ACK (Acknowledgement) ① Abnormality which controller of the sending side detects when there is no answer (ACK) from other side though data was transmitted once. It is detected 6 times every 30seconds continuously. The address and attribute of remote controller which does not send back acknowledement are indicated on the remote controller.	Factor that not related to origin 1) Since the address switch was changed with the current passed, the unit in the last address does not exist. 2) Decline of transmission voltage and signal by transmission line tolerance over · The furthest point‥200m · Remote controller line‥(12m) (See page 50 -57for details) 3) Decline of transmission line voltage and signal by unmatched kind of line. Kind‥Shield line-CVVS,CPEVS No shield‥VCTF, VCTFK, CVV, CVS, VVR, VVF, VCT Line diameter‥1.25 ㎟ or more 4) Decline of transmission line voltage and signal by a number of over-connected units. 5) Miss operation of origin controller, which happens by chance. 6) Origin controller defective	① Turn off power supply of outdoor unit, indoor unit fresh master and lossnay for 2minutes or more at the same time. Then, turn on power supply. It recovers normally at the malfunction that happens by chance. ② Check the address switch in the address, which occurs abnormality. ③ Check whether the transmission line is connected / loosen or not at origin. (Terminal board or connector) ④ Check whether the transmission line tolerance is over or not. ⑤ Check whether the kind of transmission line is mistaken or not. When there is any trouble from above ①-⑤, turn off power supply of outdoor unit, indoor unit and lossnay for 2minutes or more at the same time. Then, turn on power supply. ⇒When there is not any trouble in single refrigerant system (1outdoor unit) from above①-⑤, controller defective in displayed address and attribute. ⇒ When there is not any trouble in different refrigerant system (2outdoor unit or more) from above①-⑤, determine it after ⑥. ⑥ When the address, which should not exist, is an origin, since there is the indoor unit which memorizes the address data, cancel the unnecessary address data by the manual setting function of remote controller. However, they are limited to the system, which sets the group between different refrigerant systems, or which fresh master /lossnay are connected.
	1) When the cause of displayed address and attribute is on the outdoor unit side (The indoor unit detects when there is no reply (ACK) on transmitting from the indoor unit to the outdoor unit.)	1) Contact failure of outdoor unit or indoor unit transmission line 2) Indoor unit transmission connector (CN2M) disconnection 3) Sending/receiving signal circuit failure in the indoor/outdoor unit	
	2) When the cause of displayed address and attribute is on the indoor unit side (The remote controller detects when there is no reply (ACK) on transmitting from the remote controller to the indoor unit.)	1) When operating with multi refrigerant system indoor units, the remote controller transmits the signal to the indoor unit after the other refrigerant system outdoor unit is turned off or turned on again in 2minutes, and detects abnormality. 2) Contact failure of remote controller or indoor unit transmission line. 3) Indoor unit transmission connector (CN2M) disconnection. 4) Sending/receiving signal circuit failure in the indoor unit or remote controller.	When there is not any trouble from above ①-⑥, replace the displayed address/attribute controller board. In this time, when the error does not recover to normal, the outdoor unit multi controller board (repeater circuit) defective is expected. Check the recovery by replacing the multi controller board one by one.

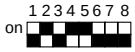
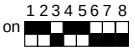
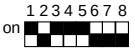
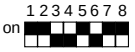
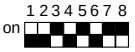
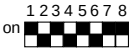
To be continued on the next page.

From the preceding page.

Display	Meaning and detecting method	Causes	Check points
6607	3) When the cause of displayed address and attribute is on the remote controller side (The indoor unit detects when there is no reply (ACK) on transmitting from the indoor unit to the remote controller unit.)	1) When operating with multi refrigerant system indoor units, the indoor units transmits the signal to the remote controller after the other refrigerant system outdoor unit is turned off or turned on again in 2minutes, and detects abnormality. 2) Contact failure of remote controller or indoor unit transmission line 3) Indoor unit transmission connector (CN2M) disconnection. 4) Sending/receiving signal circuit failure in the indoor unit or remote controller.	
	4) When the cause of displayed address and attribute is on the fresh master side (The indoor unit detects when there is no reply (ACK) on transmitting from the indoor unit to the fresh master.)	1) When synchronized operating with other refrigerant system fresh master, the indoor units transmits the signal to the fresh master after the fresh master and same refrigerant system outdoor unit is turned off or turned on again in 2minutes, and detects abnormality. 2) Contact failure of fresh master or indoor unit transmission line 3) Indoor unit or fresh master transmission connector (CN2M) disconnection. 4) Sending/receiving signal circuit failure in the indoor unit or fresh master.	
	5) When the cause of displayed address and attribute is on the lossnay side (The indoor unit detects when there is no reply (ACK) on transmitting from the indoor unit to the lossnay.)	1) When the lossnay power supply is Off, the indoor unit detects abnormality at signal transmitting to the lossnay.	

Display	Meaning and detecting method	Causes	Check points
6607		2) When synchronized operating with other refrigerant system lossnay, the indoor units transmits the signal to the lossnay after the lossnay and same refrigerant system outdoor unit is turned off or turned on again in 2minutes, and detects abnormality 3) Contact failure of lossnay or indoor unit transmission line 4) Indoor unit transmission connector (CN2M) disconnection. 5) Sending/receiving signal circuit failure in the indoor unit or lossnay.	
	6) When the controller of displayed address and attribute is not recognized	1) Since the address switch was changed with the current passed, the unit in the last address does not exist. 2) Since the fresh master/lossnay address are changed after synchronized setting of fresh master / lossnay by the remote controller, abnormality is detected at transmitting from the indoor unit.	
6608	No response Though there was a replay (ACK) of having received signal from the other side, it is the abnormality when the response command does not return. The sending side detects the abnormality continuously six times every 30 seconds. Note) Address/Attribute displayed on the remote controller shows the controller, which did not response.	1) Transmission repeats the failure by the noise etc. 2) Decline of transmission voltage and signal by transmission line tolerance over. · The furthest point‥200m · Remote controller line‥(12m) (See page 50-57 for details) 3) Decline of transmission line voltage and signal by unmatched kind of line. Kind‥Shield wire-CVVS,CPEVS No shield ‥VCTF, VCTFK, CVV, CVS, VVR, VVF, VCT wire diameter‥1.25㎟or more 4) Miss operation of origin controller, which happens by chance.	① Check the transmission wave and noise on the transmission line. ② Turn off power supply of outdoor unit, indoor unit and lossnay for 2minutes or more at the same time. Then, turn on power supply again. It recovers normally at the malfunction that happens by chance. When same abnormality occurs again, it is defective of displayed address and attribute.

Display	Meaning and detecting method	Causes	Check points
6810	UR communication abnormality (UR: Unit Remote controller) Communications between the unit remote controller and indoor unit is not normal. When there is no display of address and attribute to the remote controller. (When detecting by the unit remote controller) 1) It is abnormality though the unit remote controller transmitted "H", when "L" reception is detected continuously three times. 2) It is abnormality when there is no response from the indoor unit for 3 minutes against to "monitor request" from the unit remote controller. 3) It is abnormality when there is no response 3times continuously from the indoor unit against to "operation /setting" from the unit remote controller. --- When the cause of displayed address and attribute is on the indoor unit side. 1) It is abnormality though the indoor unit transmitted "H", when "L" reception is detected continuously three times. 2) It is abnormality when the indoor units cannot receive the transmission signal from the unit remote controller for 3minutes.	1) Contact failure of the unit remote controller transmission line in the unit remote controller or indoor unit. 2) Decline of transmission voltage and signal on the unit remote controller transmission line by the unit remote controller transmission line tolerance over 3) When the transmission signal of unit remote controller changes by noise. 4) Unit remote controller transmitting / receiving signal circuit failure in the unit remote controller or indoor unit.	① Check whether the transmission line of the indoor unit or unit remote controller is connected / loosen or not. ② Check whether the unit remote controller transmission line tolerance is over or not. ③ Check the transmission wave and noise on the transmission signal of unit remote controller. ④ When there is not any trouble from above ①-③, replace the indoor controller board or unit remote controller. Check of following conditions is available by LED1/LED2 in the indoor controller board. · When LED1 and 2 blinks at the same time. The indoor unit is transmitting to the unit remote controller. · When only LED2 blinks. The unit remote controller is transmitting to the indoor unit. Or, other indoor unit is transmitting to the unit remote controller. ·When LED1 and 2 does not blink. The indoor unit and unit remote controller is not transmitting.
6831 6834	Signal reception abnormality (Remote controller) Following symptoms are regarded as abnormality. 1) When the remote controller cannot receive the signal from indoor controller normally even once for 3 minutes 2) When sub-remote controller cannot receive the signal even once for 2 minutes	① Defect of the transmission and reception circuit of the remote controller. ② Defect of the transmission and reception circuit of the indoor controller board ③ Noise occurs on the transmission line of the remote controller ④ All remote controllers are set as sub-remote controller.	①~③ Perform a check of the remote controller. According to the results, perform the following disposals. • When "RC OK" is displayed The remote controller is normal. Turn off the power supply and turn it on again. If "HO" is displayed for 4 minutes or more, replace the indoor controller board. • When "RC NG" is displayed Replace the remote controller. • When "RC 6832 or 6833" or "ERC 00-66" is displayed These displays may be due to noise, etc. ④ Set one remote controller to main remote controller and the other to sub-remote controller.
6832 6833	Signal transmission abnormality (Remote controller) Following symptoms are regarded as abnormality. 1) When sub-remote controller cannot transmit the signal to the transmission path for 6 seconds 2) When the remote controller cannot finish transmitting the signal for 30 times on end	① Defect of the transmission and reception circuit of the remote controller ② Noise occurs on the transmission line of the remote controller ③ There are two main remote controllers.	

Display	Meaning and detecting method	Causes	Check points
7100	When connected total models of the indoor units exceed the specified level (130% of the outdoor unit models), error code <7100> is displayed.	1) Connecting total models of the indoor unit exceed the specified level. 125: Possible up to 163 (code 33)	① Check the total models of connected indoor unit. ② Check the model code registration switch (indoor controller board SW2) of connected indoor unit.
		2) There is a mistake in the registration of model name code of the outdoor unit.	Check the model code registration switch (outdoor multi controller board SW4) of the outdoor unit.
7101	Capacity code error When the connected indoor unit models cannot be connected, <7101> is displayed.	The indoor unit models is not possible to connect, The indoor unit of 20-125(code 4-25) is possible to connect.	① Check the model code registration switch (indoor controller board SW2) in the connected indoor unit. ② The outdoor unit SW1 operation can check model code of the connected indoor units. Code of indoor unit No.1  Code of indoor unit No.2  Code of indoor unit No.3  Code of indoor unit No.4  Code of indoor unit No.5  Code of indoor unit No.6  Code of indoor unit No.7  Code of indoor unit No.8 
7102	Number of connecting unit over When the connecting unit exceeds a number of limitations, error code <7102> is displayed. (Even if the indoor unit is not connected, becomes <7102> is display.	Connecting unit exceeds a number of limitations. It is assumed abnormality excluding the following cases; 1) The indoor unit can be totally connected up to 8 units. The indoor unit can be connected up to 8 units 2) Ventilation unit connecting is only 1unit.	Check whether the connecting unit exceeds a number of limitations or not.
7105	Address setting error Address setting of the outdoor unit is wrong.	Addresses miss setting of the outdoor unit. The outdoor unit is not set in 000 or in the range of 51-100.	Check the address setting of the outdoor unit. The address should be set in 000 or 51-100. When the setting is out of the range, reset it, turn off power supply of the outdoor unit, indoor unit and lossnay for 2minutes or more at the same time, and turn on power supply again.

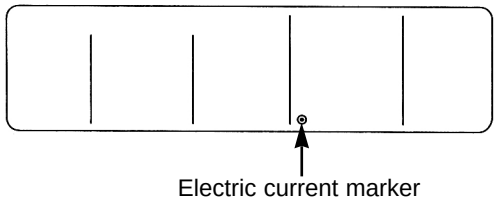
Display	Meaning and detecting method	Causes	Check points
7111	Remote controller sensor abnormality In the case of network remote controller, it is an abnormality when incapable response returns from the net work remote controller during the operation.	When an old type remote controller for M-NET is used, and the remote controller sensor is specified (SW1-1 is ON).	Replace the remote controller to net work remote controller.
0403	**Serial communication error** Abnormal if serial communication between outdoor multi board and outdoor power board is defective.	① Breaking of wire or contact failure of connector CN2 ② Breaking of wire or contact failure of connector CN4 ③ Defective communication circuit of outdoor power board ④ Defective communication circuit of outdoor multi board for power board	①② Check connection of each connector CN2, CN4. ③ Replace outdoor power board. ④ Replace outdoor multi board.

8-2. REMOTE CONTROLLER DIAGNOSIS

• MA remote controller is equipped with the diagnosis function.

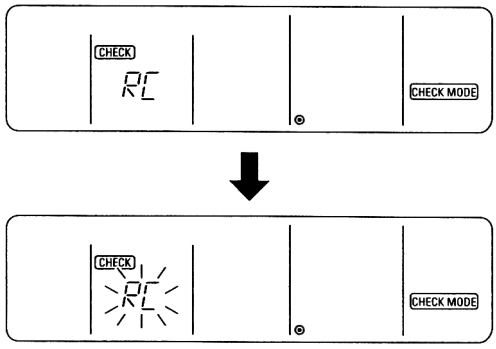
Check the remote controller with this function when the unit does not operate with the remote controller.

(1)



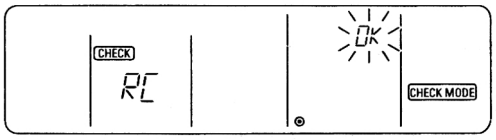
Electric current marker

(2)

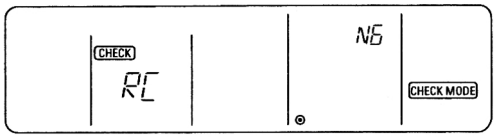


(3)

a)



b)



(1) **First, check the electricity current maker.**
If the correct voltage (DC 8.7~13V) is not supplied on the remote controller, the electric current marker will be lit.
If the electricity current marker is not lit, check the remote controller wiring and the indoor units.

(2) **Transfer to remote control diagnosis mode.**
Hold down the CHECK button for five seconds or more to display the diagram on the left.

Press the FILTER button to commence diagnosis of remote controller.

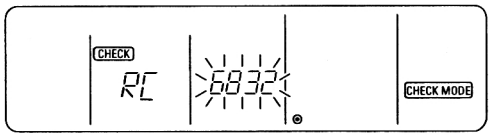
(3) **Remote controller diagnosis results.**
a) The remote control is functioning correctly.
Check other possible causes as there are on problems with the remote controller.

b) The remote controller has a nonconformity.
The remote controller must be replaced.
Error display 1 (“NG”) flashes to show a nonconformity in the transmitter-receiver circuit.

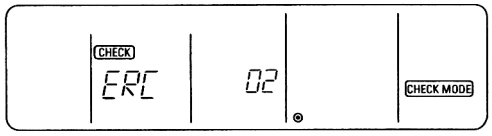
To be continued on the next page.

From the preceding page.

a)



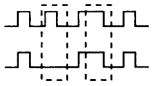
b)



• When the number of data errors generated is 02.

Remote controller transmission data

Transmission data at transmission path



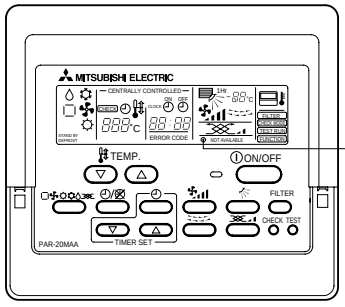
Potential problems other than those diagnosed for the remote controller.

a) Single transmission is not possible if error display 2 (“6832 or 6833”) flashes. There is “noise” on the transmission line, or damage of other remote controller for the indoor units can be considered. Check the transmission path and other controller

b) Data error has occurred when error display three shows “ERC” and number of data errors.
Number of generated data error (maximum 66 errors).
The number of generated data error stands for the difference in the number of bits of transmitted data from the remote controller and the actual number of bits that were transmitted along the transmission path. If this error occurs, “noise”, etc., is interfering with the transmission data. Check the transmission path.

(4) **Cancel the remote controller diagnosis.**
Hold down the CHECK button for five seconds or more to cancel the remote controller diagnosis. The “HO” operation lamp will flash, and the display screen will rectum to the status before remote controller diagnosis in approximately 30 seconds.

8-3. REMOTE CONTROLLER TROUBLE



“◉” indicator: Appears when current is carried.

(1) For M-NET remote controller systems

Symptom or inspection code	Cause	Inspection method and solution
Though the content of operation is displayed on the remote controller, some indoor units do not operate.	• The power supply of the indoor unit is not on. • The address of the indoor units in same group or the remote controller is not set correctly. • The group setting between outdoor units is not registered to the remote controller. • The fuse on the indoor unit controller board is blown.	• Check the part where the abnormality occurs. ① The entire system ② In the entire refrigerant system ③ In same group only ④ One indoor unit only <In case of the entire system or in the entire refrigerant system> • Check the self-diagnosis LED of the outdoor unit. • Check the items shown in the left that are related to the outdoor unit. <In case of in same group only or one indoor unit only> • Check the items shown in the left that are related to the indoor unit.
Though the indoor unit operates, the display of the remote controller goes out soon.	• The power supply of the indoor unit is not on. • The fuse on the indoor unit controller board is blown.	
(◉) is not displayed on the remote controller. (M-NET remote controller is not fed.)	• The power supply of the outdoor unit is not on. • The number of connected indoor unit in the refrigeration system is over the limit or the number of connected remote controller is over the limit. • M-NET remote controller is connected to MA remote controller cable. • The transmission line of the indoor/outdoor unit is shorted or down. • M-NET remote controller cable is shorted or down.	
"HO" keeps being displayed or it is displayed periodically. ("HO" is usually displayed for 3 minutes at the longest after the power supply of the outdoor unit is on.)	• The power supply for the feeding expansion unit for the transmission line is not on. • The address of the outdoor unit remains "00". • The address of the indoor unit or the remote controller is not set correctly. • MA remote controller is connected to the transmission line of the indoor/outdoor unit.	
The remote controller does not operate though (◉) is displayed.	• The transmission line of the indoor/outdoor unit is connected to TB15. • The transmission line of the indoor/outdoor unit is shorted, down or badly contacted.	

(2) For MA remote controller systems

Symptom or inspection code	Cause	Inspection method and solution
Though the content of operation is displayed on the remote controller, some indoor units do not operate.	• The power supply of the indoor unit is not on. • Wiring between indoor units in same group is not finished. • The indoor unit and Slim model are connected to same group. • The fuse on the indoor unit controller board is blown.	• Check the part where the abnormality occurs. ① The entire system ② In the entire refrigerant system ③ In same group only ④ One indoor unit only <In case of the entire system or in the entire refrigerant system> • Check the self-diagnosis LED of the outdoor unit. • Check the items shown in the left that are related to the outdoor unit. <In case of in same group only or one indoor unit only> • Check the items shown in the left that are related to the indoor unit.
Though the indoor unit operates, the display of the remote controller goes out soon.	• The power supply of the indoor unit (Master) is not on. • In case of connecting the system controller, the setting of the system controller does not correspond to that of MA remote controller. • The fuse on the indoor unit (Master) controller board is blown.	
(◉) is not displayed on the remote controller. (MA remote controller is not fed.)	The remote controller is not fed until the power supply of both indoor unit and outdoor unit is on and the start-up of both units is finished normally. • The power supply of the indoor unit is not on. • The power supply of the outdoor unit is not on. • The number of connected remote controller is over the limit (Maximum: 2 units) or the number of connected indoor unit that is over the limit (Maximum: 16 units). • The address of the indoor unit is "00" and the address for the outdoor unit is the one other than "00". • The transmission line of the indoor/outdoor unit is connected to TB15. • MA remote controller is connected to the transmission line of the indoor/outdoor unit . • The remote controller cable is shorted or down. • The power supply cable or the transmission line is shorted or down. • The fuse on the indoor unit controller board is blown.	
"HO" keeps being displayed or it is displayed periodically. ("HO" is usually displayed for 3 minutes at the longest after the power supply of the outdoor unit is on.)	• The power supply of the outdoor unit is not on. • The power supply of the feeding expansion unit for the transmission line is not on. • The setting of MA remote controller is not main remote controller, but sub-remote controller. • MA remote controller is connected to the transmission line of the indoor/outdoor unit.	
The remote controller does not operate though (◉) is displayed.	• The power supply of the indoor unit (Master) is not on. • The transmission line of the indoor/outdoor unit is connected to TB15. • The transmission line of the indoor/outdoor unit is shorted, down or badly contacted. •The fuse on the indoor unit controller board is blown.	

8-4. THE FOLLOWING SYMPTOMS DO NOT REPRESENT TROUBLE (EMERGENCY)

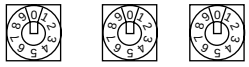
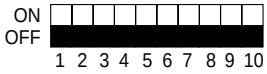
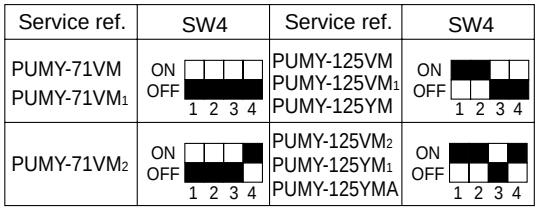
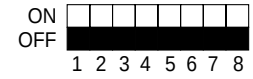
Symptom	Display of remote controller	CAUSE
Even the cooling (heating) operation selection button is pressed, the indoor unit cannot be operated.	"Cooling (Heating)" blinks	The indoor unit can not cool (heat) if other indoor units are heating (cooling).
The auto vane runs freely.	Normal display	Because of the control operation of auto vane, it may change over to horizontal blow automatically from the downward blow in cooling in cause the downward blow operation has been continued for one hour. At defrosting in heating, hot adjusting and thermostat OFF, it automatically changes over to horizontal blow.
Fan setting changes during heating.	Normal display	Ultra-low speed operation is commenced at thermostant OFF. Light air automatically change over to set value by time or piping temperature at thermostat ON.
Fan stops during heating operation.	"Defrost ☼"	The fan is to stop during defrosting.
Fan does not stop while operation has been stopped.	Light out	Fan is to run for one minute after stopping to exhaust residual heat (only in heating).
No setting of fan while start SW has been turned on.	STAND BY ☼	Utra-low speed operation for 5 minutes after SW ON or until piping temperature becomes 35°C. There low speed operate for 2 minutes, and then set notch is commenced. (Hot adjust control)
Indoor unit remote controller shows “HO” indicator for about two minutes when turning ON power supply.	“HO” blinks	System is being driven. Operate remote controller again after “HO” disappears.
Drain pump does not stop while unit has been stopped.	Light out	After a stop of cooling operation, unit continues to operate drain pump for three minutes and then stops it.
Drain pump continues to operate while unit has been stopped.	—	Unit continues to operate drain pump if drainage is generated, even during a stop.

8-5. INTERNAL SWITCH FUNCTION TABLE

8-5-1. Outdoor unit internal switch function table

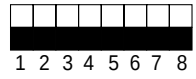
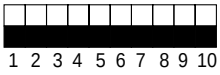
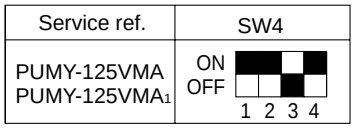
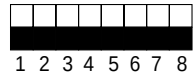
(PUMY-71VM/VM1/VM2, PUMY-125VM/VM1/VM2, PUMY-125YM/YM1/YMA)

The black square (■) indicates a switch position.

	Switch	Step	Function	Operation in Each Switch Setting			Remarks
				ON	OFF	When to Set	
Outdoor unit	SW U1 1st digit SW U2 2nd digit SW U3 3rd digit	Rotary switch				Before turing the power on	<Factory Settings> 
	SW1 Digital Display Switching	1~8				Can be set either during operation or not.	<Factory Settings> 
	SW2 function Switching	1	Selects operating system startup	Doesn't start up	Start up	Before turning the power on	<Factory Settings> 
		2	Connection Information Clear Switch	Clear	Do not clear		
		3	Abnormal data clear switch input	Clear abnormal data	Normal	OFF to ON any time after the power is turned on.	
		4	—	—	—	—	
		5	Linear expansion valve opening setting of suspending indoor unit in the heat mode.	Active	Inactive	While unit stopping.	
		6	Linear expansion valve opening setting of FAN. COOL¥HEAT thermo OFF indoor unit in the heat mode.	Active	Inactive		
		7	Forced defrost	Forced defrost	Normal	OFF → ON, during compressor running in heating mode.	
		8	Defrost detection switching	Cumulative	Continuous	While unit stopping.	
		9	Defrost disabled time selection	60 min.	30 min. (ordinary)		
		10	Linear expansion valve opening setting of thermo OFF unit in the heat mode.	Active	Inactive		
	SW3 Trial operation	1	Enable/disable operation from outdoor unit	Enable	Disable	Any time after the power is turned on.	<Factory Settings> 
		2	Run/stop from the outdoor unit.	Run	Stop		
	SW4 Model Switching	1~4				Before the power is turned on.	<Factory Settings> Set for each capacity.
	SW5 function switching	1	Fix the operation frequency	Fix	Normal	OFF → ON while compressor is not operating	<Factory Settings> 
		2	Fixing the indoor units linear expansion valve opening	Fix	Normal		
		3	Fixing the outdoor unit electronic expansion valve opening.	Fix	Normal		
		4	Enable fixing at the desired frequency	Enable	Disable		
		5	Maintain outdoor fan at fixed speed and ignore outdoor temperature sensor abnormality	Active	Inactive	While unit stopping.	
		6	Ignore refrigerant filling abnormality	Active	Inactive		
		7	Switching the target discharge pressure (Pdm)	Pdm switching	Normal	Can be set when off or during operation	
		8	Switching the target evaporation temperature (ETm)	ETm switching	Normal		

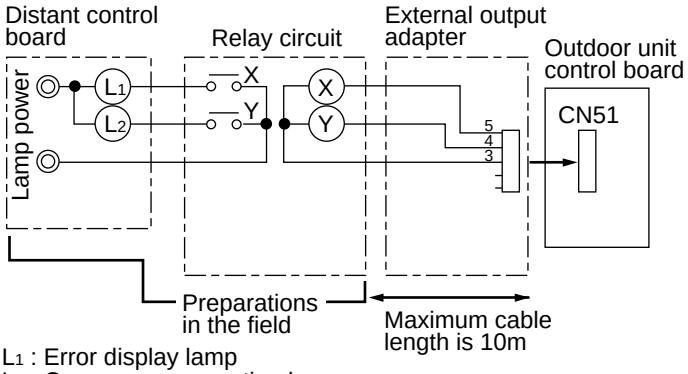
8-5-2. Outdoor unit internal switch function table (PUMY-125VMA, PUMY-125VMA1)

The black square (■) indicates a switch position.

	Switch	Step	Function	Operation in Each Switch Setting			Remarks
				ON	OFF	When to Set	
Outdoor unit	SW U1 1st digit SW U2 2nd digit	Rotary switch	 SWU2 (2nd digit)  SWU1 (1st digit) ※ The address automatically becomes "100" if it is set as "01~50"			Before turning the power on	<Factory Settings>  SWU2 (2nd digit)  SWU1 (1st digit)
	SW1 Digital Display Switching	1~8				Can be set either during operation or not.	<Factory Settings> 
	SW2 function Switching	1	Selects operating system startup	Doesn't start up	Start up	Before turning the power on	<Factory Settings> 
		2	Connection Information Clear Switch	Clear	Do not clear		
		3	Abnormal data clear switch input	Clear abnormal data	Normal	OFF to ON any time after the power is turned on.	
		4	—	—	—	—	
		5	During the FAN or COOL mode, and thermo - OFF or OFF in heating operation, set the opening of linear expansion valve on indoor unit.	Active	Inactive	While unit stopping.	
		6	During the FAN or COOL mode, and thermo - OFF in heating operation, set the opening of linear expansion valve on indoor unit.	Active	Inactive		
		7	Forced defrost	Forced defrost	Normal	OFF → ON, during compressor running in heating mode.	
		8	Defrost detection switching	Cumulative	Continuous	While unit stopping.	
		9	Defrost disabled time selection	60 min.	30 min. (ordinary)		
		10	Vacuum operation protection (error code 1505) is not detected.	Active	Inactive		
	SW3 Trial operation	1	Enable/disable operation from outdoor unit	Enable	Disable	Any time after the power is turned on.	<Factory Settings> 
		2	ON/OFF from the outdoor unit.	ON	OFF		
	SW4 Model Switching	1~4				Before the power is turned on.	<Factory Settings> Set for each capacity.
	SW5 function switching	1	Auto Change Over from Remote Controller	Enable	Disable	Before the power is turned on.	<Factory Settings> 
		2	Fixing the indoor units linear expansion valve opening	Fix	Normal	OFF → ON while compressor is not operating	
		3	Fixing the outdoor unit electronic expansion valve opening.	Fix	Normal		
		4	Enable fixing at the desired frequency	Enable	Disable	Any time after the power is turned on.	
		5	Maintain outdoor fan at fixed speed and ignore outdoor temperature sensor abnormality	Active	Inactive	While unit stopping.	
		6	Ignore refrigerant filling abnormality	Active	Inactive		
		7	Switching the target discharge pressure (Pdm)	Pdm switching	Normal	Can be set when off or during operation	
		8	Switching the target evaporation temperature (ETm)	ETm switching	Normal		
	SW6 function switching	1	Switching the Input Current Limit Level	2 Amp down	Normal	Before turning the power on	<Factory Settings> 
		2	Switching the High Pressure Limit Level	0.2 MPS up	Normal	While unit stopping	
		3	Ignore current sensor error	Active	Inactive	While unit stopping	

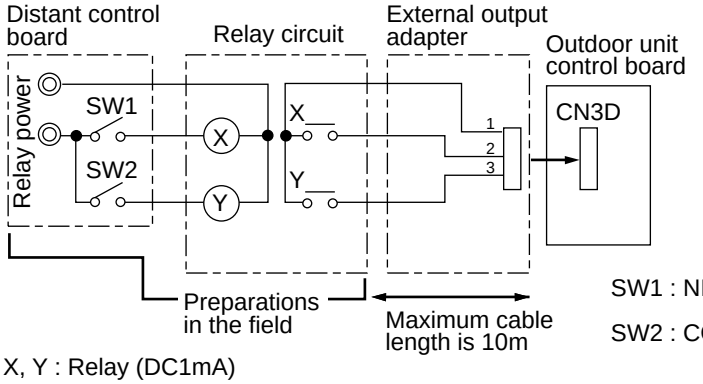
8-6. OUTDOOR UNIT INPUT/OUTPUT CONNECTOR

● **State (CN51)**



L_1 : Error display lamp
L_2 : Compressor operation lamp
X, Y : Relay (Coil standard of 0.9W or less for DC 12V)

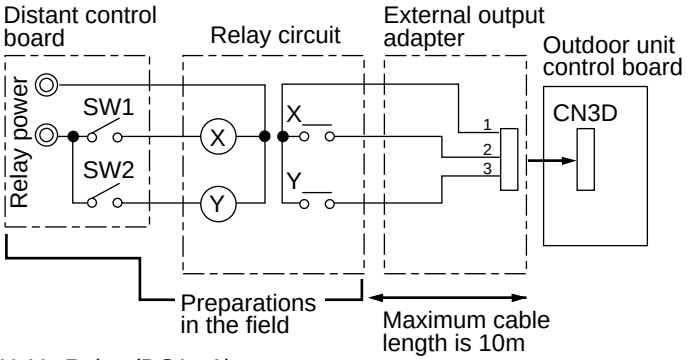
● **Comp ON/OFF (CN3D)**



SW1 : NIGHT MODE (ON : NIGHT MODE / OFF : NORMAL)
SW2 : COMP ON/OFF (ON : COMP OFF / OFF : NORMAL)

X, Y : Relay (DC1mA)

● **Auto change over (CN3D) PUMY-125VMA PUMY-125VMA1**

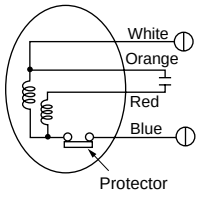
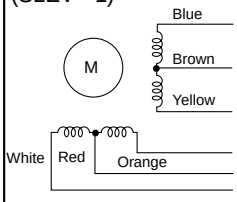


X, Y : Relay (DC1mA)

	ON	OFF
SW1	Heating	Cooling
SW2	Validity of SW1	Invalidity of SW1

8-7. HOW TO CHECK THE PARTS

PUMY-71VM PUMY-71VM1 PUMY-71VM2
PUMY-125VM PUMY-125VM1 PUMY-125VM2
PUMY-125YM PUMY-125YM1
PUMY-125VMA PUMY-125VMA1
PUMY-125YMA

<table>
<tr><th>Parts name</th><th>Check points</th></tr>
<tr><td>•Thermistor (TH1)
<Discharge temperature detection>
•Thermistor (TH2)
<Low pressure saturated temperature detection>
•Thermistor (TH5)
<Pipe temperature detection / judging defrost>
•Thermistor (TH6)
<Outdoor temperature detection>
•Thermistor (THHS A/B)
<Radiator panel>
PUMY-125VMA, VMA1
•Thermistor (THHS)
<IPM radiator panel temperature thermistor detection>
PUMY-71VM,VM1,VM2
PUMY-125VM,VM1,VM2
PUMY-125YM,YM1
PUMY-125YMA</td><td>Disconnect the connector then measure the resistance using a tester. (Surrounding temperature 10℃~30℃)
<table><tr><th></th><th>Normal</th><th>Abnormal</th></tr><tr><td>TH1</td><td>160kΩ~410kΩ</td><td rowspan="5">Open or short</td></tr><tr><td>TH2</td><td rowspan="3">4.3kΩ~9.6kΩ</td></tr><tr><td>TH5</td></tr><tr><td>TH6</td></tr><tr><td>THHS A/B
THHS</td><td>39kΩ~105kΩ</td></tr></table></td></tr>
<tr><td>Fan motor (MF1,2)
 
</td><td>Measure the resistance between the terminals using a tester.
(Part wiring temperature 20C°)
<table><tr><th>Motor lead wire</th><th>Normal</th><th>Abnormal</th></tr><tr><td>White — Blue</td><td>107.5Ω ±10%</td><td rowspan="2">Open or short</td></tr><tr><td>Blue — Red</td><td>128.0Ω ±10%</td></tr></table>Opening and closing temperature of protector.
Open: 135±5°C (Fan motor OFF)
Close: 86±15°C (Fan motor ON)</td></tr>
<tr><td>Expansion valve (SLEV ※1)
 
</td><td>Disconnect the connector then measure the resistance using a tester. (Part wiring temperature 20℃)
<table><tr><th colspan="4">Normal</th><th>Abnormal</th></tr><tr><td>White - Red</td><td>Yellow - Brown</td><td>Orange - Red</td><td>Blue - Brown</td><td rowspan="2">Open or short</td></tr><tr><td colspan="4">150Ω ±10%</td></tr></table></td></tr>
<tr><td>4-way coil ※2
(21S4)</td><td>Measure the resistance between the terminals using a tester. (Part wiring temperature 20C°)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>1434Ω</td><td>Open or short</td></tr></table></td></tr>
<tr><td>Solenoid coil ※3
(SV1)</td><td>Measure the resistance between the terminals using a tester. (Part wiring temperature 20C°)
<table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>1500Ω</td><td>Open or short</td></tr></table></td></tr>
</table>

Only PUMY-125VMA model ※1 LEV(A)
※2 4-way valve (21S4)
※3 Solenoid valve (SV)

<Thermistor feature chart>

Low temperature thermistors

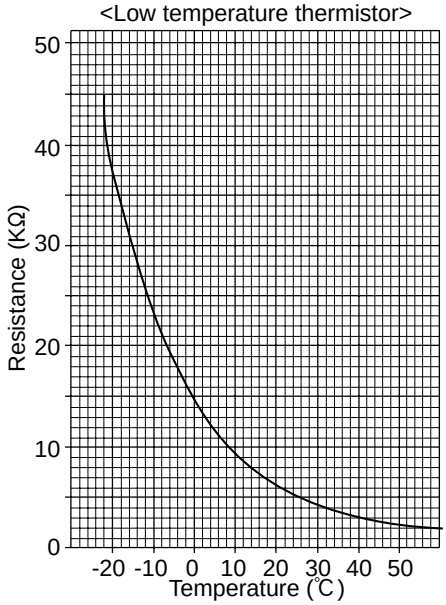
Saturation temperature of suction pressure thermistor (TH2)
Pipe temperature thermistor (TH5)
Outdoor temperature thermistor (TH6)

Thermistor R0 = 15kΩ ± 3%
B constant = 3480K ± 2%

$$R_t = 15\exp\{3480(\frac{1}{273+t} - \frac{1}{273})\}$$

0℃	15kΩ	30℃	4.3kΩ
10℃	9.6kΩ	40℃	3.0kΩ
20℃	6.3kΩ		
25℃	5.2kΩ		

<Low temperature thermistor>



PUMY-71VM PUMY-125VM PUMY-125YM
PUMY-71VM1 PUMY-125VM1 PUMY-125YM1
PUMY-71VM2 PUMY-125VM2 PUMY-125YMA

Medium temperature thermistor

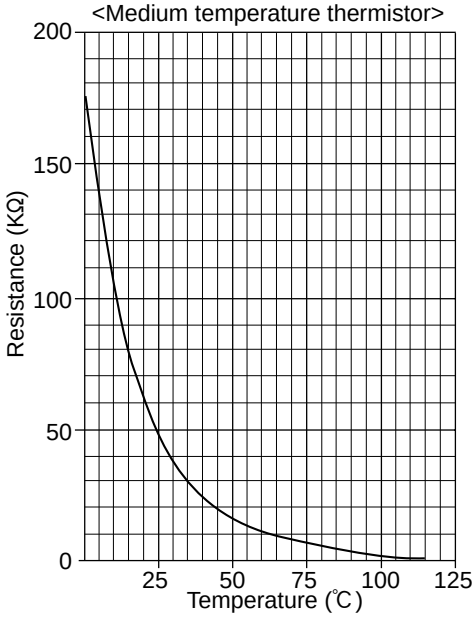
Radiator panel temperature thermistor (THHS)

Thermistor R50 = 17kΩ ± 2%
B constant = 4170K ± 3%

$$R_t = 17\exp\{4170(\frac{1}{273+t} - \frac{1}{323})\}$$

0℃	180kΩ
25℃	50kΩ
50℃	17kΩ
70℃	8kΩ
90℃	4kΩ

<Medium temperature thermistor>



PUMY-125VMA PUMY-125MVA1

Medium temperature thermistor

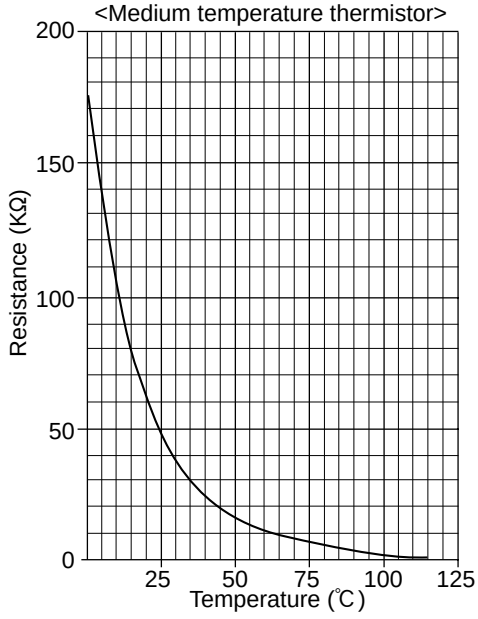
Radiator panel temperature thermistor (THHS A/B)

Thermistor R50 = 17kΩ ± 2%
B constant = 4150K ± 3%

$$R_t = 17\exp\{4150(\frac{1}{273+t} - \frac{1}{323})\}$$

0℃	180kΩ
25℃	50kΩ
50℃	17kΩ
70℃	8kΩ
90℃	4kΩ

<Medium temperature thermistor>



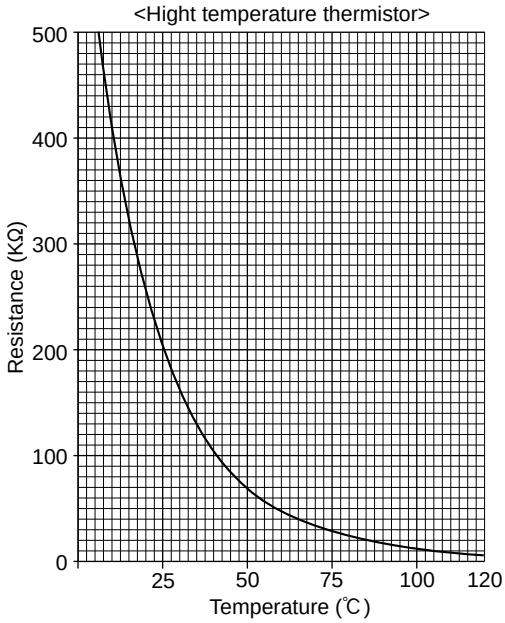
High temperature thermistor

Discharge temperature thermistor (TH1)

Thermistor R120 = 7.465kΩ ± 2%
B constant = 4057K ± 2%

$$R_t = 7.465\exp\{4057(\frac{1}{273+t} - \frac{1}{393})\}$$

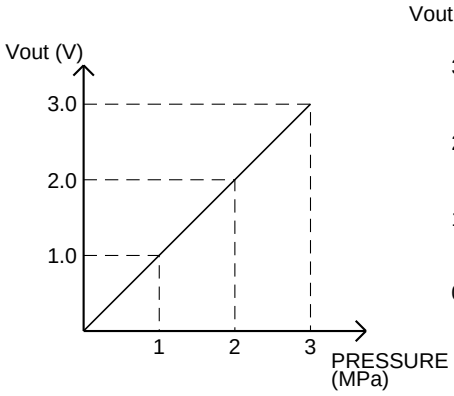
20℃	250kΩ	70℃	34kΩ
30℃	160kΩ	80℃	24kΩ
40℃	104kΩ	90℃	17.5kΩ
50℃	70kΩ	100℃	13.0kΩ
60℃	48kΩ	110℃	9.8kΩ

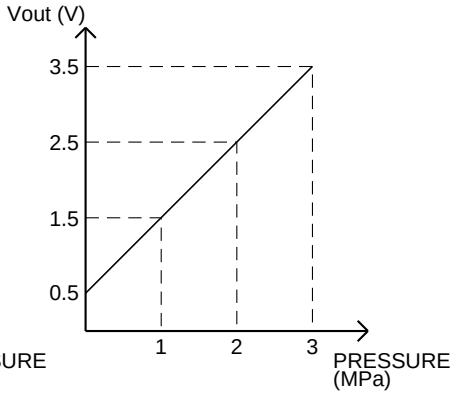


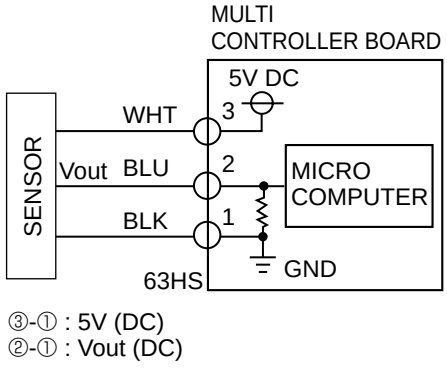
<HIGH PRESSURE SENSOR>

① PUMY-71VM PUMY-71VM1
PUMY-125VM PUMY-125VM1
PUMY-125YM

② PUMY-71VM2
PUMY-125VM2
PUMY-125YM1 PUMY-125YMA
PUMY-125VMA PUMY-125VMA1





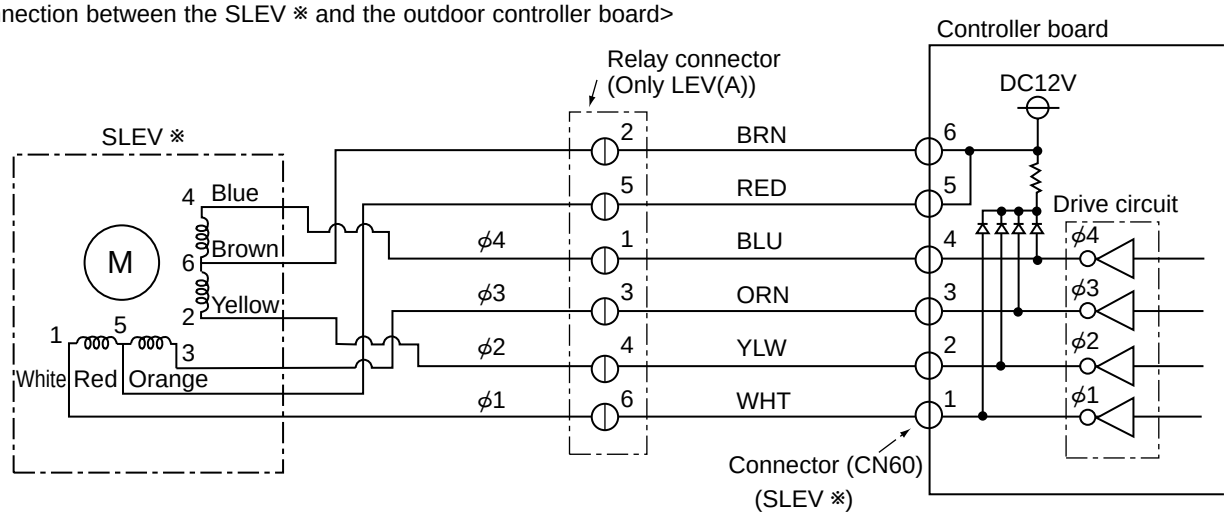


Expansion valve (SLEV ※ : Outdoor unit)

① Notes on expansion valve action

Only PUMY-125VMA model
※ LEV(A)

• SLEV ※ to stepping motor ON/OFF after outdoor controller board has received pulse signal.
• The valve position can be changed according to the pulse signal number ratio.
<connection between the SLEV ※ and the outdoor controller board>



Note: Because the numbers of the relay connector and the connector on the controller board side are different, wiring work must rely on the colors of the wires.

To be continued on the next page.

From the preceding page.

Only PUMY-125VMA model
※2 LEV(A)

<Output pulse signal and valve action>

Output(phase)	Output			
	1	2	3	4
ϕ1	ON	OFF	OFF	ON
ϕ2	ON	ON	OFF	OFF
ϕ3	OFF	ON	ON	OFF
ϕ4	OFF	OFF	ON	ON

Valve closing:1➔2➔3➔4➔1
Valve opening:4➔3➔2➔1➔4

The address of the pulse output is shifted using the procedures mentioned earlier.

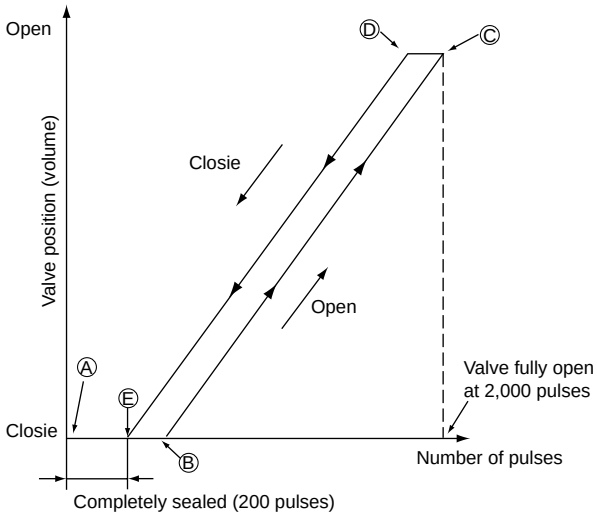
※1. All output phase will turn OFF when the SLEV ※2 stops operating.
2. When the output phase is terminated or when the phase shift is not according to frequency, the motor rotation will become irregular, causing the motor to vibrate or lockup.

※ When the power supply is on, the closing signal of 2,200 pulse will be transmitted to decide the position of the valve. The valve position can be determined when point Ⓐ is reached.

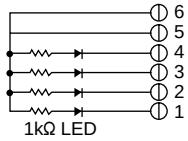
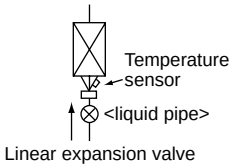
The LEV(SLEV ※2) will not vibrate or make noise when the valve is operating smoothly. However, when the number of pulses change from Ⓔ to Ⓐ , or if the valve lockup, there may be more noise than under normal circumstances.

- The noise can be heard by resting your ear on the handle of a screwdriver that is pressed against the top of the LEV(SLEV ※2) valve.

② SLEV ※2 action



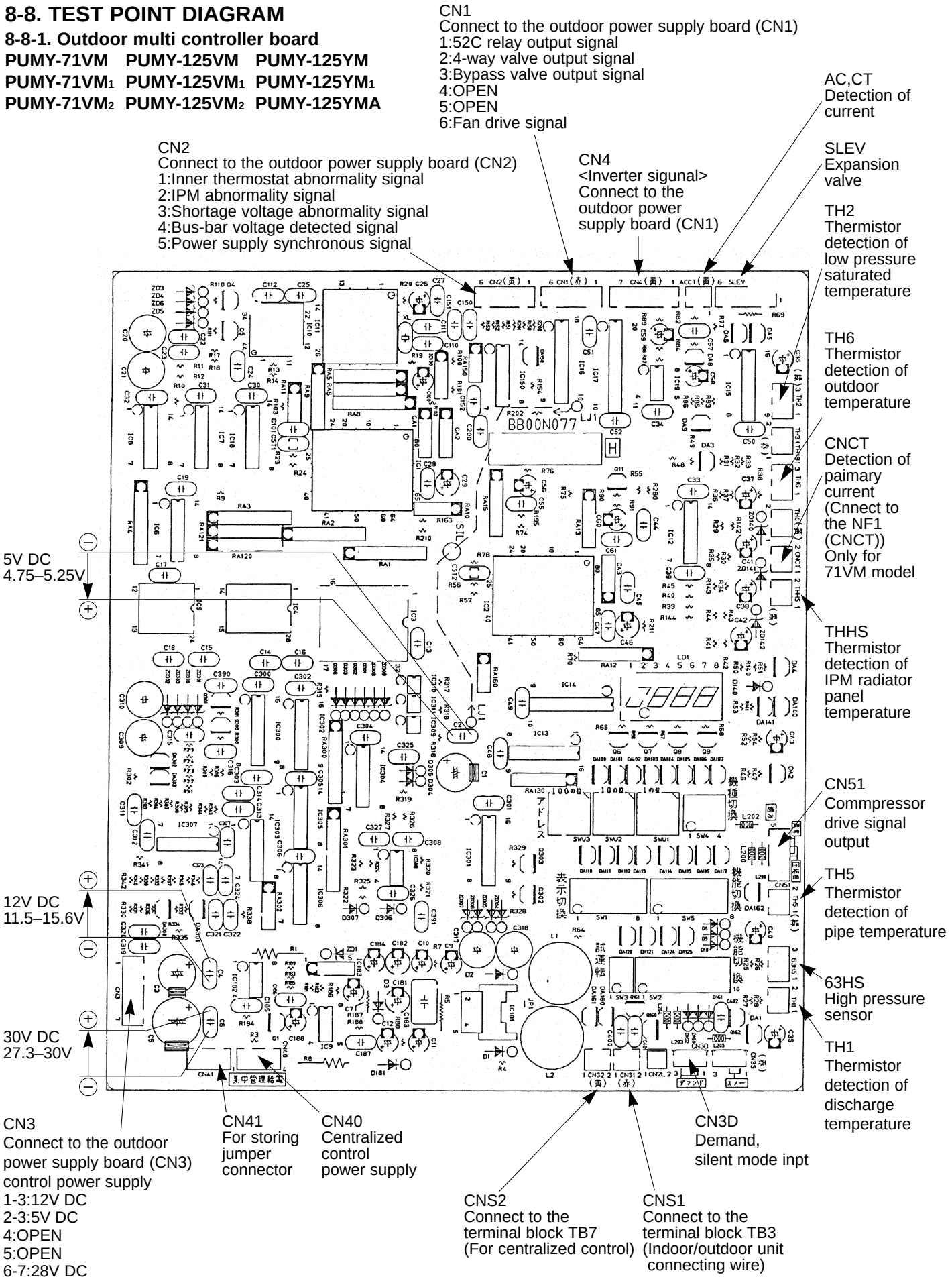
③ Troubleshooting

Problem	Check point	Corrective measure
Malfunction in microprocessor operating circuit	Remove the connector from the controller board and connect diagnostic LEDs.  When power is turned on, pulse signals will output for 10 seconds. There must be some defects in the operation circuit if the LED does not light while the signals are output or keeps lighting even after the signals stop.	Replace the indoor unit controller board or Replace the outdoor multi controller board.
Locked expansion valve	If the linear expansion valve (indoor unit) or electronic expansion valve (outdoor unit) becomes locked and the motor is still operating, the motor will emit a clicking noise and will not function. This clicking noise indicates an abnormality.	Replace the linear expansion valve or electronic expansion valve
Short circuit or broken circuit in expansion valve motor coil	Use an all-purpose electrical meter to measure the resistance between the different coils (white-red, yellow-brown, orange-red, blue-brown). Normal resistance is within a range of 150Ω ±10%.	Replace the linear expansion valve or electronic expansion valve
Valve does no close completely	In order to check the linear expansion valve, operate one indoor unit in the fan mode and another in the cooling mode. Then, use the outdoor multi controller board to operate the monitor and check the pipe temperature of the indoor unit (liquid pipe temperature). The linear expansion valve should be fully closed when the fan is operating. The temperature measured by the temperature sensor will drop if there is any leakage. If the measured temperature is significantly lower than that on the remote controller, this indicates that the valve is not closed. It is not necessary to replace the linear expansion valve if the leak of refrigerant is small and does not cause a malfunction.  	Replace the linear expansion valve if there is a major leak of refrigerant.
Incorrect connection or connection failure	① Check improperly connected connector terminals and the wire colors. ② Remove the connector on the controller board side and check electrical conductance	Continuity check of wrong part.

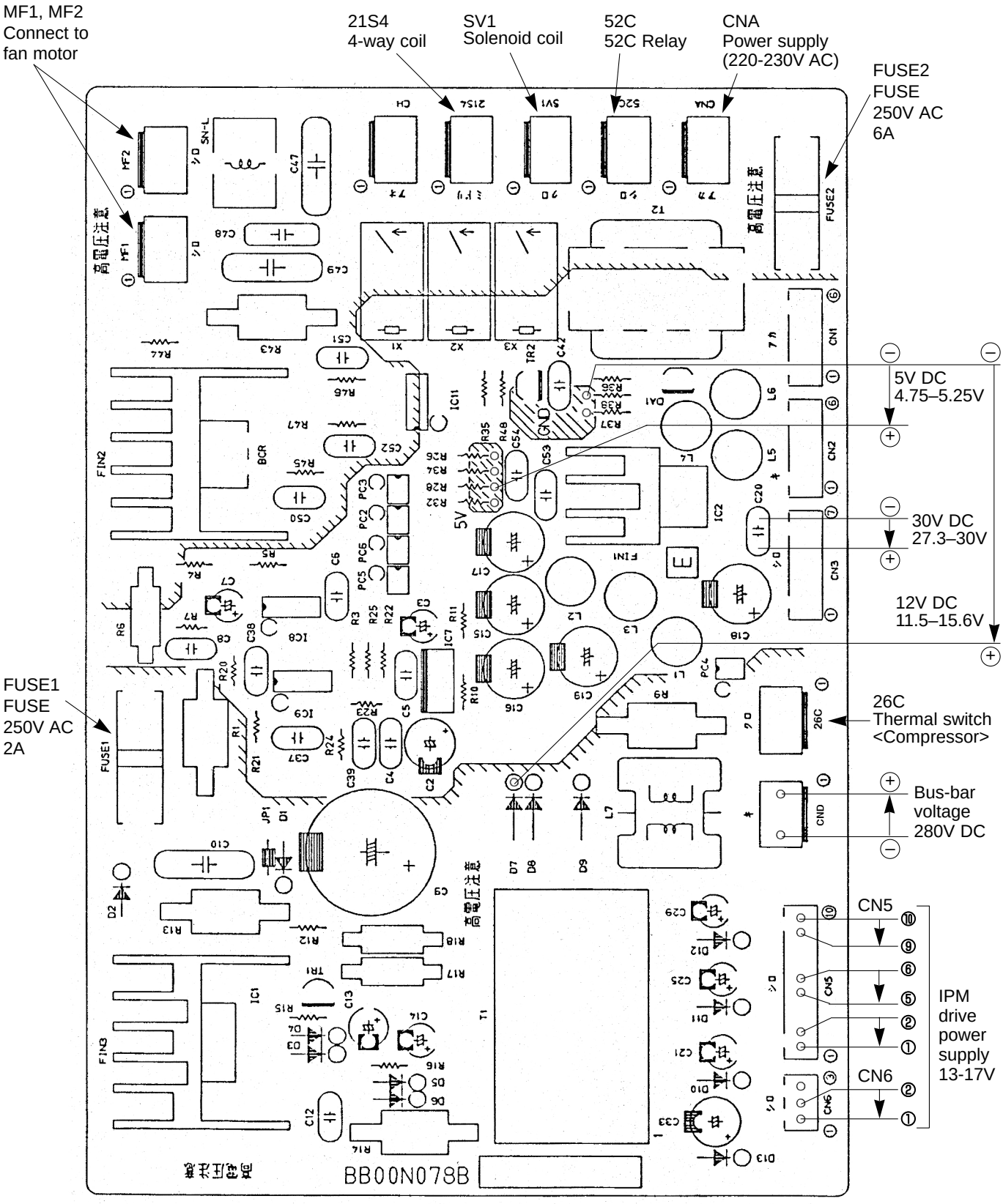
8-8. TEST POINT DIAGRAM

8-8-1. Outdoor multi controller board

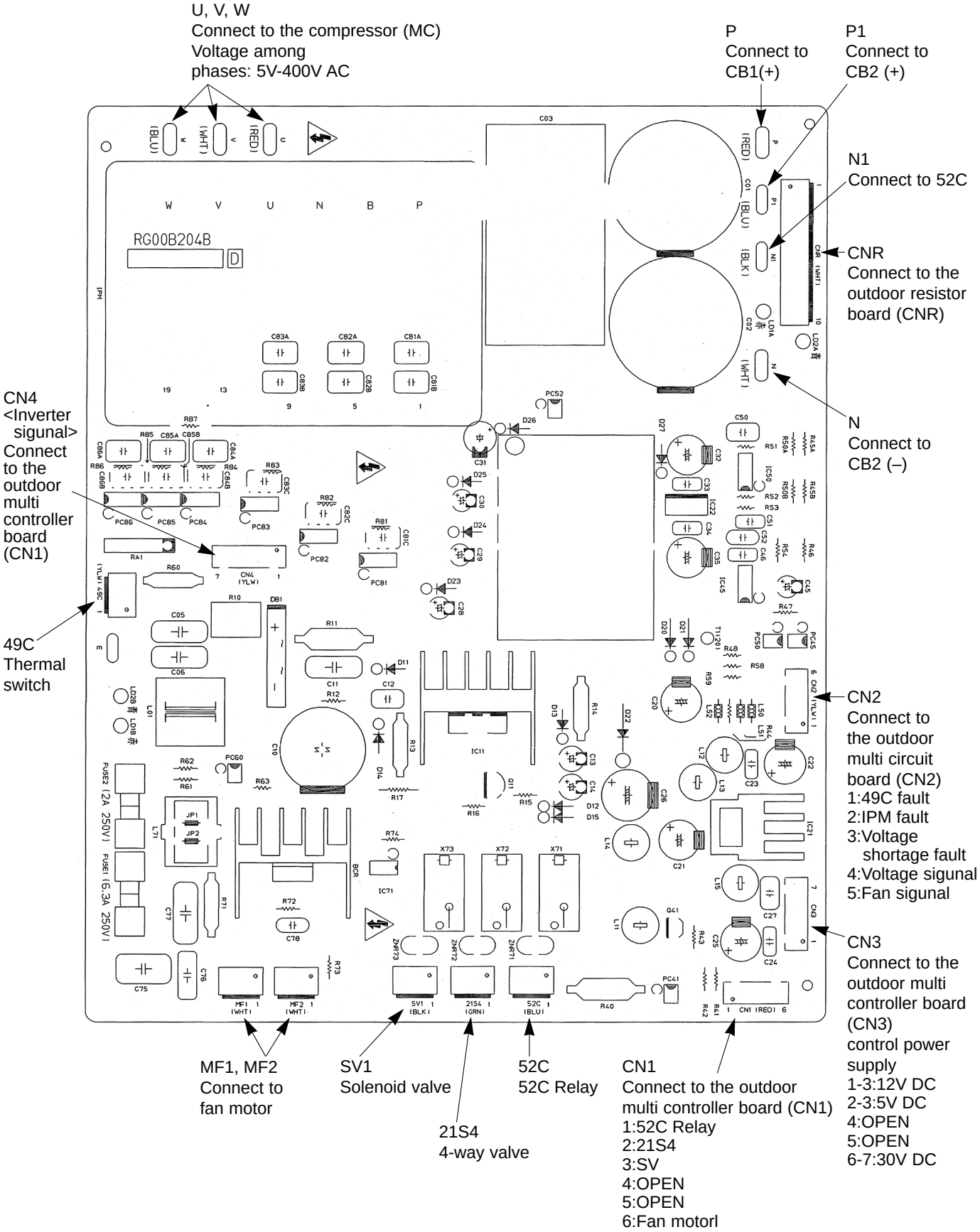
PUMY-71VM PUMY-125VM PUMY-125YM
PUMY-71VM$_1$ PUMY-125VM$_1$ PUMY-125YM$_1$
PUMY-71VM$_2$ PUMY-125VM$_2$ PUMY-125YMA



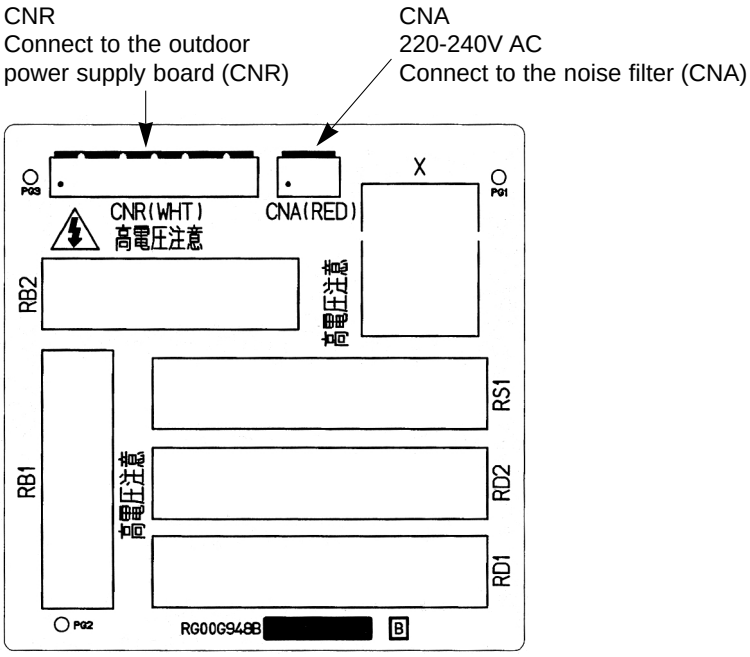
8-8-2. Outdoor power supply board
PUMY-71VM PUMY-125VM
PUMY-71VM$_1$ PUMY-125VM$_1$
PUMY-71VM$_2$ PUMY-125VM$_2$



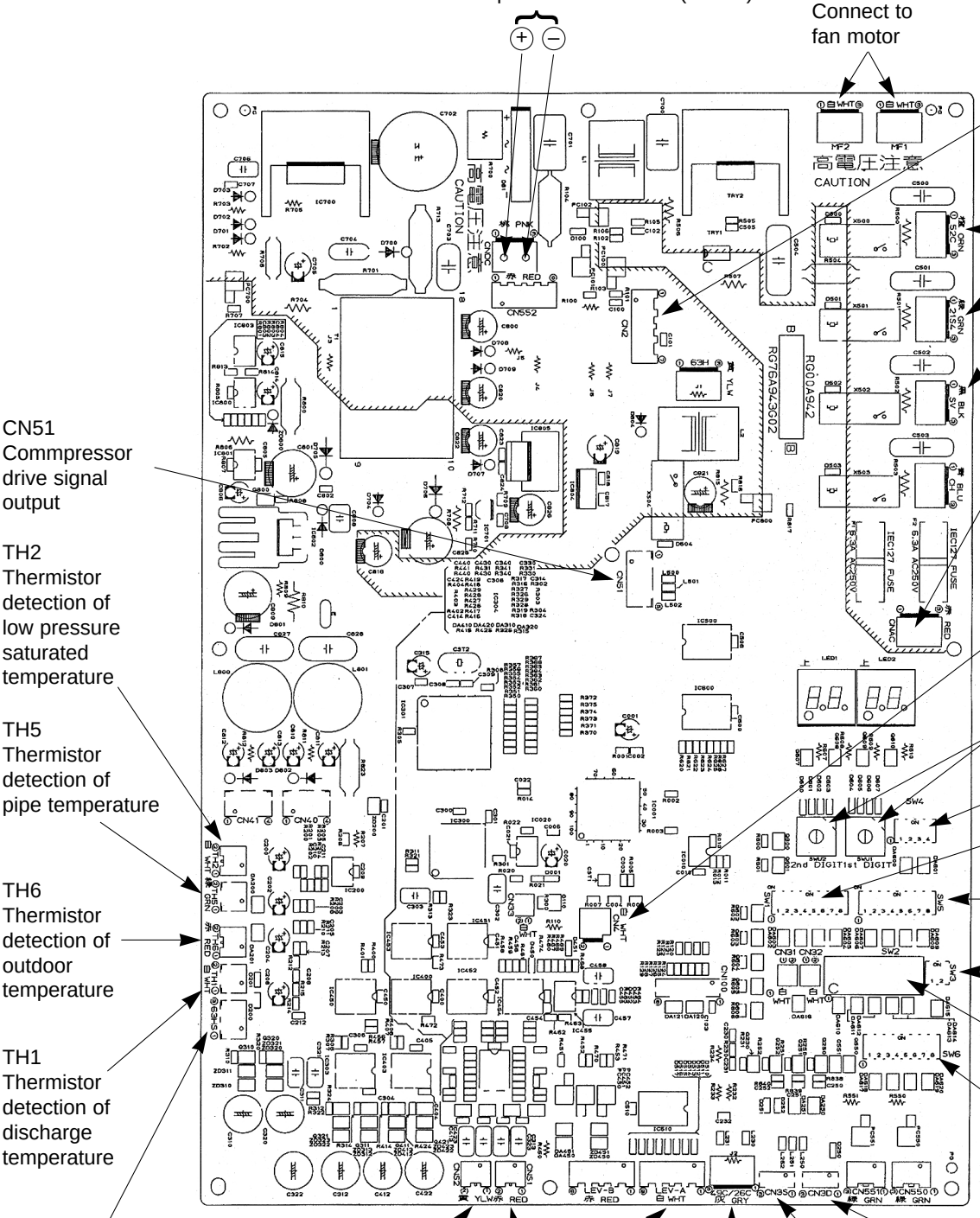
8-8-3. Outdoor power supply board
PUMY-125YM
PUMY-125YM$_1$
PUMY-125YMA



8-8-4. Outdoor resistor board
PUMY-125YM
PUMY-125YM$_1$
PUMY-125YMA

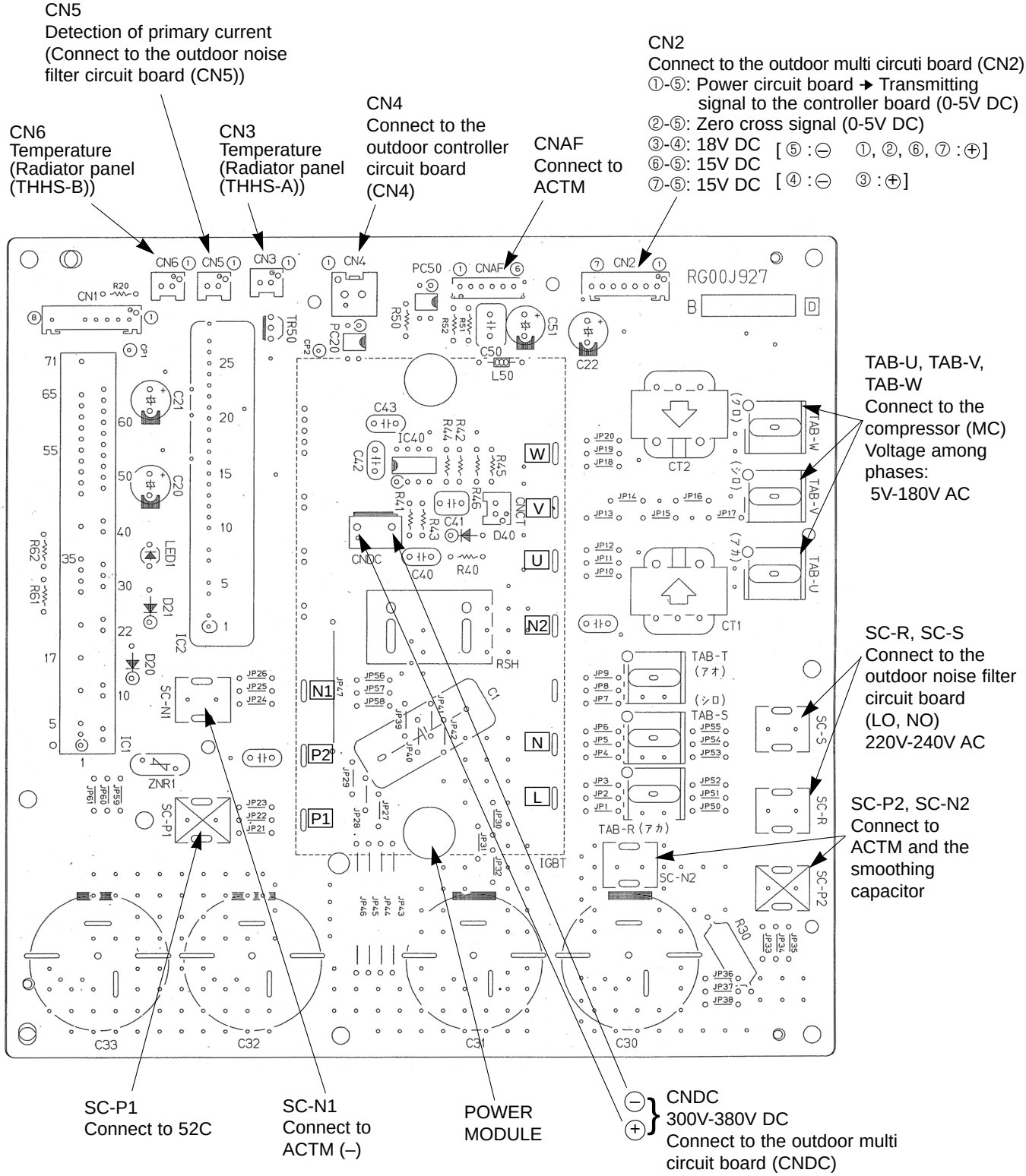


8-8-5. Outdoor multi circuit board
PUMY-125VMA
PUMY-125VMA1

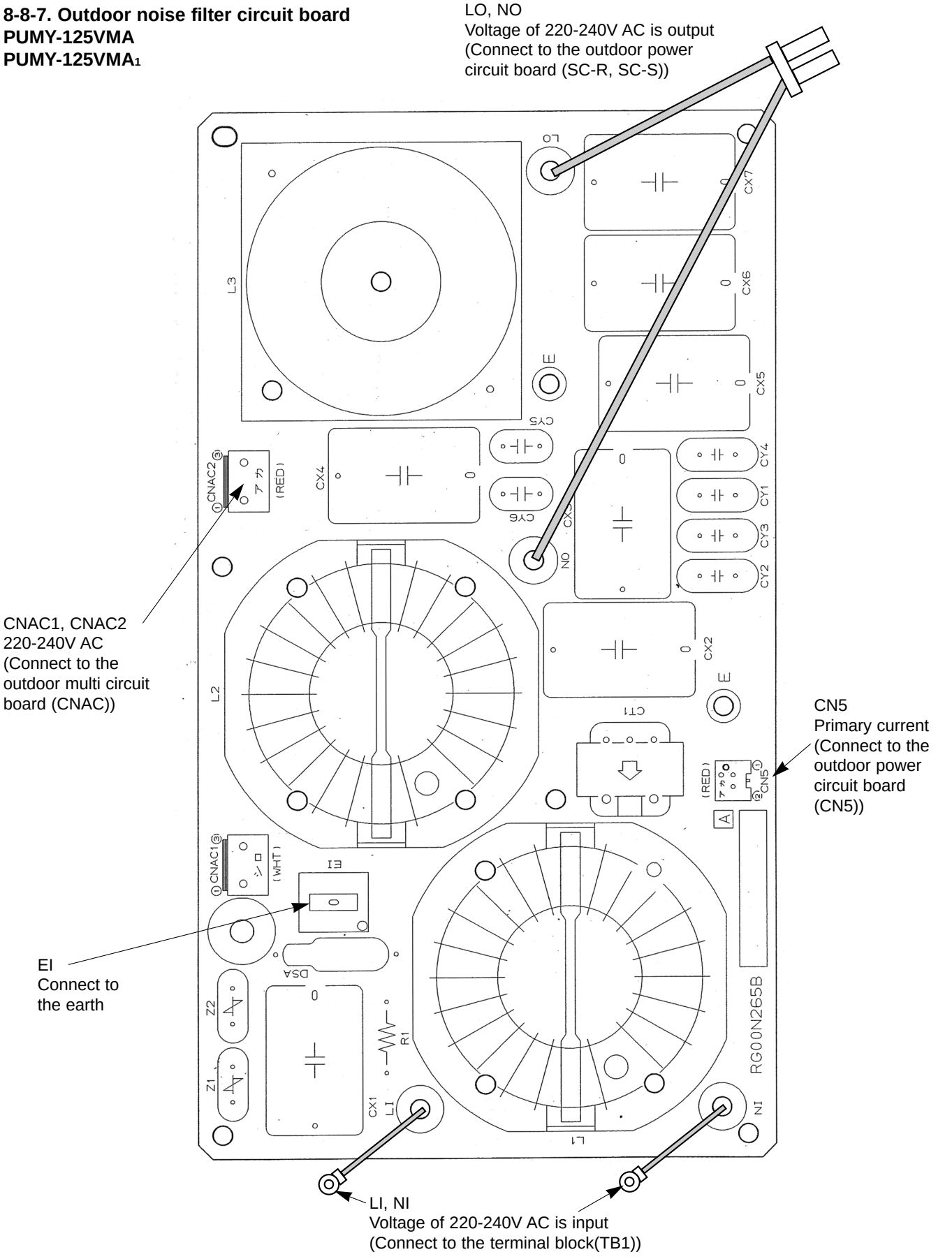


8-8-6. Outdoor power circuit board
PUMY-125VMA
PUMY-125VMA1

Brief Check of POWER MODULE
※ Usually, they are in a state of being short-circuited if they are broken.
Measure the resistance in the following points (connectors, etc.).
If they are short-circuited, it means that they are broken.
1. Check of POWER MODULE
①.Check of DIODE circuit
L - P1, N - P1, L - N1, N - N1
②.Check of IGBT circuit
P2 - U, P2 - V, P2 - W, N2 - U, N2 - V, N2 - W
Note:The marks, L , N , N1 , N2 , P1 , P2 , U , V and W shown in the diagram above are not actually printed on the board.



8-8-7. Outdoor noise filter circuit board
PUMY-125VMA
PUMY-125VMA1



No.	SW1 setting 12345678	Display mode	Display on the LD1 (display data) 1	2	3	4	5	6	7	8	Notes
0	00000000	Relay output display	Compressor operation	52C	21S4	SV				Lighting always	ON: light on OFF: light off
		Check display	0000~9999 (Alternating display of addresses and error code)								•When abnormality occurs, check display.
1	10000000	Indoor unit check	No.1 unit check	No.2 unit check	No.3 unit check	No.4 unit check	No.5 unit check	No.6 unit check	No.7 unit check	No.8 unit check	Check: light on Normal: light off
2	01000000	Protection input	High-pressure abnormality	Discharge temperature abnormality	Inner thermostat abnormality	IPM abnormality	Radiator panel abnormality	Vacuum operation abnormality	Power synchronization signal abnormality	63HS abnormality	Display input microprocessor protection (abnormality)
3	11000000	Protection input	TH1 abnormality	TH2 abnormality	TH6 abnormality	TH5 abnormality	Indoor unit address error	THHS abnormality	Restrict power IPM abnormality		
4	00100000	Protection input	Abnormality in the number of linked units	Address double setting abnormality	Indoor unit capacity	Over capacity	Radiator panel overheating delay	Outdoor unit address error	Refrigerant over charge	Insufficient voltage abnormality	
5	10100000	Abnormality delay display 1	High-pressure abnormality delay	Discharge temperature abnormality delay	Internal thermostat abnormality delay	IPM abnormality delay			Power synchronization signal abnormality	63HS sensor abnormality delay	Display all abnoramlities remaining in abnormality delay
6	01100000	Abnormality delay display 2	TH1 abnormality delay	TH2 abnormality delay	TH6 abnormality delay	TH5 abnormality delay		THHS abnormality delay	Restrict power IPM abnormality	Single-phase current (CT)	
7	11100000	Abnormality delay display 3					Radiator panel overheating delay		Refrigerant over charge	Insufficient voltage abnormality delay	
8	00010000	Abnormality delay history 1	High-pressure abnormality delay	Discharge temperature abnormality delay	Internal thermostat abnormality delay	IPM abnormality delay			Power synchronization signal abnormality	63HS abnormality delay	Display all abnormalities remaining in abnormality delay history
9	10010000	Abnormality delay history 2	TH1 abnormality delay	TH2 abnormality delay	TH6 abnormality delay	TH5 abnormality delay		THHS abnormality delay	Restrict power IPM abnormality	Single-phase power delay (CT)	
10	01010000	Abnormality delay history 3		Refrigerant overfilling delay						Insufficient voltage abnormality delay	
11	11010000	Abnormality code history 1 (the latest)	Alternating display of addresses 0000-9999 and abnormality code (including abnormality delay code)								•Display abnormalities up to present (including abnormality terminals) •History record in 1 is the latest; records become older in sequence; history record in 10 is the oldest.
12	00110000	Abnormality code history 2									
13	10110000	Abnormality code history 3									
14	01110000	Abnormality code history 4									
15	11110000	Abnormality code history 5									
16	00001000	Abnormality code history 6									
17	10001000	Abnormality code history 7									
18	01001000	Abnormality code history 8									
19	11001000	Abnormality code history 9									
20	00101000	Abnormality code history 10 (the oldest)									
21	10101000	Cumulative time	0~9999(unit::1-hour)								Display of cumulative compressor operating time
22	01101000	Cumulative time	0~9999(unit::10-hour)								
23	11101000	Outdoor unit operation display	Excitation Current	Restart after 3 minutes	Compressor operation	Abnomality(detection)					
24	00011000	Indoor unit mode	No.1 unit mode	No.2 unit mode	No.3 unit mode	No.4 unit mode	No.5 unit mode	No.6 unit mode	No.7 unit mode	No.8 unit mode	Cooling : light on Heating: light flashing Stop fan: light off
25	10011000	Indoor unit operation display	No.1 unit operation	No.2 unit operation	No.3 unit operation	No.4 unit operation	No.5 unit operation	No.6 unit operation	No.7 unit operation	No.8 unit operation	Thermo ON : light on Thermo OFF : light off
26	01011000	Capacity code (No. 1 indoor unit)	0~255								•Display of indoor unit capacity code •The no. 1 unit will start from the address with the lowest number
27	11011000	Capacity code (No. 2 indoor unit)									
28	00111000	Capacity code (No. 3 indoor unit)									
29	10111000	Capacity code (No. 4 indoor unit)									
30	01111000	Capacity code (No. 5 indoor unit)									

Delay code	Abnormality delay	Delay code	Abnormality delay
1202	Discharge temperature abnormality	1402	High-pressure abnormality
	Discharge temperature sensor (TH1) abnormality		Pressure sensor (63HS) abnormality
1205	Intake outlet temperature sensor (TH5) abnormality	1600	Over charge refrigerant abnormality
1208	Compressor internal thermostat abnormality	1601	Insufficient refrigerant abnormality
1211	Saturation temperature of suction pressuse sensor (TH2) abnormality	4165	Power synchronization signal abnormality
1214	Radiator panel thermistor (THHS) abnormality	4320	Frequency converter insufficient wiring voltage abnormality
1221	Outside air temperature sensor (TH6) abnormality	4330	Radiator panel temperature abnormality
		4350	IPM abnormality

SW:setting
0:...OFF
1:...ON

No.	SW1 setting 12345678	Display mode	Display on the LD1 (display data)								Notes
			1	2	3	4	5	6	7	8	
31	11111000	Indoor unit mode (No. 1 unit)	OFF	Fan	Cooling thermo ON	Cooling thermo OFF	Heating thermo ON	Heating thermo OFF			•Display of indoor unit operating mode
32	00000100	Indoor unit mode (No. 2 unit)									
33	10000100	Indoor unit mode (No. 3 unit)									
34	01000100	Indoor unit mode (No. 4 unit)									
35	11000100	Indoor unit mode (No. 5 unit)									
36	00100100	Outdoor unit operational mode	ON/OFF	Heating/Cooling	Abnormal/Normal	DEFROST/NO	Refrigerant pull back/no	Excitation current/no	3-min.delay/no		Light on/light off
37	10100100	External connection status	Demand junction	Night mode	power/no						Input: light off No input: light on
38	01100100	Communication demand capacity	0~255								Display of communication demand capacity
64	00000010	Operational frequency	0~FF(16 progressive)								Display of actual operating frequency
65	10000010	Target frequency	0~255								Display of target frequency
66	01000010	Outdoor fan control step number	0~20								Display of number of outdoor fan control steps (target)
67	11000010	EER fan control step number (cooling)									
68	00100010	Outdoor SLEV opening	0~2000								Display of openness (pulses) of outdoor SLEV and indoor LEV
69	10100010	Indoor LEV opening (No.1 unit)									
70	01100010	Indoor LEV opening (No.2 unit)									
71	11100010	Indoor LEV opening (No.3 unit)									
72	00010010	Indoor LEV opening (No.4 unit)									
73	10010010	Indoor LEV opening (No.5 unit)									
74	01010010	High-pressure sensor (Pd)	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								Display of outdoor subcool (SC) data and detection data from high-pressure sensor and each thermistor
75	11010010	TH1(Td)									
76	00110010	TH2(ET)									
77	10110010	TH6									
78	01110010	TH5									
80	00001010	THHS									
81	10001010	TH23 (No.1 indoor unit)									
82	01001010	TH23 (No.2 indoor unit)									
83	11001010	TH23 (No.3 indoor unit)									
84	00101010	TH23 (No.4 indoor unit)									
85	10101010	TH23 (No.5 indoor unit)									
86	01101010	TH22 (No.1 indoor unit)									
87	11101010	TH22 (No.2 indoor unit)									

No.	SW1 setting 12345678	Display mode	Display on the LD1 (display data) 1	2	3	4	5	6	7	8	Notes
88	00011010	TH22 (No.3 indoor unit)	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								Display of outdoor subcool (SC) data and detection data from high-pressure sensor and each thermistor
89	10011010	TH22 (No.4 indoor unit)									
90	01011010	TH22 (No.5 indoor unit)									
91	11011010	TH21 (No.1 indoor unit)									
92	00111010	TH21 (No.2 indoor unit)									
93	10111010	TH21 (No.3 indoor unit)									
94	01111010	TH21 (No.4 indoor unit)									
95	11111010	TH21 (No.5 indoor unit)									
96	00000110	Outdoor SC (cooling)									
97	10000110	Target subcool step	0~4								Display of target subcool step data
98	01000110	Indoor SC/SH (No.1 indoor unit)	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9) during heating: subcool (SC)/during cooling: superheat (SH)								Display of indoor SC/SH data
99	11000110	Indoor SC/SH (No.2 indoor unit)									
100	00100110	Indoor SC/SH (No.3 indoor unit)									
101	10100110	Indoor SC/SH (No.4 indoor unit)									
102	01100110	Indoor SC/SH (No.5 indoor unit)									
103	11100110	Discharge superheat	-99.9~999.9								Display of discharge superheat data
105	10010110	Target Pd display (heating)	Pdm(0.0~22.0)								Display of all control target data
106	01010110	Target ET display (cooling)	ETm(-1.0~8.0)								
107	11010110	Target outdoor SC (cooling)	SCm(0.0~10.0)								
108	00110110	Target indoor SC/SH (No.1 unit)	SCm/SHm(0.0~14.0)								
109	10110110	Target indoor SC/SH (No.2 unit)									
110	01110110	Target indoor SC/SH (No.3 unit)									
111	11110110	Target indoor SC/SH (No.4 unit)									
112	00001110	Target indoor SC/SH (No.5 unit)									
128	00000001	Actual frequency of abnormality delay	0~FF(16 progressive)								Display of actual frequency at time of abnormality delay
129	10000001	Fan step number at time of abnormality delay	0~20								Display of fan step number at time of abnormality delay
130	01000001	Valve position at abnormality delay (SLEV:outdoor unit)	0~2000								Display of openness (pulses) outdoor SLEV and indoor LEV at time of abnormality delay
131	11000001	Valve position at abnormality delay (LEV:No.1 Indoor unit)									
132	00100001	Valve position at abnormality delay (LEV:No.2 Indoor unit)									
133	10100001	Valve position at abnormality delay (LEV:No.3 Indoor unit)									
134	01100001	Valve position at abnormality delay (LEV:No.4 Indoor unit)									
135	11100001	Valve position at abnormality delay (LEV:No.5 Indoor unit)									

No.	SW1 setting	Display mode	Display on the LD1 (display data)								Notes
	12345678		1	2	3	4	5	6	7	8	
136	00010001	High-pressure sensor data at time of abnormality delay	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								Display of data from high-pressure sensor, all thermistors, and SC/SH at abnormality delay
137	10010001	TH1 sensor data at abnormality delay									
138	01010001	TH2 sensor data at abnormality delay									
139	11010001	TH5 sensor data at abnormality delay									
140	00110001	THHS sensor data at abnormality delay									
141	10110001	Outdoor SC (cooling) at abnormality delay									
142	01110001	SC/SH (No.1 indoor unit) at abnormality delay									
143	11110001	SC/SH (No.2 indoor unit) at abnormality delay									
144	00001001	SC/SH (No.3 indoor unit) at abnormality delay									
145	10001001	SC/SH (No.4 indoor unit) at abnormality delay									
146	01001001	SC/SH (No.5 indoor unit) at abnormality delay									
192	00000011	Actual frequency at time of abnormality	0~FF(16progressive)								Display of actual frequency at time of abnormality
193	10000011	Fan step number at time of abnormality	0~20								Display of fan step number at time of abnormality
194	01000011	Openness of outdoor SLEV at time of abnormality	0~2000								Display of openness (pulses) of outdoor SLEV and indoor LEV at time of abnormality
195	11000011	Openness of LEV at time of abnormality (No.1 unit)									
196	00100011	Openness of LEV at time of abnormality (No.2 unit)									
197	10100011	Openness of LEV at time of abnormality (No.3 unit)									
198	01100011	Openness of LEV at time of abnormality (No.4 unit)									
199	11100011	Openness of LEV at time of abnormality (No.5 unit)									
200	00010011	High-pressure sensor data at abnormality delay	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								Display of data from high-pressure sensor and all thermistors at time of abnormality
201	10010011	TH 1 sensor data at time of abnormality									
202	01010011	TH 2 sensor data at time of abnormality									Display of data from SC/SH and all thermistors at time of abnormality
203	11010011	TH 5 sensor data at time of abnormality									
204	00110011	THHS sensor data at time of abnormality									
205	10110011	Outdoor SC (Cooling) at time of abnormality									
206	01110011	Indoor SC/SH (No. 1) at time of abnormality									
207	11110011	Indoor SC/SH (No. 2) at time of abnormality									
208	00001011	Indoor SC/SH (No. 3) at time of abnormality									
209	10001011	Indoor SC/SH (No. 4) at time of abnormality									
210	01001011	Indoor SC/SH (No. 5) at time of abnormality									

No.	SW1 setting	Display mode	Display on the LD1 (display data)								Notes
	12345678		1	2	3	4	5	6	7	8	
211	11001011	Capacity code (No.6 indoor unit)	0~255								Display of indoor unit capacity mode
212	00101011	Capacity code (No.7 indoor unit)									
213	10101011	Capacity code (No.8 indoor unit)									
214	01101011	Indoor unit mode (No.6 unit)	OFF	Fan	Cooling thermo ON	Cooling thermo OFF	Heating thermo ON	Heating thermo OFF			Display of indoor unit operating mode
215	11101011	Indoor unit mode (No.7 unit)									
216	00011011	Indoor unit mode (No.8 unit)									
217	10011011	Indoor LEV opening (No.6 unit)	0~2000								Display of openness (pulses) of outdoor SLEV and indoor LEV
218	01011011	Indoor LEV opening (No.7 unit)									
219	11011011	Indoor LEV opening (No.8 unit)									
220	00111011	TH23 (No.6 indoor unit)	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								
221	10111011	TH23 (No.7 indoor unit)									
222	01111011	TH23 (No.8 indoor unit)									
223	11111011	TH22 (No.6 indoor unit)									
224	00000111	TH22 (No.7 indoor unit)									
225	10000111	TH22 (No.8 indoor unit)									
226	01000111	TH21 (No.6 indoor unit)									
227	11000111	TH21 (No.7 indoor unit)									
228	00100111	TH21 (No.8 indoor unit)									
229	10100111	Indoor SC/SH (No.6 indoor unit)	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9) during heating:supercooling (SC)/during cooling:overtheating (SH)								Display of indoor SC/SH data
230	01100111	Indoor SC/SH (No.7 indoor unit)									
231	11100111	Indoor SC/SH (No.8 indoor unit)									
232	00010111	Target indoor SC/SH (No.6 unit)	SCm/SHm (0.0~14.0)								Display of all control target data
233	10010111	Target indoor SC/SH (No.7 unit)									
234	01010111	Target indoor SC/SH (No.8 unit)									
235	11010111	Valve position at abnormality delay (LEV:No.6 Indoor unit)	0~2000								Display of openness (pulses) of indoor LEV at time of abnormality
236	00110111	Valve position at abnormality delay (LEV:No.7 Indoor unit)									
237	10110111	Valve position at abnormality delay (LEV:No.8 Indoor unit)									
238	01110111	SC/SH (No.6 indoor unit) at abnormality delay	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								
239	11110111	SC/SH (No.7 indoor unit) at abnormality delay									
240	00001111	SC/SH (No.8 indoor unit) at abnormality delay									
241	10001111	Openness of LEV at time of abnormality (No.6 unit)	0~2000								Display of opeeness (pulses) of indoor LEV at time of abnormality
242	01001111	Openness of LEV at time of abnormality (No.7 unit)									
243	11001111	Openness of LEV at time of abnormality (No.8 unit)									
244	00101111	Indoor SC/SH (No.6) at time of abnormality	-99.9 ~ 999.9 (short circuit/open: -99.9 or 999.9)								
245	10101111	Indoor SC/SH (No.7) at time of abnormality									
246	01101111	Indoor SC/SH (No.8) at time of abnormality									

9 ELECTRICAL WIRING

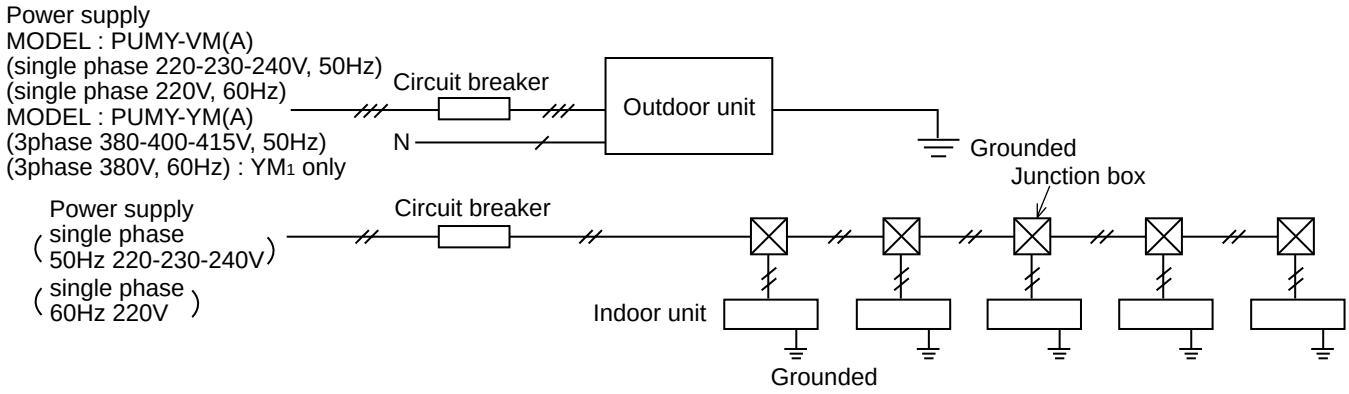
This chapter provides an introduction to electrical wiring for the MULTI-S series, together with notes concerning power wiring, wiring for control (transmission wires and remote controller wires), and the frequency converter.

9-1. OVERVIEW OF POWER WIRING

(1) Please refer to your electric power company about the indoor wiring specifications for the power wire diameter and capacity of protective devices (switches and leakage of breakers).
(2) Taking into consideration voltage drops caused by the length of the wires when operating devices installed downstream, determine the specifications of wires able to handle the maximum current or voltage. In addition, protective devices must be able to protect against current leakage or excessive current.
(3) It is generally necessary to include leakage breakers when installing wiring for the Mr. SLIM MULTI-S series. Protective switches (excessive current protection) along main or branch lines should typically consist of fuseless breakers (ELB).
(4) Please perform grounding.
(5) It is suggested that you consult with your electric power company concerning restrictions on electrical specifications.

9-2. WIRE DIAMETER AND MAIN POWER SWITCH CAPACITY

9-2-1. Wiring diagram for main power supply



9-2-2. Power supply wire diameter and capacity

	Model	Minimum wire cross section area(mm^2)			Breaker	
		Main line	Branch line	Grounded	Interrupting current	Performance characteristic
Outdoor unit	PUMY-71VM PUMY-71VM1	5.5	—	3.5	30A	30A,30mA for 0.1 sec. or less
	PUMY-125VM PUMY-125VM1 PUMY-125VM2	14	—	5.5	100A	100A,100mA for 0.1 sec. or less
	PUMY-125YM PUMY-125YM1 PUMY-125YMA	2.5	—	2.5	25A	25A,30mA for 0.1 sec. or less
	PUMY-125VMA PUMY-125VMA1	5.5(6)	—	5.5(6)	32A	32A,30mA for 0.1 sec. or less

	Model	Minimum wire cross section area(mm)			Breaker	
		Main line	Branch line	Grounded	Interrupting current	Performance characteristic
Indoor unit	All Models	ϕ1.6	–	ϕ1.6	15A	15A, 30mA for 0.1 sec. or less

9-3. DESIGN FOR CONTROL WIRING

Please note that the types and numbers of control wires needed by the Mr. SLIM MULTI-S series will depend on the remote controllers and whether they are linked with the system.

9-3-1. Selection number of control wires

		M-NET remote controller
Use		Remote controller used in system control operations. • Group operation involving different refrigerant systems. • Linked operation with upper control system.
Transmission wires	Remote controller → indoor unit	2 wires (non-polar)
	Wires connecting → indoor units	
	Wires connecting → indoor units with outdoor units	
	Wires connecting → outdoor units	

9-3-2. Control signal wires

● Transmission wires

• Types of transmission wires: Design feeder control wires using the information in the following table.
• Diameter of wire size: 1.25㎟

System	Suitable for single refrigerant system			Multiple refrigerant system
Transmission wire length	120m or less		120m or longer	regardless of length
Examples of suitable environments (determined according to amount of noise)	Noise-free environment such as residence or free-standing store	Clinics, hospitals, communications facilities, or office high-rises typically containing noise-producing equipment such as frequency modulation devices, electrical generators, high-frequency medical apparatus, and wireless communication apparatus, etc.	All places	
Type of transmission wire	VCTF, VCTFK, CVV, CVS, VVR, VVF, VCT	Shielded wire CVVS,CPEVS		

If the transmission distance is too long or if there is a source of noise close to an air conditioning unit, the noise problem can be avoided by using shielded wire or moving the unit away from the source.
• The length of wire is 120m or longer.
• Air conditioning units used in hospitals, communications facilities, or office high-rises containing noise-producing equipment such as frequency modulation devices, electrical generators, high-frequency medical apparatus, and wireless communication apparatus.

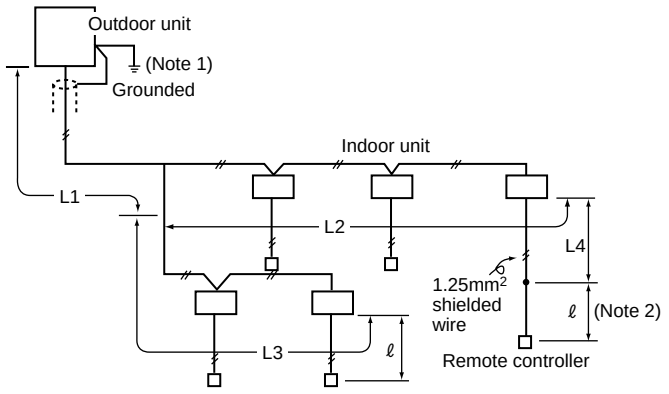
9-3-3. Remote controller wiring

	M-NET remote controller
Type	Non-shielded wire may be used for 10m or less; shielded wire must be used if distance is greater than 10m (note 2)
Wire cross section area	0.5-0.75mm² or greater
Length	Make sure that the greatest transmission distance is less than 200m. (shielded wire cross section area at least 1.25mm²)

9-3-4. Permissible length of control wiring

• Maximum extension length of wiring
(L_1+L_2+L_3+L_4).....less than 500m
• Maximum wire length
(L_1+L_2+L_4 or L_1+L_3 or L_2+L_3+L_4).....less than 200m
• Remote controller wire
(ℓ)....network controller wire is less than 10m

Note 1: Please make sure that the transmission wire is grounded at the outdoor unit ground terminal.
Note 2: If the remote controller wire is greater than 10m, the excess portion should use shielded wire at least 1.25mm² in size. Please make sure that the total length of the farthest wire is less than 200m.

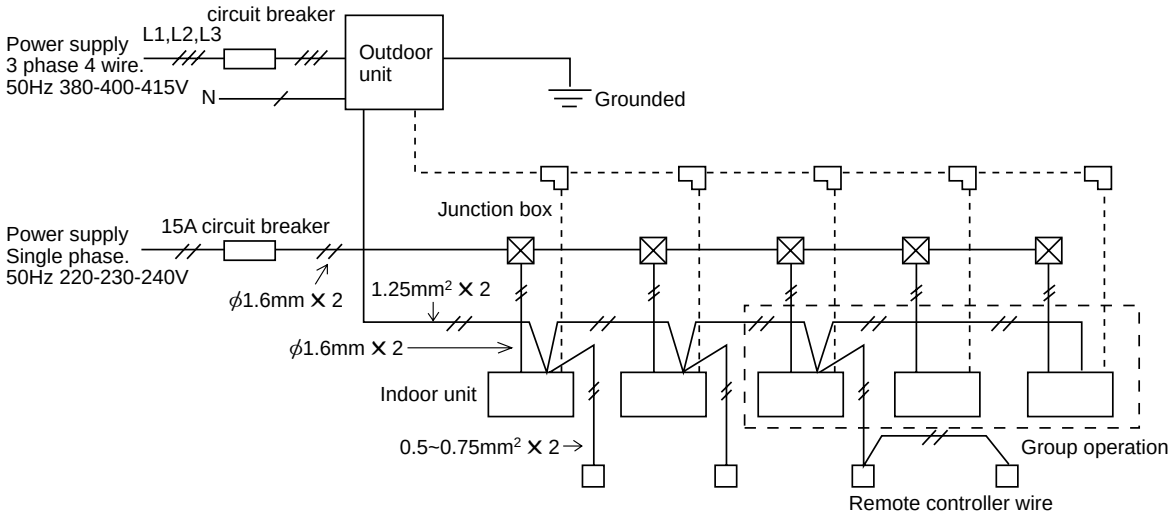


9-4. SYSTEM SWITCH SETTING

In order to identify the destinations of signals to the outdoor units, indoor units, and remote controller of the MULTI-S series, each microprocessor must be assigned an identification number (address). The addresses of outdoor units, indoor units, and remote controller must be set using their settings switches. Please consult the installation manual that comes with each unit for detailed information on setting procedures.

9-5. EXAMPLE EXTERNAL WIRING DIAGRAM FOR A BASIC SYSTEM (PUMY-125YM)

Example using a M-NET remote controller



9-6. METHOD FOR OBTAINING ELECTRICAL CHARACTERISTICS WHEN A CAPACITY AGREEMENT IS TO BE SIGNED WITH AN ELECTRIC POWER COMPANY

The electrical characteristics of connected indoor unit system for air conditioning systems, including the MULTI-S series, will depend on the arrangement of the indoor and outdoor units.
First read the data on the selected indoor and outdoor units and then use the following formulas to calculate the electrical characteristics before applying for a capacity agreement with the local electric power company.

9-6-1. Obtaining the electrical characteristics of a MULTI-S series system

(1)Procedure for obtaining total power consumption

	Page numbers in this technical manual	Power consumption
Total power consumption of each indoor unit	See the technical manual of each indoor unit	①
✻1 power consumption of outdoor unit	Standard capacity table—page 14-30	②
Total power consumption of system	See the technical manual of each indoor unit	①+② <kW>

✻1 Please note that the power consumption of the outdoor unit will vary depends on the total capacity of the selected indoor units.

(2)Method of obtaining total current

	Page numbers in this technical manual	Subtotal
Total current through each indoor unit	See the technical manual of each indoor unit	①
✻2 current through outdoor unit	Standard capacity table—page 14-30	②
Total current through system	See the technical manual of each indoor unit	①+② <A>

✻2 Please note that the current through the outdoor unit will vary depending on the total capacity of the selected indoor units.

(3) Method of obtaining system power factor

Use the following formula and the total power and current obtained in parts ① and ② on the previous page to calculate the system
power factor.

$$\text{System power factor} = \frac{\text{(Total system power consumption)}}{\text{(Total system current x voltage)}} \times 100\%$$

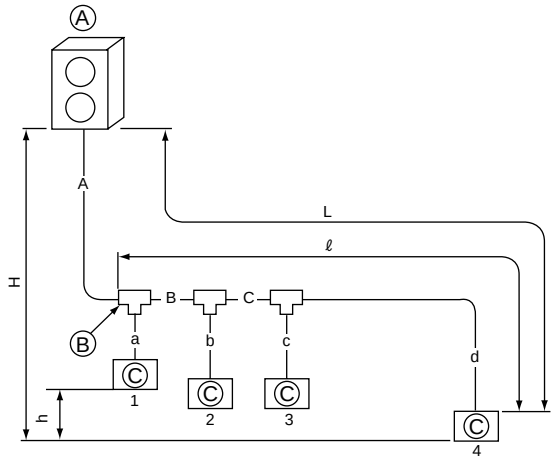
9-6-2. Applying to an electric power company for power and total current

Calculations should be performed separately for heating and cooling employing the same methods; use the largest resulting value in your application to the electric power company.

10 REFRIGERANT PIPING TASKS

10-1. REFRIGERANT PIPING SYSTEM

Line-Branch Method
Connection Examples
(Connecting to Four Indoor Units)



Ⓐ Outdoor Unit
Ⓑ First Branch
Ⓒ Indoor unit

Permissible Length	Total Piping Length	A+B+C+a+b+c+d is 100 meters or less (125 Type), 80 meters or less (71 Type)
	Farthest Piping Length (L)	A+B+C+d is 70 meters or less (125 Type), 50 meters (71 Type)
	Farthest Piping Length After First Branch (ℓ)	B+C+d is 30meters or less
Permissible High/ Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	30 meters or less (If the outdoor unit is lower, 20 meters or less)
	High/Low Difference in Indoor/Indoor Section (h)	12 meters or less

■ Selecting the Refrigerant Branch Kit

Use an optional branch piping kit (CMY-Y62-C-E).

■ Select Each Section of Refrigerant Pipng

(1) Section From Oudoor Unit to First Branch (A)
(2) Sections From Branch to Indoor Unit (a,b,c,d)
(3) Section From Branch to Branch (B,C)

Each Section of Piping

Select the size from the table to the right.

(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)

Model	Piping Diameter (mm)	
PUMY-71	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88
PUMY-125	Liquid Line	ϕ9.52
	Gas Line	ϕ19.05

(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)

Model number	Piping Diameter (mm)	
40 or lower	Liquid Line	ϕ6.35
	Gas Line	ϕ12.7
50 to 80	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88
100, 125	Liquid Line	ϕ9.52
	Gas Line	ϕ19.05

(3) Refrigerant Piping Diameter In Section From Branch to Branch

Downstream Unit Model Total	Liquid Line (mm)	Gas Line (mm)
80 or less	ϕ9.52	ϕ15.88
80 or more	ϕ9.52	ϕ19.05

■ Additional refrigerant charge

- Refrigerant of 3kg equivalent to 50-m total extended piping length (model 125) or 2.4kg equivalent to 40-m (model 71) is already included when the outdoor unit is shipped. Thus, if the total extended piping length is 50m or less (model 125) or 40m or less (model 71), there is no need to charge with additional refrigerant.
- If the total extended piping length exceeds 50m (model 125) or 40m (model 71), calculate the required additional refrigerant charge using the procedure shown on the right.
- If the calculated additional refrigerant charge is a negative amount, do not charge with any refrigerant.

<Additional Charge>

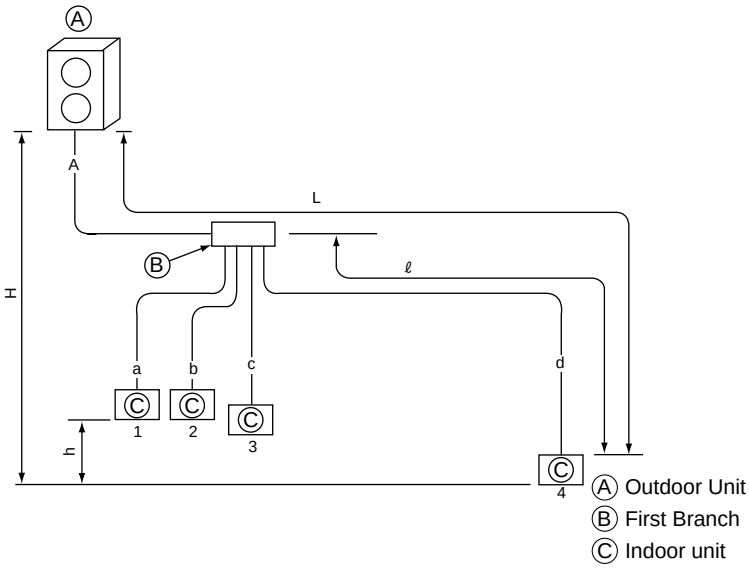
Additional refrigerant charge		Liquid pipe size Total length of ϕ9.52 × 0.06		Liquid pipe size Total length of ϕ6.35 × 0.024		Refrigerant amount for outdoor unit
(kg)	=	(m) × 0.06 (kg/m)	+	(m) × 0.024 (kg/m)	–	71: 2.4kg 125: 3.0kg

<Example>
Outdoor model : 71

Indoor 1 : 25	A : ϕ9.52	10m	a : ϕ6.35	5m	At the conditions below:
2 : 20	B : ϕ9.52	10m	b : ϕ6.35	10m	
3 : 25	C : ϕ9.52	10m	c : ϕ6.35	10m	
4 : 20			d : ϕ6.35	10m	

The total length of each liquid line is as follows
ϕ9.52 : A + B + C = 10 + 10 +10 = 30m
ϕ6.35 : a + b + c + d = 5 + 10 + 10 + 10 = 35m
Therefore,
<Calculation example>
Additional
refrigerant charge = 30 × 0.06 + 35 × 0.024 – 2.4 = 0.3kg (rounded up)

Header-Branch Method
Connection Examples
(Connecting to Four Indoor Units)



Permissible Length	Total Piping Length	A+a+b+c+d is 100 meters or less (125 Type), 80 meters or less (71Type)
	Farthest Piping Length (L)	A+d is 70 meters or less (125 Type), 50 meters (71Type)
	Farthest Piping Length After First Branch (ℓ)	d is 30 meters or less
Permissible High/ Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	30 meters or less (If the outdoor unit is lower, 20 meters or less)
	High/Low Difference in Indoor/Indoor Section (h)	12 meters or less

■ **Selecting the Refrigerant Branch Kit**

Please select branching kit, which is sold separately, from the table below.
(The kit comprises sets for use with liquid pipes and for use with gas pipes.)
•The CMY-Y68- cannot be connected with 100,125 type indoor units.

Branch header (4 branches)	Branch header (8 branches)
CMY-Y64-C	CMY-Y68

■ **Select Each Section of Refrigerant Piping**

(1) Section From Outdoor Unit to First Branch (A)
(2) Sections From Branch to Indoor Unit (a,b,c,d)
} Each Section of Piping

Select the size from the table to the right.

(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)

Model	Piping Diameter (mm)	
PUMY-71	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88
PUMY-125	Liquid Line	ϕ9.52
	Gas Line	ϕ19.05

(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)

Model number	Piping Diameter (mm)	
40 or lower	Liquid Line	ϕ6.35
	Gas Line	ϕ12.7
50 to 80	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88
100,125	Liquid Line	ϕ9.52
	Gas Line	ϕ19.05

■ **Additional refrigerant charge**

- Refrigerant of 3kg equivalent to 50-m total extended piping length (model 125) or 2.4kg equivalent to 40-m(model 71) is already included when the outdoor unit is shipped. Thus, if the total extended piping length is 50m or less (model 125) or 40m or less (model71), there is no need to charge with additional refrigerant.
- If the total extended piping length exceeds 50m (model 125) or 40m (model 71), calculate the required additional refrigerant charge using the procedure shown on the right.
- If the calculated additional refrigerant charge is a negative amount, do not charge with any refrigerant.

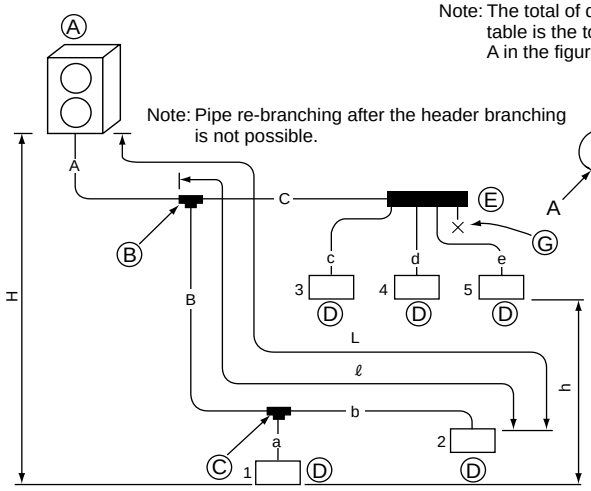
<Additional Charge>

Additional refrigerant charge	=	Liquid pipe size Total length of ϕ9.52 × 0.06	+	Liquid pipe size Total length of ϕ6.35 × 0.024	–	Refrigerant amount for outdoor unit
(kg)		(m) × 0.06 (kg/m)		(m) × 0.024 (kg/m)		71:2.4kg 125: 3.0kg

<Example>
Outdoor model : 125
Indoor 1 : 50 A : ϕ9.52 30m a : ϕ9.52 15m
2 : 40 b : ϕ6.35 10m
3 : 25 c : ϕ6.35 10m
4 : 20 d : ϕ6.35 20m
} At the conditions below:

The total length of each liquid line is as follows
ϕ9.52 : A + a = 30 + 15 = 45m
ϕ6.35 : b + c + d = 10 + 10 + 20 = 40m
Therefore,
<Calculation example>
Additional
refrigerant charge = 45 × 0.06 + 40 × 0.024 – 3.0 = 0.7kg (rounded up)

Method of Combined Branching of Lines and Headers
Connection Examples
(Connecting to Five Indoor Units)



Note: The total of downstream unit models in the table is the total of models as seen from point A in the figure above.

Note: Pipe re-branching after the header branching is not possible.

Ⓐ Outdoor unit
Ⓑ First branching (branching joint)
Ⓒ Branching joint
Ⓓ Indoor unit
Ⓔ Branching header
Ⓕ To downstream unit
Ⓖ Blind caps

Permissible Length	Total Piping Length	A+B+C+a+b+c+d+e is 100 meters or less (125 Type), 80 meters or less (71 Type)
	Farthest Piping Length (L)	A+B+b is 70 meters or less (125 Type), 50 meters (71 Type)
	Farthest Piping Length After First Branch (ℓ)	B+b is 30 meters or less
Permissible High/ Low Difference	High/Low Difference in Indoor/Outdoor Section (H)	30 meters or less (If the outdoor unit is lower, 20 meters or less)
	High/Low Difference in Indoor/Indoor Section (h)	12 meters or less

■ **Selecting the Refrigerant Branch Kit**

Please select branching kit, which is sold separately, from the table below.
(The kit comprises sets for use with liquid pipes and for use with gas pipes.)

Branch Joint	Branch Header (4 branches)	Branch Header (8 branches)
CMY-Y62-C-E	CMY-Y64-C	CMY-Y68

■ **Select Each Section of Refrigerant Pipng**

(1) Section From Outdoor Unit to First Branch (A)
(2) Sections From Branch to Indoor Unit (a,b,c,d,e)
(3) Section From Branch to Branch (B,C)

Each Section of Piping

Select the size from the table to the right.

(1) Refrigerant Piping Diameter In Section From Outdoor Unit to First Branch (Outdoor Unit Piping Diameter)

Model	Piping Diameter (mm)	
PUMY-71	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88
PUMY-125	Liquid Line	ϕ9.52
	Gas Line	ϕ19.05

(2) Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)

Model number	Piping Diameter (mm)	
40 or lower	Liquid Line	ϕ6.35
	Gas Line	ϕ12.7
50 to 80	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88
100,125	Liquid Line	ϕ9.52
	Gas Line	ϕ19.05

(3) Refrigerant Piping Diameter In Section From Branch to Branch

Downstream Unit Model Total	Liquid Line (mm)	Gas Line (mm)
80 or less	ϕ9.52	ϕ15.88
80 or more	ϕ9.52	ϕ19.05

■ **Additional refrigerant charge**

- Refrigerant of 3kg equivalent to 50-m total extended piping length (model 125) or 2.4kg equivalent to 40-m (model 71) is already included when the outdoor unit is shipped. Thus, if the total extended piping length is 50m or less (model 125) or 40m or less (model 71), there is no need to charge with additional refrigerant.
- If the total extended piping length exceeds 50m (model 125) or 40m (model 71), calculate the required additional refrigerant charge using the procedure shown on the right.
- If the calculated additional refrigerant charge is a negative amount, do not charge with any refrigerant.

<Additional Charge>

Additional refrigerant charge	=	Liquid pipe size Total length of ϕ9.52 × 0.06	+	Liquid pipe size Total length of ϕ6.35 × 0.024	–	Refrigerant amount for outdoor unit
(kg)		(m) × 0.06 (kg/m)		(m) × 0.024 (kg/m)		71:2.4kg 125: 3.0kg

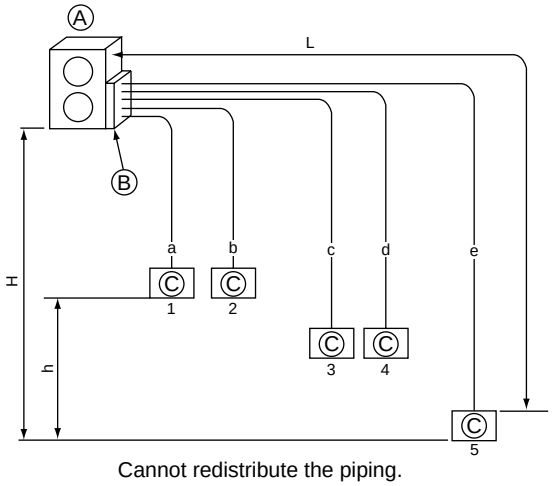
<Example>
Outdoor model : 125

Indoor 1 : 50	A : ϕ9.52	10m	a : ϕ9.52	5m	At the conditions below:
2 : 40	B : ϕ9.52	20m	b : ϕ6.35	10m	
3 : 32	C : ϕ9.52	10m	c : ϕ6.35	5m	
4 : 20			d : ϕ6.35	5m	
5 : 20			e : ϕ6.35	5m	

The total length of each liquid line is as follows
ϕ9.52 : A + B + C + a = 10 + 20 +10 + 5 = 45m
ϕ6.35 : b + c + d + e = 10 + 5 + 5 + 5 = 25m
Therefore,
<Calculation example>
Additional
refrigerant charge = 45 × 0.06 + 25 × 0.024 – 3.0 = 0.3kg (rounded up)

Multi-distribution piping on outdoor unit
Connection Examples
(Connecting up to Five Indoor Units)

*If multi-distribution piping on outdoor unit is done, a maximum of 5 indoor units can be connected.



Cannot redistribute the piping.

Ⓐ Outdoor Unit
Ⓑ First Branch
Ⓒ Indoor unit

Permissible Length	Total Piping Length		a+b+c+d+e is 100 meters or less
	Farthest Piping Length	(L)	e is 30 meters or less
Permissible High / Low Difference	High/Low Difference in Indoor / Outdoor Section	(H)	30 meters or less (20 meters or less if the outdoor unit is below.)
	High/Low Difference in Indoor / Indoor Section	(h)	12 meters or less

■ **Selecting the Refrigerant Branch Kit**

Use multi-distribution piping on outdoor unit kit CMY-S65 (5 branches).
*Cannot be connected with 100,125 type indoor units.

■ **Select Each Section of Refrigerant Pipng**

- Section the piping size for each section from the branch to the indoor unit (a,b,c,d,e) using the chart on the right.

• Refrigerant Piping Diameter In Section From Branch to Indoor Unit (Indoor Unit Piping Diameter)

Model number	Piping Diameter (mm)	
40 or lower	Liquid Line	ϕ6.35
	Gas Line	ϕ12.7
50 to 80	Liquid Line	ϕ9.52
	Gas Line	ϕ15.88

■ **Additional refrigerant charge**

- Refrigerant of 3kg equivalent to 50-m total extended piping length (model 125) or 2.4kg equivalent to 40-m (model 71) is already included when the outdoor unit is shipped. Thus, if the total extended piping length is 50m or less (model 125) or 40m or less (model 71), there is no need to charge with additional refrigerant.
- If the total extended piping length exceeds 50m (model 125) or 40m (model 71), calculate the required additional refrigerant charge using the procedure shown on the right.
- If the calculated additional refrigerant charge is a negative amount, do not charge with any refrigerant.

<Additional Charge>

Additional refrigerant charge	=	Liquid pipe size Total length of ϕ9.52 × 0.06	+	Liquid pipe size Total length of ϕ6.35 × 0.024	–	Refrigerant amount for outdoor unit
(kg)		(m) × 0.06 (kg/m)		(m) × 0.024 (kg/m)		71:2.4kg 125: 3.0kg

<Example>
Outdoor Unit: 125 Type
Indoor 1 : 20 a : ϕ6.35 10m
2 : 20 b : ϕ6.35 20m
3 : 20 c : ϕ6.35 20m
4 : 50 d : ϕ9.52 20m
5 : 50 e : ϕ9.52 30m
The total length of each liquid line is as follows
ϕ9.52 : d + e = 20 + 30 = 50m
ϕ6.35 : a + b + c = 10 + 20 + 20 = 50m
Therefore,
Additional refrigerant charge = 50 × 0.06 + 50 × 0.024 – 3.0 = 1.2kg (rounded up)

10-2. PRECAUTIONS AGAINST REFRIGERANT LEAKAGE

10-2-1. Introduction

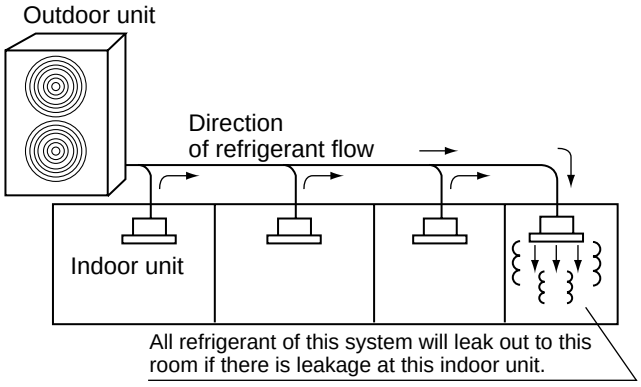
R-22 refrigerant of this air conditioner is non-toxic and non-flammable but leaking of large amount from an indoor unit into the room where the unit is installed may be deleterious. To prevent possible injury, the rooms should be large enough to keep the R-22 concentration specified by KHK : (a high pressure gas safety association) installation guidelines S0010 as follows.

* Maximum concentration

Maximum refrigerant concentration of R-22 of a room is 0.3 kg/m³ accordance with the installation guidelines. To facilitate calculation, the maximum concentration is expressed in units of kg/m³ (kg of R-22 per m³)

Maximum concentration of R-22: 0.3kg/m³

(KHK installation guidelines S0010)



10-2-2. Confirming procedure of R-22 concentration

Follow 1) to 4) to confirm the R-22 concentration and take appropriate treatment, if necessary.

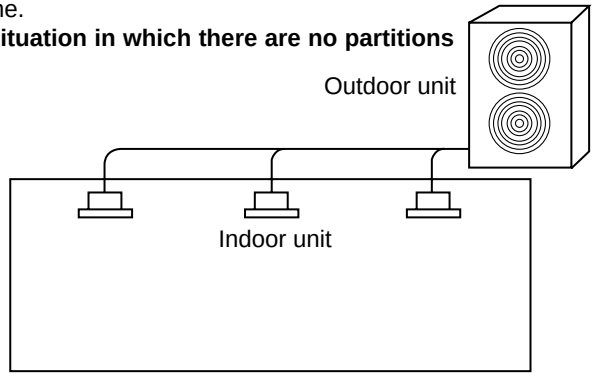
(1) Calculate total refrigerant amount by each refrigerant system based on one indoor unit.
Total refrigerant amount is prechrged refrigerant amount of the indoor unit at ex-factory plus additional charged amount at field installation.

Note:
When single refrigeration system is consists of several independent refrigeration circuit, figure out the total refrigerant amount by each independent refrigerant circuit.

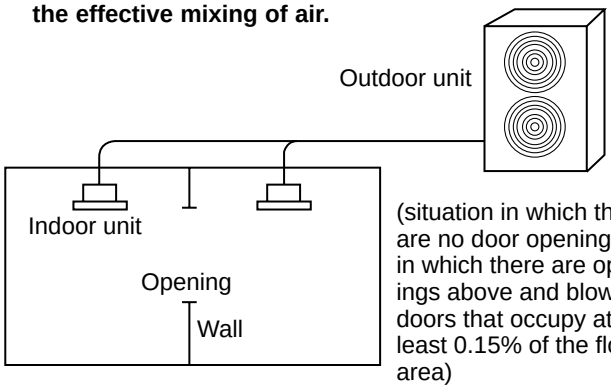
(2) Calculate room volumes (in m³) and find the room with the smallest volume

The part with ▭ represents the room with the smallest volume.

(a) Situation in which there are no partitions

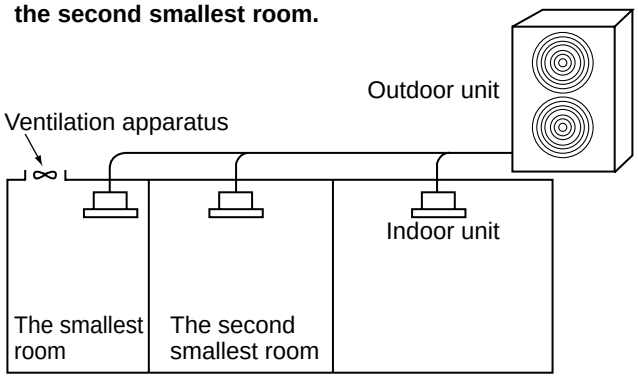


(b) There are partitions, but there are openings that allow the effective mixing of air.



(situation in which there are no door openings or in which there are openings above and blow doors that occupy at least 0.15% of the floor area)

(c) If the smallest room has mechanical ventilation apparatus that is linked to a household gas detection and alarm device, the calculations should be performed for the second smallest room.



(3) Use the results of calculations (1)and (2) to calculate the refrigerant concentration:

$$\frac{\text{Total refrigerant in the refrigerating unit (kg)}}{\text{The smallest room in which an indoor unit has been installed (m³)}} \leqq \text{maximum concentration(kg/m³)}$$

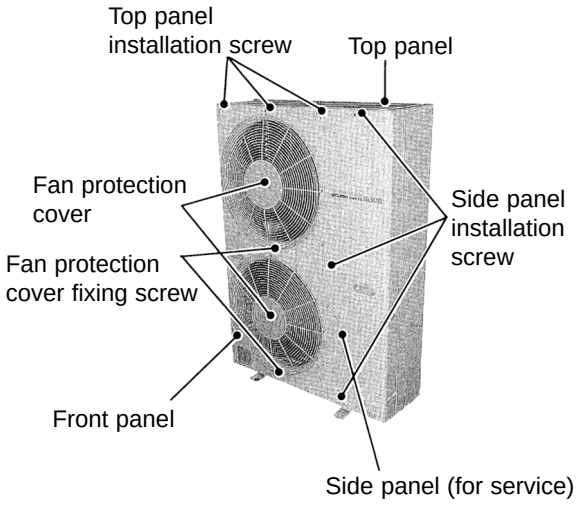
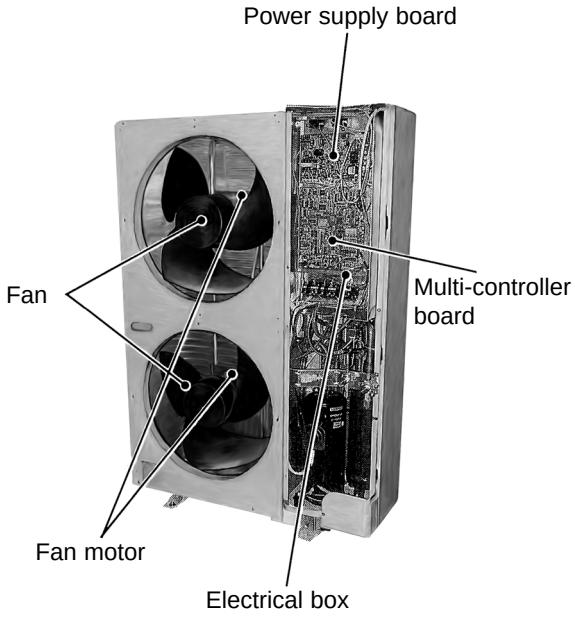
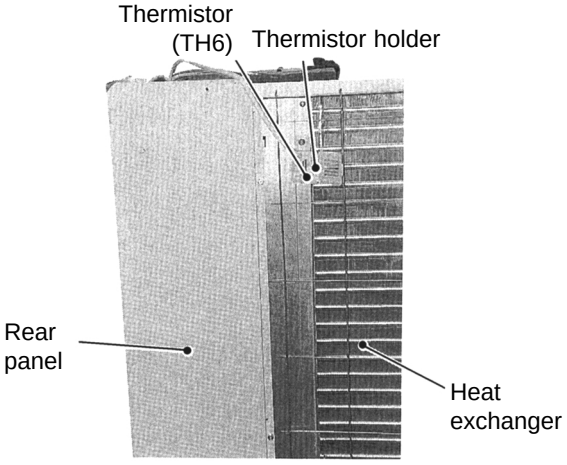
Maximum concentration of R-22:0.3kg/m³

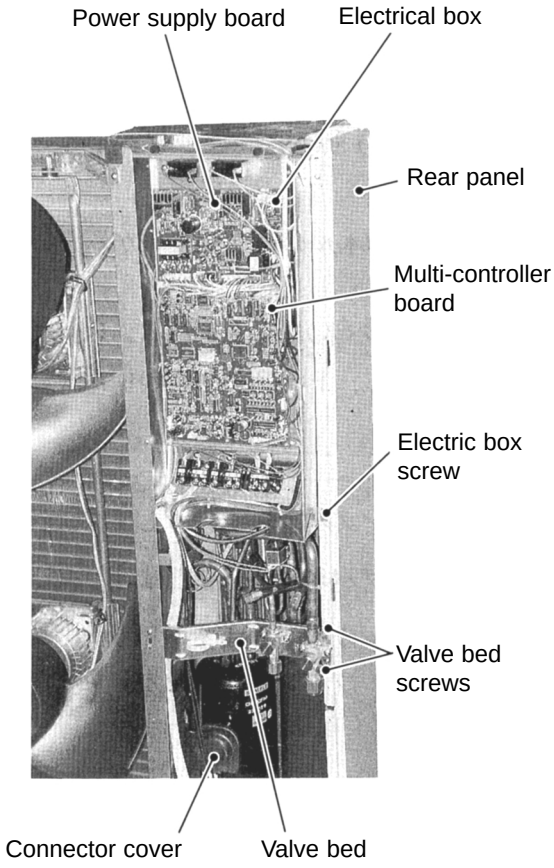
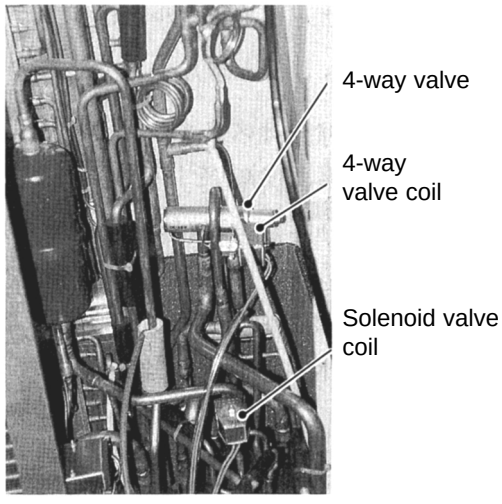
If the calculation results do not exceed the maximum concentration, perform the same calculations for the larger second and third room, etc., until it has been determined that nowhere will the maximum concentration be exceeded.

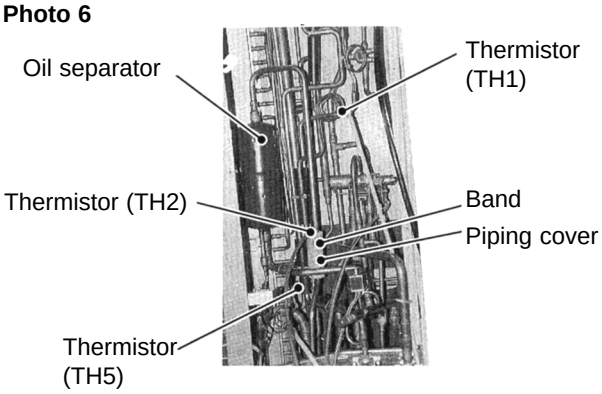
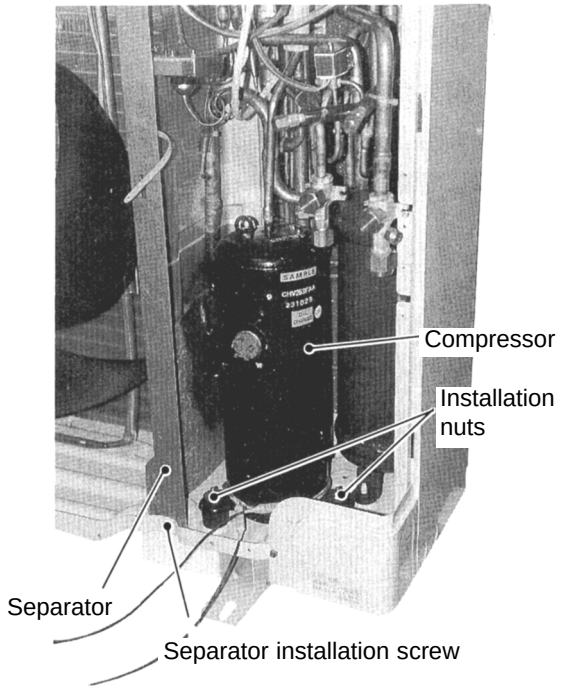
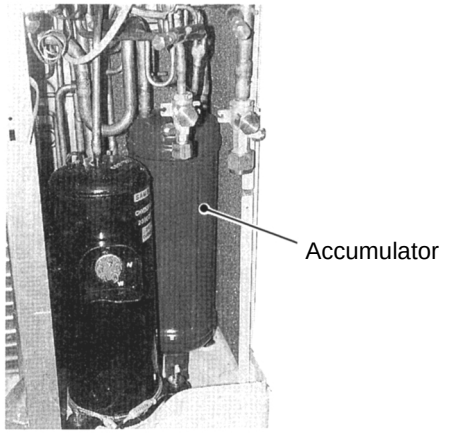
11 DISASSEMBLY

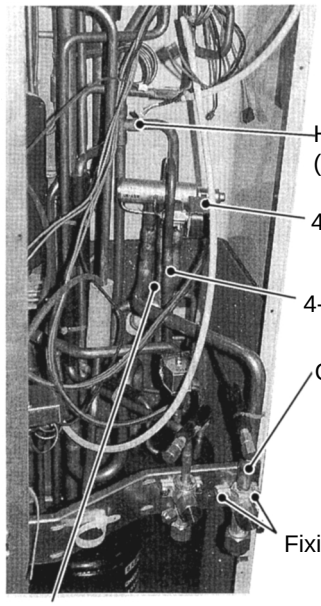
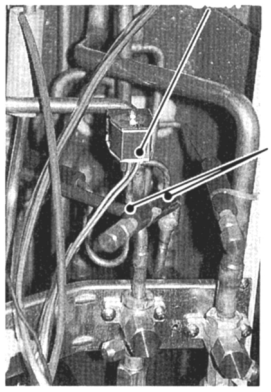
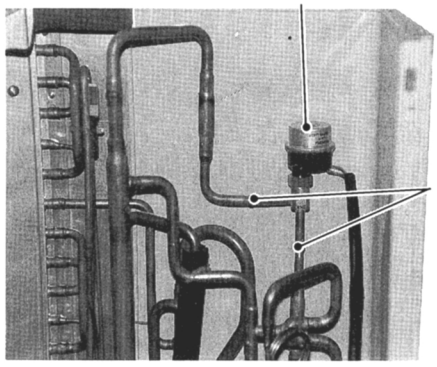
Model
PUMY-71VM

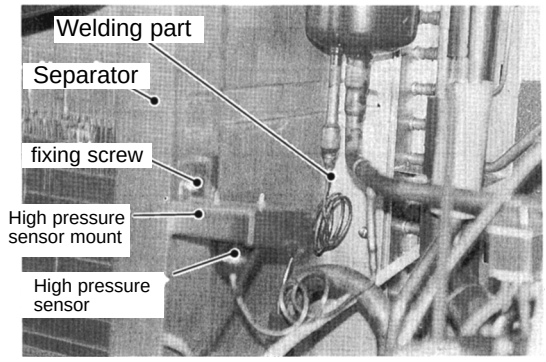
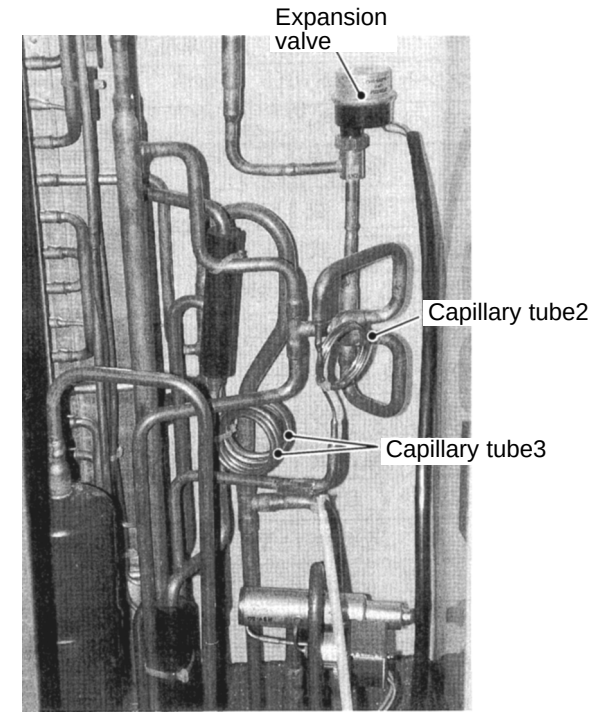
✻ 1. Please pay attention to safety when assembling or disassembling heavy items.
2. The refrigerant system must be vacuum-pumped before performing piping maintenance.

OPERATING PROCEDURE	PHOTOS
1. Side and top panel disassembly procedures: (1) Remove the side panel screws (3 pcs : 5×10 screws) so that the hanging portion on the right side can be slid downward. Remove the side panel. (2) Remove the top panel screws (5×10 screws : 3 pcs in front, 2 pcs in back) and take off the top panel. <If the rear screws on the top panel cannot be removed> Remove the front screws on the top panel (3 pcs : 5×10 screws) and lift up the front part of the top panel.	**Photo 1** 
2. Fan and fan motor disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the fan protection cover fixing screw (15×15screw), and take off the fan guard by rotating it to the left. (4) Remove the fan motor wires (MF1) (MF2) from the power supply board. Remove the capacitor wires. (5) Loosen the fan motor wire clips (3 pcs). (6) Remove the propeller-type blower. (7) Remove the fan motor screws (3 pcs : 5×16 screws) and remove the fan motors.	**Photo 2** 
3. Thermistor (Outdoor air temperature sensor detection: TH6) disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Open the Thermistor clip and remove the Thrermistor (outdoor air temperature detection). (4) Remove the TH6 wire from the multi-functional controller board in the electrical box and pull out of the electrical box.	**Photo 3** 

OPERATING PROCEDURE	PHOTOS
4. Electrical box disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Disconnect the following wires from the multi controller board. • Thermistor (discharge temperature detection):TH1 • Thermistor (Low pressure saturated temperature detection):TH2 • Thermistor (pipe temperature, defection judging defrost):TH5 • Thermistor (outdoor temperature detection): TH6 • High-pressure sensor: 63HS (discharge pressure detection) • Expansion valve: SLEV (4) Disconnect the following wires from the power supply board: • Fan motor: MF1 and MF2 • Solenoid coil: SV1 • 4-way coil: 21S4 • Crankcase heater: CH Pull wires out of the electrical box after disconnecting them. (5) After removing the connector cover, remove the compresser wire and the inner thermostat terminal. (6) Remove the electrical box screw (1 pc : 4 × 10). (7) Remove the valve bed screws from the right side of the valve bed (2 pcs : 4 × 10). (8) Remove the electrical box after slightly loosening the rear panel. The electrical box is held by two claws on the left and one on the right.	**Photo 4** 
5. Solenoid valve coil and 4-way valve coil disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the top panel (Refer to **1**). (3) Remove the electrical box (Refer to **3**). (4) Remove coil screws (Solenoid valve: 1 pc M4x6; 4-way valve: 1 pc M5x6), and remove the solenoid coil (SV1) and 4-waycoil (21S4) wires from the power supply board. Note: The 4-way valve coil screw cannot be removed by using a screwdriver; an adjustable or fixed wrench must be used.	**Photo 5** 

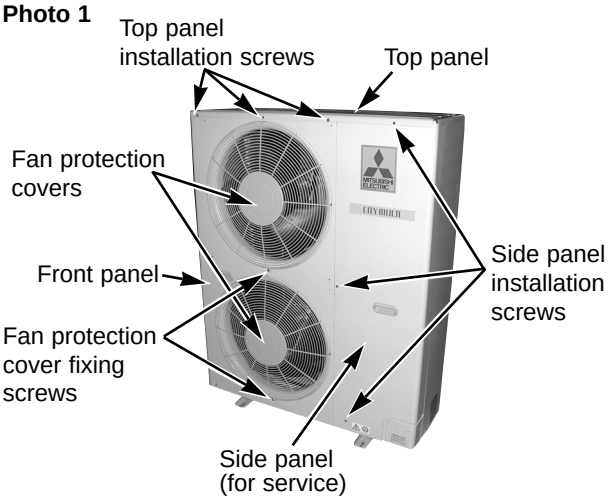
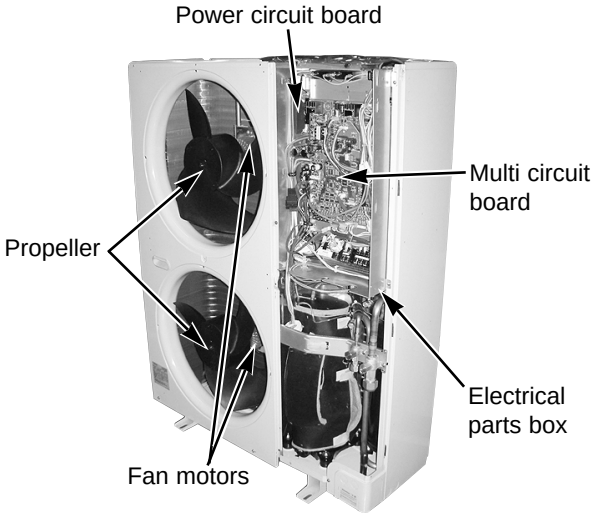
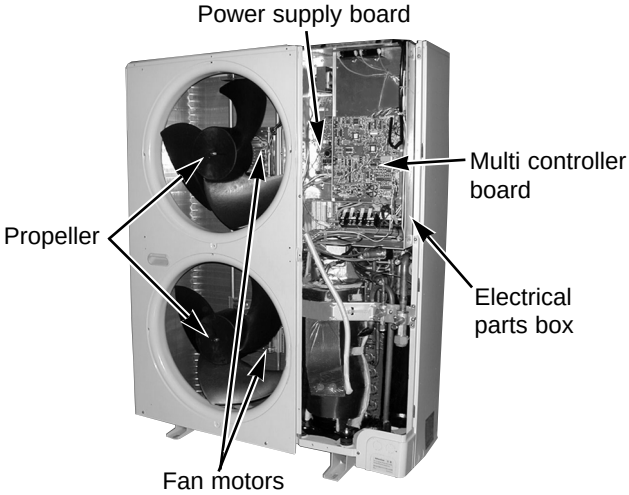
OPERATING PROCEDURE	PHOTOS
6. Thermistor disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the electric box (Refer to **4**) (4) Remove the Thermistor (discharge temperature detection: TH1), (Low saturated pressure temperature sensor: TH2), (Pipe temperature, detection, judging defrost: TH5). * To remove TH1, cut the band holding it and remove the piping cover.	**Photo 6** 
7. Compressor disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the screws (2 pcs : 5×10, 1 pc : 4×10) and the front panel. (4) Remove the electrical box (see 4 above). (5) Remove screws (3 pcs : 4×10, 4 pcs : 5×16) and the valve bed (including the ball valve mounting portion). (6) Remove the separator screws. (1 pc : 4×10) (7) Remove the welded portions of the compressor discharge and intake pipes. (8) Remove the side of the separator and the compressor leg cover. (1 pc : 4×10 screw) (9) Remove the compressor leg mounting nuts (3 pcs). (use an adjustable wrench) (10)Move the separator to the left and remove the compresser.	**Photo 7** 
8. Accumulator disassembly procedures: (1) Remove the compressor (Refer to **7**). (2) Remove the welded portions of the accumulator. (take care not to strike the rear panel) (3) Lift up the accumulator and pull it out from the rear.	**Photo 8** 

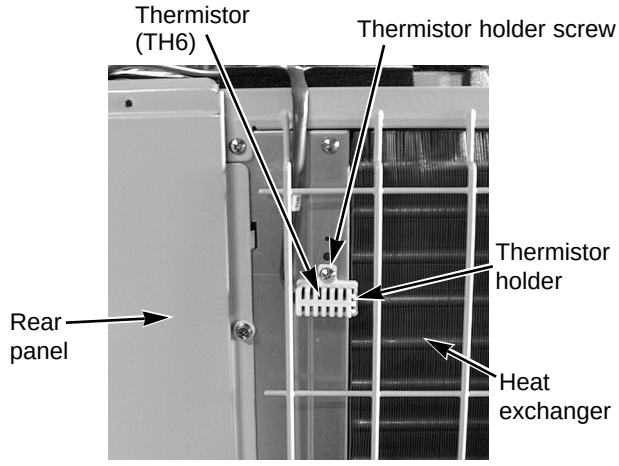
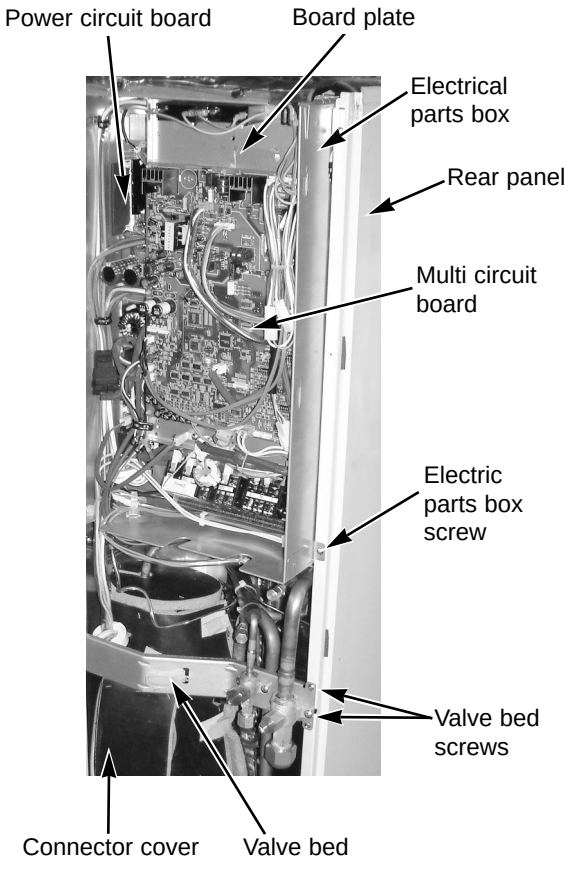
OPERATING PROCEDURE	PHOTOS
9. Four-way valve disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the top panel (Refer to **1**). (3) Remove the electrical box (Refer to **4**). (4) Remove the 4-way valve coil (Refer to **5**). (5) Remove the mounting screws from the gas side ball valve (2 pcs : 5×16). (6) Remove the field piping from the outdoor unit (gas side). (7) Remove the welded portion. ① Upper and lower heat exchanger inlet (T connector). ② Accumulator inlet (T connector) ③ 4-way valve inlet (8) Remove 4-way valve. ⁎ Do not expose 4-way valve to above 120°C.	**Photo 9** 
10. Solenoid valve disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the electrical box (Refer to **4**). (3) Remove the solenoid valve coil (Refer to **5**). (4) Remove the welded portions of the solenoid valve. (take care excessive heating)	**Photo 10** 
11. Electronic expansion valve disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the electrical box (Refer to **4**). (3) Remove welded portions of expansion valve. (take care excessive heating)	**Photo 11** 

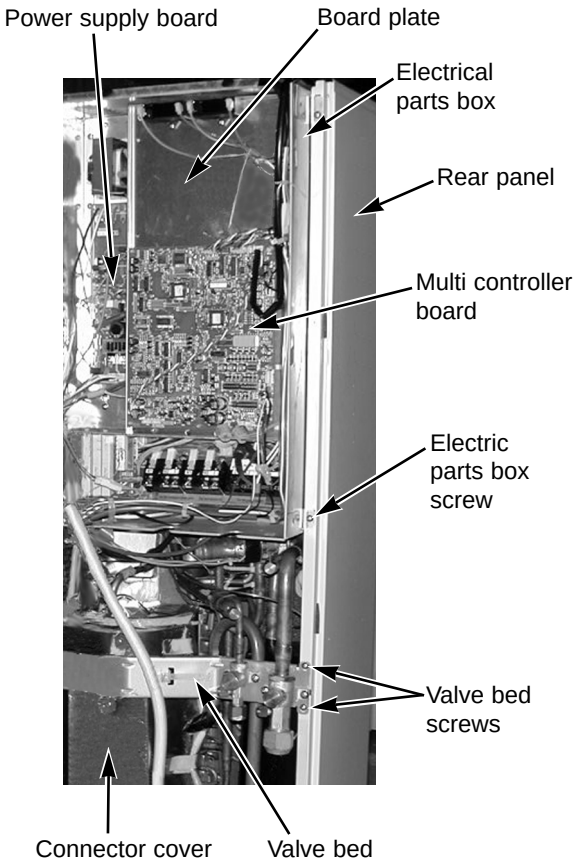
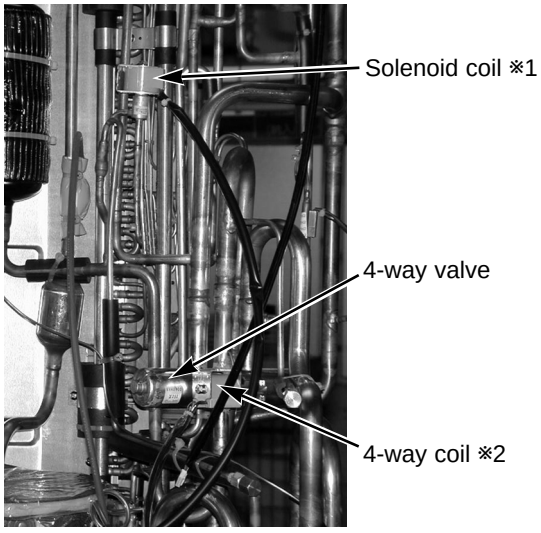
OPERATING PROCEDURE	PHOTOS
12. High pressure sensor (63HS)disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the electrical box (Refer to **4**). (3) Remove the high pressure sensor wire. (4) Remove the welded portion of high pressure sensor. (5) Remove the mounting screw fastening the high pressure sensor mounting plate (1 pc : 4×10). (6) Remove the high pressure sensor mounting screws (2 pcs : 4×10).	**Photo 12** 
13. Capillary tube disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the top panel (Refer to **1**). (3) Remove the electrical box (Refer to **4**). (4) Remove the field piping from the unit (liquid side). (5) Remove the welded portions of the lower coil inlet and expansion valve mounting part.	**Photo 13** 

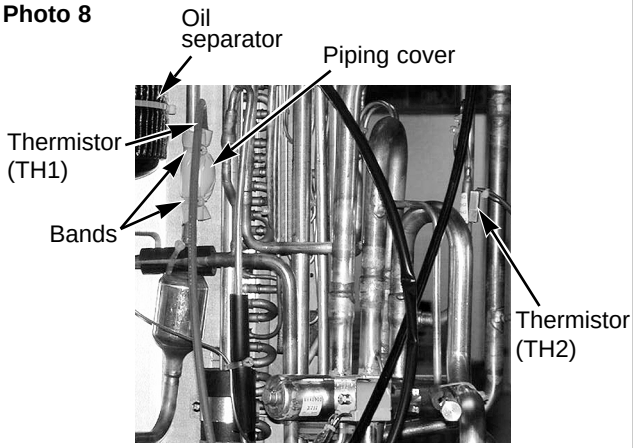
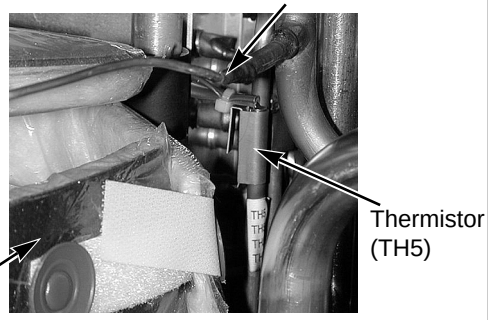
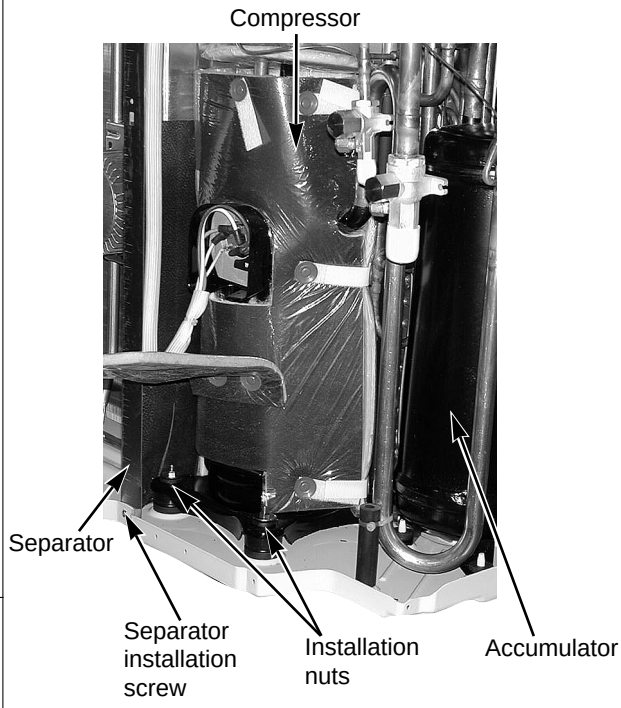
Models
PUMY-125VM
PUMY-125YM
PUMY-125VMA
PUMY-125YMA

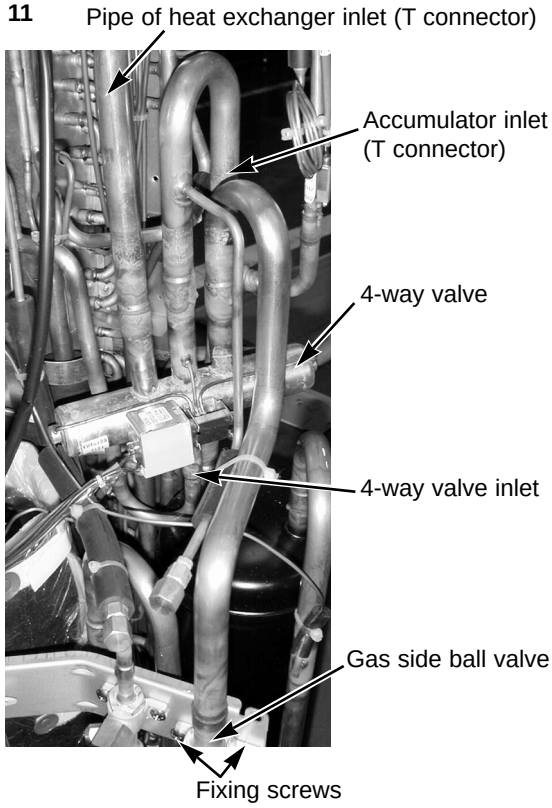
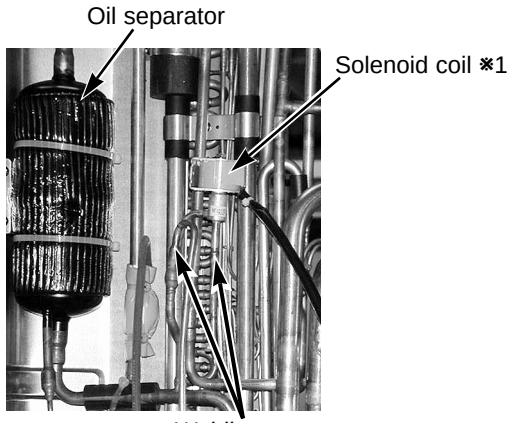
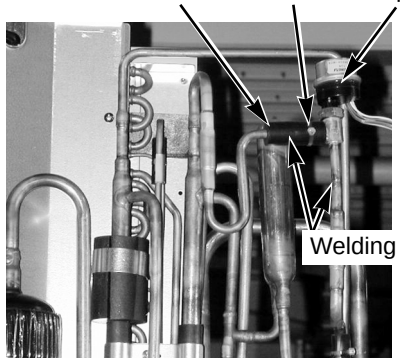
* 1. Please pay attention to safety when assembling or disassembling heavy items.
2. The refrigerant system must be vacuum-pumped before performing piping maintenance.

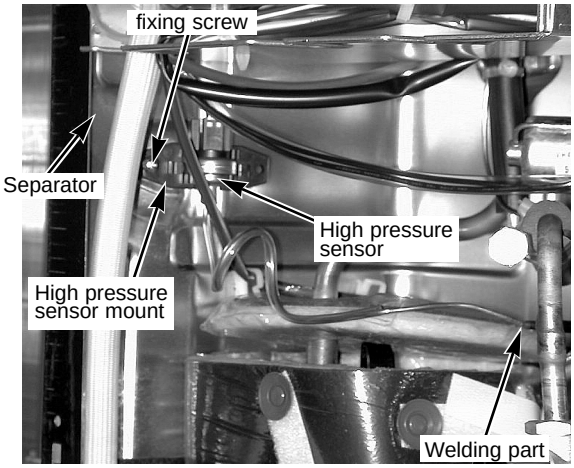
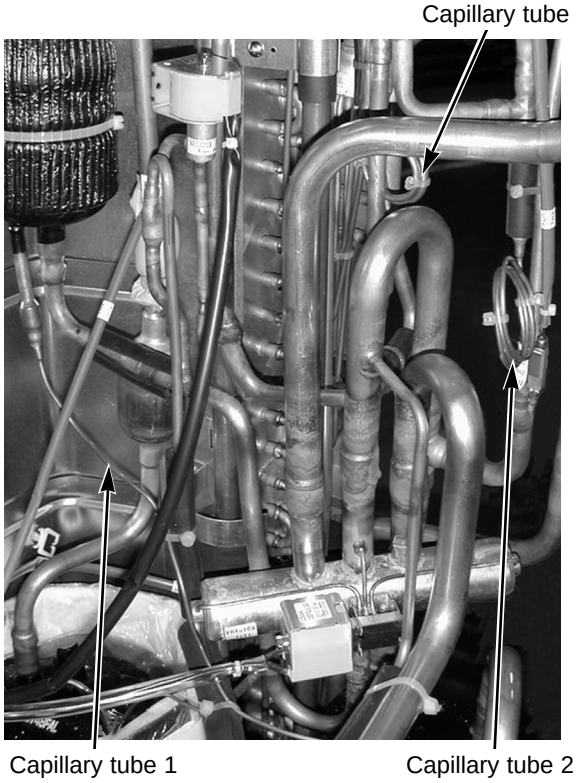
OPERATING PROCEDURE	PHOTOS
1. Side and top panel disassembly procedures: (1) Remove the side panel screws (3 pcs : 5×10 screws) so that the hanging portion on the right side can be slid downward. Remove the side panel. (2) Remove the top panel screws (5×10 screws : 3 pcs in front, 2 pcs in back) and take off the top panel. <If the rear screws on the top panel cannot be removed> Remove the front screws on the top panel (3 pcs : 5×10 screws) and lift up the front part of the top panel.	**Photo 1** 
2. Propeller and fan motor disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the fan protection cover fixing screw (1 pc : 15×15), and take off the fan guard by rotating it to the left. (4) **[PUMY-125VMA]** Remove the fan motor wires (MF1) (MF2) from the multi circuit board. Remove the capacitor wires. **[PUMY-125VM, PUMY-125YM, PUMY-125YMA]** Remove the fan motor wires (MF1) (MF2) from the power supply board. Remove the capacitor wires. (5) Loosen the fan motor wire clips (3 pcs). (6) Remove the propeller. (7) Remove the fan motor screws (3 pcs : 5×16 screws) and remove the fan motors.	**Photo 2** **PUMY-125VMA**  **Photo 3** **PUMY-125VM, PUMY-125YM, PUMY-P125YMA** (The electrical parts box in the picture below air for PUMY-125YM and PUMY-125YMA.) 

OPERATING PROCEDURE	PHOTOS
3. Thermistor (TH6: outdoor air temperature sensor detection) disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the thermistor holder fixing screw (1 pc : 4×10), and remove the thermistor holder. (4) Remove the Thermistor (outdoor air temperature detection: TH6). (5) Remove the TH6 wire from the multi-functional controller board in the electrical box and pull out of the electrical box.	**Photo 4** 
4. Electrical parts box disassembly procedures: [PUMY-125VMA] (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Disconnect the following wires from the multi controller board. • Thermistor (Discharge temperature detection):TH1 • Thermistor (Low pressure saturated temperature detection):TH2 • Thermistor (Pipe temperature defection / Judging defrost):TH5 • Thermistor (Outdoor temperature detection): TH6 • High-pressure sensor (Discharge pressure detection): 63HS • Expansion valve: LEV(A) • Fan motor: MF1 and MF2 • Solenoid valve: SV1 • 4-way coil, 4-way valve: 21S4 (4) Remove the board plate. Pull wires out of the electrical parts box after disconnecting them. (5) After removing the connector cover, remove the compressor wire and the inner thermostat terminal. (6) Remove the electrical box screw (1 pc : 4 × 10). (7) Remove the valve bed screws from the right side of the valve bed (2 pcs : 4 × 10). (8) Remove the electrical box after slightly loosening the rear panel. The electrical box is held by two claws on the left and one on the right.	**Photo 5** **PUMY-125VMA** 

OPERATING PROCEDURE	PHOTOS
5. Electrical parts box disassembly procedures: [PUMY-125VM, PUMY-125YM, PUMY-125YMA] (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Disconnect the following wires from the multi controller board. • Thermistor (Discharge temperature detection):TH1 • Thermistor (Low pressure saturated temperature detection):TH2 • Thermistor (Pipe temperature defection • judging defrost):TH5 • Thermistor (Outdoor temperature detection): TH6 • High-pressure sensor (Discharge pressure detection): 63HS • Expansion valve: SLEV (4) Remove the board plate. (5) Disconnect the following wires from the power supply board: • Fan motor: MF1 and MF2 • Solenoid coil: SV1 • 4-way coil: 21S4 Pull wires out of the electrical box after disconnecting them. (6) After removing the connector cover, remove the compressor wire and the inner thermostat terminal. (7) Remove the electrical box screw (1 pc : 4 × 10). (8) Remove the valve bed screws from the right side of the valve bed (2 pcs : 4 × 10). (9) Remove the electrical box after slightly loosening the rear panel. The electrical box is held by two claws on the left and one on the right.	**Photo 6** **PUMY-125VM, PUMY-P125YM, PUMY-P125YMA** (The electrical parts box in the picture below air for PUMY-125YM and PUMY-125YMA.) 
6. Solenoid coil ※1 and 4-way coi ※2 disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the top panel (Refer to **1**). (3) Remove the electrical parts box (Refer to **4** or **5**). (4) Remove coil screws (Solenoid coil ※1 : 1 pc M4x6; 4-way coil ※2 : 1 pc M5x6), and remove the solenoid coil (SV1) ※1 and 4-way coil (21S4) ※2 wires from the power supply board ※3 Only PUMY-125VMA model ※1 Solenoid valve (21S4) ※2 4-way valve (21S4) ※3 Power circuit board	**Photo 7** 

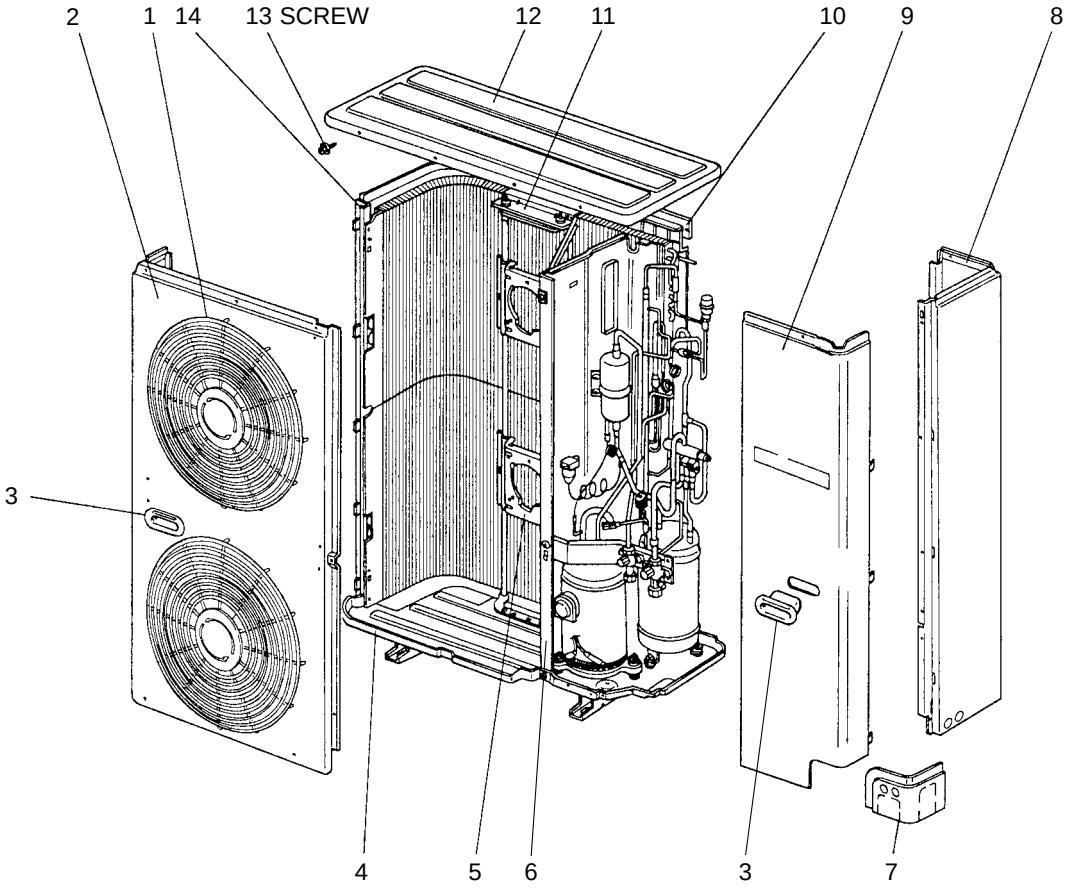
OPERATING PROCEDURE	PHOTOS
7. Thermistor disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the electrical parts box (Refer to **4** or **5**) (4) Recover gas from the refrigerant circuit. (5) Remove the Thermistor (discharge temperature detection: TH1), (Low pressure saturated temperature detection: TH2), (Pipe temperature detection / judging defrost: TH5). ✻ To remove TH1, cut the bands holding it and remove the piping cover.	**Photo 8**  **Photo 9** 
8. Compressor disassembly procedures: (1) Remove the side panel (Refer to **1**) (2) Remove the top panel (Refer to **1**) (3) Remove the screws (2 pcs : 5×10, 1 pc : 4×10) and the front panel. (4) Remove the electrical parts box (See photo 5 or 6). (5) Remove screws (3 pcs : 4×10, 4 pcs : 5×16) and the valve bed (including the ball valve mounting portion). (6) Recover gas from the refrigerant circuit. (7) Remove the separator screw. (1 pc : 4×10) (8) Remove the welded portions of the compressor discharge and intake pipes. (9) Remove the compressor leg cover on the separator side. (10)Remove the compressor leg mounting nuts (3 pcs). (use an adjustable wrench) (11)Move the separator to the left and remove the compressor.	**Photo 10** 
9. Accumulator disassembly procedures: (1) Remove the compressor (Refer to **8**). (2) Remove the welded portions of the accumulator. (3) Lift up the accumulator and pull it out from the rear.	

OPERATING PROCEDURE	PHOTOS
10. 4-way valve disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the top panel (Refer to **1**). (3) Remove the electrical parts box (Refer to **4** or **5**). (4) Recover gas from the refrigerant circuit. (5) Remove the 4-way coil (21S4) ※1 (Refer to **7**). (6) Remove the mounting screws from the gas side ball valve (2 pcs : 5×16). (7) Remove the field piping from the outdoor unit (gas side). (8) Remove the welded portion. ① Upper and lower heat exchanger inlet (T connector). ② Accumulator inlet (T connector) ③ 4-way valve inlet (9) Remove 4-way valve. ⁎ Do not expose 4-way valve to above 120°C. Only PUMY-125VMA model ※1 4-way valve (21S4)	**Photo 11** 
11. Solenoid valve disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the electrical parts box (Refer to **4** or **5**). (3) Recover gas from the refrigerant circuit. (4) Remove the solenoid coil (SV1) ※1 (Refer to **7**). (5) Remove the welded portions of the solenoid valve. (take care excessive heating) Only PUMY-125VMA model ※1 Solenoid valve (SV)	**Photo 12** 
12. Expansion valve disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the electrical parts box (Refer to **4** or **5**). (3) Recover gas from the refrigerant circuit. (4) Remove welded portions of expansion valve. (take care excessive heating) ⁎ To remove welded portion, cut the band holding it and remove the rubber tube.	**Photo 13** 

OPERATING PROCEDURE	PHOTOS
13. High pressure sensor (63HS)disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the high pressure sensor wire. (3) Recover gas from the refrigerant circuit. (4) Remove the welded portion of high pressure sensor. (5) Remove the mounting screw fastening the high pressure sensor mounting plate (1 pc : 4×10). (6) Remove the high pressure sensor mounting screws (2 pcs : 4×10).	**Photo 14** 
14. Capillary tube disassembly procedures: (1) Remove the side panel (Refer to **1**). (2) Remove the top panel (Refer to **1**). (3) Remove the electrical parts box (Refer to **4** or **5**). (4) Recover gas from the refrigerant circuit. (5) Remove the field piping from the unit (liquid side) (6) Remove the welded portions of capillary tube. ⁎ To remove welded portions, cut the band holding it and remove the rubber tube.	**Photo 15** 

12 PARTS LIST

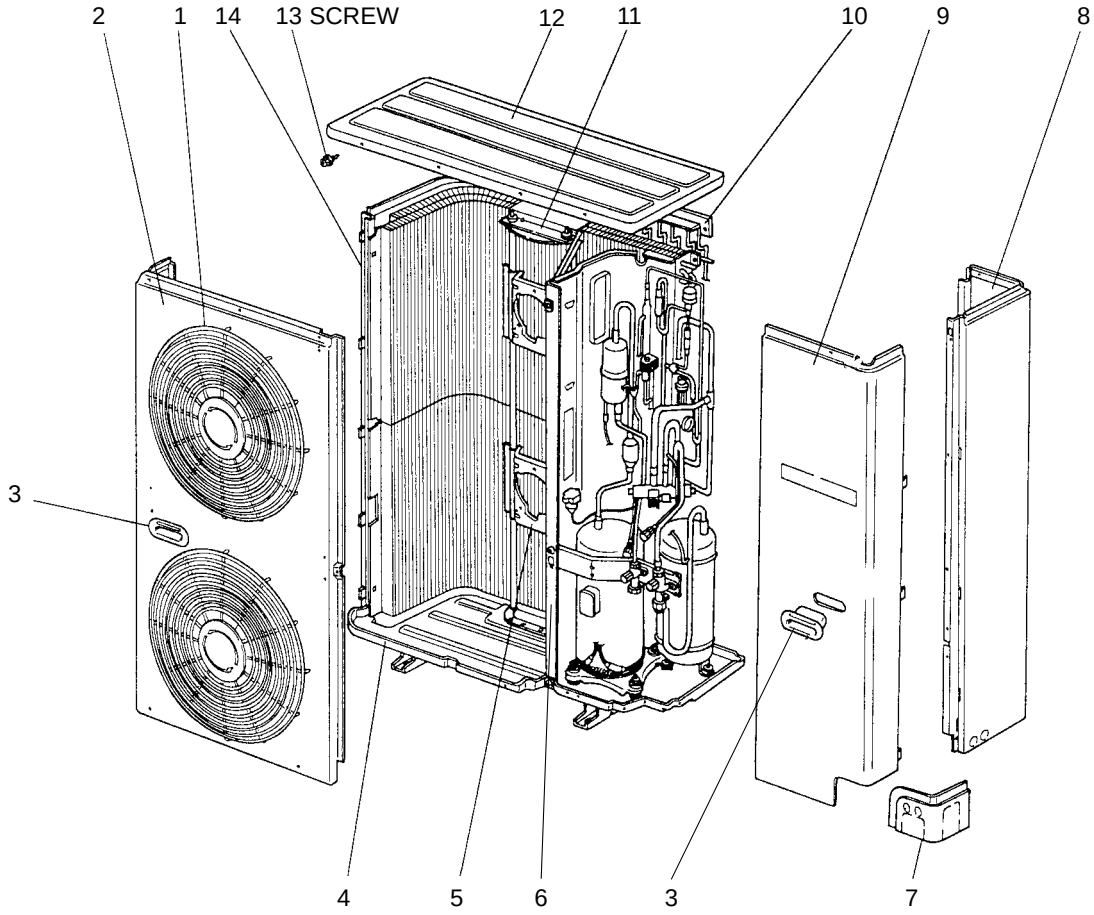
STRUCTURAL PARTS
PUMY-71VM
PUMY-71VM$_1$
PUMY-71VM$_2$



No.	Part No.	Part Name	Specification	Q'ty/set PUMY-71 VM,VM$_1$	Q'ty/set PUMY-71 VM$_2$	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	R01 KN4 675	FAN GUARD		2	2					
2	R01 35A 668	FRONT PANEL		1	1					
3	R01 KL5 655	PANEL HANDLE		3	3					
4	R01 35A 686	BASE		1						
	T7W E06 686	BASE			1					
5	—	MOTOR SUPPORT		1	1	(BG00B545G07)				
6	—	SEPARATOR ASSY		1		(BG00G415G09)				
	—	SEPARATOR ASSY			1	(BG00G415G11)				
7	R01 KN4 658	PANEL COVER		1	1					
8	R01 35A 682	REAR PANEL		1	1					
9	R01 35A 661	SERVICE PANEL		1	1					
10	R01 KN7 698	REAR GUARD		1	1					
11	—	MOTOR PLATE		1	1	(BG00C965G18)				
12	R01 35A 641	TOP PANEL		1	1					
13	—	SCREW (5×10)		11	11	(Z004B244H10)				
14	R01 KN7 662	SIDE PANEL LEFT		1	1					

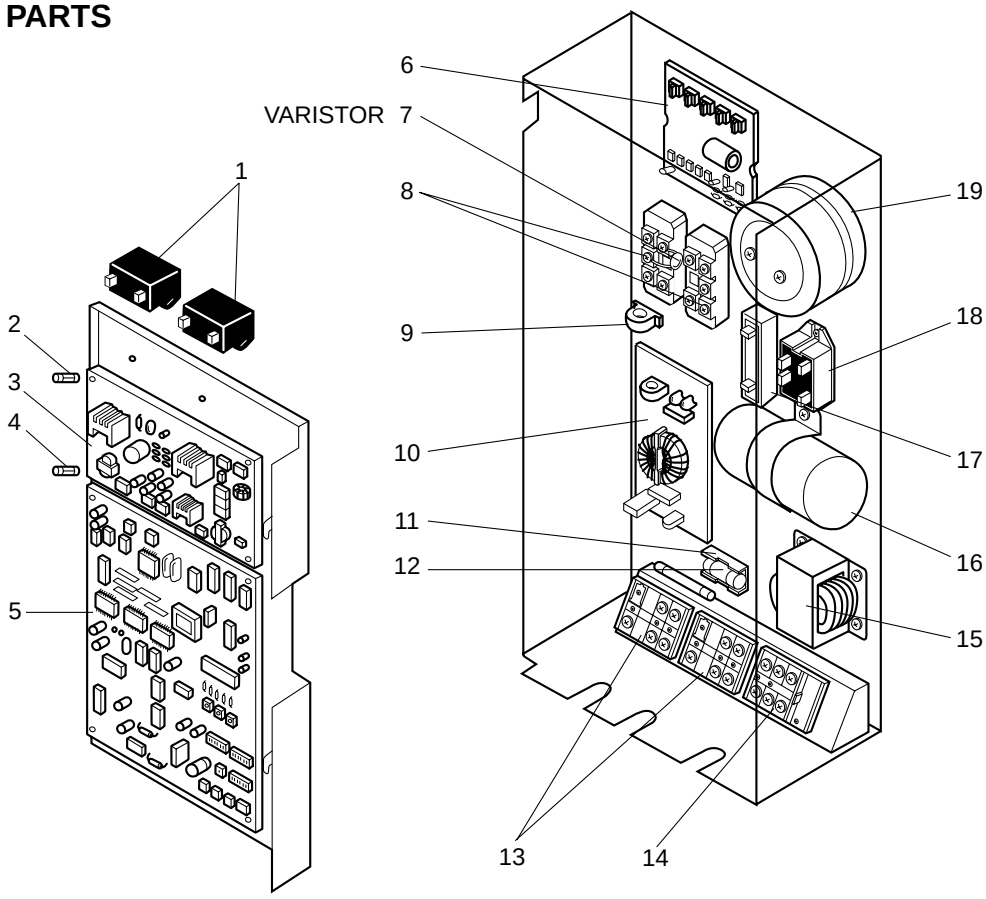
STRUCTURAL PARTS

PUMY-125VM PUMY-125VM$_1$ PUMY-125VM$_2$ PUMY-125VMA PUMY-125VMA$_1$
PUMY-125YM PUMY-125YM$_1$ PUMY-125YMA



No.	Part No.	Part Name	Specification	Q'ty/set PUMY-125 VM,VM$_1$, YM	VM$_2$, YM$_1$,YMA	VMA VMA$_1$	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	R01 KN4 675	FAN GUARD		2	2	2					
2	R01 38A 668	FRONT PANEL		1	1	1					
3	R01 KL5 655	PANEL HANDLE		3	3	3					
4	R01 38A 686	BASE		1	1	1					
5	R01 E01 130	MOTOR SUPPORT		1	1	1					
6	—	SEPARATOR ASSY		1			(BG00G362G06)				
	—	SEPARATOR ASSY			1		(BG00G362G10)				
	—	SEPARATOR ASSY				1	(BG00G362G28)				
7	R01 KN4 658	PANEL COVER		1	1						
	T7W E06 658	PANEL COVER				1					
8	R01 38A 682	REAR PANEL		1	1	1					
9	R01 38A 661	SERVICE PANEL		1	1	1					
10	R01 KP2 698	REAR GUARD		1	1	1					
11	—	MOTOR PLATE		1	1	1	(BG00C965G20)				
12	R01 38A 641	TOP PANEL		1	1						
	T7W E00 641	TOP PANEL				1					
13	—	SCREW (5×10)		11	11	11	(DG12F536H10)				
14	R01 KP2 662	SIDE PANEL LEFT		1	1	1					

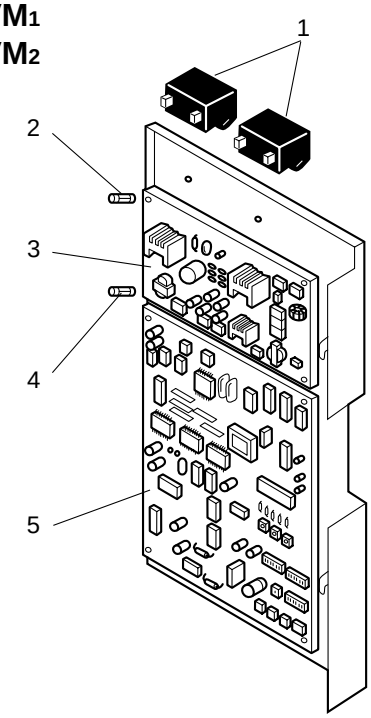
ELECTRICAL PARTS
PUMY-71VM
PUMY-71VM$_1$
PUMY-71VM$_2$

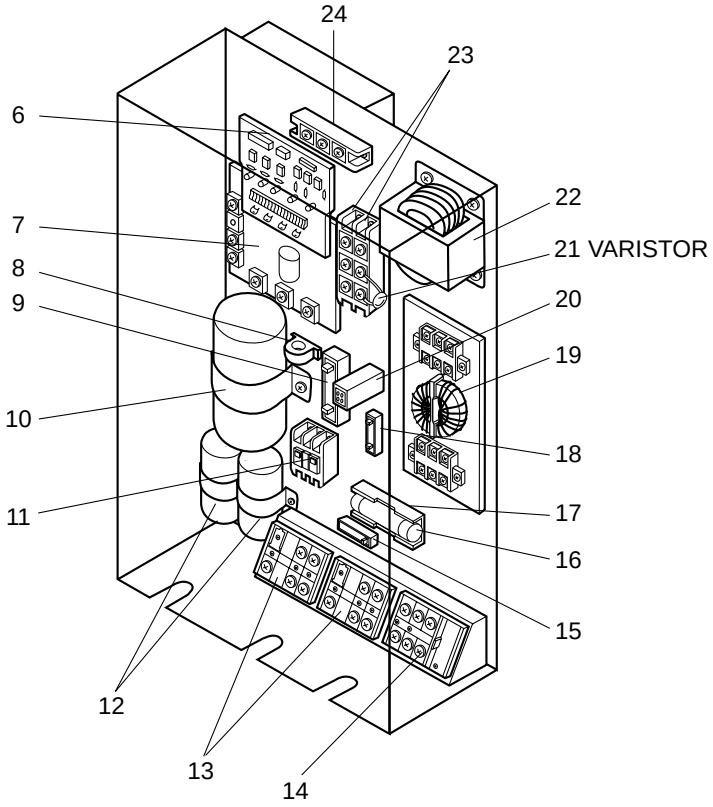


Part numbers that are circled are not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set PUMY-71 VM	VM$_1$	VM$_2$	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	R01 580 255	FAN MOTOR CAPACITOR	3.5μF 440VAC	2	2			C1,C2			
	R01 576 255	FAN MOTOR CAPACITOR	3.0μF 440VAC			2		C1,C2			
2	R01 527 239	FUSE	2A 250V	1	1	1		FUSE1			
3	R01 35A 311	POWER SUPPLY BOARD		1	1	1					
4	R01 005 239	FUSE	6A 250V	1	1	1		FUSE2			
5	T7W E06 315	MULTI CONTROLLER BOARD		1	1	1					
6	R01 35A 314	INTELLIGENT POWER MODULE		1	1	1		IPM			
7	R01 V47 349	VARISTOR		1	1	1		ZNR			
8	R01 W06 292	DIODE STACK		2	2	2		DS			
9	T7W E00 365	CURRENT DETECTION		1	1	1		AC,CT			
10	R01 35A 346	NOISE FILTER		1	1	1		NF1			
11	R01 35A 241	FUSE HOLDER		1	1	1					
12	R01 272 239	FUSE	30A 250V	1	1	1		FUSE			
13	T7W A12 716	TERMINAL BLOCK	3P(M1,M2,S)	2	2	2		TB3,7			
14	T7W A13 716	TERMINAL BLOCK	3P (L,N,⏚)	1	1	1		TB1			
15	R01 35A 259	REACTOR		1	1	1		DCL			
16	T7W E02 254	CAPACITOR	CE85˚C, 400V	1	1	1		C3			
17	R01 W04 234	RESISTOR		1	1	1		R1			
18	R01 272 215	MAGNETIC CONTACTOR		1	1	1		52C			
19	T7W E01 254	CAPACITOR		1	1	1		C5			
⑳	R01 35A 233	RESISTOR		1	1	1		R2			
㉑	R01 36A 202	THERMISTOR		1	1	1		THHS			
㉒	T7W 737 215	RELAY	LY-2F 230V			1		X4			

ELECTRICAL PARTS
PUMY-125VM
PUMY-125VM$_1$
PUMY-125VM$_2$

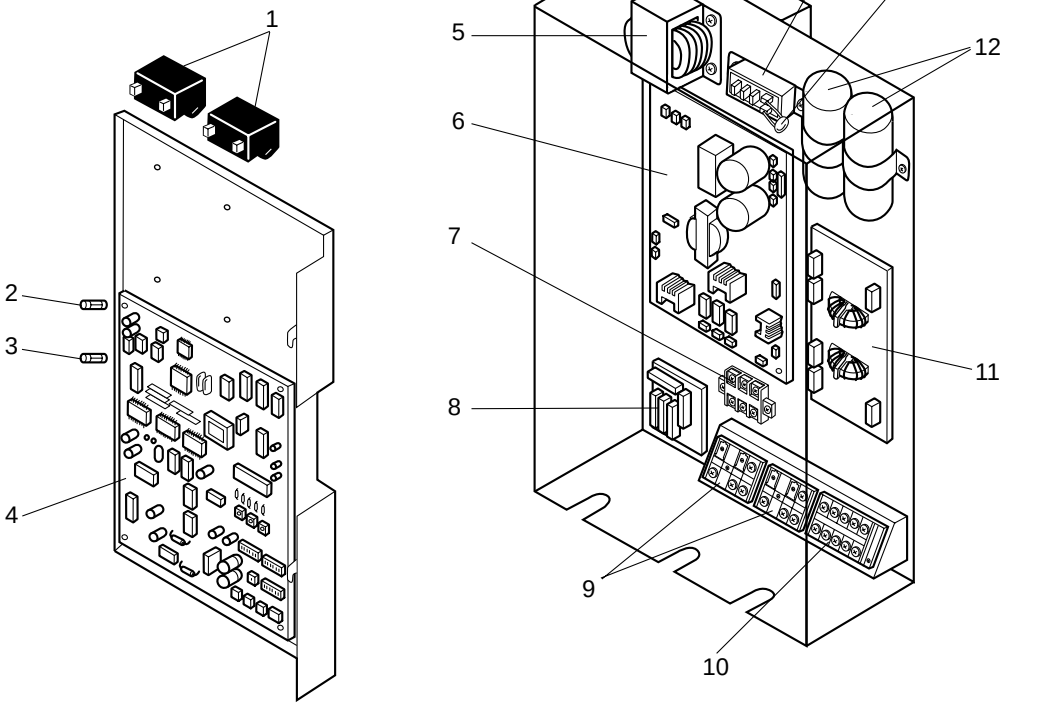




Part numbers that are circled are not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set PUMY-125 VM	VM$_1$	VM$_2$	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Amount
1	R01 580 255	FAN MOTOR CAPACITOR	3.5μF 440VAC	2	2	2		C1,2			
2	R01 527 239	FUSE	2A 250V	1	1	1		FUSE1			
3	R01 35A 311	POWER SUPPLY BOARD		1	1	1					
4	R01 005 239	FUSE	6A 250V	1	1	1		FUSE2			
5	T7W E06 315	MULTI CONTROLLER BOARD		1	1	1					
6	R01 37A 313	GATE AMP BOARD		1	1	1					
7	R01 38A 314	INTELLIGENT POWER MODULE		1	1	1		IPM			
8	R01 35A 365	CURRENT DETECTION		1	1	1		AC,CT			
9	T7W 126 234	RESISTOR	27Ω/40W	1	1	1		RS			
10	T7W A01 254	SMOOTHING CAPACITOR		1	1	1		CB			
11	T7W 249 708	MAGNETIC CONTACTOR	S-U12 230V	1	1	1		52C			
12	T7W 126 254	CAPACITOR		2	2	2		C3,4			
13	T7W A12 716	TERMINAL BLOCK	3P(M1,M2,S)	2	2	2		TB3,7			
14	T7W A00 716	TERMINAL BLOCK	3P(L,N,⏚)	1	1	1		TB1			
15	T7W 125 348	SURGE ABSORBER		1	1	1		AR			
16	T7W 125 239	FUSE	FCF2-60 60A	1	1	1		FUSE			
17	R01 V47 241	FUSE HOLDER		1	1	1					
18	T7W 125 234	RESISTOR	5kΩ/20W	1	1	1		RB			
19	T7W 125 346	NOISE FILTER		1	1	1		NF			
20	T7W 737 215	RELAY	LY-2F AC230V	1	1	1		X4			
21	R01 V47 349	VARISTOR		1	1	1		ZNR			
22	T7W A00 259	REACTOR		1	1	1		DCL			
23	T7W 126 292	DIODE STACK	60A 800V	2	2	2		DB1,2			
24	T7W 125 292	DIODE	60A 800V	1	1	1		D			
㉕	R01 37A 254	CAPACITOR	3.5μF 630VAC	1	1	1		C7			
㉖	T7W E18 202	THERMISTOR		1	1	1		THHS			
㉗	T7W A02 254	CAPACITOR		1	1	1		C5,C6			

ELECTRICAL PARTS
PUMY-125YM
PUMY-125YM1
PUMY-125YMA

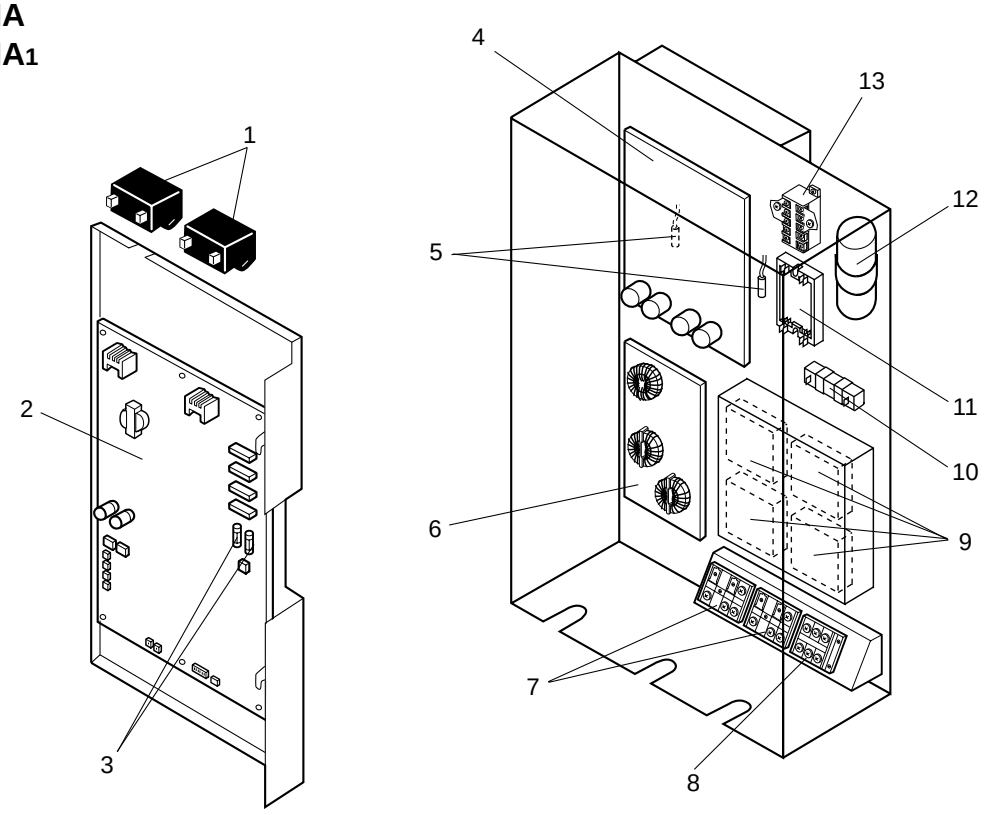


Part number that is circled is not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set			Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PUMY-125						Unit	Amount
				YM	YM1	YMA					
1	R01 580 255	FAN MOTOR CAPACITOR	3.5μF 440VAC	2	2	2		C1,2			
2	T7W E02 239	FUSE	2A 250V	1	1	1		FUSE2			
3	T7W 520 239	FUSE	6.3A 250V	1	1	1		FUSE1			
4	T7W E07 315	MULTI CONTROLLER BOARD		1	1	1					
5	T7W E00 259	REACTOR		1	1	1		DCL			
6	T7W E00 311	POWER SUPPLY BOARD		1	1	1					
7	T7W 249 708	MAGNETIC CONTACTOR	S-U12 230V	1	1	1		52C			
8	T7W E00 234	RESISTOR BOARD		1	1	1					
9	T7W A12 716	TERMINAL BLOCK	3P(M1,M2,S)	2	2	2		TB3,7			
10	T7W E06 716	TERMINAL BLOCK	5P(L1,L2,L3,N,⏚)	1	1			TB1			
	T7W E10 716	TERMINAL BLOCK	5P(L1,L2,L3,N,⏚)			1		TB1			
11	T7W E01 346	NOISE FILTER		1	1	1		NF			
12	T7W E03 254	CAPACITOR		2	2	2		C03			
13	T7W E00 349	VARISTOR		1	1	1		ZNR			
14	T7W E00 292	DIODE MODULE		1	1	1		DM			
⑮	R01 36A 202	THERMISTOR		1	1	1		THHS			

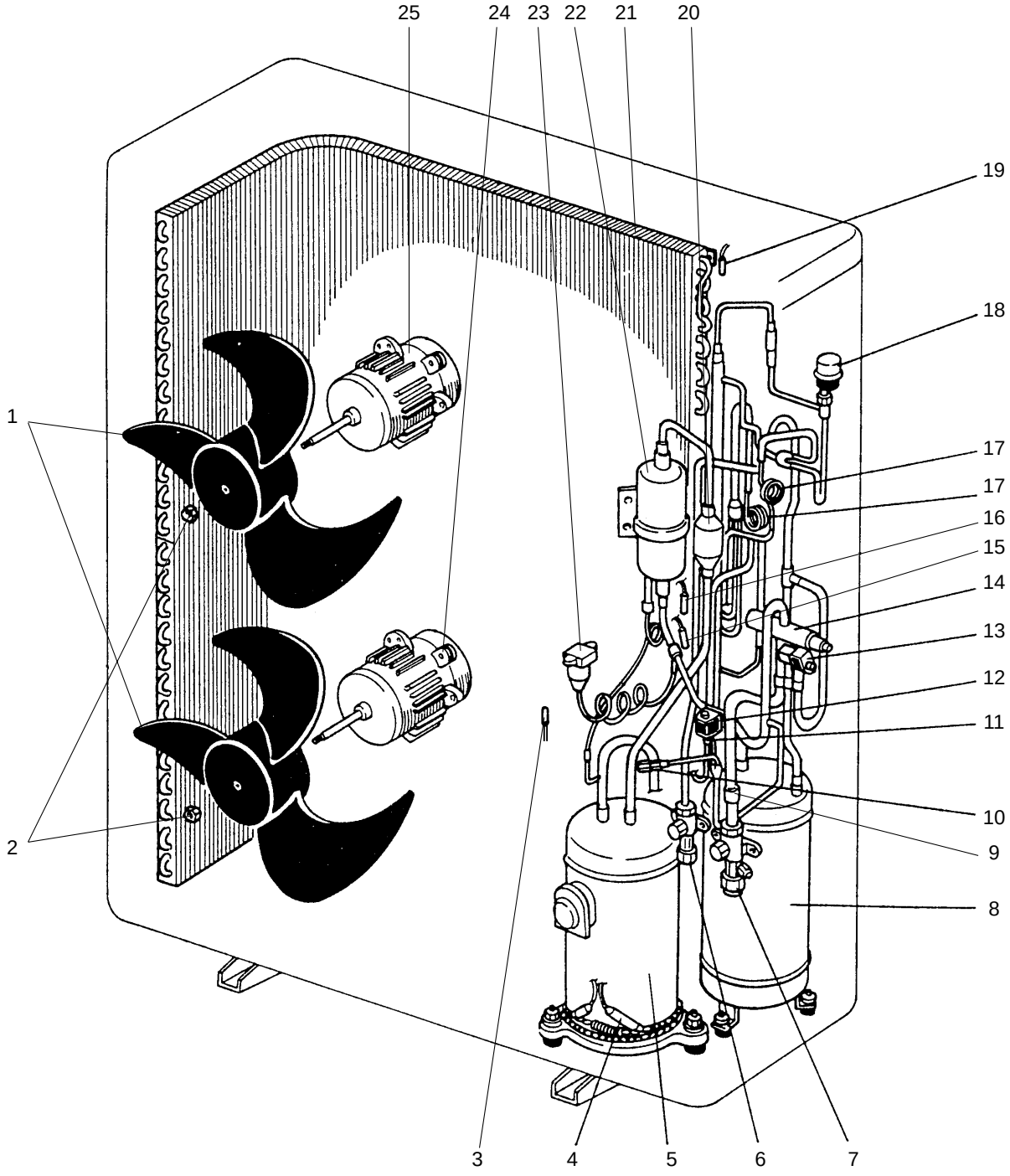
ELECTRICAL PARTS
PUMY-125VMA
PUMY-125VMA1

※ The illustration below is of PUMY-125VMA



No.	Part No.	Part Name	Specification	Q'ty/set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PUMY-125					Unit	Amount
				VMA	VMA1					
1	R01 580 255	FAN MOTOR CAPACITOR	3.5μF 440VAC	2	2		C1,2			
2	T7W E19 315	MULTI CIRCUIT BOARD		1	1		M.B.			
3	T7W 520 239	FUSE	6.3A 250V	2	2		F1, F2			
4	T7W E08 313	POWER CIRCUIT BOARD		1	1		P.B.			
5	R01 E65 202	THERMISTOR (RADIATOR PANEL)		2	2		THHS A/B			
6	T7W E04 346	NOISE FILTER CIRCUIT BOARD		1	1		N.F.			
7	T7W A12 716	TERMINAL BLOCK	3P(M1, M2, S)	2	2		TB3,7			
8	T7W A13 716	TERMINAL BLOCK	3P(L, N, ⏚)	1	1		TB1			
9	T7W E01 259	REACTOR		4			DCL1,2,3,4			
	TW7 E04 259	REACTOR			2		DCL1,2			
10	T7W E01 234	RESISTOR (RUSH CURRENT PROTECTION)		1	1		RS			
11	T7W E00 233	ACTIVE FILTER MODULE		1	1		ACTE			
12	T7W E05 254	SMOOTHING CAPACITOR	1,600μ / 400WV	1	1		CE			
13	T7W E02 259	MAGNETIC CONTACTOR	S-U12 230V	1	1		52C			

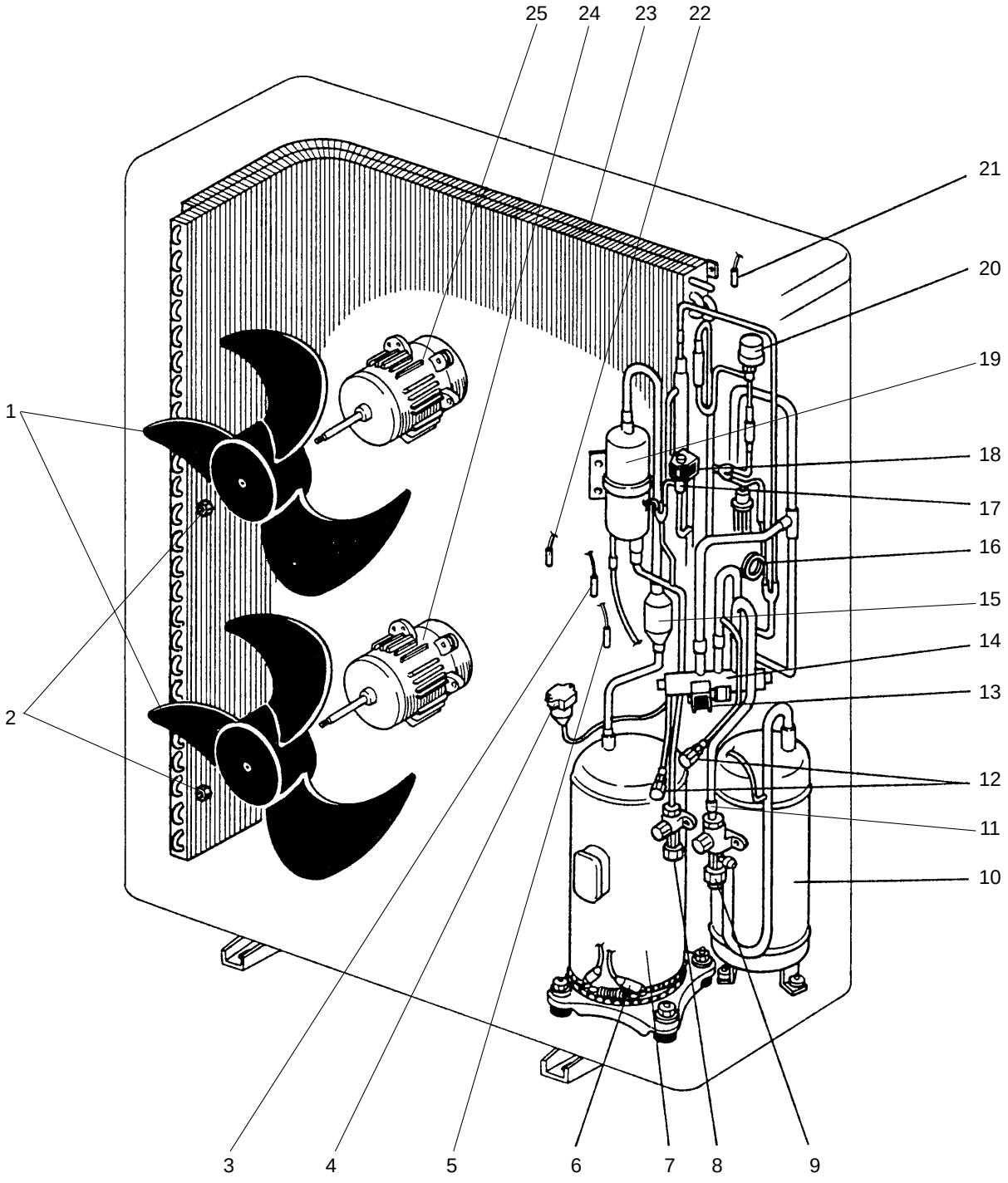
FUNCTIONAL PARTS
PUMY-71VM
PUMY-71VM$_1$
PUMY-71VM$_2$



Part number that is circled is not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set PUMY-71 VM	Q'ty/set PUMY-71 VM_1	Q'ty/set PUMY-71 VM_2	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price Unit	Price Amount
1	R01 KL5 115	PROPELLER		2	2	2					
2	R01 30L 097	NUT	M8	2	2	2					
3	R01 E31 202	THERMISTOR (OUTDOOR TEMPERATURE DETECTION)		1	1	1		TH6			
4	T7W A12 236	CRANKCASE HEATER	220V 25W	1				CH			
5	T92 500 700	COMPRESSOR	CHV-253FAA	1	1			MC			
	T97 500 050	COMPRESOOR	EHV33FAG			1		MC			
6	R01 943 410	BALL VALVE	3/8"	1	1	1					
7	R01 L11 410	BALL VALVE	5/8"	1	1	1					
8	R01 35A 440	ACCUMULATOR		1	1						
	R01 E07 440	ACCUMULATOR				1					
9	R01 36L 450	STRAINER		1	1	1					
10	R01 02L 413	CHARGE PLUG		2	2	2					
11	R01 272 428	SOLENOID VALVE		1	1	1					
12	T7W A00 242	SOLENOID COIL		1	1	1		SV1			
13	T7W 250 242	4-WAY COIL		1	1			21S4			
	T7W E02 242	4-WAY COIL				1		21S4			
14	T7W 250 403	4-WAY VALVE		1	1						
	R01 E03 403	4-WAY VALVE				1					
15	R01 E30 202	THERMISTOR (PIPE TEMPERATURE DETECTION / JUDGING DEFROST)		1	1	1		TH5			
16	R01 35A 202	THERMISTOR (DISCHARGE TEMPERATURE DETECTION)		1	1	1		TH1			
17	R01 35A 425	CAPILLARY TUBE 3	ϕ4.0×ϕ3.0×500mm	2	2	2					
18	R01 35A 401	EXPANSION VALVE		1	1	1		SLEV			
19	R01 E29 202	THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)		1	1	1		TH2			
20	R01 KP1 467	MUFFLER		1	1	1					
21	R01 35A 408	HEAT EXCHANGER		2	2	2					
22	R01 37A 490	OIL SEPARATOR		1	1	1					
23	R01 J01 268	HIGH PRESSURE SENSOR		1	1			63HS			
	R01 E00 268	HIGH PRESSURE SENSOR				1		63HS			
24	T7W E10 763	FAN MOTOR	PA6V40-UB	1	1			MF2			
	T7W E17 763	FAN MOTOR	PA6V60-GB			1		MF2			
25	T7W E09 763	FAN MOTOR	PA6V40-UA	1	1			MF1			
	T7W E16 763	FAN MOTOR	PA6V60-GA			1		MF1			
㉖	R01 J01 425	CAPILLARY TUBE 1,2	ϕ2.5×ϕ0.6×500mm	2	2	2					

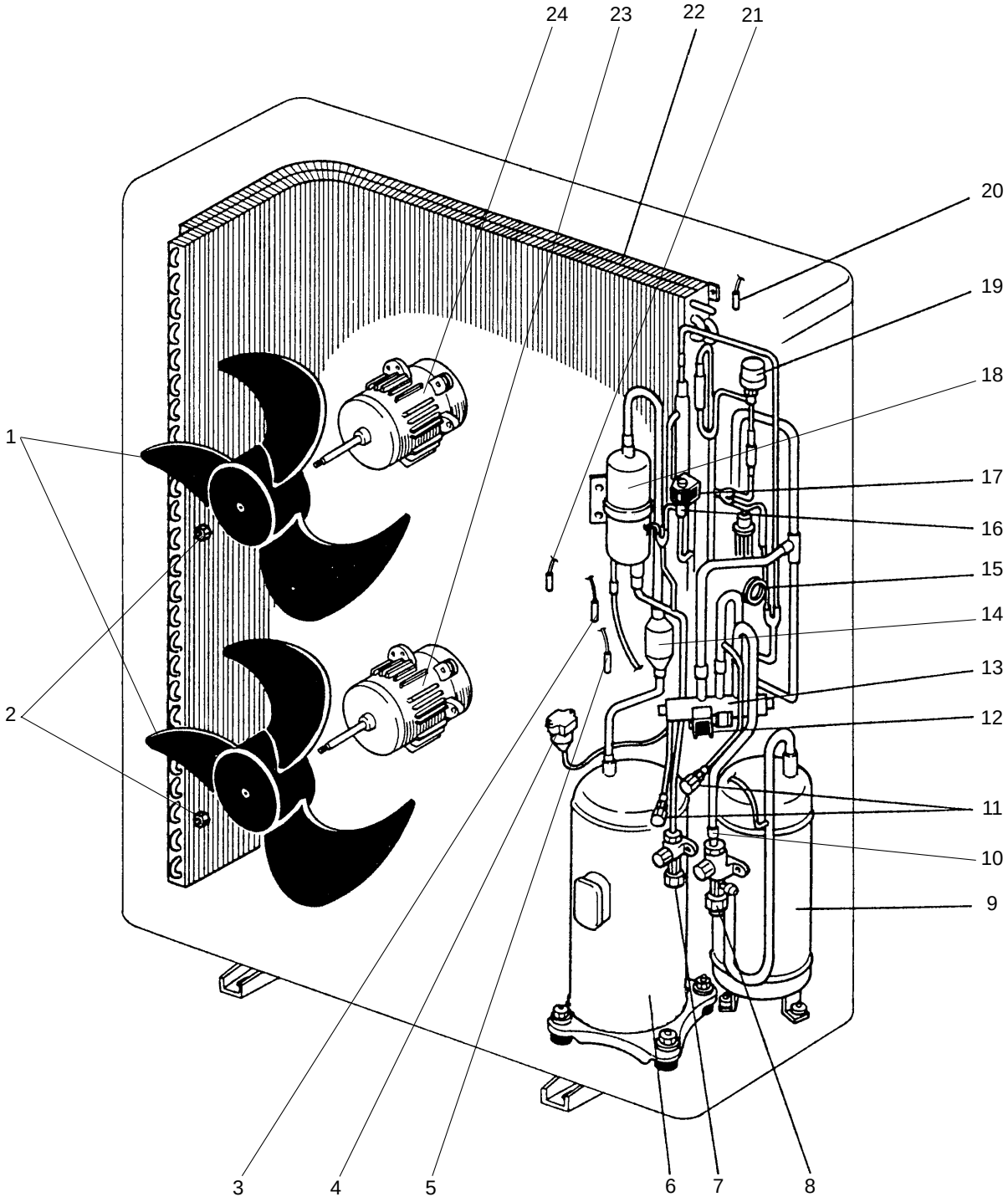
FUNCTIONAL PARTS
PUMY-125VM
PUMY-125VM$_1$
PUMY-125VM$_2$



Part number that is circled is not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set			Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PUMY-125						Unit	Amount
				VM	VM_1	VM_2					
1	R01 KL5 115	PROPELLER		2	2	2					
2	R01 30L 097	NUT	M8	2	2	2					
3	R01 35A 202	THERMISTOR (DISCHARGE TEMPERATURE DETECTION)		1	1	1		TH1			
4	R01 J01 268	HIGH PRESSURE SENSOR		1	1			63HS			
	R01 E00 268	HIGH PRESSURE SENSOR				1		63HS			
5	R01 E30 202	THERMISTOR (PIPE TEMPERATURE DETECTION / JUDGING DEFROST)		1	1	1		TH5			
6	T7W A11 236	CRANKCASE HEATER	220V 38W	1				CH			
7	T97 500 059	COMPRESSOR	EHV-46FAG	1	1	1		MC			
8	R01 943 410	BALL VALVE	3/8"	1	1	1					
9	R01 J01 411	BALL VALVE	3/4"	1	1	1					
10	R01 38A 440	ACCUMULATOR		1	1	1					
11	R01 42L 450	STRAINER		1	1	1					
12	R01 02L 413	CHARGE PLUG		2	2	2					
13	T7W A11 242	4WAY COIL		1	1	1		21S4			
14	R01 44L 403	4WAY VALVE		1	1	1					
15	R01 KP1 467	MUFFLER		1	1	1					
16	R01 38A 425	CAPILLARY TUBE 3	ϕ4.0×ϕ3.0×200mm	2	2	2					
17	R01 272 428	SOLENOID VALVE		1	1	1					
18	T7W A00 242	SOLENOID COIL		1	1	1		SV1			
19	R01 37A 490	OIL SEPARATOR		1	1	1					
20	R01 V39 401	EXPANSION VALVE		1	1	1		SLEV			
21	R01 E29 202	THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)		1	1	1		TH2			
22	R01 E31 202	THERMISTOR (OUTDOOR TEMPERATURE DETECTION)		1	1	1		TH6			
23	R01 38A 408	HEAT EXCHANGER		2	2	2					
24	T7W E12 763	FAN MOTOR	PA6V60-UC	1	1			MF2			
	T7W E17 763	FAN MOTOR	PA6V60-GB			1		MF2			
25	T7W E11 763	FAN MOTOR	PA6V60-UB	1	1			MF1			
	T7W E16 763	FAN MOTOR	PA6V60-GA			1		MF1			
㉖	R01 J01 425	CAPILLARY TUBE 1,2	ϕ2.5×ϕ0.6×500mm	2	2	2					

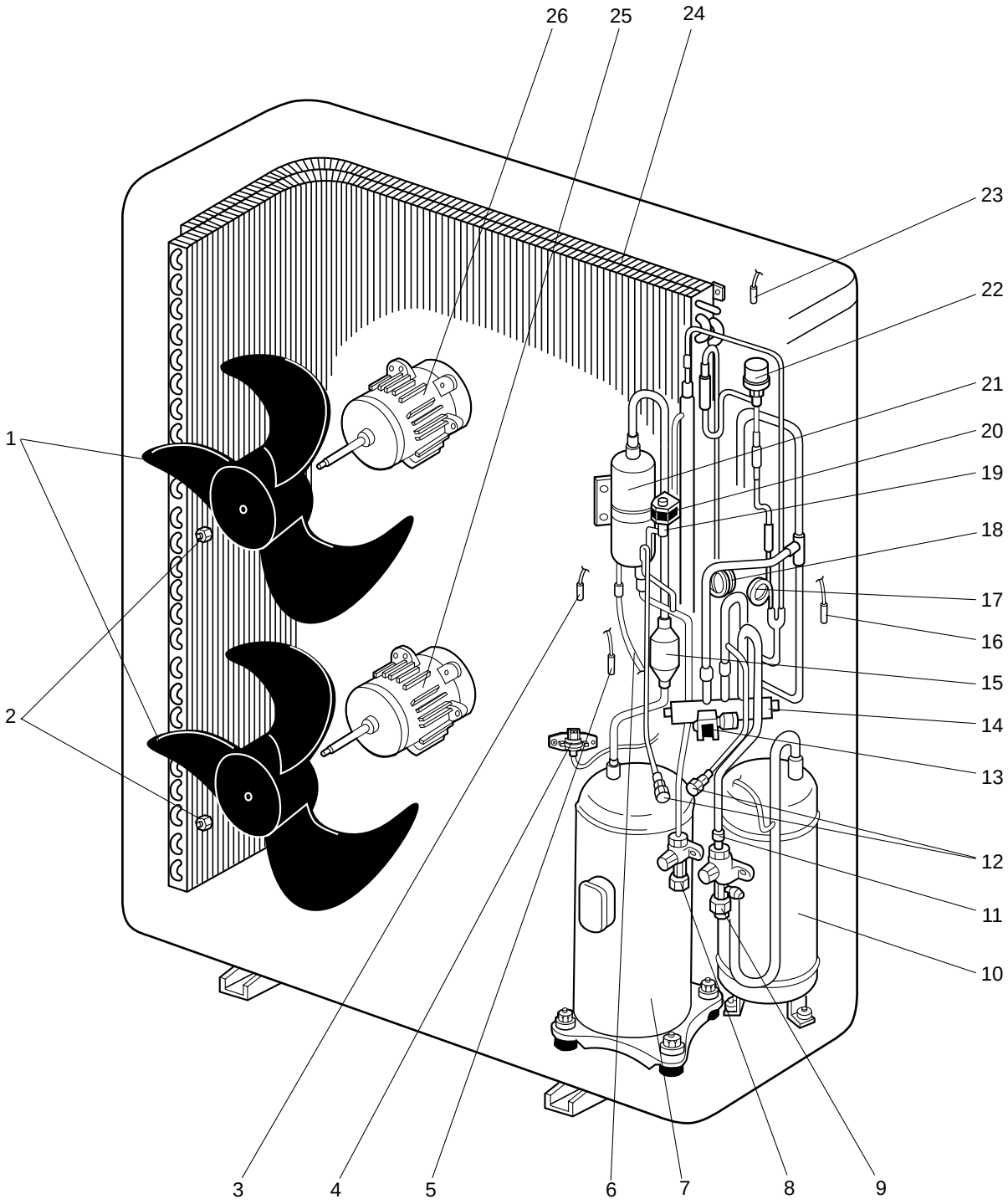
FUNCTIONAL PARTS
PUMY-125YM
PUMY-125YM$_1$
PUMY-125YMA



Part number that is circled is not shown in the figure.

No.	Part No.	Part Name	Specification	Q'ty/set		Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PUMY-125					Unit	Amount
				YM	YM1,YMA					
1	R01 KL5 115	PROPELLER		2	2					
2	R01 30L 097	NUT	M8	2	2					
3	R01 35A 202	THERMISTOR (DISCHARGE TEMPERATURE DETECTION)		1	1		TH1			
4	R01 J01 268	HIGH PRESSURE SENSOR		1			63HS			
	R01 E00 268	HIGH PRESSURE SENSOR			1		63HS			
5	R01 E30 202	THERMISTOR (PIPE TEMPERATURE DETECTION / JUDGING DEFROST)		1	1		TH5			
6	T97 500 215	COMPRESSOR	EHV-46FAK	1	1		MC			
7	R01 943 410	BALL VALVE	3/8"	1	1					
8	R01 J01 411	BALL VALVE	3/4"	1	1					
9	R01 38A 440	ACCUMULATOR		1	1					
10	R01 42L 450	STRAINER		1	1					
11	R01 02L 413	CHARGE PLUG		2	2					
12	T7W 260 242	4WAY COIL		1	1		21S4			
13	R01 44L 403	4WAY VALVE		1	1					
14	R01 KP1 467	MUFFLER		1	1					
15	R01 38A 425	CAPILLARY TUBE 3	ϕ4.0×ϕ3.0×200mm	2	2					
16	R01 272 428	SOLENOID VALVE		1	1					
17	T7W 106 242	SOLENOID COIL		1	1		SV1			
18	R01 37A 490	OIL SEPARATOR		1	1					
19	R01 V39 401	EXPANSION VALVE		1	1		SLEV			
20	R01 E29 202	THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)		1	1		TH2			
21	R01 E31 202	THERMISTOR (OUTDOOR TEMPERATURE DETECTION)		1	1		TH6			
22	R01 38A 408	HEAT EXCHANGER		2	2					
23	T7W E14 763	FAN MOTOR	PA6V60-UE	1			MF2			
	T7W E19 763	FAN MOTOR	PA6V60-GD		1		MF2			
24	T7W E13 763	FAN MOTOR	PA6V60-UD	1			MF1			
	T7W E18 763	FAN MOTOR	PA6V60-GC		1		MF1			
㉕	R01 J01 425	CAPILLARY TUBE 1,2	ϕ2.5×ϕ0.6×500mm	2	2					

FUNCTIONAL PARTS
PUMY-125VMA
PUMY-125VMA1



No.	Part No.	Part Name	Specification	Q'ty/set	Remarks (Drawing No.)	Wiring Diagram Symbol	Recommended Q'ty	Price	
				PUMY-125VMA 125VMA1				Unit	Amount
1	R01 KL5 115	PROPELLER		2					
2	R01 30L 097	NUT	M8	2					
3	R01 35A 202	THERMISTOR (DISCHARGE TEMPERATURE DETECTION)		1		TH1			
4	R01 E00 268	HIGH PRESSURE SENSOR		1		63HS			
5	R01 E30 202	THERMISTOR (PIPE TEMPERATURE DETECTION / JUDGING DEFROST)		1		TH5			
6	R01 J01 425	CAPILLARY TUBE 1	ϕ2.5×ϕ0.6×500mm	1					
7	T97 500 217	COMPRESSOR	EHV-46FAM1	1		MC			
8	R01 943 410	BALL VALVE	3/8"	1					
9	R01 J01 411	BALL VALVE	3/4"	1					
10	R01 38A 440	ACCUMULATOR		1					
11	R01 42L 450	STRAINER		1					
12	R01 02L 413	CHARGE PLUG		2					
13	T7W 260 242	4-WAY VALVE (COIL)		1		21S4			
14	R01 44L 403	4-WAY VALVE		1					
15	R01 KP1 467	MUFFLER		1					
16	T7W E37 202	THERMISTOR (LOW PRESSURE SATURATED TEMPERATURE DETECTION)		1		TH2			
17	T7W E13 425	CAPILLARY TUBE 2	ϕ2.5×ϕ0.6×500mm	1					
18	R01 38A 425	CAPILLARY TUBE 3	ϕ4.0×ϕ3.0×200mm	2					
19	R01 272 428	SOLENOID VALVE		1					
20	T7W 106 242	SOLENOID VALVE (COIL)		1		SV			
21	R01 37A 490	OIL SEPARATOR		1					
22	R01 05A 401	EXPANSION VALVE		1		LEV(A)			
23	T7W E36 202	THERMISTOR (OUTDOOR TEMPERATURE DETECTION)		1		TH6			
24	R01 38A 408	HEAT EXCHANGER		2					
25	T7W E19 763	FAN MOTOR	PA6V60-GD	1		MF2			
26	T7W E18 763	FAN MOTOR	PA6V60-GC	1		MF1			

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