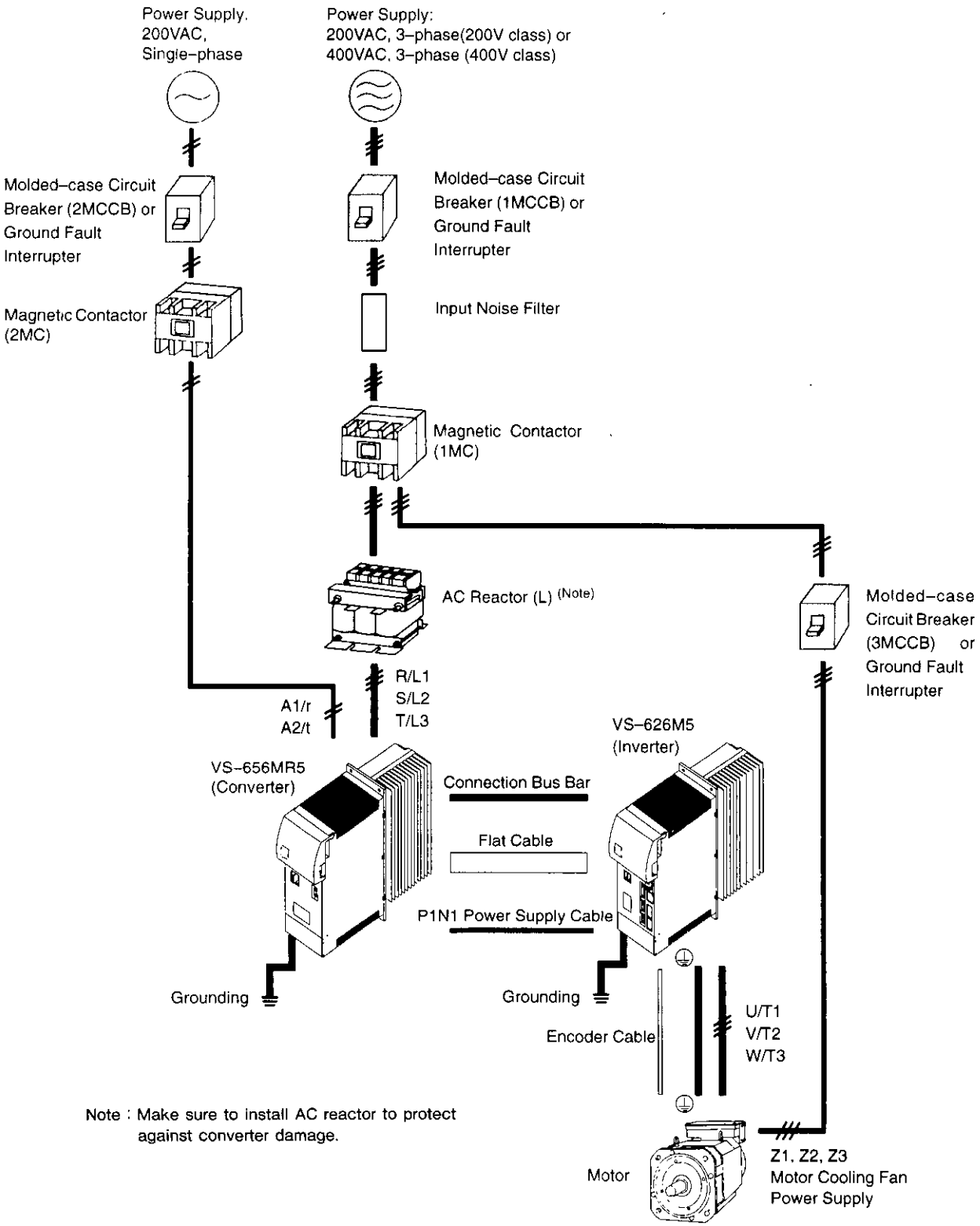
PERIPHERAL DEVICES

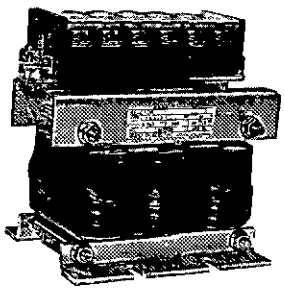
STANDARD CONNECTION EXAMPLE

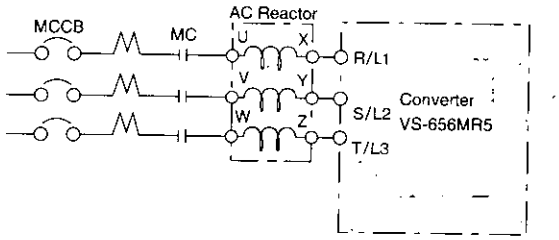


Note : Make sure to install AC reactor to protect against converter damage.

AC REACTOR

Use an AC reactor to prevent converter from damage. Connect it on the input side of the converter (VS-656MR5).





200V Class

Converter Model CIMR-MR5	Current A	Inductance mH	Code No.	Fig. No.	Dimenstions inch mm																Approx. Mass lb HP kg	Heat Loss W
					A (Max.)	A1	B	B1 (Max.)	B2	C1	C2	D	E	F	I	J	K	L	M			
23P7	20	0.53	X010057	1	5.12 130	–	3.86 98	2.36 60	1.73 44	4.13±0.2 105±5	0.98 25	1.97 50	2.76 70	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M4		8.8 4	35
25P5	30	0.35	X010058	1	5.12 130	–	3.86 98	2.36 60	1.73 44	4.13±0.2 105±5	1.57 40	1.97 50	2.76 70	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M5		8.8 4	45
27P5	40	0.265	X010059	2	5.12 130	5.91 150	3.86 98	2.56 65	1.93 49	4.13±0.2 105±5	1.57 40	1.97 50	4.15 80	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M6		8.8 4	50
2011	60	0.18	X010060	1	6.3 160	–	4.13 105	2.95 75	2.07 52.5	5.12±0.2 130±5	1.57 40	2.95 75	3.35 85	6.3 160	0.09 2.3	M6	0.39 10	0.28 7	M6		13.2 6	65
2015	80	0.13	X010061	1	7.09 180	–	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.65 42	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6		17.6 8	75
2018	90	0.12	X010062	2	7.09 180	7.48 190	4.94 100	3.54 90	1.97 50	5.91±0.2 150±5	1.77 45	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M8		17.6 8	90
2022	120	0.09	X010063	2	7.09 180	7.48 190	4.94 100	3.74 95	1.97 50	5.91±0.2 150±5	1.77 45	2.95 75	4.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M8		17.6 8	90
2030	160	0.07	X010064	3	8.27 210	–	5.04 128	8.27 210	–	6.89±0.2 175±5	1.81 46	2.95 75	3.15 80	8.07 205	0.09 2.3	M6	0.39 10	0.28 7	M10		26.5 12	100
2037	200	0.05	X010120	3	8.27 210	–	4.57 116	4.06 103	–	6.89±0.2 175±5	5.12 130	2.95 75	3.74 95	8.07 205	0.09 2.3	M6	0.39 10	0.28 7	M10		33.1 15	110

400V Class

Converter Model CIMR-MR5	Current A	Inductance mH	Code No.	Fig. No.	Dimenstions inch mm																Approx. Mass lb kg	Heat Loss W
					A (Max.)	A1	B	B1 (Max.)	B2	C1	C2	D	E	F	I	J	K	L	M			
45P5	15	1.42	X002501	1	5.12 130	–	3.86 98	–	1.93 49	4.13±0.2 105±5	0.98 25	1.97 50	3.15 80	5.12 130	0.13 3.2	M6	0.35 9	0.28 7	M4		8.8 4	50
47P5	20	1.06	X010099	1	6.3 160	–	3.54 90	1.97 50	1.77 45	5.12±0.2 130±5	0.98 25	2.95 75	2.76 70	6.3 160	0.09 2.3	M6	0.39 10	0.28 7	M4		11 5	50
4011	30	0.7	X010100	1	6.3 160	–	4.13 105	3.74 95	2.07 52.5	5.91±0.2 150±5	1.57 40	2.95 75	4.35 95	6.3 160	0.09 2.3	M6	0.39 10	0.28 7	M5		13.2 6	65
4015	40	0.53	X010101	1	7.09 180	–	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.57 40	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6		17.6 8	90
4018	50	0.42	X010102	1	7.09 180	–	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.57 40	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6		17.6 8	90
4022	60	0.36	X010103	1	7.09 180	–	3.94 100	3.35 85	1.97 50	5.91±0.2 150±5	1.57 40	2.95 75	3.15 80	7.09 180	0.09 2.3	M6	0.39 10	0.28 7	M6		17.6 8	90
4030	80	0.26	X010104	1	8.27 210	–	3.94 100	3.54 90	1.97 50	6.89±0.2 175±5	1.77 45	2.95 75	3.15 80	8.07 205	0.13 3.2	M6	0.39 10	0.28 7	M6		26.5 12	95
4037	90	0.24	X010105	1	8.27 210	–	4.57 116	4.33 110	2.28 58	6.89±0.2 175±5	1.89 48	2.95 75	3.74 95	8.07 205	0.13 3.2	M6	0.39 10	0.28 7	M8		33.1 15	110
4045	120	0.18	X010106	1	9.45 240	–	4.96 126	4.72 120	2.48 63	8.07±0.2 205±5	0.71 18	5.91 150	4.33 110	9.45 240	0.13 3.2	M8	0.39 10	0.31 8	M8		50.7 23	130

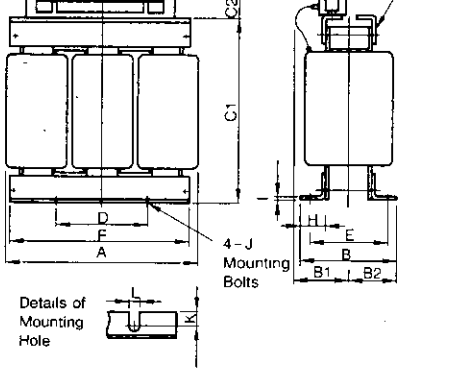


Figure 1

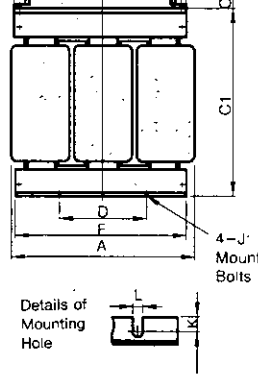


Figure 2

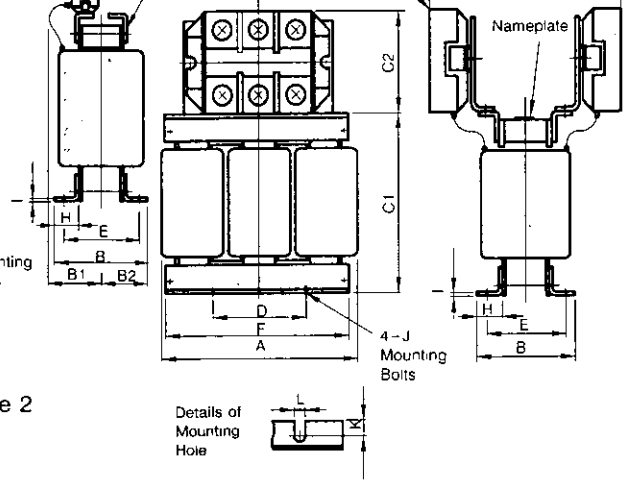
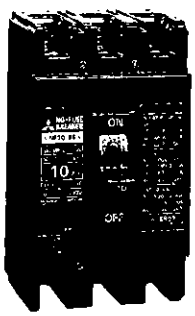


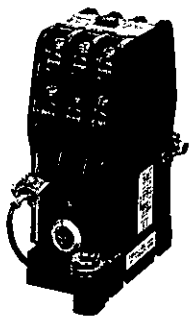
Figure 3

MOLDED-CASE CIRCUIT BREAKER/MAGNETIC CONTACTOR

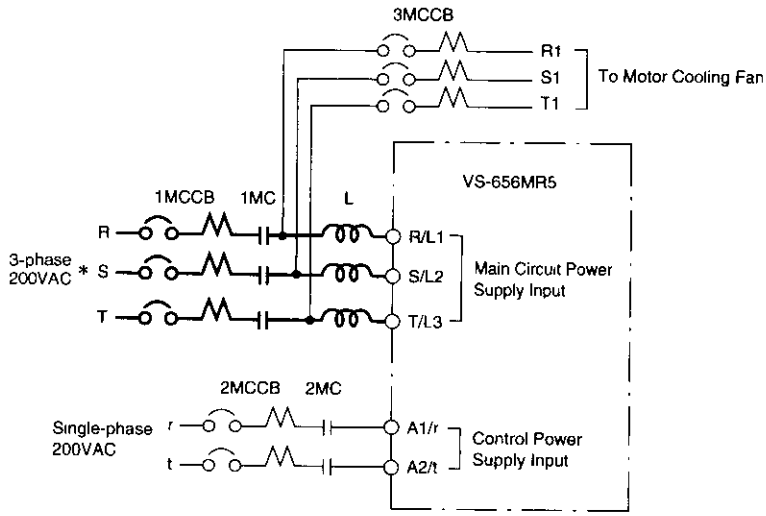
Connect MCCBs between main circuit power supply and converter (VS-656MR5) input terminals R, S and T. Connect MC if required.



Molded-case Circuit Breaker (MCCB)



Power Supply Magnetic Contactor (MC)



* For 400V class, 3-phase 400VAC is used.

200V Class

Converter Model CIMR-MR5	Power Capacity kVA	MCCB Rated Current A			MC Rated Current A	
	1MCCB	1MCCB	2MCCB	3MCCB	1MC	2MC
23P7	7	30	3	3	20	3
25P5	9	40	3	3	30	3
27P5	12	50	3	3	40	3
2011	19	75	3	3	60	3
2015	24	100	3	3	75	3
2018	30	125	3	3	100	3
2022	36	150	3	3	125	3
2030	48	175	3	3	150	3
2037	60	250	3	3	200	3

400V Class

Converter Model CIMR-MR5	Power Capacity kVA	MCCB Rated Current A			MC Rated Current A	
	1MCCB	1MCCB	2MCCB	3MCCB	1MC	2MC
45P5	9	20	3	2	15	3
47P5	12	25	3	2	20	3
4011	19	40	3	2	30	3
4015	24	50	3	2	40	3
4018	30	60	3	2	50	3
4022	36	75	3	2	60	3
4030	48	100	3	2	80	3
4037	60	125	3	2	100	3
4045	72	150	3	2	125	3

OPTION

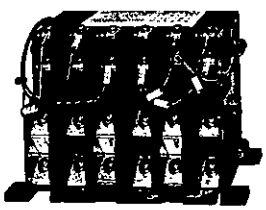
DIGITAL OPERATOR

With digital operator, remote operation, visible setting and monitoring can be performed.

Item	Type	Description	
Digital Operator	JVOP-132	Constant setting/reference, operation status monitoring, fault display and run/stop can be performed.	
Extension Cable	W5301	1m	Required when using a digital operator.
	W5303	3m	

MAGNETIC CONTACTOR FOR WINDING SELECTION

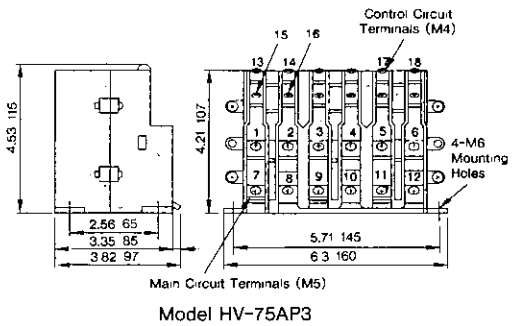
This is a compact magnetic contactor developed for motor winding selection operation. It is composed of transfer structural contacts, can be driven directly by an inverter. A mechanical lifetime of 5 million times or more is assured.



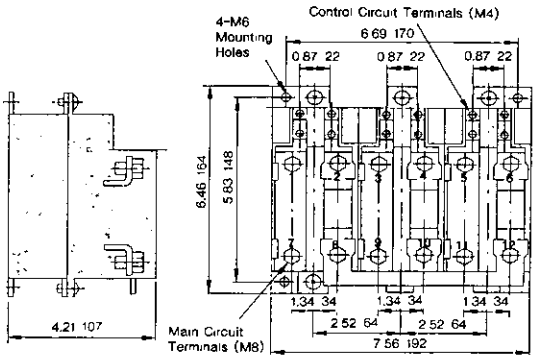
Model		HV-75AP3	HV-150AP3	HV-200AP3
Contact		Main contact : 3NO3NC, auxiliary contact : 1NO		
Rated Insulation Voltage		600V		
Rated Applying Current	Continuous	75A	150A	200A
	30minutes*	87A	175A	226A
Breaking Current Capacity	220V	200A	400A	400A
	440V	150A	300A	300A
Open/close Frequency		600 times/hr		
Mechanical Duration of Life		5 million times		
Control Magnetic Coil Rating		200V 50/60Hz, 220V 50/60Hz, 230V 60Hz		
Mass lb kg		5.5 2.5	11 5.0	12.1 5 5
Ambient Temperature		+14 to 131°F −10 to +55°C		
Humibity		10 to 95 % RH (Non-condensing)		

* : 1-hour or more dwell time is required after applying power supply for 30 minutes.

Dimensions in inches mm



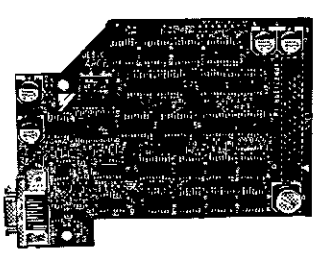
Model HV-75AP3



Models HV-150AP3, HV-200AP3

MAGNETIC SENSOR METHOD ORIENTATION

A magnetizer is mounted on the load shaft rotor and magnetic sensor on the fixed section to detect the position for constant angle positioning.



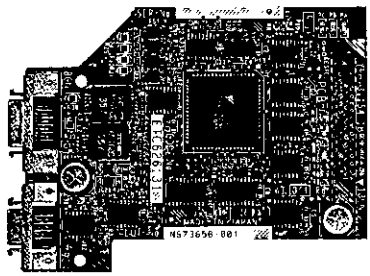
Item	Contents
Position Detection	Detects position change by magnetic flux change using magneto and magnetic sensor
Stop Position*1	Stops at position facing magneto and center of magnetic sensor head Adjustable in the range of ±2°by control constants
Stop Position Repetition Accuracy*1	±0.2°or less
Resistant Torque*1	Continuous rated torque/±0.1°displacement*2
Orientation Card	Code No. : ETC 62614X
Magnetizer	Type : MG-1378BS : MG-1444S Note : Standard type is MG-1378BS
Magnetic Sensor	Type : FS-1378C : FS-200A Note : Standard type is FS-1378C

*1. When a magnetizer is mounted on 120 diameter load axis circumference, excluding mechanical errors or errors caused by external magnetic field.

*2. Continuous rated torque may not be obtained according to gain setting. Displacement becomes larger following rapid load variation.

ENCODER METHOD ORIENTATION

Positioning is performed based on the stop angle command of 12-bit binary or 3-digit BCD, dividing one rotation into 4096 using the load shaft encoder signal and encoder type orientation card.



Item	Contents
Positioning	Absolute or incremental method
Position Detection	Detects angle by A,B or C generating pulses of load shaft encoder
Stop Position*1	Stops at the position set by external or internal command according to load shaft origin.*2 Angular resolution is 0.088°(=360°/4096).
Stop Position Repetition Accuracy*1	±0.2° or below
Resistant Torque*1	Continuous rated torque/±0.1 displacement*3
Orientation Card	Code No : ETC62613X
Load-shaft Encoder	Type NE-1024-2MD

*1. Functional errors such as backlash, eccentricity, etc. are excluded.
*2. Origin can be obtained by setting constant memory to the number of offset pulses from the encoder phase-C pulse startup at forward run load.
*3. Continuous rated torque may not be obtained according to gain setting. Displacement becomes larger following rapid load variation.

CONNECTOR

Required connector differs according to the inverter or the option card.

Code No.	Inverter	Connector				
		Name	Number of Pins		Qty. (each)	Connector No.
			Plug	Shell Kit		
72626-CA01	CIMR-M5A□□□□ M5A Standard	MDR	36P	36P	1	1CN
			20P	20P	1	2CN
			50P	50P	1	6CN
72626-CA02	CIMR-M5A□□□□ M5A With Encoder Method Orientation Card	MDR	36P	36P	1	1CN
			20P	20P	2	2CN 8CN
			50P	50P	1	6CN
			14P	14P	1	9CN
72626-CA03	CIMR-M5A□□□□ M5A With Magnetic Sensor Method Orientation Card	MDR	36P	36P	1	1CN
			20P	20P	1	2CN
			50P	50P	1	6CN
			14P	14P	1	10CN
72626-CN01	CIMR-M5N□□□□ M5N Standard	MDR	36P	36P	1	1CN
			20P	20P	1	2CN
		MR		8P	1	4CN
72626-CN02	CIMR-M5N□□□□ M5N With Encoder Method Orientation Card	MDR	36P	36P	1	1CN
			20P	20P	2	2CN 8CN
		MR		8P	1	4CN
		MDR	14P	14P	1	9CN
72626-CN03	CIMR-M5N□□□□ M5N With Magnetic Sensor Method Orientation Card	MDR	36P	36P	1	1CN
			20P	20P	1	2CN
		MR		8P	1	4CN
		MDR	14P	14P	1	10CN

Note : Plugs, shell kits are not provided for the MR connector.

Connector		Model	Maker
1CN (36P)	Plug (Solded)	10136-3000VE (36P) MDR	Sumitomo 3M Ltd.
	Shell kit (Non shielded)	10336-52A0-008 (36P) MDR	
2, 8CN (20P)	Plug (Solded)	10120-3000VE (20P) MDR	
	Shell kit (Non shielded)	10320-52A0-008 (20P) MDR	
6CN (50P)	Plug (Solded)	10150-3000VE (50P) MDR	
	Shell kit (Non-shielded)	10350-52A0-008 (50P) MDR	
9,10CN (14P)	Plug (Solded)	10114-3000VE (14P) MDR	
	Shell kit (Non-shielded)	10314-52A0-008 (14P) MDR	
4CN (8P)		MR-8LFG	Honda Tsushin kogyo Co., Ltd.

BUS BAR/CABLE

Bus bars and cables are required to connect converter with inverter.
Choose appropriate bars/cables according to the converter-inverter combinations.

200V Class

Conbination		Parts Code No.
Converter Model CIMR-MR5⬚	Inverter Model CIMR-M5⬚	
23P7 25P5 27P5	23P7 25P5 27P5	72626-W100100
	2011 2015	72626-W100150
2011 2015 2018 2022 2030	23P7 25P5 27P5	72626-W150100
	2011 2015 2018 2022	72626-W150150
	2030	72626-W150200
	2037	72626-W150300
2037	23P7 25P5 27P5	72626-W300100
	2011 2015 2018 2022	72626-W300150
	2030	72626-W300200
	2037	72626-W300300

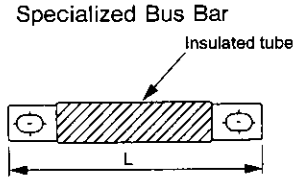
Note : Inverter capacity should not exceed converter capacity.

400V Class

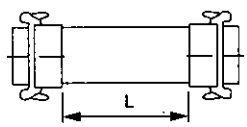
Conbination		Parts Code No.
Converter Model CIMR-MR5⬚	Inverter Model CIMR-M5⬚	
45P5 47P5	45P5 47P5	72626-W100100
	4011 4015	72626-W100150
4011 4015 4018 4022	45P5 47P5	72626-W150100
	4011 4015 4018 4022	72626-W150150
	4030 4037	72626-W250250
4030 4037 4045	45P5 47P5	72626-W250100
	4011 4015 4018 4022	72626-W250150
	4030 4037 4045	72626-W250250

Bus Bar/Cable Dimensions

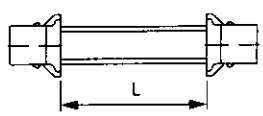
Specialized Bus Bar



Flat Cable



P1N1 Power Supply Cable



Parts Code No.	Specialized Bus Bar		Flat Cable		P1N1 Power Supply Cable	
	Dimension L inch mm	Qty.	Dimension L inch mm	Qty.	Dimension L inch mm	Qty.
72626-W100100	4.72 120	2	3.94 100	1	5.91 150	1
72626-W100150	6.59 167.5	2	7.09 180	1	5.91 150	1
72626-W150100	5.81 147.5	2	3.94 100	1	9.84 250	1
72626-W150150	7.68 195	2	7.09 180	1	9.84 250	1
72626-W150200	9.65 245	2	9.06 230	1	11.81 300	1
72626-W150300	13.58 345	2	12.99 330	1	13.78 350	1
72626-W250100	5.81 147.5	2	3.94 100	1	11.81 300	1
72626-W250150	7.68 195	2	7.09 180	1	11.81 300	1
72626-W250250	11.6 295	2	11.02 280	1	11.81 300	1
72626-W300100	11.71 297.5	2	3.94 100	1	13.78 350	1
72626-W300150	13.58 345	2	7.09 180	1	13.78 350	1
72626-W300200	15.55 395	2	9.06 230	1	13.78 350	1
72626-W300300	19.49 495	2	12.99 330	1	13.78 350	1