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TECHNOLOGY GROUP

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with experienced engineers and technicians on staff.

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Custom engineering
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Expert team | Trust guarantee | 100% satisfaction

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Find the *OMRON / Yaskawa CIMR-J7AZB0P2* at our website: *Click HERE*

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CIMR-J7AZ

Varispeed J7

Small, Simple and smart

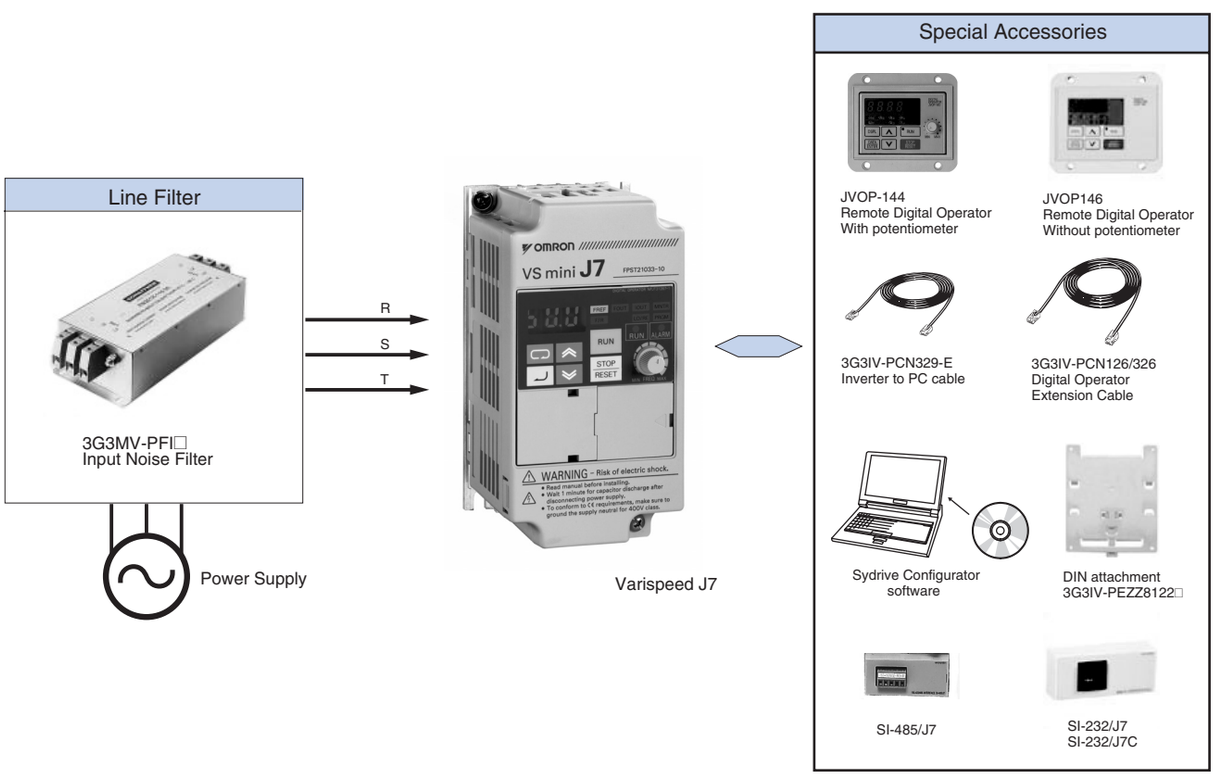
- V/f controlled inverter
- Compact size
- 150% overload / 60sec
- Overload detection
- Motor thermal function
- Freely configurable V/f curve
- 4 programable digital input
- 1 programable digital output
- 1 programable analog output
- Optional RS-232C/485 communication - Modbus
- CE, UL, and cUL marking

Ratings

- 200V Class single-phase 0.1 to 1.5 KW
- 200V Class three-phase 0.1 to 4.0 KW
- 400V Class three-phase 0.2 to 4.0 KW



System Configuration

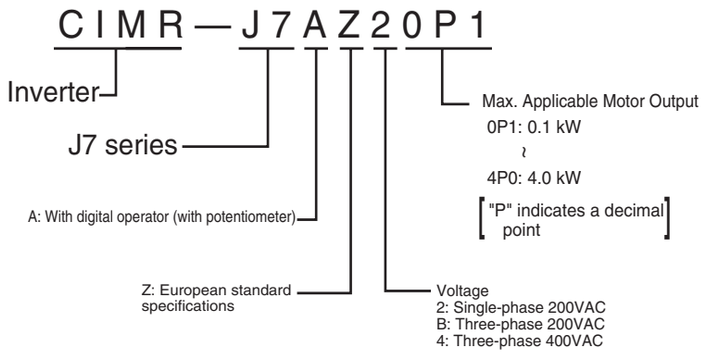


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Specifications

Type Designation



Voltage Class		200V Single/three-phase							400V three-phase						
Model CIMR-J7AZ□	Three-phase	20P1	20P2	20P4	20P7	21P5	22P2	24P0	40P2	40P4	40P7	41P5	42P2	43P0	44P0
	Single-phase[1]	B0P1	B0P2	B0P4	B0P7	B1P5	–	–	–	–	–	–	–	–	–
Max. Applicable Motor Output kW (HP)[2]		0.12	0.25	0.55	1.1	1.5	2.2	4.0	0.37	0.55	1.1	1.5	2.2	3.0	4.0
Output Characteristics	Inverter Capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7	0.9	1.4	2.6	3.7	4.2	5.5	7.0
	Rated Output Current A	0.8	1.6	3	5	8	11	17.5	1.2	1.8	3.4	4.8	5.5	7.2	9.2
	Max. Output Voltage V	3-phase, 200 to 230 V (proportional to input voltage) Single-phase, 200 to 240 V (proportional to input voltage)							3-phase, 380 to 460 V (proportional to input voltage)						
	Max. Output Frequency	400 Hz (Programmable)													
Power Supply	Rated Input Voltage and Frequency	3-phase, 200 to 230 V, 50/60Hz Single-phase, 200 to 240 V, 50/60Hz							3-phase, 380 to 460 V, 50/60Hz						
	Allowable Voltage Function	–15 to +10%													
	Allowable Frequency Function	±5%													

1. Single-phase series inverter output is three-phase (for three-phase motors)
2. Based on a standard 4-pole motor for max. applicable motor output. Select the inverter model whose rated current is larger than motor rated current

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Specifications

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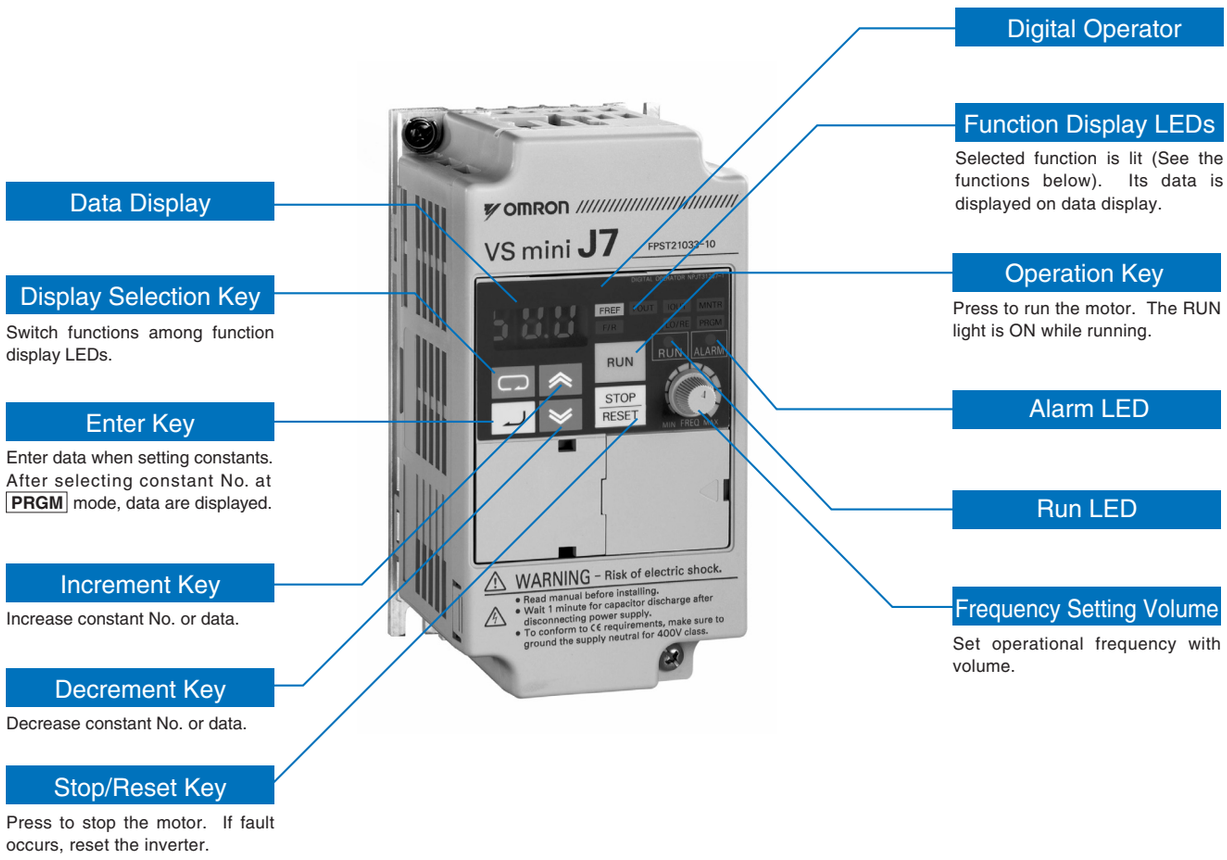
Model CIMR-J7AZ□		Specifications
Control functions	Control method	Sine wave PWM (V/f control)
	Output frequency range	0.1 to 400Hz
	Frequency tolerance	Digital reference: ±0.01% (–10 to +50°C), Analog reference: ±0.5% (25±10°C)
	Resolution of frequency set value	Digital reference: 0.01Hz (less than 100Hz), 0.1Hz (100Hz or more) Analog reference: 1/1000 of max. output frequency
	Resolution of output frequency	0.01Hz
	Overload capability	150% rated output current for one minute
	Frequency set value	0 to 10VDC (20kΩ), 4 to 20mA (250Ω), 0 to 20mA (250Ω), frequency setting volume (selectable)
	Accel/Decel time	0.1 to 999 sex. (accel/decel time are independently programmed)
	Braking torque	Short-term average deceleration torque[1]: 0.1, 0.2kW (0.13HP, 0,25HP): 150% or more; 0.4/0.75kW (0,5HP, 1HP): 100% or more; 1.5 kW (2HP): 50% or more; 2.2kW (3HP) or more: 20% or more Continuous regenerative torque: Approx 20%
	V/f Characteristics	Possible to program any V/f pattern
Functionality	Digital inputs	Four of the following input signals are selectable: Forward/reverse run (3-wire sequence), fault reset, external fault (NO/NC contact input), multi-step speed operation, Jog command, accel/decel time select, external baseblock (NO/NC contact input), speed search command, UP/DOWN command, accel/decel hold command, LOCAL/REMOTE selection, communication/ control circuit terminal selection, emergency stop fault, emergency stop alarm, self test
	Digital outputs	Following output signals are selectable (NO/NC contact output): Fault, running, zero speed, speed agreed, frequency detection (output frequency ≤ or ≥ set value), during overtorque detection, minor error, during baseblock, operation mode, inverter run ready, during fault retry, during undervoltage detection, reverse running, during speed search, data output through communication
	Standard functions	Full-range automatic torque boost, slip compensation, 9-step speed operation (max.), restart after momentary power loss, DC injection braking current at stop/start (50% of inverter rated current, 0.5 sec, or less), frequency reference bias/gain, fault retry, speed search, frequency upper/lower limit setting, overtorque detection, frequency jump, accel/decel time switch, accel/decel prohibited, S-curve accel/decel, frequency reference with built-in volume, constants copy (option) MEMOBUS communications (Option)
	Display	Status indicator LED: RUN and ALARM provided as standard LED's
		Digital operator: Available to monitor frequency reference, output frequency, output current
Protection	Motor Overload Protection	Electronic thermal overload relay
	Instantaneous Overcurrent	Motor coasts to a stop at approx. 250% of inverter rated current
	Overload	Motor coasts to a stop after 1 minute at 150% of inverter rated output current
	Overvoltage	Motor coasts to a stop if DC bus voltage exceed 410V (double for 400V class)
	Undervoltage	Stops when DC bus voltage is approx. 200V or less (double for 400V class) (approx. 160V or less for single-phase series)
	Momentary Power Loss	Following items are selectable: Not provided (stop if power loss is 15ms or longer), continuous operation if power loss is approx. 0.5s or shorter, continuous operation
	Cooling Fin Overheat	Protected by thermister
	Stall Prevention Level	Individual level stall prevention can be set during acceleration or constant running, provided/not provided setting available during deceleration.
	Cooling Fan Fault	Detected by electronic circuit (fan lock detection)
	Ground Fault	Protected by electronic circuit (operation level is approx. 250% of rated output current)
	Power Charge Indication	ON until the DC bus voltage becomes 50V or less, RUN lamp stays ON or digital operator LED stays ON. (Charge LED is provided for 400V)
Ambient conditions	Degree of protection	IP20
	Cooling	Self cooling for 200V 0,1..0,75KW (single-phase) 0,1..0,4 KW (Three-phase) and for 400V 0,2..0,75lkW Cooling fan for 200V (single-phase), 0,75kW..4.0kW (3-phase) and for 400V 1,5..4.0kW
	Ambient temperature	-10ºC to 50ºC (non-freezing)
	Ambient humidity	90% RH or less (non-condensing)
	Storage temperature	-20 ºC..+60 ºC (short-term temperature during trasnportation)
	Installation	Indoor (no corrosive gas, dust, etc.)
	Installation height	Max. 1000 m
	Vibrations	10 to 20 Hz, 9.8 m/s^2 max; 20 to 50 Hz, $2m/s^2$ max

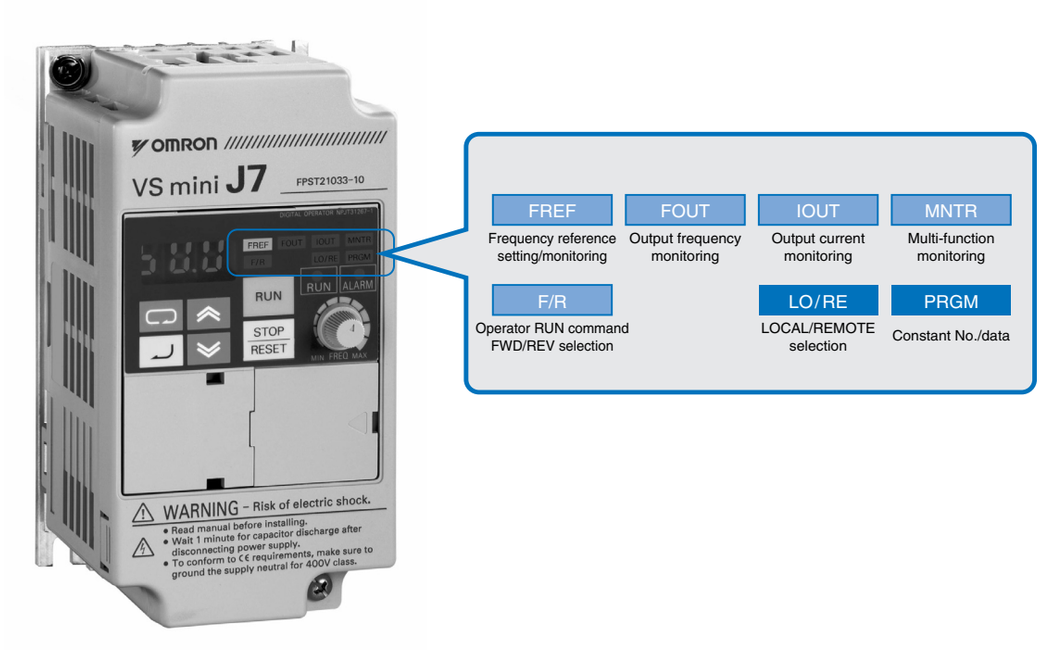
1. Shows deceleration torque for uncoupled motor decelerating from 60Hz with the shortest possible deceleration time

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Digital operator





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Dimensions

IP 20 type 0.1 to 4 KW

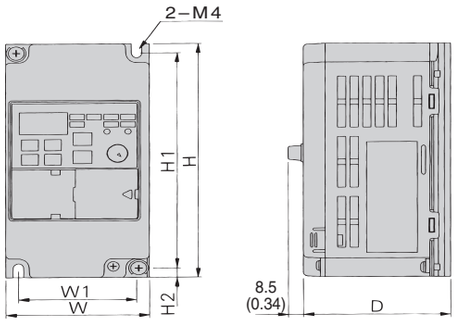


Figure 1

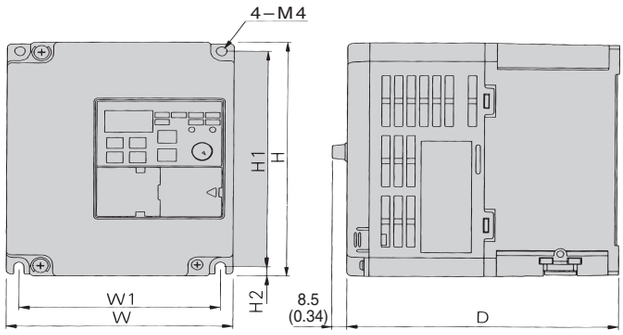


Figure 2

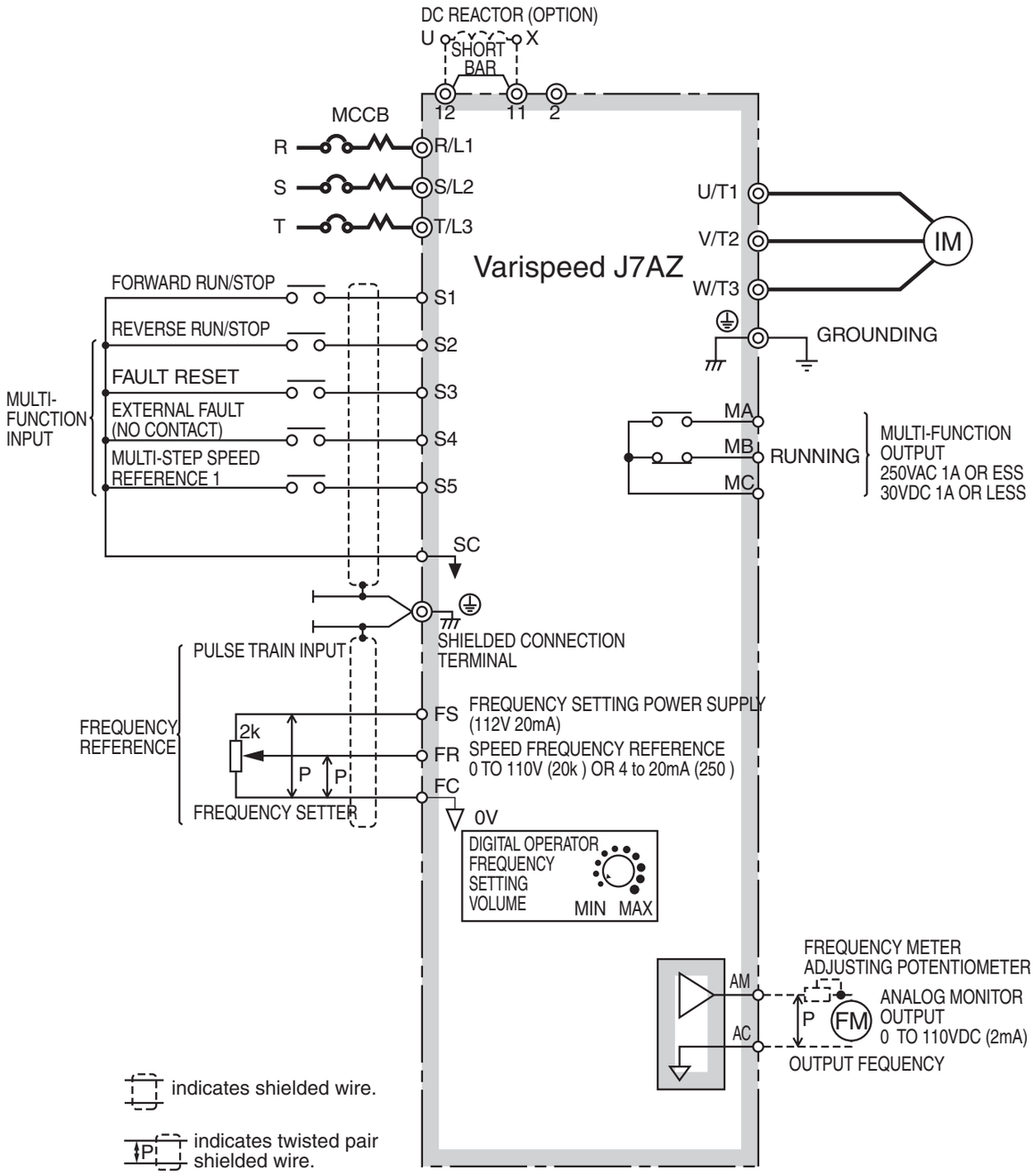
Voltage Class	Max. Applicable Motor Output kW	Inverter IModel CIMR-J7AZ□	Figure	Dimensions in mm						Mass kg	Cooling Method
				W	H	D	W1	H1	H2		
200V Three-phase	0.12	20P1	1	68	128	70	56	118	5	0.5	Self cooled
	0.25	20P2								7.7	
	0.55	20P4				102				0.8	
	1.1	20P7				122				0.9	Fan cooled
	1.5	21P5	2	108		129	96	118		1.3	
	2.2	22P2				154				1.5	
	4.0	24P0		140		161	128			2.1	
200V Single-phase	0.1	B0P1	1	68	128	70	56	118	5	0.5	Self cooled
	0.2	B0P2									
	0.4	B0P4				112				0.9	
	0.75	B0P7	2	108		129	96			1.5	Fan cooled
	1.5	B1P5				154					
400V Three-phase	0.37	40P2	2	108	128	81	96	118	5	1.0	Self cooled
	0.55	40P4				99				1.1	
	1.1	40P7				129				1.5	
	1.5	41P5				154 (6.06)					Fan cooled
	2.2	42P2									
	3.0	43P0		140		161	128			2.1	
	4.0	44P0									

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Installation

Standard Connections



: shows the connection for the following two kinds of sequence input (S1 to S5) siglals: no-voltage contact and NPN transistors (0V common).
For a PNP transistor (+24V common), a 24V external power supply is necessary.

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Main Circuit

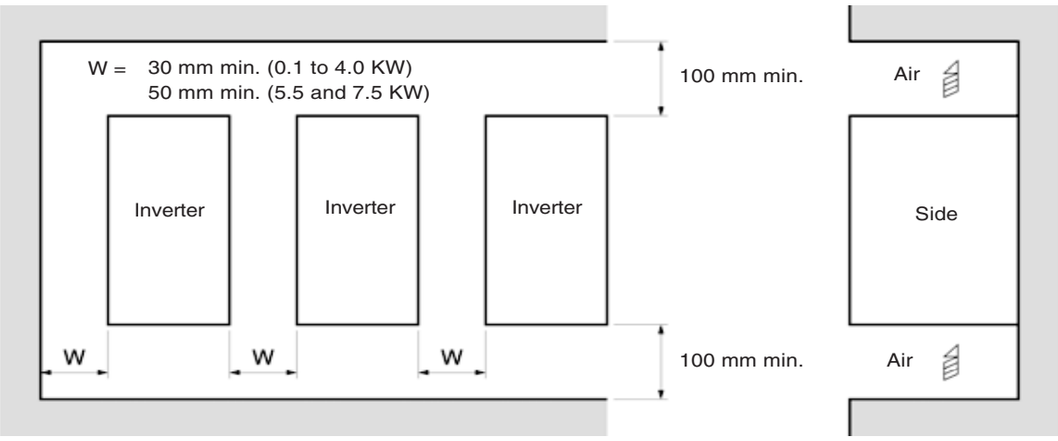
Terminal	Name	Function (Signal Level)
R/L1, S/L2, T/L3	AC Power Supply Input	Main circuit power supply input (Use R/L1 and S/L2 for single-phase power supply inverter. Do not use T/L3 of the models less than 0.75kW for other usage, such as a junction terminal.)
U/T1, V/T2, W/T3	Inverter Output	For inverter output
+2, +1	DC Reactor Connection	Remove the short bar between +2 and +1 when connecting DC reactor (option)
+1, –	DC Power Supply Input	For power supply input (+1: positive electrode; – : negative electrode)*
⏚	Grounding	For grounding (Grounding should be conforming to the local grounding code.)

Control Circuit

Type	No.	Signal Name	Function	Signal Level
Digital input signals	**S1**	Multi-function Input Selection 1	Factory setting: Runs when CLOSED, stops when OPEN.	24VDC, 8mA photocoupler insulation
	S2	Multi-function Input Selection 2	Factory setting: Runs when CLOSED, stops when OPEN.	
	S3	Multi-function Input Selection 3	Factory setting: "Fault reset"	
	S4	Multi-function Input Selection 4	Factory setting: "External fault (NO contact)"	
	S5	Multi-function Input Selection 5	Factory setting: "Multi-step speed reference 1"	
	SC	Multi-function Input Selection Common	Common for control signal	
Analog input signals	**FS**	Power Supply Terminal for Frequency Setting	+12V (allowable current: 20mA max.)	
	FR	Speed Frequency Reference	0 to +10V DC (20kΩ) or 4 to 20mA (250Ω), 0 to 20 mA (250Ω) (resolution 1/1000)	
	FC	Frequency Reference Common	0V	
Digital output signals	**MA**	NO Contact Output	Factory setting: "Running"	Contact capacity 250VAC, 1A or less 30VDC, 1A or less
	MB	NO Contact Output		
	MC	Contact Output Common		
Analog output signals	**AM**	Analog Monitor Output	Factory setting: "Output frequency" 0 to +10V output	0 to 10V 2mA or less Resolution: 8bits
	AC	Analog Monitor Common	0V	

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Inverter Heat Loss

Three-phase 200 V Class

CIMR-J7AZ□		20P1	20P2	20P4	20P7	21P5	22P2	24P0
Inverter Capacity kVA		0.3	0.6	1.1	1.9	3.0	4.2	6.7
Rated Current A		0.8	1.6	3.0	5.0	8.0	11.0	17.5
Heat Loss W	Fin	3.7	10.3	15.8	28.4	53.7	60.4	96.7
	Inside Unit	9.3	18.0	12.3	16.7	19.1	34.4	52.4
	Total Heat Loss	13.0	18.0	28.1	45.1	72.8	94.8	149.1

Single phase 200 V Class

CIMR-J7AZ□		B0P1	B0P2	B0P4	B0P7	B1P5
Inverter Capacity kVA		0.3	0.6	1.1	1.9	3.0
Rated Current A		0.8	1.6	3.0	5.0	8.0
Heat Loss W	Fin	3.7	7.7	15.8	28.4	53.7
	Inside Unit	10.4	12.3	16.1	23.0	29.1
	Total Heat Loss	14.1	20.1	31.9	51.4	82.8

Three-phase 400 V Class

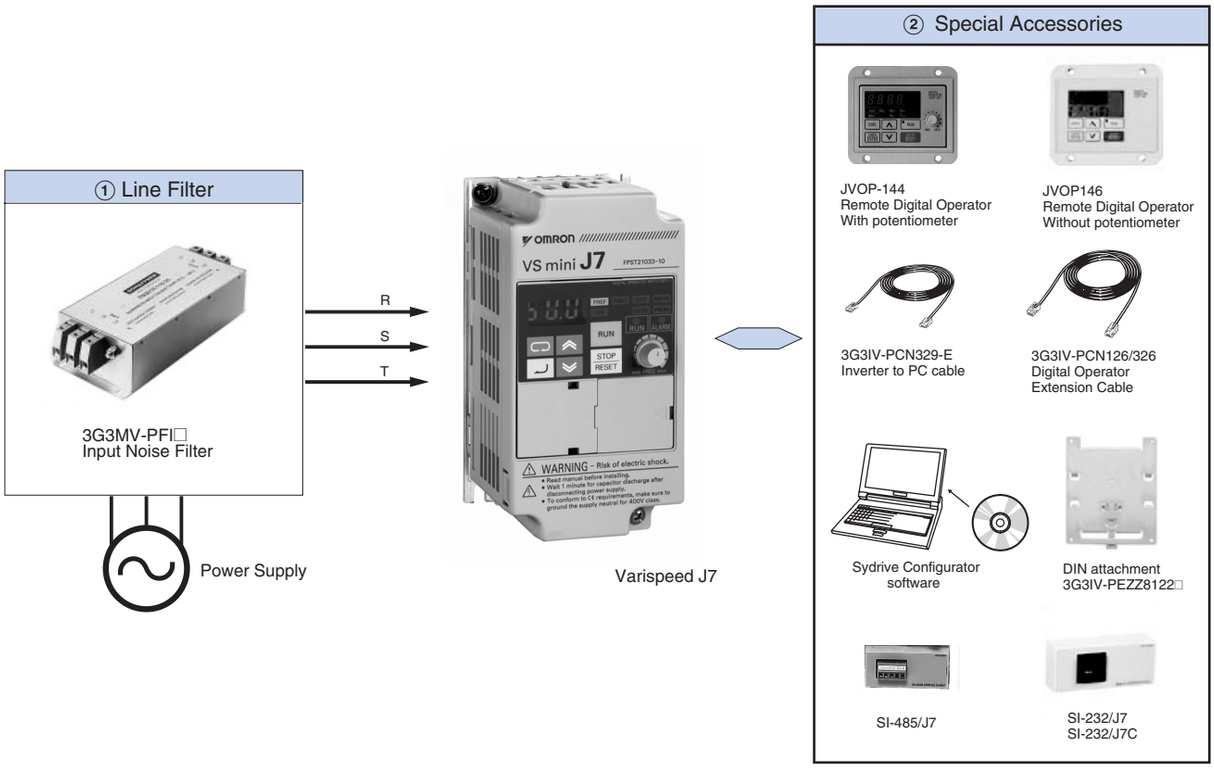
CIMR-J7AZ□		40P2	40P4	40P7	41P5	42P2	43P0	44P0
Inverter Capacity kVA		0.9	1.4	2.6	3.7	4.2	5.5	7.0
Rated Current A		1.2	1.8	3.4	4.8	5.5	7.2	9.2
Heat Loss W	Fin	9.4	15.1	30.3	45.8	50.5	58.2	73.4
	Inside Unit	13.7	15.0	24.6	29.9	32.5	37.6	44.5
	Total Heat Loss	23.7	30.1	54.9	75.7	83.0	95.8	117.9

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Ordering Information

System Configuration



① Line Filters

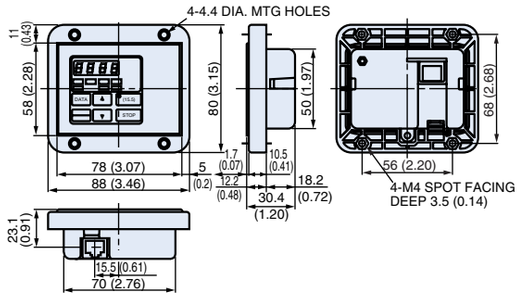
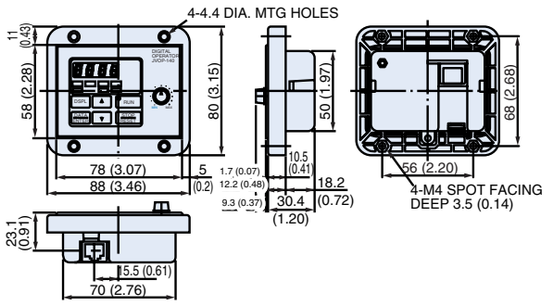
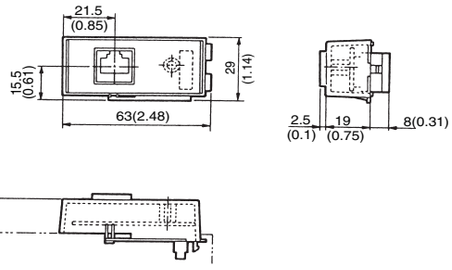
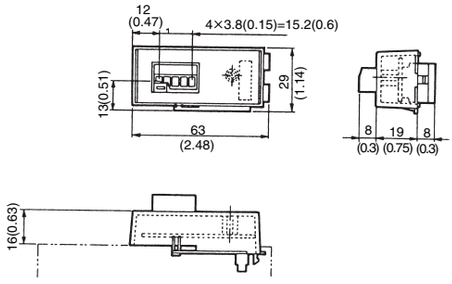


Inverter		Line filter			
Voltage	**Model 3G3MV-A**	**Type 3G3JV-**	**Rated current (A)**	**Weight (kg)**	**Dimensions**
3-Phase 200 V AC	20P1 / 20P2 / 20P4 / 20P7	PFI2010-SE	10	0.7	82x50x194
	21P5 / 22P2	PFI2020-SE	20	0.9	111x50x169
	24P0	PFI2030-SE	30	1.0	144x50x174
Single-Phase 200 V AC	B0P1 / B0P2 / B0P4	PFI1010-SE	10	0.5	71x45x169
	B0P7 / B1P5	PFI1020-SE	20	0.7	111x50x169
3-Phase 400 V AC	40P2 / 40P4	PFI3005-SE	5	0.6	111x50x169
	40P7 / 41P5 / 42P2	PFI3010-SE	10	0.7	111x50x169
	4P4P0	PFI3020-SE	15	1.0	144x50x174

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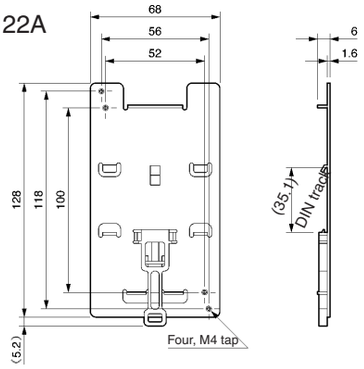
② Accessories

	Name	Description	Installation
Digital operator	JVOP-146 	Remote digital operator without potentiometer	
	JVOP-144 	Remote digital operator with potentiometer	
Interface units	SI-232/J7 (3G3JV-PSI232J) 	RS232 adapter	Another option SI-232/J7C (3G3JV-PSI232JC) is available, the only difference is that this one is removable. 
	SI-485/J7 (3G3JV-PSI485J) 	RS485 adapter	
Accessories	3G3IV-PCN126 3G3IV-PCN326	Digital operator extension cable 1 meters 3 meters	SI232/J7 is necessary to connect
	3G3IV-PCN329-E	PC configuration cable	SI232/J7 is necessary to connect
	Sysdrive Configurator	Computer software	Configuration and monitoring software tool
	User's Manual	TOE-S606-12F-OY	-----

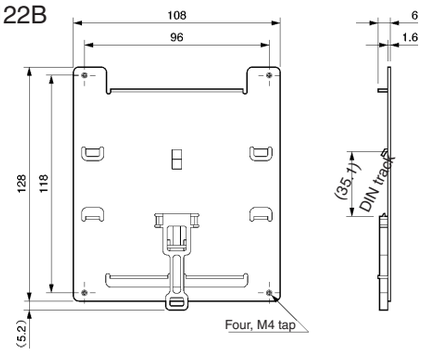
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DIN Track Mounting Bracket

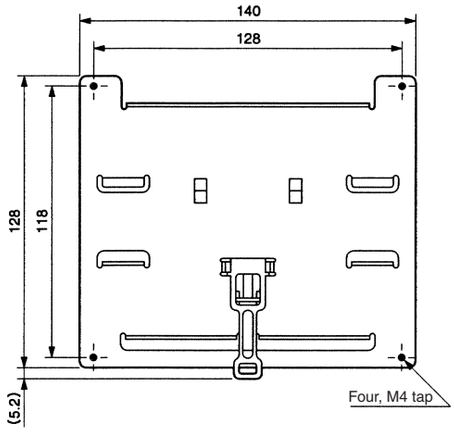
3G3IV-PEZZ08122A



3G3IV-PEZZ08122B



3G3IV-PEZZ08122C

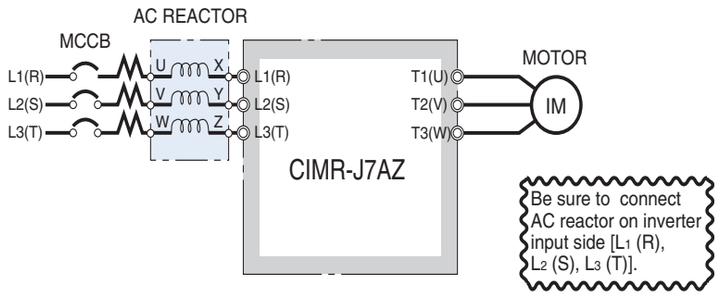


Inverter		DIN Track Mounting Bracket
3-phase 200 V AC	CIMR-J7AZ20P1/20P2/20P4/20P7	3G3IV-PEZZ08122A
	CIMR-J7AZ21P5/22P2	3G3IV-PEZZ08122B
	CIMR-J7AZ24P0	3G3IV-PEZZ08122C
Single-phase 200 V AC	CIMR-J7AZB0P1/B0P2/B0P4	3G3IV-PEZZ08122A
	CIMR-J7AZB0P7/B1P5	3G3IV-PEZZ08122B
3-phase 400 V AC	CIMR-J7AZ40P2/40P4/40P7/41P5/42P2	3G3IV-PEZZ08122B
	CIMR-J7AZ44P0	3G3IV-PEZZ08122C

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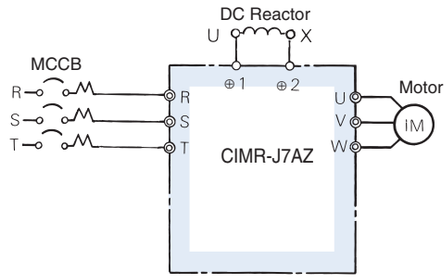
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AC Reactor



200 V Class				400 V Class			
Max. Applicable Motor Output kW	Current Value A	Inductance mH	Code No.	Max. Applicable Motor Output kW	Current Value A	Inductance mH	Code No.
0.1	2.0	2.0	X 002764	------			
0.2	2.0	2.0	X 002764	0.2	1.3	18.0	X 002561
0.4	2.5	4.2	X 002553	0.4			
0.75	5	2.1	X 002554	0.75	2.5	8.4	X 002562
1.5	10	1.1	X 002489	1.5	5	4.2	X 002563
2.2	15	0.71	X 002490	2.2	7.5	3.6	X 002564
4.0	20	0.53	X 002491	4.0	10	2.2	X 002500

DC Reactor



200 V Class				400 V Class			
Max. Applicable Motor Output kW	Current Value A	Inductance mH	Code No.	Max. Applicable Motor Output kW	Current Value A	Inductance mH	Code No.
0.12	5.4	8	X010048	--------			
0.25				0.37	3.2	28	X010052
0.55				0.55			
1.1				1.1			
1.5	18	3	X010049	1.5	5.7	11	X010053
2.2				2.2			
4.0				4.0	12	6.3	X010054

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. I19E-EN-01 In the interest of product improvement, specifications are subject to change without notice.

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