CIMR-V7AZ

Varispeed V7

Sensorless vector in pocket size

- Nominal torque at 0.5 Hz
- Autotuning
- High carrier up to 14 khz
- Stop accuracy
- Integrated PID controller and bidireccional PID-out put
- Motor protection with PTC input
- Pulse input
- Standard digital operator with copy function
- Fieldbus: Modbus, DeviceNet, PROFIBUS, CANopen
- High speed motion bus: ML- II
- Plug-in PLC option unit. Total inverter access.
- CE, UL, and cUL marked

V7 IP65

- Compact size
- Easy wiring.
- Built-in filter. (Class B)

Customised Software*

- The inverter sofware can be customised to meet specific aplications.
- Example:
- Traverse sofware S-9381.

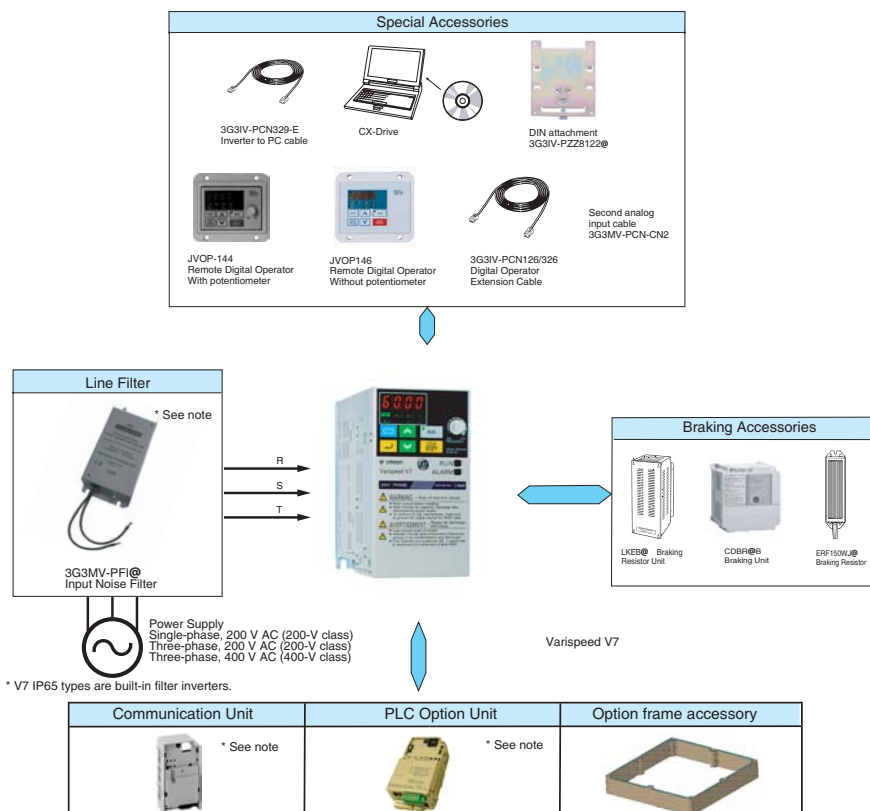*For a detailed information please refer to case software section.

Ratings

- 200V Class single-phase 0.1 to 4 KW
- 200V Class three-phase 0.1 to 7.5 KW
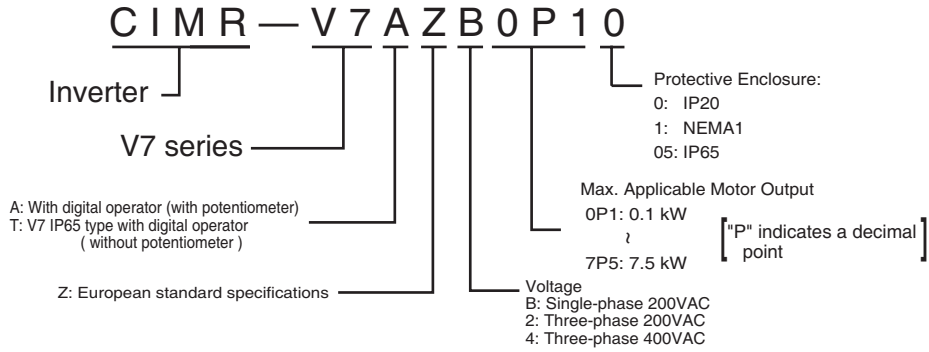- 400V Class three-phase 0.2 to 7.5 KW

System Configuration

Special Accessories

3G3IV-PCN329-E
Inverter to PC cable

CX-Drive

DIN attachment
3G3IV-PZZ8122@

JVOP-144
Remote Digital Operator
With potentiometer

JVOP146
Remote Digital Operator
Without potentiometer

3G3IV-PCN126/326
Digital Operator
Extension Cable

Second analog
input cable
3G3MV-PCN-CN2

Line Filter

* See note

3G3MV-PFI@
Input Noise Filter

R
S
T

Braking Accessories

LKEB@ Braking
Resistor Unit

CDBR@B
Braking Unit

ERF150WJ@
Braking Resistor

Power Supply
Single-phase, 200 V AC (200-V class)
Three-phase, 200 V AC (200-V class)
Three-phase, 400 V AC (400-V class)

* V7 IP65 types are built-in filter inverters.

Varispeed V7

Communication Unit	PLC Option Unit	Option frame accessory
* See note	* See note	

* Option frame accessory is needed for V7 IP65 types when communication option unit or PLC option unit are used.

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Specifications

Type Designation

C I M R — V 7 A Z B 0 P 1 0

- Inverter
- V7 series
- A: With digital operator (with potentiometer)
- T: V7 IP65 type with digital operator (without potentiometer)
- Z: European standard specifications
- Voltage
  - B: Single-phase 200VAC
  - 2: Three-phase 200VAC
  - 4: Three-phase 400VAC
- Max. Applicable Motor Output
  - 0P1: 0.1 kW
  - ≀
  - 7P5: 7.5 kW
  - ["P" indicates a decimal point]
- Protective Enclosure:
  - 0: IP20
  - 1: NEMA1
  - 05: IP65

200 V class

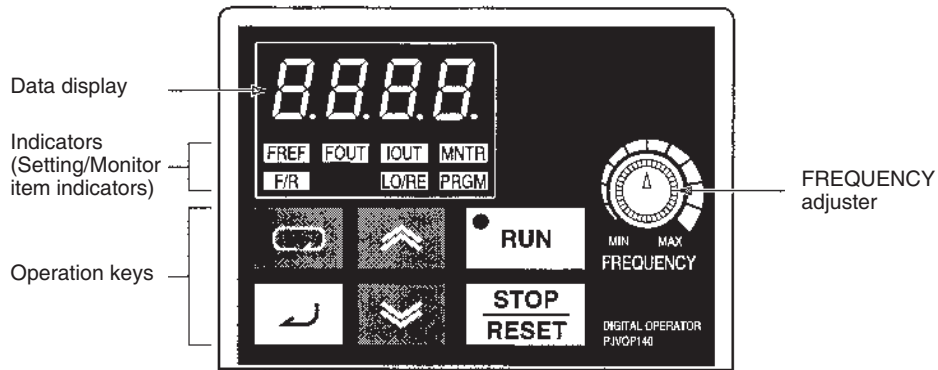| IP20 Single-phase: CIMR-V7AZ	B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0
IP65 Single-phase: CIMR-V7TZ	---	---	B0P405	B0P705	B1P505	B2P205	---
IP20 Three-phase: CIMR-V7AZ	20P1	20P2	20P4	20P7	21P5	22P2	24P0
Maximum permissible motor output kW[1]	0.12	0.25	0.55	1.1	1.5	2.2	4.0
Output characteristics — Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7
Output characteristics — Rated output current A	0.8	1.6	3.0	5.0	8.0	11.0	17.5
Output characteristics — Max. output voltage	Proportional to input voltage: 0..240 V						
Output characteristics — Max. Output frequency	400 Hz						
Power Supply — Rated input voltage and frequency	Single-phase 200..240V 50/60 Hz 3-phase 200..230V 50/60 Hz						
Power Supply — Allowable Voltage Fluctuation	-15%..+10%						
Power Supply — Allowable Frequency Fluctuation	+5%						

1. Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current

400 V class

IP20 Three-phase: CIMR-V7AZ	40P2	40P4	40P7	41P5	42P2	43P0	44P0	45P5	47P5
IP65 Three-phase: CIMR-V7TZ		40P405	40P705	41P505	42P205	43P005	44P005		
Maximum permissible motor output kW[1]	0.37	0.55	1.1	1.5	2.2	3.0	4.0	5.5	7.5
Output characteristics — Inverter capacity kVA	0.9	1.4	2.6	3.7	4.2	5.5	7.0	11.0	14.0
Output characteristics — Rated output current A	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0
Output characteristics — Max. output voltage	Proportional to input voltage: 0..400 V								
Output characteristics — Max. Output frequency	400 Hz								
Power Supply — Rated input voltage and frequency	3.phase 380..460 VAC, 50/60 Hz								
Power Supply — Allowable Voltage Fluctuation	-15%..+10%								
Power Supply — Allowable Frequency Fluctuation	+5%								

1. Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current

Commom Specifications

Model Number CIMR-V7AZ-□ CIMR-V7TZ-□		Specifications
Control	**Control methods**	Sine wave PWM (V/f control, sensorless vector control)
	Output frequency range	0.1..400 Hz
	Frequency tolerance	Digital set value: ±0.01% (-10..+50 ºC)
		Analogue set value: ±0.5% (25 ±10 ºC)
	Resolution of frequency set value	Digital set value: 0.01 Hz (<100 Hz), 0.1 Hz (>100 Hz)
		Analogue set value: 1/1000 of maximum frequency
	Resolution of output frequency	0.01 Hz
	Overload capability	150%/60 s
	Frequency set value	0..10 V (20 kΩ), 4..20 mA (250 Ω), 0..20 mA (250 Ω) Pulse train input, frequency setting value (selectable)l
	Braking torque (short term peak torque)	Up to 200 W 150% or more 550 W to 1.1 kW 100% or more 1.5 kW 50% or more >1.5 kW 20% or more Continuous braking torque approx. 20% without, 150% with external braking resistor
Functionality	**Binary inputs**	7 freely programmable inputs
	Binary outputs	1 relay output, 2 freely programmable open collector outputs
	Analogue output	1 programmable analogue output (0..10 V)/pulse output
	Analogue inputs	2 analogue inputs, 0..10 V, 4..20 mA, 0..20 mA
	Braking/acceleration times	0.01..6000 s
	Display	Optionally frequency, current or set value
		Error and status LED
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 electronic circuit
	Stall Prevention Level	Individual levels during accel/constant speed. Decel ON/OFF available. During decel enable/disable selectable.
	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	RUN lamp stays ON or digital operator LED stays ON until the DC bus voltage becomes 50V or less. (Charge LED is provided for 400V)
Ambient conditions	**Degree of protection**	IP20, NEMA1, IP65
	Cooling	Self cooling for 200V 0,1..0,4 KW (3 or single phase) and for 400V 0,2..0,75 KW Cooling fan for 200V 0,75 to 7.5 KW and for 400V 1.5 to 7.5 KW
	Ambient temperature	Open air mounting: -10 ºC..50 ºC
		Wall mounting: -10 ºC..40 ºC
	Ambient humidity	95% (without condensation)
	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

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Digital operator

Appearance	Name	Function
8.8.8.8.	Data display	Displays relevant data items, such as frequency reference, output frequency, and parameter set values.
(FREQUENCY adjuster knob) MIN MAX FREQUENCY	Frequency adjuster	Sets the frequency reference within a range between 0 Hz and the maximum frequency. (See note 4.)
FREF	Frequency reference indicator	The frequency reference can be monitored or set while this indicator is lit.
FOUT	Output frequency indicator	The output frequency of the Inverter can be monitored while this indicator is lit.
IOUT	Output current indicator	The output current of the Inverter can be monitored while this indicator is lit.
MNTR	Multi-function monitor indicator	The values set in U01 through U10 are monitored while this indicator is lit.
F/R	Forward/Reverse selection indicator	The direction of rotation can be selected while this indicator is lit when operating the Inverter with the RUN Key.
LO/RE	Local/Remote selection indicator	The operation of the Inverter through the Digital Operator or according to the set parameters is selectable while this indicator is lit. (See note 1.)
PRGM	Parameter setting indicator	The parameters in n001 through n179 can be set or monitored while this indicator is lit. (See note 2.)
(Mode Key)	Mode Key	Switches the simplified-LED (setting and monitor) item indicators in sequence. Parameter being set will be canceled if this key is pressed before entering the setting.
(Increment Key)	Increment Key	Increases multi-function monitor numbers, parameter numbers, and parameter set values.
(Decrement Key)	Decrement Key	Decreases multi-function monitor numbers, parameter numbers, and parameter set values.
(Enter Key)	Enter Key	Enters multi-function monitor numbers, parameter numbers, and internal data values after they are set or changed.
RUN	RUN Key	Starts the Inverter running when the 3G3MV is in operation with the Digital Operator.
STOP RESET	STOP/RESET Key	Stops the Inverter unless parameter n007 is set to disable the STOP Key. Used to reset the Inverter when an error occurs. (See note 3.)

Note:
1. The status of the local/remote selection indicator can be only monitored while the Inverter is in operation. Any RUN comand input is ignored while this indicator is lit.

2. While inverter is in operation, the parameters can be only monitored and only some parameters can be changed. Any RUN command is ignored while the parameter setting indicator is lit.

3. For safety reasons, the reset function cannot be used while an operation instruction (forward/reverse) is being input. Turn the operation instruction OFF before using this function.

4. V7 IP65 types have digital operator without Frequency adjuster.
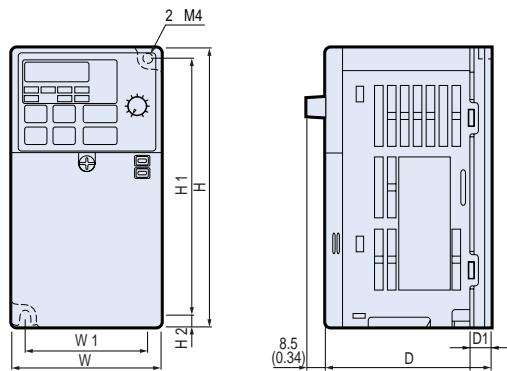
Dimensions
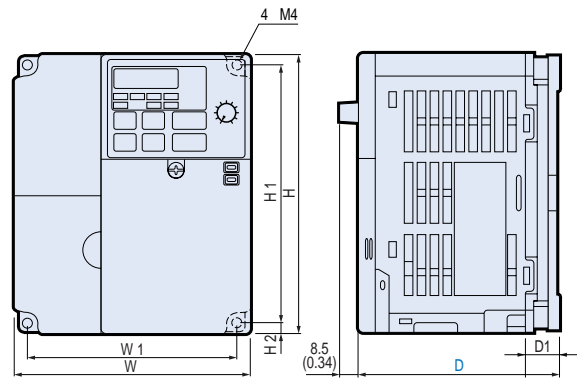
IP 20 type 0.1 to 4 Kw

Figure 1

Figure 2

Voltage Class	Max. Applicable Motor Output kW	Inverter Model CIMR V7AZ	Figure	Dimensions in mm							Mass kg	Cooling Method
				W	H	D	W1	H1	H2	D1		
Three-phase 200V	0.12	20P1	1	68	128	76	56	118	5	10	0.6	Self cooled
	0.25	20P2				76				10	0.6	
	0.55	20P4				108				42	0.9	
	1.1	20P7				128				62	1.1	Fan cooled
	1.5	21P5	2	108		131	96		5	64	1.4	
	2.2	22P2				140					1.5	
	4.0	24P0		140		143	128			71	2.1	
Single-phase 200V	0.12	B0P1	1	68	128	76	56	118	5	10	0.6	Self cooled
	0.25	B0P2				76				10	0.7	
	0.55	B0P4				131				42	1.0	
	1.1	B0P7	2	108		140	96	118	5	64	1.5	Fan cooled
	1.5	B1P5				156	96				1.5	
	2.2	B2P2		140		163	128			71	2.2	
	4.0	B4P0		170		180	158				2.9	
Three-phase 400V	0.37	40P2	2	108	128	92	96	118	5	16	1.0	Self cooled
	0.55	40P4				110				34	1.1	
	1.1	40P7				140				64	1.5	
	1.5	41P5				156					1.5	Fan cooled
	2.2	42P2									1.5	
	3.0	43P0		140		143	128			71	2.1	
	4.0	44P0									2.1	

IP20 / NEMA1 type 5.5/7.5 Kw
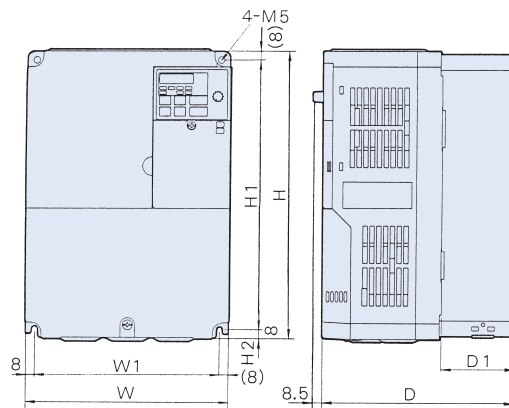
Figure 3

Voltage Class	Max. Applicable Motor Output kW	Inverter Model CIMR - V7AZ	Figure	Dimensions in mm (inches)							Mass kg	Cooling Method
				W	H	D	W1	H1	H2	D1		
Three-phase 200V	5.5	25P5	3	180	260	170	164	244	8	65	4.6	Fan cooled
	7.5	27P5									4.8	
Three-phase 400V	5.5	45P5		180	260	170	164	244	8	65	4.8	
	7.5	47P5									4.8	

Varispeed V7

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IIP65 type 0.55 to 4Kw
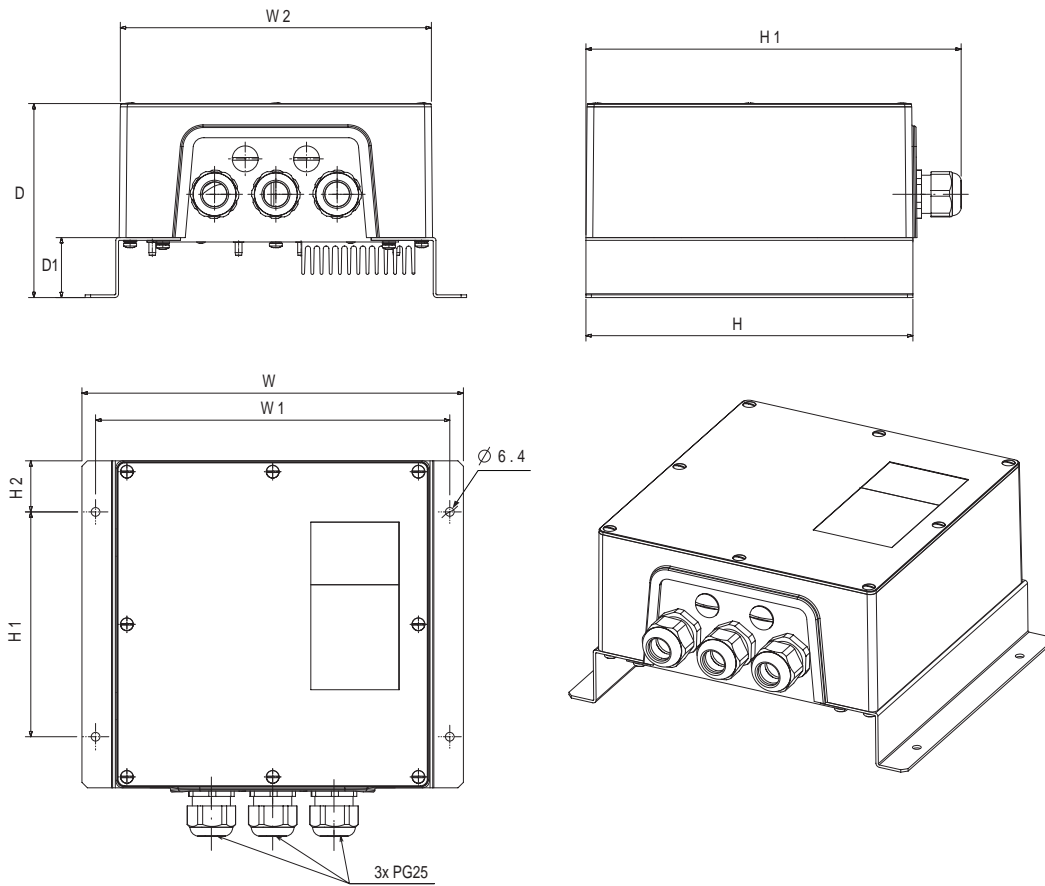
Figure 4

Voltage Class	Max. Applicable Motor Output kW	Inverter Model CIMR V7TZ	Figure	Dimensions in mm									Mass kg	Cooling Method
				W	H	D	W1	W2	H1	H2	H3	D1		
Single-phase 200V	0.55	B0P405	4	280	240	142	260	228	165	38	275	44	3.4	Self cooled
	1.1	B0P705											4.3	Fan cooled
	1.5	B1P505											3.7	
	2.2	B2P205											4.2	
Three-phase 400V	0.55	40P405		280	240	142	260	228	165	38	275	44	4.2	Self cooled
	1.1	40P705											4.3	Fan cooled
	1.5	41P505											3.7	
	2.2	42P205											3.7	
	3.0	43P005											4.1	
	4.0	44P005											4.1	

Frequency Inverters

IP65 type 0.55 to 4Kw (With Option Frame accessory attached)
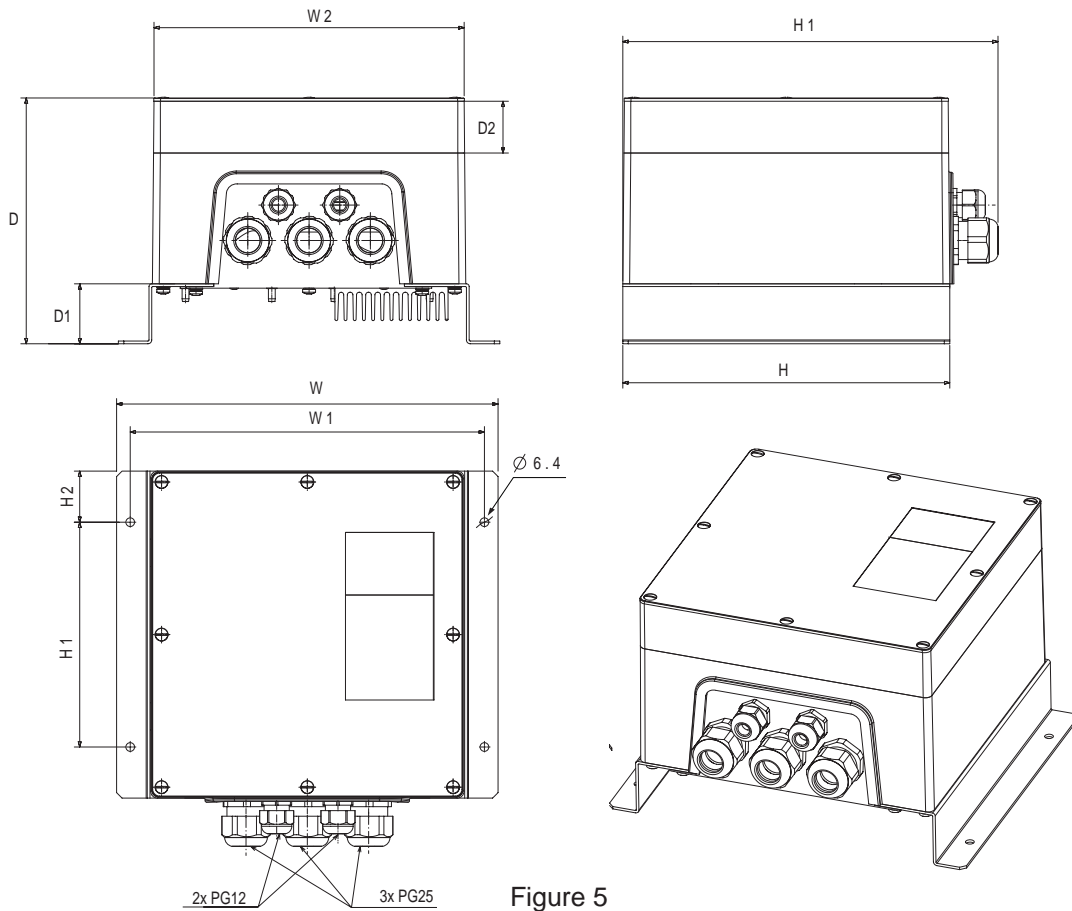
Figure 5

Voltage Class	Max. Applicable Motor Output kW	Inverter Model CIMR V7TZ	Figure	Dimensions in mm										Mass kg	Cooling Method
				W	H	D	W1	W2	H1	H2	H3	D1	D2		
Single-phase 200V	0.55	B0P405	5	280	240	180	260	228	165	38	275	44	38	3.6	Self cooled
	1.1	B0P705												4.5	Fan cooled
	1.5	B1P505												3.9	
	2.2	B2P205												4.4	
Three-phase 400V	0.55	40P405		280	240	180	260	228	165	38	275	44	38	4.4	Self cooled
	1.1	40P705												4.5	Fan cooled
	1.5	41P505												3.9	
	2.2	42P205												3.9	
	3.0	43P005												4.3	
	4.0	44P005												4.3	

Varispeed V7

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Filters *
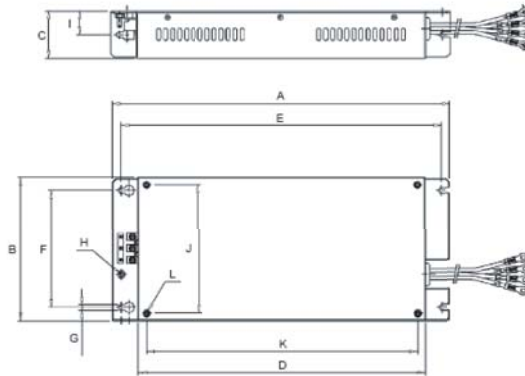
Schaffner Model		Dimensions										
		A	B	C	D	E	F	G	H	I	J	K	L
3x200V	3G3MV-PFI2010-SE	194	82	50	160	181	62	5.3	M5	25	56	118	M4
	3G3MV-PFI2020-SE	169	111	50	135	156	91	5.5	M5	25	96	118	M4
	3G3MV-PFI2030-SE	174	144	50	135	161	120	5.3	M5	25	128	118	M4
1x200V	3G3MV-PFI1010-SE	169	71	45	135	156	51	5.3	M5	22	56	118	M4
	3G3MV-PFI1020-SE	169	111	50	135	156	91	5.3	M5	25	96	118	M4
	3G3MV-PFI1030-SE	174	144	50	135	161	120	5.3	M5	25	128	118	M4
	3G3MV-PFI1040-SE	174	144	50	135	161	150	5	M5	25	158	118	M4
3x400V	3G3MV-PFI3005-SE	169	111	45	135	156	91	5.3	M5	22	96	118	M4
	3G3MV-PFI3010-SE	169	111	45	135	156	91	5.3	M5	22	96	118	M4
	3G3MV-PFI3020-SE	174	144	50	135	161	120	5	M5	25	128	118	M4
	3G3MV-PFI3030-SE	304	184	56	264	288	150	6	M5	28	164	244	M5
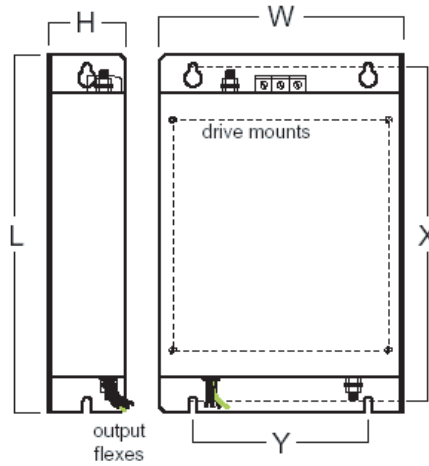
Rasmi Model		Dimensions					
		W	H	L	X	Y	Inverter fixing
3x200V	3G3MV-PFI2010-E	82	50	194	181	62	M5
	3G3MV-PF2020-E	111	50	169	156	91	M5
	3G3MV-PFI2030-E	144	50	174	161	120	M5
	3G3MV-PFI2050-E	184	56	304	288	150	M5
1x200V	3G3MV-PFI1010-E	71	45	169	156	51	M5
	3G3MV-PFI1020-E	111	50	169	156	91	M5
	3G3MV-PFI1030-E	144	50	174	161	120	M5
	3G3MV-PFI1040-E	174	50	174	161	150	M5
3x400V	3G3MV-PFI3005-E	111	50	169	156	91	M5
	3G3MV-PFI3010-E	111	50	169	156	91	M5
	3G3MV-PFI3020-E	144	50	174	161	120	M5
	3G3MV-PFI3030-E	184	56	304	288	150	M5

* V7 IP65 Types are built-in filter inverters.

DIN Track Mounting Bracket

3G3IV-PZZ08122A

68
56
52
6
1.6
128
118
100
(35.1) DIN track
(5.2)
Four, M4 tap
Side View
(Common to all
the Units)

3G3IV-PZZ08122B

108
96
128
118
(5.2)
Four, M4 tap

3G3IV-PZZ08122C

140
128
128
118
(5.2)
Four, M4 tap

3G3IV-PZZ08122D

170
158
128
118
(5.2)
Four, M4 tap
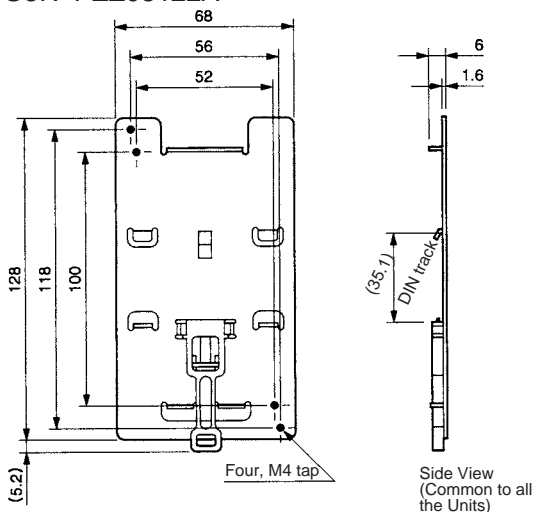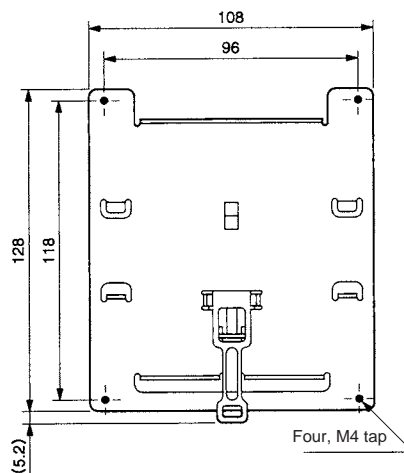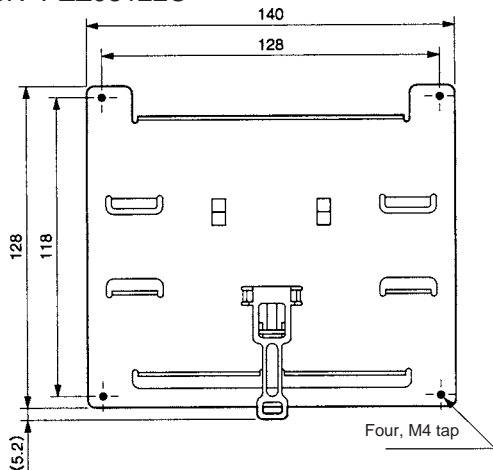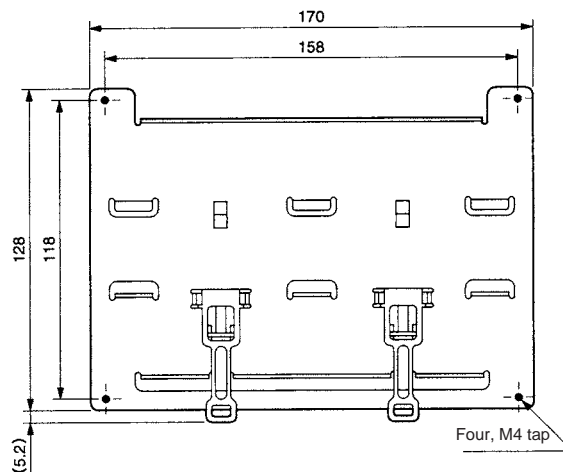
	Inverter	DIN Track Mounting Bracket
3-phase 200 V AC	CIMR-V7AZ - 20P1/ 20P4/ 20P7	3G3IV-PEZZ08122A
	CIMR-V7AZ - 21P5/ 22P2	3G3IV-PEZZ08122B
	CIMR-V7AZ - 24P0	3G3IV-PEZZ08122C
Single-phase 200 V AC	CIMR-V7AZ - B0P1/ B0P2/ B0P4	3G3IV-PEZZ08122A
	CIMR-V7AZ - B0P7/ B1P5	3G3IV-PEZZ08122B
	CIMR-V7AZ - B2P2	3G3IV-PEZZ08122C
	CIMR-V7AZ - B4P0	3G3IV-PEZZ08122D
3-phase 400 V AC	CIMR-V7AZ - 40P2/ 40P4/ 40P7/ 41P5/ 42P2	3G3IV-PEZZ08122B
	CIMR-V7AZ - 44P0	3G3IV-PEZZ08122C

Varispeed V7

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Atachments

Heatsink External Mounting Attachment

When mounting an external cooling-fan to the V7AZ, this attachment is required.
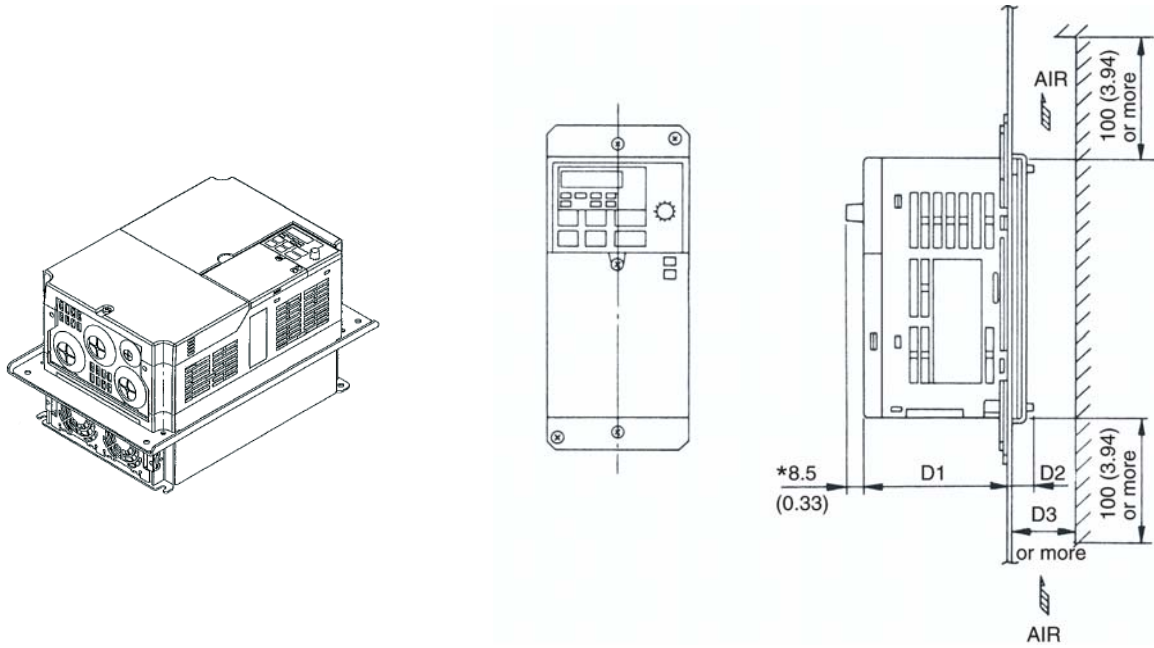
CIMR-V7AZ	Attachment Order Code	Dimensions in mm		
		D1	D2	D3
V7AZ-20P1 V7AZ-20P2	EZZ08136A	69.2	12	30
V7AZ-20P4	EZZ08136B	69.2	42	50
V7AZ-20P7	EZZ08136C	69.2	62	70
V7AZ-21P5	EZZ08136D	73	58	70
V7AZ-22P2		98	58	70
V7AZ-24P0	-EZZ08136F	78.6	64.4	70
V7AZ-25P5 V7AZ-27P5	EZZ08136H	113.8	56.2	60
V7AZ-B0P1 V7AZ-B0P2	EZZ08136A	69.2	12	30
V7AZ-B0P4	EZZ08136B	92.2	42	50
V7AZ-B0P7	EZZ08136D	82	58	70
V7AZ-B1P5		98	58	70
V7AZ-B2P2	EZZ08136F	98.6	64.4	70
V7AZ-B4P0	EZZ08136G	115.6	64.4	70
V7AZ-40P2	EZZ08136E	82	13.2	30
V7AZ-40P4	EZZ08136D	82	28	40
V7AZ-40P7		82	58	70
V7AZ-41P5 V7AZ-42P2		98	58	70
V7AZ-43P0 V7AZ-44P0	EZZ08136F	78.6	64.4	70
V7AZ-45P5 V7AZ-47P5	EZZ08136H	113.8	56.2	60

Braking Resistor Unit ERF-150WJ

Note: Prepare mounting screws
(2-M4x8 tapped screws).
Screws 8mm or more and general
metric screws cannot be used.

182
170
150

5

1.2

44

13

Braking resistors unit

MTG Screw

150 or more

150 or more

D

B

C

150

30 or more

A

30 or more
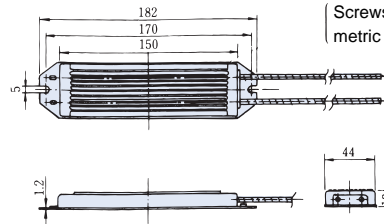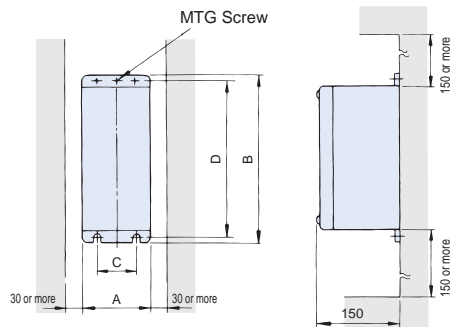
Voltage	Model LKEB-#	Dimensions in mm					Approx. Mass kg
		A	B	C	D	MTG.Screw	
200V Class	20P7	105	275	50	260	M5x3	3.0
	21P5	130	350	75	335	M5x4	4.5
	22P2	130	350	75	335	M5x4	4.5
	40P7	130	350	75	350	M5x4	5.0
	25P5	250	350	200	335	M6x4	7.5
	27P5	350	350	200	335	M6x4	8.5
400V Class	40P7	105	275	50	260	M5x3	3.0)
	41P5	130	350	75)	335	M5x4	4.5
	42P2	130	350	75)	335	M5x4	4.5
	43P0	130	350	75	335	M5x4	5.0
	43P7						
	45P5	250	350	200	335	M6x4	7.5
	47P5	350	350	200	335	M6x4	8.5

Frequency Inverters

Varispeed V7

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Standard Connections
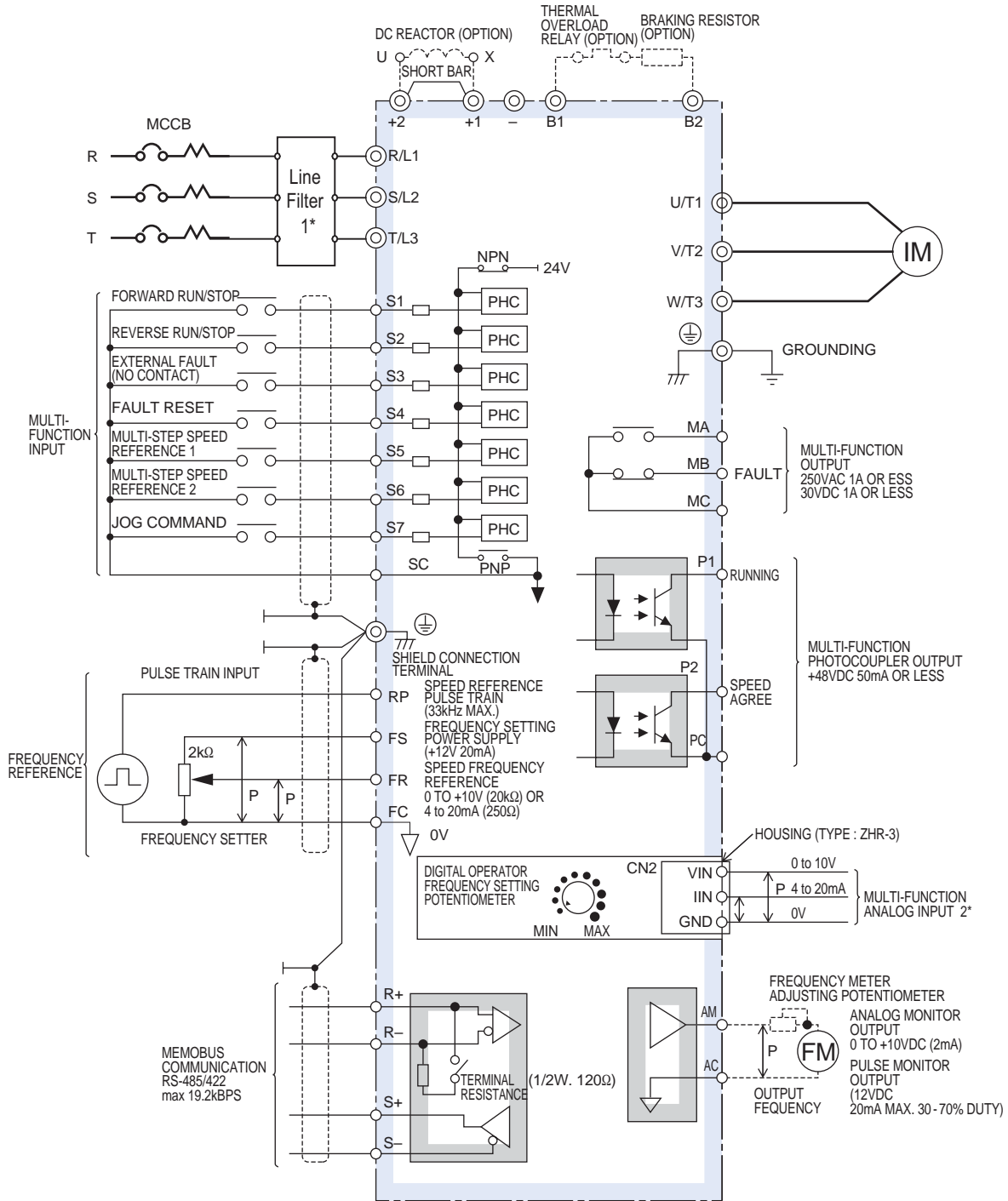
1* V7 IP65 types are build-in filter.

2* A housing is required when using the CN2 terminal on the back side of the digital operator.
1m analog input cable (code no. 3G3MV-PCN-CN2) is available for housing on request

⌐┐ : shielded wire   ⌐↕P┐ : twisted pair shielded wire

⌐⌐┐ Shows the following two kinds of connections (factory setting) :
· Input signals (S1 to S7) are non-voltage contacts
· Sequence connection by NPN transistor (0V common)
A +24V power supply is required for sequence connection by PNP transistor (+24V common) .

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
B1, B2	Braking Resistor Connection	For braking resistor connection
+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"	
	S6	Multi-function Input Selection 6	Factory setting: "Multi-step speed reference 2"	
	S7	Multi-function Input Selection 7	Factory setting: "JOG command"	
	SC	Multi-function Input Selection Common	Common for control signal	
Analog input signals	RP	Speed Reference Pulse Train Input	33kHz max.	
	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	
	1 (CN2)	Multi-function analog voltage input	Voltage input (between terminals 1 and 3): 0 to 10 V DC (Input impedance: 20 kΩ)	
	2 (CN2)	Multi-function analog current input	Current input (between terminals 2 and 3): 4 to 20 mA (Input impedance: 250 Ω)	
	3 (CN2	Multi-function analog input common		
Digital output signals	MA	NO Contact Output	Factory setting: "Fault"	Contact capacity 250V AC, 1A or less 30VDC, 1A or less
	NC	Contact Output		
	MC	Contact Output Common		
	P1	Photocoupler Output 1	Factory setting: "Running"	Photocoupler output: +48VDC, 50mA or less
	P2	Photocoupler Output 2	Factory setting: "At frequency"	
	PC	Photocoupler Output Common	0V	
Analog output signals	AM	Analog Monitor Output	Factory setting: "Output frequency" 0 to +10V output (Pulse monitor output available by setting constants. Duty: 30 to 70%)	0 to 10V 2mA or less Resolution: 8bits
	AC	Analog Monitor Common	0V	
RS-485/422	R+	Communication Input (+)	For MEMOBUS communication Operation by RS-485 or RS-422 communication is available.	RS-485/422 MEMOBUS protocol 19.2kBPS max.
	R–	Communication Input (–)		
	S+	Communication Output (+)		
	S–	Communication Output (–)		

Varispeed V7

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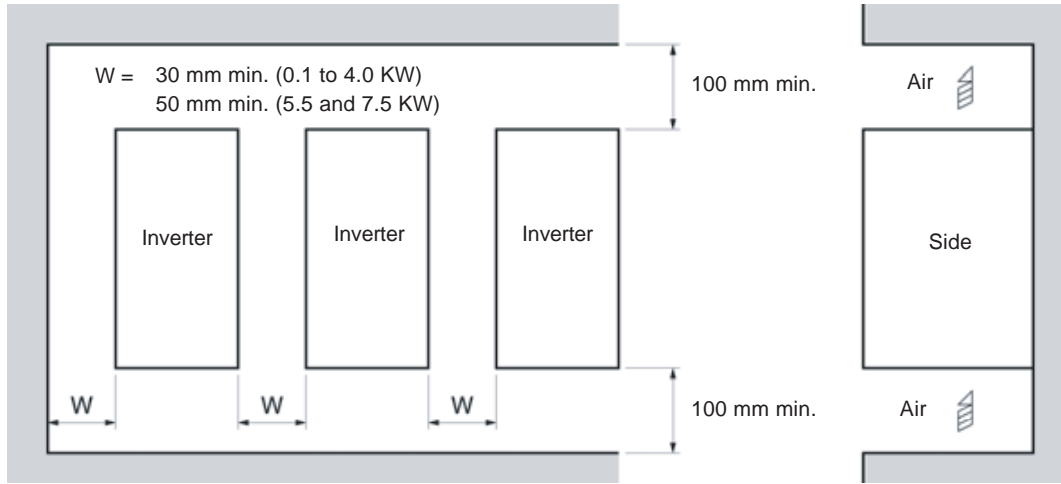
Inverter Heat Loss

Three-phase 200 V Class

Model CIMR-V7AZ		20P1	20P2	20P4	20P7	21P5	22P2	24P0	25P5	27P5
Inverter Capacity kVA		0.3	0.6	1.1	1.9	3.0	4.2	6.7	9.5	13
Rated Current A		0.8	1.6	3	5	8	11	17.5	25	33
Heat Loss W	Fin	3.7	7.7	15.8	28.4	53.7	60.4	96.7	170.4	219.2
	Inside Unit	9.3	10.3	12.3	16.7	19.1	34.4	52.4	79.4	98.9
	Total Heat Loss	13.0	18.0	28.1	45.1	72.8	94.8	149.1	249.8	318.1

Single-phase 200 V Class

Model CIMR-V7AZ		B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0
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	5	8	11	17.5
Heat Loss W	Fin	3.7	7.7	15.8	28.4	53.7	64.5	98.2
	Inside Unit	10.4	12.3	16.1	23.0	29.1	49.1	78.2
	Total Heat Loss	14.1	20.0	31.9	51.4	82.8	113.6	176.4

Three-phase 400 V Class

Model CIMR-V7AZ		40P2	40P4	40P7	41P5	42P2	44P0	45P5	47P5
Inverter Capacity kVA		1.4	2.6	3.7	4.2	5.5	7.0	11	14
Rated Current A		1.8	3.4	4.8	5.5	7.2	8.6	14.8	18
Heat Loss W	Fin	15.1	30.3	45.8	50.5	58.2	73.4	168.8	209.6
	Inside Unit	15.0	24.6	29.9	32.5	37.6	44.5	87.7	99.3
	Total Heat Loss	30.1	54.9	75.7	83.0	95.8	117.9	256.5	308.9

Installation conditions for IP65

Install the Inverter vertically in order to ensure a proper cooling. When installing the Inverter, always provide the following minimum installation space to allow normal heat dissipation.

Side Spaces

Top and Bottom Spaces
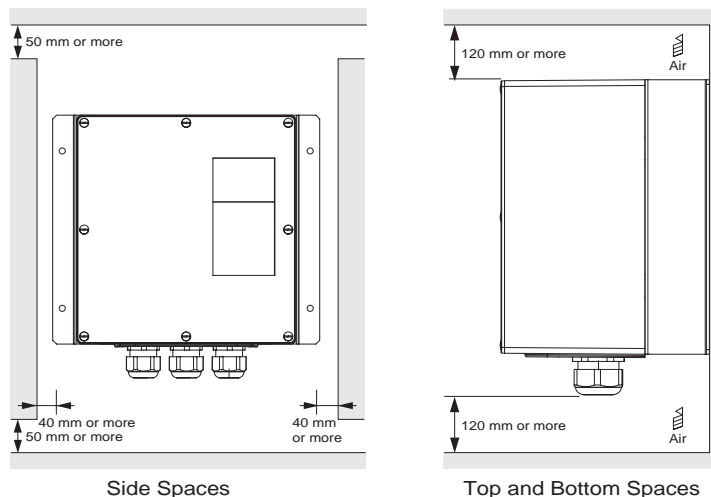
1. Always provide enough space for the main circuit or control lines including cable gland.
2. If installing inverters next to one another provide a minimum spacing of 60mm.

Frequency Inverters

Connections for braking resistor
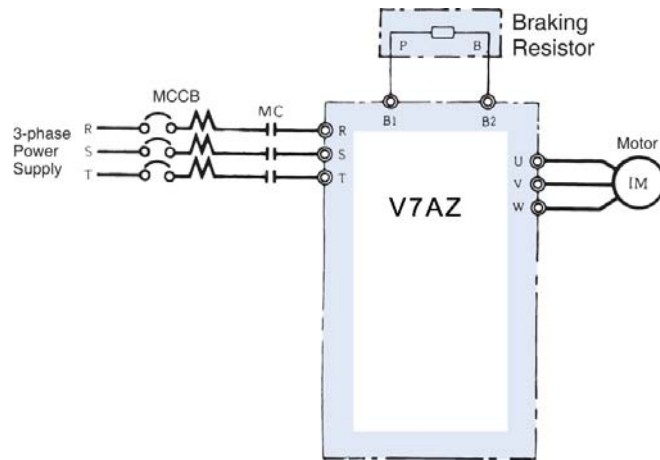
Connections for braking resistor unit
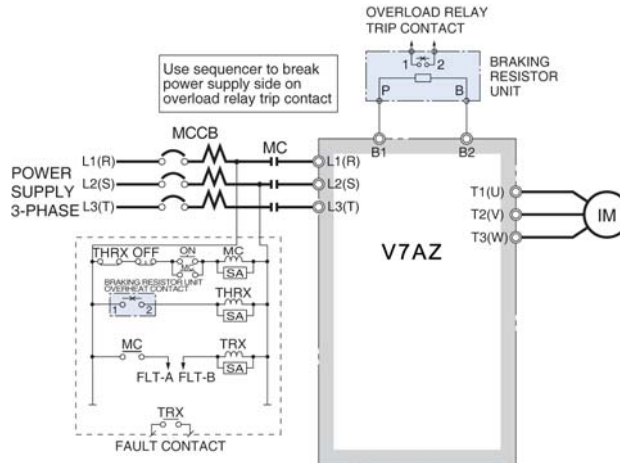
AC Reactor
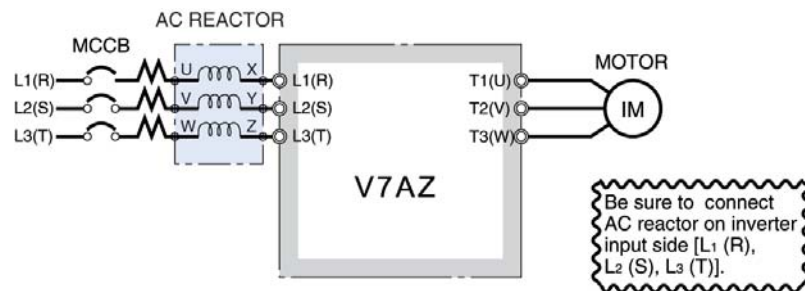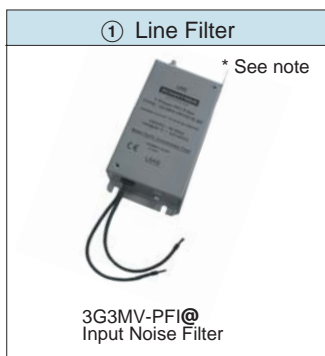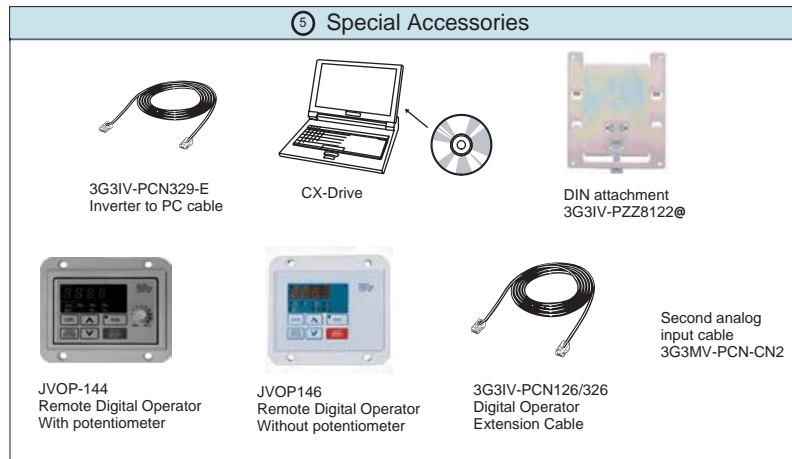

200 V Class			400 V Class		
Max. Applicable Motor Output kW	Current Value A	Inductance mH	Max. Applicable Motor Output kW	Current Value A	Inductance mH
0.12	2.0	2.0	------		
0.25	2.0	2.0	0.2	1.3	18.0
0.55	2.5	4.2	0.4		
1.1	5	2.1	0.75	2.5	8.4
1.5	10	1.1	1.5	5	4.2
2.2	15	0.71	2.2	7.5	3.6
4.0	20	0.53	4.0	10	2.2
5.5	30	0.35	5.5	15	1.42
7.5	40	0.265	7.5	20	1.06

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DC Reactor

200 V Class			400 V Class		
Max. Applicable Motor Output kW	Current Value A	Inductance mH	Max. Applicable Motor Output kW	Current Value A	Inductance mH
0.12			--------		
0.25	5.4	8	0.2	3.2	28
0.55			0.4		
1.1			0.75		
1.5	18	3	1.5	5.7	11
2.2			2.2		
4.0			4.0	12	6.3
5.5	36	1	5.5	23	3.6
7.5			7.5		

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Ordering Information

System configuration

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⑤ Special Accessories

3G3IV-PCN329-E
Inverter to PC cable

CX-Drive

DIN attachment
3G3IV-PZZ8122@

JVOP-144
Remote Digital Operator
With potentiometer

JVOP146
Remote Digital Operator
Without potentiometer

3G3IV-PCN126/326
Digital Operator
Extension Cable

Second analog
input cable
3G3MV-PCN-CN2

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① Line Filter

* See note

3G3MV-PFI@
Input Noise Filter

R
S
T

Power Supply
Single-phase, 200 V AC (200-V class)
Three-phase, 200 V AC (200-V class)
Three-phase, 400 V AC (400-V class)

* V7 IP65 types are built-in filter inverters.

Varispeed V7

⑥ Braking Accessories

LKEB@ Braking
Resistor Unit

CDBR@B
Braking Unit

ERF150WJ@
Braking Resistor

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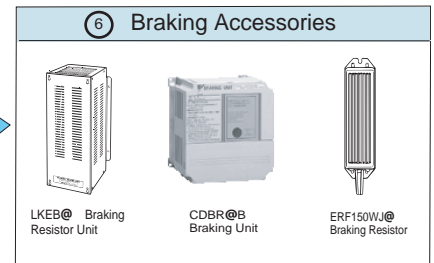
② Communication unit	③ PLC Option unit	④ Option frame accessory
* See note	* See note	

* Option frame accessory is needed for V7 IP65 types when Communication option unit or PLC option unit are used.

Varispeed V7

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Varispeed V7

200 V

Specifications			Model
1x200V	0.12 Kw	0.8 A	CIMR-V7AZB0P10
	0.25 Kw	1.6 A	CIMR-V7AZB0P20
	0.55 Kw	3.0 A	CIMR-V7AZB0P40
	1.1 Kw	5.0 A	CIMR-V7AZB0P70
	1.5 Kw	8.0 A	CIMR-V7AZB1P50
	2.2 Kw	11.0 A	CIMR-V7AZB2P20
	4.0 Kw	17.5 A	CIMR-V7AZB4P00
3x200V	0.12 Kw	0.8 A	CIMR-V7AZ20P10
	0.25 Kw	1.6 A	CIMR-V7AZ20P20
	0.55 Kw	3.0 A	CIMR-V7AZ20P40
	1.1 Kw	5.0 A	CIMR-V7AZ20P70
	1.5 Kw	8.0 A	CIMR-V7AZ21P50
	2.2 Kw	11.0 A	CIMR-V7AZ22P20
	4.0 Kw	17.5 A	CIMR-V7AZ24P00
	5.5 Kw	25.0 A	CIMR-V7AZ25P51
	7.5 Kw	33.0 A	CIMR-V7AZ27P51

400 V

Specifications			Model
3x400V	0.37 Kw	1.2 A	CIMR-V7AZ40P20
	0.55 Kw	1.8 A	CIMR-V7AZ40P40
	1.1 Kw	3.4 A	CIMR-V7AZ40P70
	1.5 Kw	4.8 A	CIMR-V7AZ41P50
	2.2 Kw	5.5 A	CIMR-V7AZ42P20
	3.0 Kw	7.2 A	CIMR-V7AZ43P00
	4.0 Kw	9.2 A	CIMR-V7AZ44P00
	5.5 Kw	14.8 A	CIMR-V7AZ45P51
	7.5 Kw	18.0 A	CIMR-V7AZ47P51

Varispeed V7

200 V

Specifications			Model
1x200V	0.55 Kw	3.0 A	CIMR-V7TZB0P405
	1.1 Kw	5.0 A	CIMR-V7TZB0P705
	1.5 Kw	8.0 A	CIMR-V7TZB1P505
	2.2 Kw	11.0 A	CIMR-V7TZB2P205

400 V

Specifications			Model
3x400V	0.55 Kw	1.8 A	CIMR-V7TZ40P405
	1.1 Kw	3.4 A	CIMR-V7TZ40P705
	1.5 Kw	4.8 A	CIMR-V7TZ41P505
	2.2 Kw	5.5 A	CIMR-V7TZ42P205
	3.0 Kw	7.2 A	CIMR-V7TZ43P005
	4.0 Kw	9.2 A	CIMR-V7TZ44P005

①Line Filters *

Inverter		Line filter			
Voltage	Model CIMR-V7AZ	Schaffner	Rasmi	Rated current (A)	Weight (kg)
3-Phase 200 V AC	20P1 / 20P2 / 20P4 / 20P7	3G3MV-PFI2010-SE	3G3MV-PFI2010-E	10	0.8
	21P5 / 22P2	3G3MV-PFI2020-SE	3G3MV-PFI2020-E	20	1.0
	24P0	3G3MV-PFI2030-SE	3G3MV-PFI2030-E	30	1.1
	25P5 / 27P5	-	3G3MV-PFI2050-E	50	2.3
Single-Phase 200 V AC	B0P1 / B0P2 / B0P4	3G3MV-PFI1010-SE	3G3MV-PFI1010-E	10	0.6
	B0P7 / B1P5	3G3MV-PFI1020-SE	3G3MV-PFI1020-E	20	1.0
	B2P2	3G3MV-PFI1030-SE	3G3MV-PFI1030-E	30	1.1
	B4P0	3G3MV-PFI1040-SE	3G3MV-PFI1040-E	40	1.2
3-Phase 400 V AC	40P2 / 40P4	3G3MV-PFI3005-SE	3G3MV-PFI3005-E	5	1.0
	40P7 / 41P5 / 42P2	3G3MV-PFI3010-SE	3G3MV-PFI3010-E	10	1.0
	40P4	3G3MV-PFI3020-SE	3G3MV-PFI3020-E	15	1.1
	45P5 / 47P5	3G3MV-PFI3030-SE	3G3MV-PFI3030-E	30	2.3

* V7 IP65 Types are built-in filter inverters.

② Communication Cards

Type	Model [1]	Description	Function
Communication option board	3G3MV-PDRT2	DeviceNet option card [2]	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.
	SI-P1/V7	Profibus-DP option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through Profibus-DP communication with the host controller.
	SI-S1/V7	Can open option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.
	3G3MV-PCORT21	Can open Gateway	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.
	SI-T1/V7	MECHATROLINKII option card	• Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK II communication with the host controller. • High speed motion bus. • Host controller: TrajeXia, MCH or MP Series.[3]

1. Option frame accessory is needed for V7 IP65 types when communications option units are used.
2. For V7 IP65 types with DeviceNet communication, SI-N1/V7 should be used.
3. Please refer to TrajeXia, MCH or MP Series Section for host controller technical information.

Frequency Inverters

Varispeed V7

③ PLC Option Card

Type	Model [1]	Description	Function
PLC option	3G3MV-P10CDT-E	PLC option	• Full PLC featrues, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs. • Standard Omron tools can be used for programming • Calendar / Clock
	3G3MV-P10CDT3-E	PLC option with RS 422/485	• Same features than standard models with RS 422/485 support.

1. Option frame accessory is needed on V7 IP65 types when PLC option unit is used.

④ Option Frame accessory for V7 IP65

Type	Model	Description	Function
Option frame	V7TZ-FR1	Option Frame	• Frame accessory is needed when communication option unit or PLC option unit are used with Varispeed V7 IP65.

⑤ Accessories

Types	Model	Description	Funtions
Digital operator	JVOP-146	Remote digital operator without potentiometer	
	JVOP-144	Remote digital operator with potentiometer	
	72606-CVS31060	Blank cover	-----
	3G3IV-PEZZ0838BA	Digital operator case	same as JVOP-144 without operator
Accessories	3G3IV-PCN126 3G3IV-PCN326	Digital operator extension cable 1 meters 3 meters	-----
	3G3IV-PCN329-E	PC configuration cable	-----

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