

Dimensions:

Example of open chassis (IP20)

VS mini J7

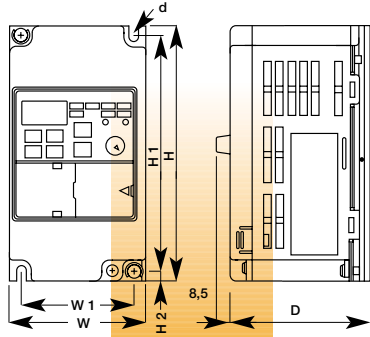


Figure 1

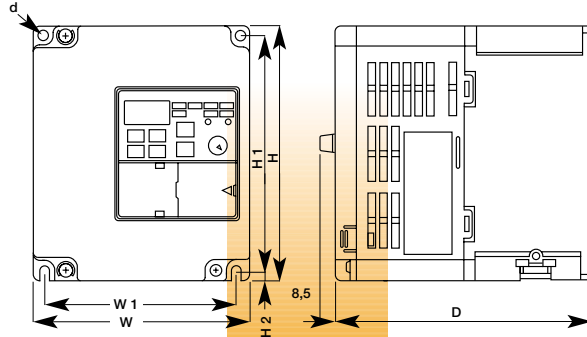


Figure 2

mm										
Voltage Class	Typ: CIMR -J7AC-	W	H	D	W1	H1	H2	d	Mass kg	Fig. No.
200 V Single-phase	B0P1	68	128	70	56	118	5	M4	0.5	1
	B0P2	68	128	70	56	118	5	M4	0.5	1
	B0P4	68	128	112	56	118	5	M4	0.9	1
	B0P7	108	128	129	96	118	5	M4	1.5	2
	B1P5	108	128	154	96	118	5	M4	1.5	2
200 V Three-phase	20P1	68	128	70	56	118	5	M4	0.5	1
	20P2	68	128	70	56	118	5	M4	0.5	1
	20P4	68	128	102	56	118	5	M4	0.8	1
	20P7	68	128	122	56	118	5	M4	0.9	1
	21P5	108	128	129	96	118	5	M4	1.3	2
	22P2	108	128	154	96	118	5	M4	1.5	2
400 V Three-phase	24P0	140	128	161	128	118	5	M4	2.1	2
	40P2	108	128	81	96	118	5	M4	1.0	2
	40P4	108	128	99	96	118	5	M4	1.1	2
	40P7	108	128	129	96	118	5	M4	1.5	2
	41P5	108	128	154	96	118	5	M4	1.5	2
	42P2	108	128	154	96	118	5	M4	1.5	2
	43P0	140	128	161	128	118	5	M4	2.1	2
	44P0	140	128	161	128	118	5	M4	2.1	2

Heat Loss

Voltage Class		200 V Single-phase					200 V Three-phase							400 V Three-phase						
Max. Applicable Motor Capacity kW		0.1	0.25	0.55	1.1	1.5	0.1	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
Heat Loss	Fin	3.7	7.7	15.8	28.4	53.7	3.7	7.7	15.8	28.4	53.7	60.4	96.7	9.4	15.1	30.3	45.8	50.5	58.2	73.4
	Inside Unit	10.4	12.3	16.1	23.0	29.1	9.3	10.3	12.3	16.7	19.1	34.4	52.4	13.7	15.0	24.6	29.9	32.5	37.6	44.5
	Total Heat Loss	14.1	20.0	31.9	51.4	82.8	13.0	18.0	28.1	45.1	72.8	94.8	149.1	23.1	30.1	54.9	75.7	83.0	95.8	117.9

Your Yaskawa Representative:











Yaskawa Electric Europe GmbH
 Am Kronberger Hang 2
 65824 Schwalbach, Germany
 Tel.: +49 (0) 6196-569 300
 Fax: +49 (0) 6196-569 398
 EMail: info@yaskawa.de
 Internet: http://www.yaskawa.de

Compact Inverter for General-Use VS mini J7



Introduction

230 V Single-phase	0.1 to 1.5 kW
400 V Three-phase	0.1 to 4.0 kW
200 V Three-phase	0.1 to 4.0 kW

-  Only 128 mm tall
-  Global specifications
-  Simple operation
-  Full range automatic torque boost
-  Full range of protective functions
-  Diverse operating methods and functions
-  Easy to mount and install
-  Wide range of input and output



Operating digital operator

VS mini J7

Display and keypad Description

Data Display

Selected function is lit.
Programmed data are displayed.

Function Display LEDs

Switch functions among function display LEDs.

Display Selection Key

ENTER Key

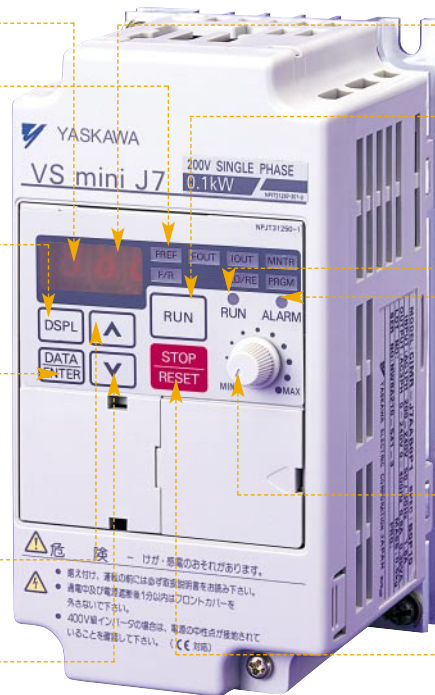
Enter data when setting constants. After selecting constant no. at PRGM mode, data are displayed.

Increment Key

Increase constant no. or data.

Decrement Key

Decrease constant no. or data.



Digital Operator

Operation Key

Press to run the motor.

RUN-LED

(ON while running)

ALARM-LED

Frequency Setting Potentiometer

Set operational frequency with potentiometer.

STOP/RESET Key

Press to stop the motor. If fault occurs, reset the inverter.

Model Designation

CIMR - J7AC20P1

Inverter

VS mini J7 series

No.	Type
A	With digital operator (with volume)
B	Without digital operator
C	With digital operator (without volume)

Code	Specifications
A	Japan domestic standard
C	European standard
U	USA standard

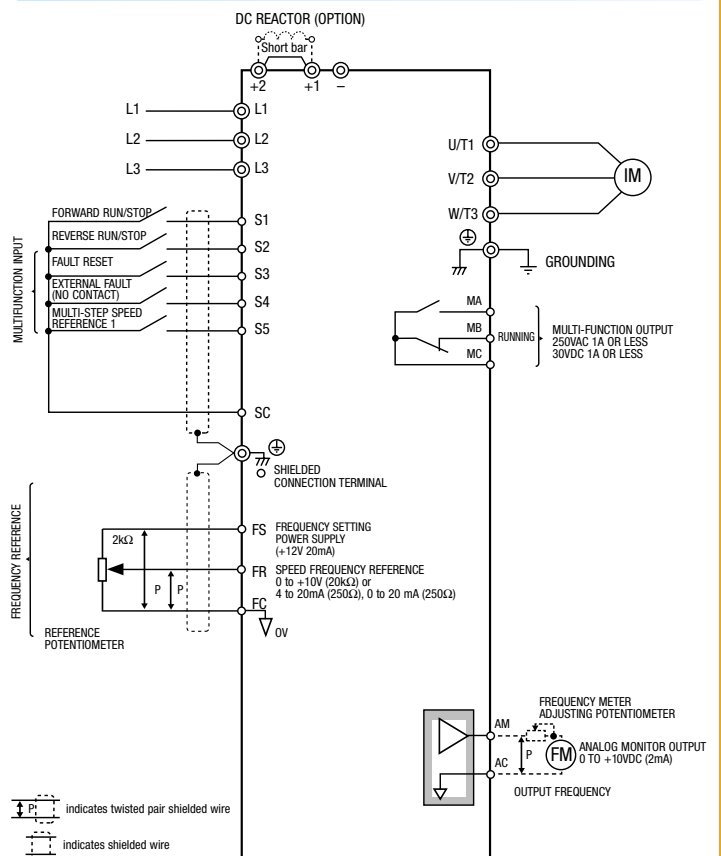
No. Applicable maximum motor output

OP1	0.1 kW
OP2	0.25 kW
OP4	0.4 kW
OP7	0.75 kW
1P5	1.5 kW
2P2	2.2 kW (3-phase only)
3P0	3.0 kW (3-phase 400V only)
4P0	4.0 kW (3-phase only)

No. Voltage Class

B	Single-phase 230 V AC
2	Three-phase 200 V AC
4	Three-phase 400 V AC

Standard Wiring VS mini J7



VS mini J7 specialized options

Remote operator with/without potentiometer, extension cables 1m or 3m, remote interfaces (Memobus) for RS-422/485 serial communication, DIN rail attachments, foot mounting EMC filters.

Standard specifications

VS mini J7

Voltage Class		230/200 V single-/three-phase							400 V three-phase							
Model CIMR-J7AC □□□□	Threephase	20P1	20P2	20P4	20P7	21P5	22P2	24P0	40P2	40P4	40P7	41P5	42P2	43P0	44P0	
	Singlephase	B0P1	B0P2	B0P4	B0P7	B1P5	—	—	—	—	—	—	—	—	—	
Output Characteristics	Max. Applicable Motor Output*1 kW	0.1	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	
	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 240 (proportional to input voltage)							3-phase, 380 to 460 V (proportional to input voltage)							
Power Supply	Max. Output Frequency	400 Hz														
	Rated Input Voltage and Frequency	3-phase, 200 to 230 V, 50/60 Hz Single-phase, 200 to 240 V, 50/60 Hz							3-phase, 380 to 460 V, 50/60 Hz							
	Allowable Voltage Fluctuation	-15% to +10%														
Control Characteristics	Allowable Frequency Fluctuation	± 5%														
	Control Method	Sine wave PWM (V/f control)														
	Frequency Control Range	0.1 to 400 Hz														
	Frequency Accuracy (Temperature Change)	Digital reference: ±0.01% (-10 to +50°C) Analog reference: ±0.5% (25±10°C)														
	Frequency Setting Resolution	Digital reference: 0.01 Hz (less than 100 Hz), 0.1 Hz (100 Hz or more) Analog reference: 1/1000 of max. output frequency														
	Output Frequency Resolution	0.01 Hz														
	Overload Capacity	150 % of rated output current for one minute														
	Frequency Reference Signal	0 to 10 VDC (20 kΩ), 4 to 20mA (250 Ω), 0 to 20mA (250 Ω), frequency setting potentiometer														
	Accel/Decel Time	0.0 to 999 sec. (accel/decel time are independently programmed)														
	Braking Torque	short-term average deceleration torque*2: 0.1, 0.25 kW: 150% or more 0.55/1.1 kW: 100% or more 1.5 kW: 50 % or more 2.2 kW or more: 20 % or more Continuous regenerative torque: Approx. 20 %														
	V/f Characteristics	Freely programmable V/f pattern														
	Motor Overload Protection	Electronic thermal overload relay														
	Protective Functions	Instantaneous Overcurrent	Motor coasts to a stop at approx. 200% 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 exceeds 410 V							Motor coasts to a stop if DC bus voltage exceeds 820 V							
Undervoltage		Stops when DC bus voltage is approx. 200 V or less (approx. 160 V or less for single-phase series)							Stops when DC bus voltage is approx. 400 V or less							
Momentary Power Loss		Following items are selectable: Complete stop (stop if power loss is 15ms or longer), continuing operation if power loss is approx. 0.5s or shorter, continuous operation														
Cooling Fin Overheat		Protected by electronic circuit														
Stall Prevention Level		Can be set individually for accel/decel, provided/not provided available during coast to a stop														
Cooling Fan Fault		Protected by electronic circuit (fan lock detection)														
Power Charge Indication		ON while the DC bus voltage is higher than 50 V. RUN lamp stays ON or digital operator LED stays ON. (Charge LED is provided for 400 V)														
Other Functions		Input Signals	Multi-function Input													
	Output Signals	Multi-function Output														
	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, frequency reference bias/gain, fault retry, speed search, frequency upper/lower limit, overtorque detection, jump frequency, accel/decel time switch, accel/decel prohibited, S-curve accel/decel, frequency reference with built-in volume, (Option: MEMOBUS communication, RS-485/422, max. 19.2 kbps)														
	Display	Status Indicator LED	RUN and ALARM provided as standard LED's													
		Digital Operator	3 digit, 7 segment display													
Environmental conditions	Terminals	Main circuit: screw terminals							Control circuit: plug-in screw terminal							
	Enclosure	Open chassis (IP20)														
	Cooling Method	Self cooling for 200 V 0.1 to 1.1 kW (single phase), 200 V 0.1 to 0.55 kW (3-phase) and for 400 V 0.31 to 1.1 kW Cooling fan for 200 V 1.5 kW (single phase), 1.1 to 4.0 kW (3-phase) and for 400 V 1.5 to 4.0 kW														
	Humidity	90 % RH or less (non-condensing)														
	Ambient Temperature	-10 to +50°C														
	Storage Temperature*3	-20 to +60°C														
	Location	Indoor (free from corrosive gases or dust)														
Elevation	1000m or less															
Vibration	Up to 9.8 m/s ² (1 G) at 10 to 20 Hz							Up to 2 m/s ² (0.2 G) at 20 to 50 Hz								

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

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

*3: Temperature during shipping (for short period)