Dimensions:

Example of open chassis (IP20)

VS-606V7

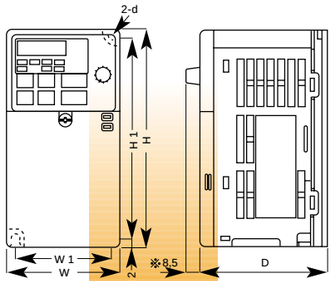

Figure 1

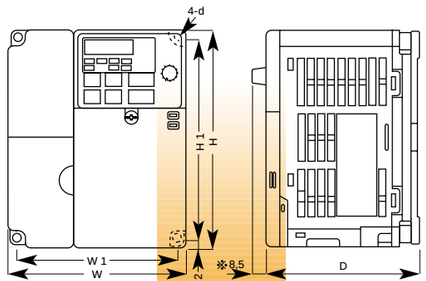

Figure 2

Voltage Class	Typ: CIMR –V7CC–	W mm	H mm	D mm	W1 mm	H1 mm	H2 mm	d mm	Mass kg	Fig. No.
230 V Single-phase	B0P1	68	128	76	56	118	5	M4	0.6	1
	B0P2	68	128	76	56	118	5	M4	0.7	1
	B0P4	68	128	131	56	118	5	M4	1.0	1
	B0P7	108	128	140	96	118	5	M4	1.5	2
	B1P5	108	128	156	96	118	5	M4	1.5	2
	B2P2	140	128	163	128	118	5	M4	2.2	2
	B4P0	170	128	180	158	118	5	M4	2.9	2
200 V Three-phase	20P1	68	128	76	56	118	5	M4	0.6	1
	20P2	68	128	76	56	118	5	M4	0.6	1
	20P4	68	128	108	56	118	5	M4	0.9	1
	20P7	68	128	128	56	118	5	M4	1.1	1
	21P5	108	128	131	96	118	5	M4	1.4	2
	22P2	108	128	140	96	118	5	M4	1.5	2
	24P0	140	128	143	128	118	5	M4	2.1	2
	25P5	180	260	170	164	244	8	M5	4.8	2
	27P5	180	260	170	164	244	8	M5	4.8	2
400 V Three-phase	40P2	108	128	92	96	118	5	M4	1.0	2
	40P4	108	128	110	96	118	5	M4	1.1	2
	40P7	108	128	140	96	118	5	M4	1.5	2
	41P5	108	128	156	96	118	5	M4	1.5	2
	42P2	108	128	156	96	118	5	M4	1.5	2
	43P0	140	128	143	128	118	5	M4	2.1	2
	44P0	140	128	143	128	118	5	M4	2.1	2
	45P5	180	260	170	164	244	8	M5	4.6	2
	47P5	180	260	170	164	244	8	M5	4.8	2

Heat Loss

Voltage Class		230 V Single-phase							200 V Three-phase								400 V Three-phase								
Max. Applicable Motor Capacity kW		0.12	0.25	0.55	1.1	1.5	2.2	4.0	0.12	0.25	0.55	1.1	1.5	2.2	4.0	5.5	7.5	0.37	0.55	1.1	1.5	2.2	3.0	4.0	5.5	7.5
Heat Loss	Fin	3.7	7.7	15.8	28.4	53.7	64.5	98.2	3.7	7.7	15.8	28.4	53.7	60.4	96.7	170.4	219.2	9.4	15.1	30.3	45.8	50.5	58.2	79.9	168.8	209.6
	Inside Unit	10.4	12.3	16.1	23	29.1	49.1	78.2	9.3	10.3	12.3	16.7	19.1	34.4	52.4	79.4	98.9	13,7	15.0	24.6	29.9	32.5	37.6	49.2	87.7	99.3
	Total Heat Loss	14.1	20.0	31.9	51.4	82.8	113.6	176.4	13.0	18.0	28.1	45.1	72.8	94.8	149.1	249.8	318.1	23,1	30.1	54.9	75.7	83.0	95.8	129.1	256.5	308.9

Inverter model	Filter model	Classification EN 55011	Current (A)	Weight (kg)	Dimensions WxHxD* (mm) (Fit under)
CIMR-V7CCB0P1	FS 5855-10-07	B	10	0,4	71x45x169
CIMR-V7CCB0P2					
CIMR-V7CCB0P4					
CIMR-V7CCB0P7	FS 5855-20-07	B	20	0,7	111x50x169
CIMR-V7CCB1P5					
CIMR-V7CCB2P2	FS 5855-30-07	B	30	1,0	144x50x174
CIMR-V7CCB4P0	FS 5855-40-07	B	40	1,1	174x50x174
CIMR-V7CC20P1	FS 5856-10-07	B	10	0,7	82x50x194
CIMR-V7CC20P2					
CIMR-V7CC20P4					
CIMR-V7CC20P7					
CIMR-V7CC21P5	FS 5856-20-07	B	20	0,8	111x50x169
CIMR-V7CC22P2					
CIMR-V7CC24P0	FS 5856-30-07	B	30	0,9	144x50x174
CIMR-V7CC25P5	RS 2050-V7	B	50	2,3	184x56x304
CIMR-V7CC27P5					
CIMR-V7CC40P2	FS 5857-5-07	B	5	0,5	111x45x169
CIMR-V7CC40P4					
CIMR-V7CC40P7	FS 5857-10-07	B	10	0,75	111x45x169
CIMR-V7CC41P5					
CIMR-V7CC42P2					
CIMR-V7CC43P0	FS 5857-20-07	B	20	1,0	144x50x174
CIMR-V7CC44P0					
CIMR-V7CC45P5	FS 5857-30-07	B	30	2,0	184x56x304
CIMR-V7CC47P5					

YASKAWA
Mechatronics Solutions

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

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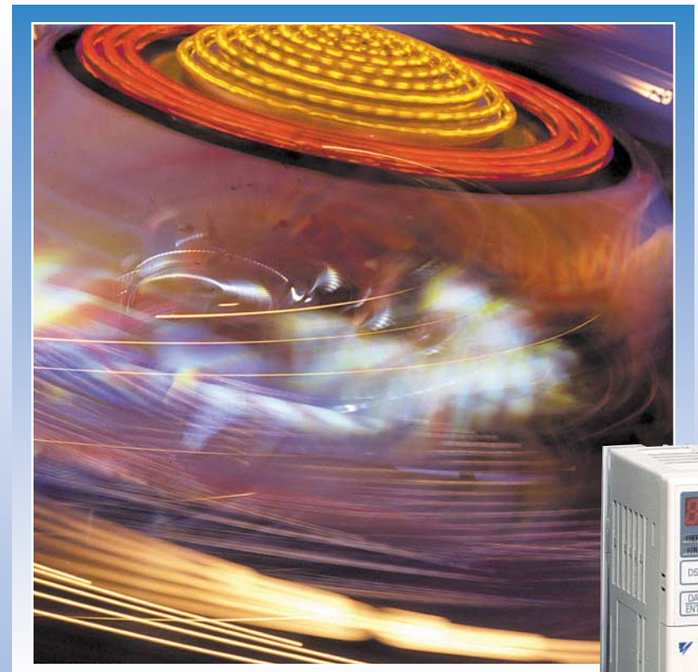
YASKAWA
Mechatronics Solutions

Compact, Vector-Controlled Inverter for General Use

Varispeed-606V7



Introduction

230 V Single-phase 0.1 to 4.0 kW
400 V Three-phase 0.2 to 7.5 kW
200 V Three-phase 0.1 to 7.5 kW

- **Handles all types of applications**
- **Global specifications**
- **Yaskawa's unique voltage-vector control technology**
- **Support of fieldbus networks around the world as option**
- **Integrated PID-control and energy saving function**
- **Full range of protective functions**
- **Easy to mount and install**
- **Digital operator with copy function**

YASKAWA
Mechatronics Solutions

Operating digital operator

VS-606V7

Display and keypad description

Data Display

Function Display LEDs

Selected function lights up (See functions below). Programmed data are displayed.

Display Selection Key

Switch between function display LEDs.

ENTER Key

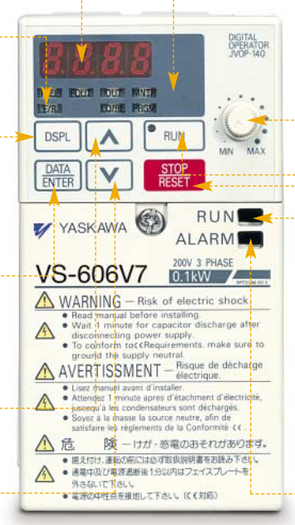
Enter data when setting constants. After selecting constant no. at PRGM mode, data are displayed.

Increment Key

Increase constant no. or data.

Decrement Key

Decrease constant no. or data.



Digital Operator

Frequency Setting Volume

Set operational frequency with volume (optional).

Operation Key

Press to run the motor. The left light is ON while running.

STOP/RESET Key

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

RUN-LED

ALARM-LED

Model Designation

CIMR – V7CCB0P17

Inverter

VS-606V7 series

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

No.	Specifications
A	Japan domestic standard
C	European standard
U	USA standard

No.	Voltage Class
B	Single-phase 230 V AC
2	Three-phase 200 V AC
4	Three-phase 400 V AC

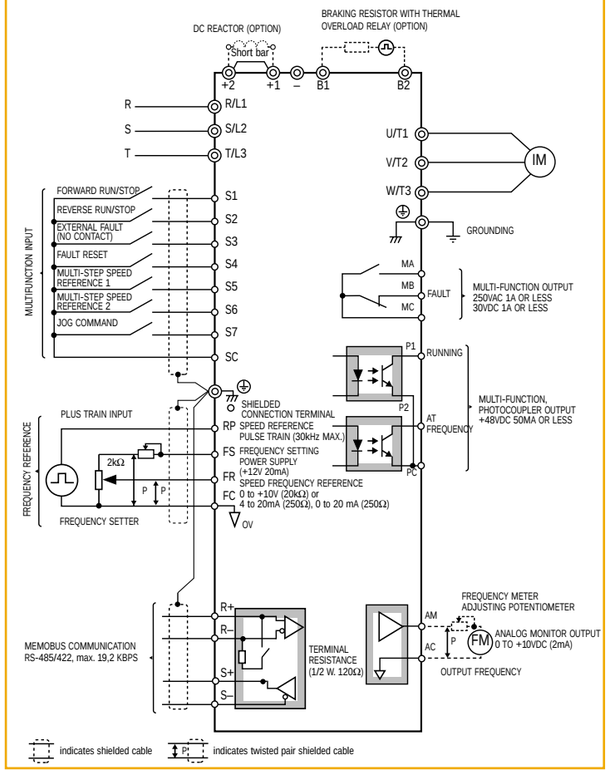
No.	Enclosures
0	IP20
1	NEMA 1
7	IP21

No.	Applicable maximum motor output
0P1	0.1 kW
0P2	0.25 kW
0P4	0.55 kW
0P7	1.1 kW
1P5	1.5 kW
2P2	2.2 kW
3P0	3.0 kW
4P0	4.0 kW
5P5	5.5 kW
7P5	7.5 kW

Varispeed-606V7 specialized options

Digital operators, remote operators (both optional with potentiometer), extension cables 1 m or 3 m, analog input cable, blind cover, Fieldbus communication cards (InterBus-S, Profibus-DP, CANopen, DeviceNet), DIN rail attachment, attachments for external heat sink mounting, foot mounting EMC filters

Standard Wiring VS-606V7



Standard specifications

VS-606V7

Voltage Class			230/200 V single-/three-phase									400 V three-phase								
Model CIMR-V7CC □□□□		Threephase	20P1	20P2	20P4	20P7	21P5	22P2	24P0	25P5	27P5	40P2	40P4	40P7	41P5	42P2	43P0	44P0	45P5	47P5
		Singlephase	B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0	–	–	–	–	–	–	–	–	–	–	–
	Max. Applicable Motor Output*1kW		0.12	0.25	0.55	1.1	1.5	2.2	4.0	5.5	7.5	0.37	0.55	1.1	1.5	2.2	3.0	4.0	5.5	7.5
Output Characteristics	Inverter Capacity kVA		0.3	0.6	1.1	1.9	3.0	4.2	6.7	9.5	13	0.9	1.4	2.6	3.7	4.2	5.5	7.0	11	14
	Rated Output Current A		0.8	1.6	3	5	8	11	17.5	25	33	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18
	Max. Output Voltage V		3-phase, 200 to 240 (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, 50/60 Hz Single-phase, 200 bis 240 V, 50/60 Hz									3-phase, 380 bis 460 V, 50/60 Hz								
	Allowable Voltage Function		–15% to +10%																	
	Allowable Frequency Function		± 5%																	
Control Characteristics	Control Method		Sine wave PWM (voltage vector- or 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), pulse train input, frequency setting volume (optional)																	
	Accel/Decel Time		0.0 to 6000 sec. (accel/decel time are independently programmed)																	
	Braking Torque		short-term average deceleration torque*2: 0.1, 0.2 kW 150% or more; 0.4/0.75 kW: 100% or more; 1.5 kW: 50 % or more 2.2 kW or more: 20 % or more Continuous regenerative torque: Approx. 20 % (150 % with optional braking resistor, braking transistor built in)																	
	V/f Characteristics		Possible to program any V/f pattern																	
Protective Functions	Motor Overload Protection		Electronic thermal overload relay																	
	Instantaneous Overcurrent		Motor coasts to a stop 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 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 (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)																	
	Ground Fault		Protected by electronic circuit (operation level is approx. 250 % of rated output current)																	
	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	Seven 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																	
	Output Signals	Multi-function Output	Following output signals are selectable (1 NO/NC contact output, 2 photo-coupler outputs): Fault, running, zero speed, at frequency, frequency detection (output frequency ≤ or ≥ set value), overtorque detection, undervoltage detection, minor error, baseblock, indication of operation mode, inverter ready, fault retry, undervoltage detection, reverse running, during speed search, data output through communication																	
	Standard Functions		Voltage vector control, full-range automatic torque boost, slip compensation, up to 16-step speed operation, 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, MEMOBUS communications (RS-485/422, max. 19.2 kbps), fault retry, speed search, frequency upper/lower limit settings, overtorque detection, frequency jump, accel/decel time switch, accel/decel prohibited, s-curve accel/decel, PID control, energy-saving control, constant copy, frequency reference with built-in volume																	
	Display	Status Indicator LED	RUN and ALARM provided as standard LED's																	
		Digital Operator	Available to monitor frequency reference, output frequency, output current																	
	Terminals		Main circuit: screw terminals Control circuit: plug-in screw terminal																	
Enclosure			IP20 or IP21 or NEMA 1																	
Cooling Method			Self cooling for 200 V 0.1 to 0.4 kW (3-/single phase) and for 400 V 0.2 to 0.75 kW Cooling fan for 200 V 0.75 to 1.5 kW (single phase), 0.75 to 4.0 kW (3-phase) and for 400 V 1.5 to 4.0 kW																	
Environmental conditions	Humidity		95 % RH or less (non-condensing)																	
	Ambient Temperature		–10 to +50°C (IP 20), –10 to +40°C (IP 21, NEMA)																	
	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/S² (1 G) at 10 to less than 20 Hz Up to 2 m/S² (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)