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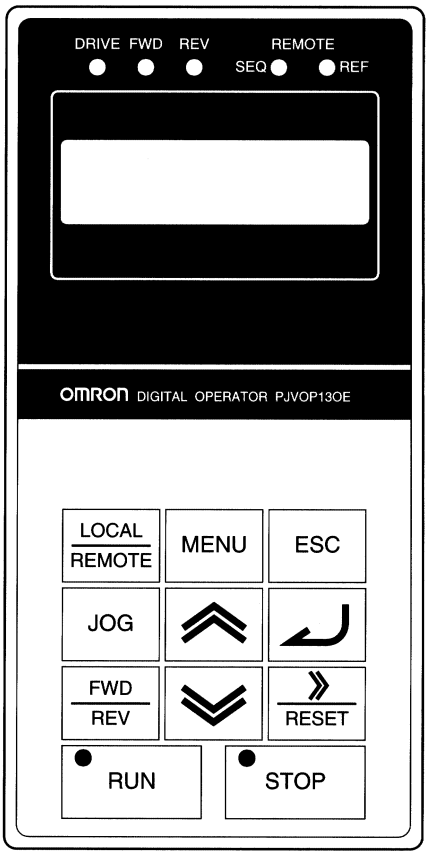
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Find the *OMRON 3G3FV-A4110-CUE* at our website: ***Click HERE***

Digital Operator

■ Nomenclature and Functions



Operation Mode Indicators

DRIVE: Lit when in operation mode.
FWD: Lit when there is a forward command input.
REV: Lit when there is a reverse command input.
SEQ: Lit when the forward/reverse command from the control circuit terminal is enabled.
REF: Lit when the frequency reference from control circuit terminals 13 and 14 is enabled.

Data Display

Two-line LCD that displays data for monitoring, parameter names, and set values with 16 characters per line.

Keys

Execute operations such as setting parameters, monitoring, JOG, and auto-tuning.

■ Key Names and Functions

Key	Name	Function
LOCAL/REMOTE	Operation Mode Selection Key	Switches between operation and parameter setting. This key can be enabled or disabled with a parameter setting.
MENU	Menu Key	Displays each mode.
ESC	Escape Key	Returns to the status before the Enter Key is pressed.
JOG	JOG Key	Enables JOG operation when the 3G3FV is in operation with the Digital Operator.
FWD/REV	Forward/Reverse Rotation Selection Key	Selects the rotation direction of the motor when the 3G3FV is in operation with the Digital Operator.
RESET	RESET/Digit Selection Key	Selects digits for parameter settings. Also acts as the reset key when an error has occurred.
^	Increment Key	Selects modes, groups, functions, parameter names, and set values. This key increases numbers when pressed.
v	Decrement Key	Selects modes, groups, functions, parameter names, and set values. This key decreases numbers when pressed.
↵	Enter Key	Enters modes, functions, constants, and set values after they are set.
RUN	Operation Key	Starts the 3G3FV when the 3G3FV is in operation with the Digital Operator.
STOP	Stop Key	Stops the 3G3FV. This key can be enabled or disabled with a parameter setting.

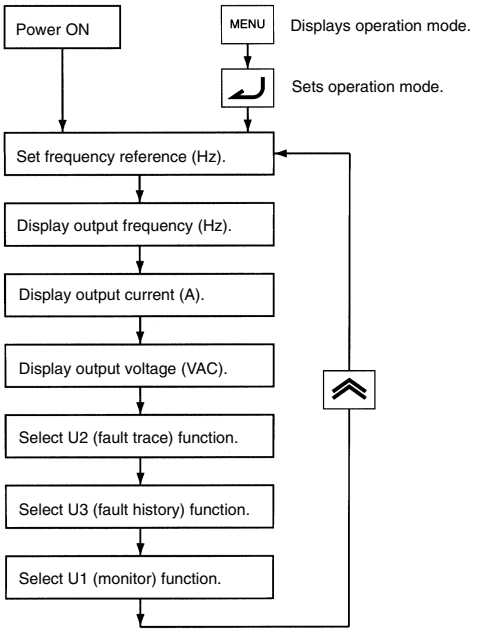
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Digital Operator

■ Operation of Digital Operator

Operation	Key sequence	Display	Description
Power ON		Frequency Ref U1-01= 0.00 HZ	Press to display the frequency reference.
Operating condition settings	LOCAL/REMOTE	Frequency Ref U1-01= 0.00 HZ	Set this key to LOCAL. The REMOTE (SEQ and REF) indicators will be OFF.
Forward JOG rotation	JOG	Frequency Ref U1-01= 6.00 HZ	Enables forward rotation at 6 Hz while the key is pressed.
Frequency settings	↵	Frequency Ref 000.00 HZ	Press to change data.
	RESET ▲ ▼	Frequency Ref 015.00 HZ	Change the frequency reference set value to 15 Hz. Select the digit with the RESET/Digit Selection Key and change the value with the Increment Key or Decrement Key.
	↵	Frequency Ref 15.00 HZ	Press to write the set value.
	ESC	Frequency Ref U1-01= 15.00 HZ	Press to finish changing the data.
	▲	Output Freq U1-02= 0.00 HZ	Press to select the output frequency display.
Forward rotation	● RUN	Output Freq U1-02= 15.00 HZ	Press to start the 3G3FV. The RUN and FWD indicators will be lit.
Reverse rotation	FWD/REV	Output Freq U1-02=-15.00 HZ	Press to select reverse rotation. The REV indicator will be lit.
Stop	● STOP	Output Freq U1-02= 0.00 HZ	Press to decelerate the 3G3FV to stop. The STOP indicator will be lit.

■ Monitor Display



Example of Monitor Display Items

Monitor No.	Monitor item	Monitor No.	Monitor item
U1-01	Frequency reference (Hz)	U1-08	Output power (kW)
U1-02	Output frequency (Hz)	U1-09	Torque reference (%)
U1-03	Output current (A)	U1-10	Input terminal status
U1-04	Control mode	U1-11	Output terminal status
U1-05	Motor speed (Hz)	U1-12	Operating status
U1-06	Output voltage (VAC)	U1-13	Total operating time (h)
U1-07	DC voltage (VDC)	U1-14	Software number

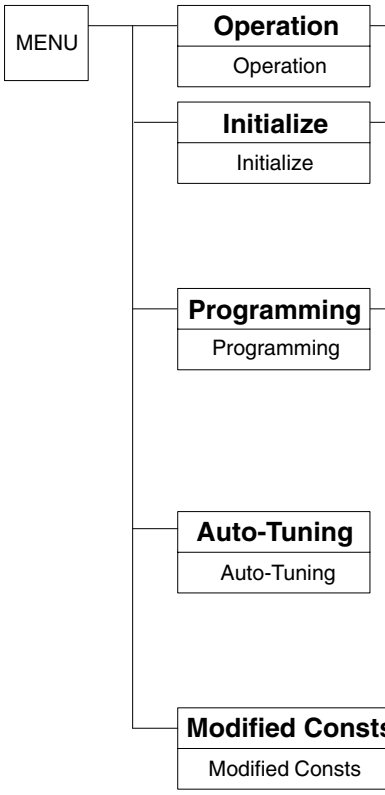
■ Auto-tuning

Operation	Key sequence	Display
Select auto-tuning function	MENU	** Main Menu ** Operation
	▲ 3 times	** Main Menu ** Auto-Tuning
Select parameter	↵	Rated Voltage 200.0 VAC
Change data	↵	Rated Voltage 200.0 VAC
	RESET ▲ ▼	Rated Voltage 200.0 VAC
	↵	Entry Accepted Rated Voltage 200.0 VAC
Select next parameter	▲	Rated Current 1.90 A
	▲	Rated Frequency 60.0 Hz
	▲	Rated Speed 1750 RPM
	▲	Number of Poles 4
	▲	Select Motor 1/2 1
	▲	Tuning Ready ? Press RUN key
Start auto-tuning	● RUN	Tune Proceeding □HZ □A Tune Successful
Return to operation mode	MENU	** Main Menu ** Operation

Note: Auto-tuning is available only when the 3G3FV is in vector control.

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■ Parameter Levels



No.		Function	Display
U	1	Status monitor	Monitor
	2	Fault tracing	Fault Trace
	3	Fault history	Fault History
A	1	Condition setting	A1-00 to A1-05
	2	User constant setting	User Constants
B	1	Operation mode selection	Sequence
	2	DC braking	DC Braking
	3	Speed search	Speed Search
	4	Timer	Delay Timers
	5	PID control	PID Control
	6	Reference hold	Reference Hold
	7	DROOP control	DROOP Control
	8	Energy saving	Energy Saving
	9	Zero servo	Zero Servo
C	1	Acceleration/Deceleration time setting	Accel/Decel
	2	S-curve characteristic setting	S-Curve Acc/Dec
	3	Motor-slip compensation	Motor-Slip Comp
	4	Torque compensation	Torque Comp
	5	Speed control	ASR Tuning
	6	Carrier frequency setting	Carrier Freq
	7	Hunting prevention	Hunting Prev
	8	Factory tuning	Factory Tuning
D	1	Frequency reference presetting	Preset Reference
	2	Frequency upper/lower limit	Reference Limits
	3	Jump frequency	Jump Frequencies
	4	Reference sample hold	Sequence
	5	Torque reference setting	Torque Control
E	1	V/F pattern setting	V/F Pattern
	2	Motor setup	Motor Setup
F	1	PG Speed Control Card	PG Option Setup
	2	Analog Reference Card	A1-14 Setup
	3	Digital Reference Card	D1-08, D1-16 Setup
	4	Analog Monitor Card	A0-08, 12 Setup
	5	Not available	D0-02 Setup
	6	Not available	D0-08 Setup
	7	Pulse Monitor Card	P0-36F Setup
H	1	Muli-function input	Digital Inputs
	2	Multi-function output	Digital outputs
	3	Analog input	Analog Inputs
	4	Multi-function analog output	Analog outputs
	5	Not available	Serial Com Setup
L	1	Motor protection	Motor Overload
	2	Instantaneous power failure compensation	PwrLoss Ridethru
	3	Stall prevention	Stall Prevention
	4	Frequency reference detection	Ref Detection
	5	Fault restart	Fault Restart
	6	Overtorque detection	Torque Detection
	7	Torque limit	Torque Limit
	8	Hardware protection	Hdwe Protection
O	1	Display/setting selection	Monitor Select
	2	Function selection	Key Selections

Note: The above parameter levels are simplified levels used mainly in programming operation.

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Specifications

■ Specifications

200-V Inverters

General Specifications

Model number 3G3FV-	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150	B2185	B2220	B2300	B2370	B2450	B2550	B2750 -E
Max. applicable motor capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output characteristics																
Rated output capacity (kVA)	1.2	2.3	3.0	4.2	6.7	9.5	13	19	24	30	37	50	61	70	85	110
Rated output current (A)	3.2	6.0	8.0	11	17.5	25	33	49	64	80	96	130	160	183	224	300
Max. output voltage (V)	3-phase, 200 to 230 VAC (Corresponds to input voltage.)															
Max. output frequency (Hz)	400 Hz (Set by parameter constant.)															
Power supply characteristics																
Rated voltage (V) Rated frequency (Hz)	3-phase, 200 to 230 VAC, 50/60 Hz															
Allowable voltage fluctuation	–15% to 10%															
Allowable frequency fluctuation	±5%															
Power consumption (kW)	0.07	0.09	0.12	0.14	0.22	0.30	0.35	0.59	0.73	0.89	1.2	1.4	1.8	2.1	2.7	3.3
Approximate weight (kg)	3.0	3.0	3.0	4.5	4.5	5.5	6.0	11	11	28	28	61	62	80	80	135

Control Characteristics

Model number 3G3FV-	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150	B2185	B2220	B2300	B2370	B2450	B2550	B2750 -E
Power supply harmonic countermeasures	DC reactor (option) connection possible.									DC reactor built in						
Control method	Sine wave PWM (high-carrier frequency control)															
Carrier frequency	0.4 to 15 kHz (2.0 to 15 kHz in vector control)										0.4 to 10 kHz (2.0 to 10 kHz in vector control)					
Speed control range	1:100 (1:1000 with PG)															
Speed control precision	±0.2% (±0.02% with PG)															
Speed control response	5 Hz (30 Hz with PG)															
Torque characteristics	150% at 1 Hz (150% at 0 rpm with PG). A torque limit function is incorporated.															
Torque control precision	±5% (with PG)															
Torque control response	40 Hz (with PG)															
Frequency control range	0.1 to 400 Hz															
Frequency precision (temperature characteristics)	Digital commands: ±0.01% (–10° to 40°C) Analog commands: ±0.1% (25°±10°C)															
Frequency setting resolution	Digital commands: 0.01 Hz (Less than 100 Hz), 0.1 Hz (100 Hz or higher) Analog commands: 0.03 Hz/60 Hz (11 bits + sign)															
Output frequency resolution	0.01 Hz															
Overload capacity	150% of rated current for one minute															
Frequency setting signal	0 to ±10 VDC (20 kΩ), 0 to 10 VDC (20 kΩ) voltage input or 4 to 20 mA (250 Ω) current input															
Acceleration/Deceleration time	0.01 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)															
Braking torque	Approximately 20% (Increment possible with an external braking resistor.)															
Voltage/frequency characteristics	Select vector control, one from 15 types of fixed V/f patterns, or set a user V/f pattern.															

Protective Functions

Model number 3G3FV-	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150	B2185	B2220	B2300	B2370	B2450	B2550	B2750 -E
Motor protection	Protection by electronic thermal.															
Instantaneous overcurrent protection	Stops at approx. 200% of rated output current.															
Overload protection	Stops in one minute at approx. 150% of rated output current.															
Overvoltage protection	Stops when main-circuit DC voltage is approx. 410 V.															
Undervoltage protection	Stops when main-circuit DC voltage is approx. 190 V.															
Momentary power interruption compensation (selection)	Stops for 15 ms or more. By selecting the momentary power interruption mode, operation can be continued if power is restored within 2 s.															
Cooling fin overheating	Protection by thermistor.															
Grounding protection	Protection by electronic circuits.															
Charge indicator (internal LED)	Lit when the main circuit DC voltage is approx. 50 V or more.															

Environment

Model number 3G3FV-	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150	B2185	B2220	B2300	B2370	B2450	B2550	B2750 -E
Location	Indoors (no corrosive gas, oil spray, metallic dust, etc.)															
Ambient operating temperature	–10° to 45°C (Enclosed wall-mounted type: –10° to 40°C)									–10° to 45°C (Panel-mounted type)						
Ambient operating humidity	90% RH max. (with no condensation)															
Storage temperature	–20° to 60°C															
Altitude	1,000 m max.															
Insulation resistance	5 MΩ min. (Do not carry out the insulation resistance test or withstand voltage test.)															
Vibration withstand	Vibration frequency less than 20 Hz, 9.8 m/s^2 max.; 20 to 50 Hz, 2 m/s^2 max															
Protective structure	Both enclosed wall-mounted type and panel-mounted type: IP10									Panel-mounted type: IP00						

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Specifications

400-V Inverters

General Specifications for 400-V Inverters

Model number 3G3FV-	A4004	A4007	A4015	A4022	A4037	A4055	A4075	A4110	A4150	B4185	B4220	B4300	B4370	B4450	B4550	B4750 -E	B411K -E	B416K -E	B418K -E	B422K -E	B430K -E
Max. applicable motor capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	110	160	185	220	300
Output characteristics																					
Rated output capacity (kVA)	1.4	2.6	3.7	4.7	6.1	11	14	21	26	31	37	50	61	73	98	130	170	230	260	340	460
Rated output current (A)	1.8	3.4	4.8	6.2	8.0	14	18	27	34	41	48	65	80	96	128	165	224	302	340	450	605
Max. output voltage (V)	3-phase, 380 to 460 VAC (Corresponds to input voltage.)																				
Max. output frequency (Hz)	400 Hz (Set by parameter constant.)																				
Power supply characteristics																					
Rated voltage (V) Rated frequency (Hz)	3-phase, 380 to 460 VAC, 50/60 Hz																				
Allowable voltage fluctuation	–15 to 10%																				
Allowable frequency fluctuation	±5%																				
Power consumption (kW)	0.06	0.09	0.11	0.13	0.15	0.22	0.36	0.46	0.57	0.66	0.88	1.1	1.3	1.4	1.9	2.4	3.1	4.2	5.0	6.9	9.8
Approximate weight (kg)	3.0	3.0	4.0	4.5	4.5	6.0	6.0	11	11	27	27	44	44	44	79	80	135	145	360	360	420

Control Characteristics

Model number 3G3FV-	A4004	A4007	A4015	A4022	A4037	A4055	A4075	A4110	A4150	B4185	B4220	B4300	B4370	B4450	B4550	B4750 -E	B411K -E	B416K -E	B418K -E	B422K -E	B430K -E
Power supply harmonic countermeasures	DC reactor (option) connection possible.									DC reactor built in						No item					
Control method	Sine wave PWM (high-carrier frequency control)																				
Carrier frequency	0.4 to 15 kHz (2.0 to 15 kHz in vector control)												0.4 to 10 kHz (2.0 to 10 kHz in vector control)						0.4 to 2.5 kHz (2.0 to 2.5 kHz in vector control)		
Speed control range	1:100 (1:1000 with PG)																				
Speed control precision	±0.2% (±0.02% with PG)																				
Speed control response	5 Hz (30 Hz with PG)																				
Torque characteristics	150% at 1 Hz (150% at 0 rpm with PG). A torque limit function is incorporated.																				
Torque control precision	±5% (with PG)																				
Torque control response	40 Hz (with PG)																				
Frequency control range	0.1 to 400 Hz																				
Frequency precision (temperature characteristics)	Digital commands: ±0.01% (–10° to 40°C) Analog commands: ±0.1% (25°±10°C)																				
Frequency setting resolution	Digital commands: 0.01 Hz (Less than 100 Hz), 0.1 Hz (100 Hz or higher) Analog commands: 0.03 Hz/60 Hz (11 bits + sign)																				
Output frequency resolution	0.01 Hz																				
Overload capacity	150% of rated current for one minute																				
Frequency setting signal	0 to ±10 VDC (20 kΩ), 0 to 10 VDC (20 kΩ) voltage input or 4 to 20 mA (250 Ω) current input																				
Acceleration/Deceleration time	0.01 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)																				
Braking torque	Approximately 20% (Increment possible with an external braking resistor.)																				
Voltage/frequency characteristics	Select vector control, one from 15 types of fixed V/f patterns, or set a user V/f pattern.																				

Protective Functions

Model number 3G3FV-	A4004	A4007	A4015	A4022	A4037	A4055	A4075	A4110	A4150	B4185	B4220	B4300	B4370	B4450	B4550	B4750 -E	B411K -E	B416K -E	B418K -E	B422K -E	B430K -E
Motor protection	Protection by electronic thermal.																				
Instantaneous overcurrent protection	Stops at approx. 200% of rated output current.																				
Overload protection	Stops in one minute at approx. 150% of rated output current.																				
Overvoltage protection	Stops when main-circuit DC voltage is approx. 820 V.																				
Undervoltage protection	Stops when main-circuit DC voltage is approx. 380 V.																				
Momentary power interruption compensation (selection)	Stops for 15 ms or more. By selecting the momentary power interruption mode, operation can be continued if power is restored within 2 s.																				
Cooling fin overheating	Protection by thermistor.																				
Grounding protection	Protection by electronic circuits.																				
Charge indicator (internal LED)	Lit when the main circuit DC voltage is approx. 50 V or more.																				

Environment

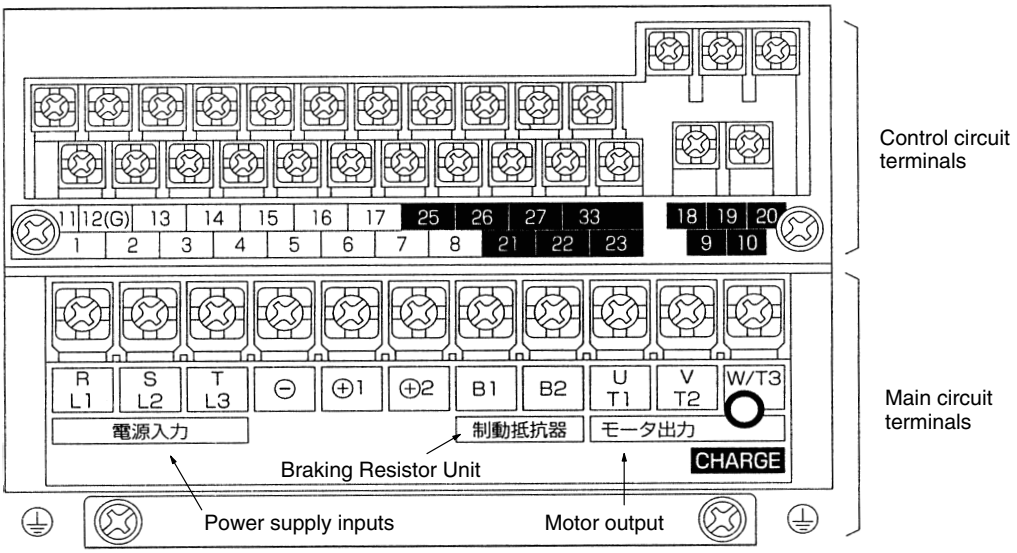
Model number 3G3FV-	A4004	A4007	A4015	A4022	A4037	A4055	A4075	A4110	A4150	B4185	B4220	B4300	B4370	B4450	B4550	B4750 -E	B411K -E	B416K -E	B418K -E	B422K -E	B430K -E
Location	Indoors (no corrosive gas, oil spray, metallic dust, etc.)																				
Ambient operating temperature	–10° to 45°C (Enclosed wall-mounted type: –10° to 40°C)									–10° to 45°C (Panel-mounted type)											
Ambient operating humidity	90% RH max. (with no condensation)																				
Storage temperature	–20° to 60°C																				
Altitude	1,000 m max.																				
Insulation resistance	5 MΩ min. (Do not carry out the insulation resistance test or withstand voltage test.)																				
Vibration withstand	Vibration frequency less than 20 Hz, 9.8 m/s^2 max.; 20 to 50 Hz, 2 m/s^2 max																				
Protective structure	Both enclosed wall-mounted type and panel-mounted type: IP10									Panel-mounted type: IP00											

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Terminal Block

■ Terminal Block Configuration

Example: 200 V, 0.4 kW



■ Main Circuit Terminals

200-V Inverters

Model number (Capacity)	3G3FV-A2004 to 3G3FV-A2075 (0.4 to 7.5 kW)	3G3FV-A2110 to 3G3FV-A2150 (11 to 15 kW)	3G3FV-B2185 to 3G3FV-B2220 (18.5 to 22 kW)	3G3FV-B2300 to 3G3FV-B2750-E (30 to 75 kW)
R, S, T	Power supply input terminals, 3-phase, 200 to 230 VAC, 50/60 Hz			
U, V, W	Motor output terminals, 3-phase, 200 to 230 VAC (correspond to input voltage)			
B1	Braking Resistor Unit connection terminals	---		
B2				
+1	DC reactor connection terminals (+1 - +2) DC power supply input terminals (+1 - –)	DC reactor connection terminals (+1 - +2) DC power supply input terminals (+1 - –) Braking Unit connection terminals (+3 - –)	DC power supply input terminals (+1 - –) Braking Unit connection terminals (+3 - –)	---
+2				
–				Braking Unit connection terminals (+3 - –)
+3	---			
s	---		Cooling fan power supply input terminals	See note.
r				
s200	---		---	
s400				
⏚	Ground terminal (Ground to 100 Ω or less.)			

Note: The s and r terminals are cooling fan and control circuit power supply input terminals.

400-V Inverters

Model number (Capacity)	3G3FV-A4004 to 3G3FV-A4150 (0.4 to 15 kW)	3G3FV-B4185 to 3G3FV-B4450 (18.5 to 45 kW)	3G3FV-B4550 to 3G3FV-B416K-E (55 to 160 kW)	3G3FV-B418K-E to 3G3FV-B430K-E (185 to 300 kW)
R, S, T	Power supply input terminals, 3-phase, 380 to 460 VAC, 50/60 Hz			
U, V, W	Motor output terminals, 3-phase, 380 to 460 VAC (corresponds to input voltage)			
B1	Braking Resistor Unit connection terminals	---		
B2				
+1	DC reactor connection terminals (+1 - +2) DC power supply input terminals (+1 - –)	DC power supply input terminals (+1 - –) Braking Unit connection terminals (+3 - –)	---	DC power supply input terminals (+1 - –)
+2				---
–			Braking Unit connection terminals (+3 - –)	Braking Unit connection terminals (+3 - –)
+3	---			
s	---	Cooling fan power supply input terminals	---	---
r			See note.	See note.
s200	---	---		
s400				
⏚	Ground terminal (Ground to 10 Ω or less.)			

Note: The r, s200, and s400 terminals are cooling fan and control circuit power supply input terminals. Apply 380 to 460 VAC between the r and s400 terminals when using a 400-V input. Apply 200 to 230 VAC between the r and s200 terminals when using a 200-V input.

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■ Control Circuit Terminal

Common to Both 200-V and 400-V Classes

Symbol		Name	Function	Signal level
Input	1	Forward/Stop	Starts at ON and stops at OFF.	Photocoupler 24 VDC, 8 mA
	2	Reverse/Stop	Starts at ON and stops at OFF.	
	3	Multi-function contact input 1	Set by the constant (H1-01) (external error a).	
	4	Multi-function contact input 2	Set by the constant (H1-02) (error reset).	
	5	Multi-function contact input 3	Set by the constant (H1-03) (multistep speed reference 1).	
	6	Multi-function contact input 4	Set by the constant (H1-04) (multistep speed reference 2).	
	7	Multi-function contact input 5	Set by the constant (H1-05) (inching reference).	
	8	Multi-function contact input 6	Set by the constant (H1-06) (external base block).	
	11	Sequence input common	Common for terminals 1 to 8.	
Analog input	15	Frequency reference power supply (+15 VDC)	+15 VDC power supply for frequency reference.	+15 VDC (±10%), 20 mA
	33	Frequency reference power supply (–15 VDC)	–15 VDC power supply for frequency reference.	–15 VDC (±10%), 20 mA
	13	Frequency reference input (voltage)	Voltage input terminal for frequency reference. Select 0 to 10 V or 0 to ±10 V with the constant (H3-01).	0 to 10 VDC (20 kΩ) 0 to ±10 VDC (20 kΩ)
	14	Frequency reference input (current)	Current input terminal for frequency reference.	4 to 20 mA (250 Ω)
	16	Multi-function analog input	Set by the constant (H3-05).	0 to 10 VDC (20 kΩ) 0 to ±10 VDC (20 kΩ)
	17	Frequency reference input common	Analog input signal common	---
	12	Shielded wire connection ground	Shielded terminal for sequence and frequency reference inputs.	---
Sequence output	9	Multi-function contact output	Set by the constant (H2-01) (operating).	Relay output (normally open) 30 VDC, 1 A max. 250 VAC, 1 A max.
	10	Multi-function contact output common		
	25	Multi-function output 1	Set by the constant (H2-02) (zero speed detection).	Open collector output 48 VDC, 50 mA max.
	26	Multi-function output 2	Set by the constant (H2-03) (speed conformity detection)	
	27	Multi-function output common	Common for terminals 25 and 26	
	18	Error output (normally open)	Terminals 18 and 20 are closed and terminals 19 and 20 are open when an error occurs.	Relay output (single-pole, double-throw) 30 VDC, 1 A max. 250 VAC, 1 A max.
	19	Error output (normally closed)		
	20	Error output common		
Analog output	21	Multi-function analog output 1	(Output frequency: 0 to ±10 V/±100% frequency) set with the constant (H4-01).	0 to ±10 VDC(±5%) , 0 to +10 VDC (±5%) 2 mA max.
	23	Multi-function analog output 2	(Output current: 5 V/inverter rated current) set with the constant (H4-04).	
	22	Multi-function analog output common	Analog output common	

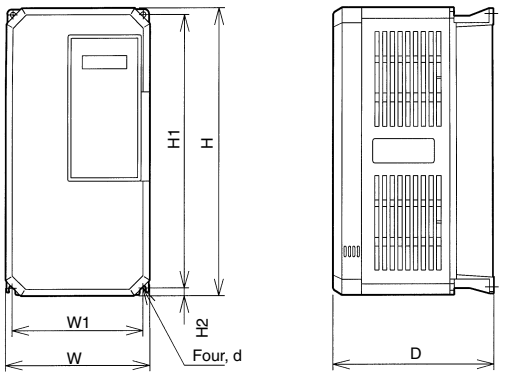
Note: The settings in parentheses in the above function column are the factory settings.

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Dimensions

■ Dimensions

3G3FV-A2□□□/A4□□□



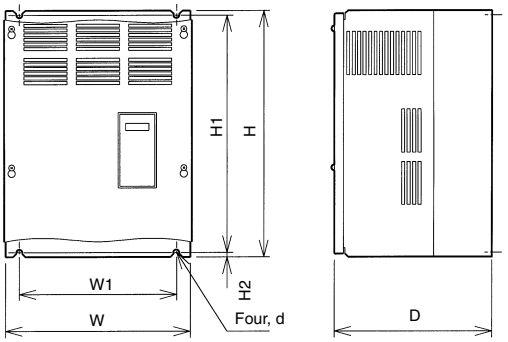
- **200-V Class**

Model 3G3FV-	Max. applied motor capacity (kW)	Dimensions (mm)						Mounting screws	Approx. weight (kg)
		W	H	D	W1	H1	H2	d	
A2004	0.4	140	280	160	126	266	7.0	M5	3
A2007	0.75								
A2015	1.5								
A2022	2.2	140	280	180	126	266	7.0	M5	4.5
A2037	3.7								
A2055	5.5	200	300	205	186	285	8.0	M6	5.5
A2075	7.5								6.0
A2110	11	250	380	225	236	365	7.5	M6	11
A2150	15		400				27.5		

- **400-V Class**

Model 3G3FV-	Max. applied motor capacity (kW)	Dimensions (mm)						Mounting screws	Approx. weight (kg)
		W	H	D	W1	H1	H2	d	
A4004	0.4	140	280	160	126	266	7.0	M5	3.0
A4007	0.75								
A4015	1.5	140	280	180	126	266	7.0	M5	4.0
A4022	2.2								4.5
A4037	3.7								
A4055	5.5	200	300	205	186	285	8.0	M6	6.0
A4075	7.5								
A4110	11	250	380	225	236	365	7.5	M6	11
A4150	15								

3G3FV-B2□□□□/B4□□□□ (B4 Models: 160 kW Max.)



- **200-V Class**

Model 3G3FV-	Max. applied motor capacity (kW)	Dimensions (mm)						Mounting screws	Approx. weight (kg)
		W	H	D	W1	H1	H2	d	
B2185	18.5	325	450	285	275	435	7.5	M6	28
B2220	22								
B2300	30	425	675	350	320	650	12.5	M10	61
B2370	37								62
B2450	45	475	800	350	370	775	12.5	M10	80
B2550	55								
B2750-E	75	575	925	400	445	895	15.0	M12	135

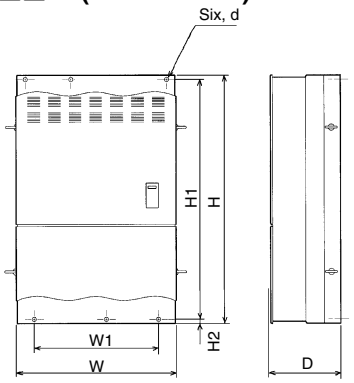
- **400-V Class**

Model 3G3FV-	Max. applied motor capacity (kW)	Dimensions (mm)						Mounting screws	Approx. weight (kg)
		W	H	D	W1	H1	H2	d	
B4185	18.5	325	450	285	275	435	7.5	M6	27
B4220	22								
B4300	30	325	625	285	275	610	7.5	M6	44
B4370	37								
B4450	45								
B4550	55	455	820	350	350	795	12.5	M10	79
B4750-E	75								80
B411K-E	110	575	925	375	445	895	15.0	M12	135
B416K-E	160			400					145

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Dimensions

3G3FV-B4□□□-E (185 kW Min.)



- **400-V Class**

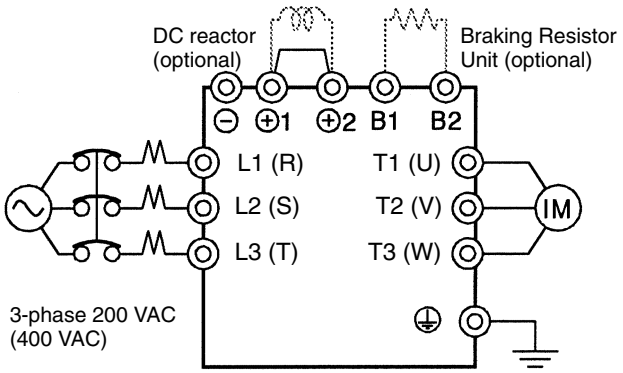
Model 3G3FV-	Max. applied motor capacity (kW)	Dimensions (mm)						Mount-ing screws	Approx. weight (kg)
		W	H	D	W1	H1	H2	d	
B418K-E	185	950	1450	435	750	1400	25	M12	360
B422K-E	220								
B430K-E	300	960	1600	455		1550			420

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Wiring

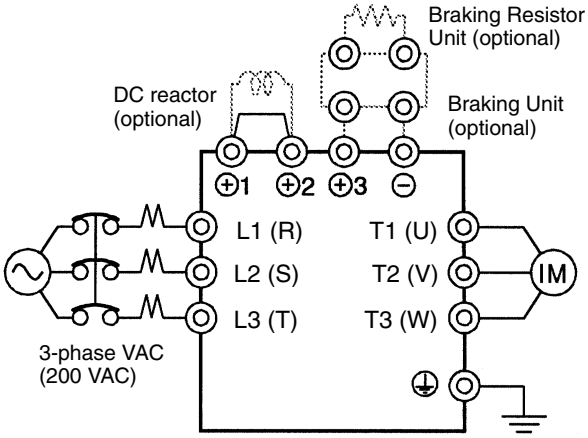
■ Main Circuit Terminal Connections

3G3FV-A2004 to A2075, A4004 to A4150



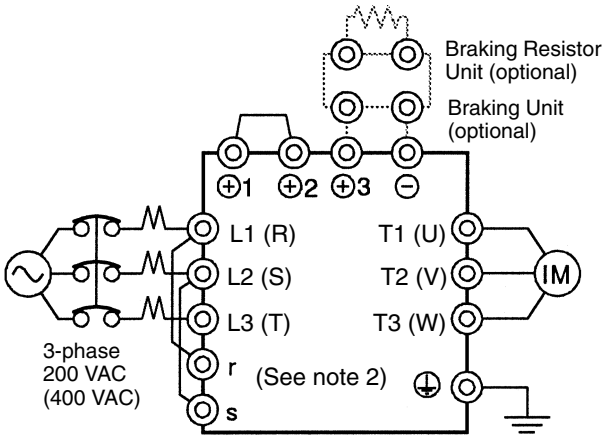
Note: Be sure to remove the short bar before connecting a DC reactor.

3G3FV-A2110 to A2150



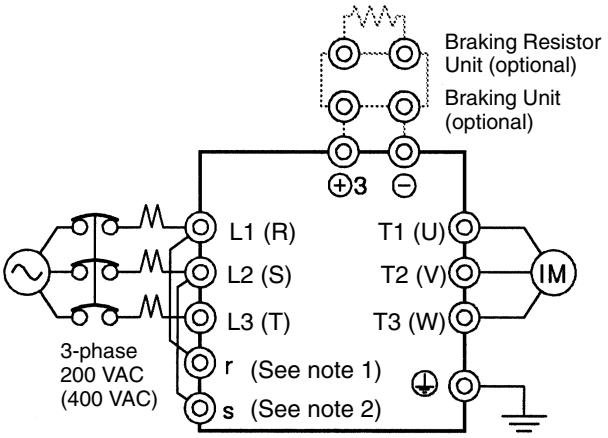
Note: Be sure to remove the short bar before connecting a DC reactor.

3G3FV-B2185 to B2220, B4185 to B4450



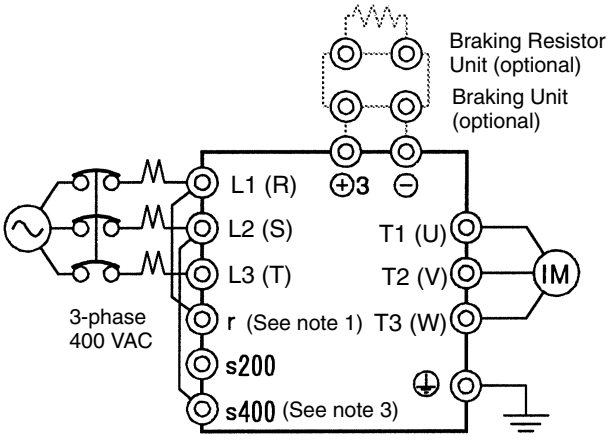
Note: The DC reactor is built in.

3G3FV-B2300 to B2750-E



Note: The DC reactor is built in.

3G3FV-B4550 to B430K-E

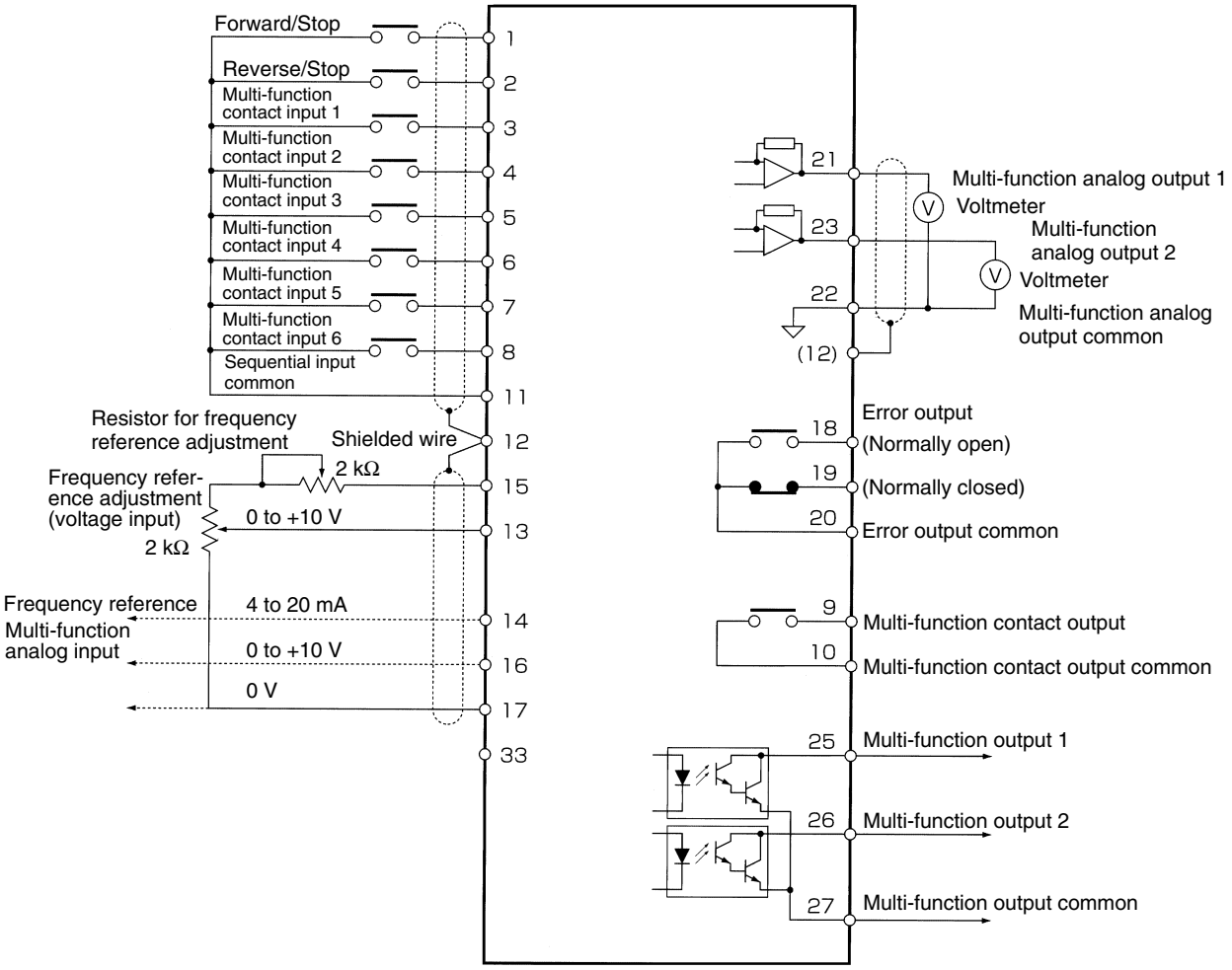


Note: The DC reactor is built in.

Note:
1. For 200-V class, 30 to 75 kW (B2300 to B2750-E) and 400-V class, 55 to 300 kW (B4550 to B430K-E), input the control circuit power supply from r–s. (For others, create the control power supply internally from the main circuit DC power supply.)
2. The r–L1 (R) and s–L2 (S) terminals are short-circuited for shipping.
3. The r–L1 (R) and s (s400)–L2 (S) terminals are short-circuited for shipping.

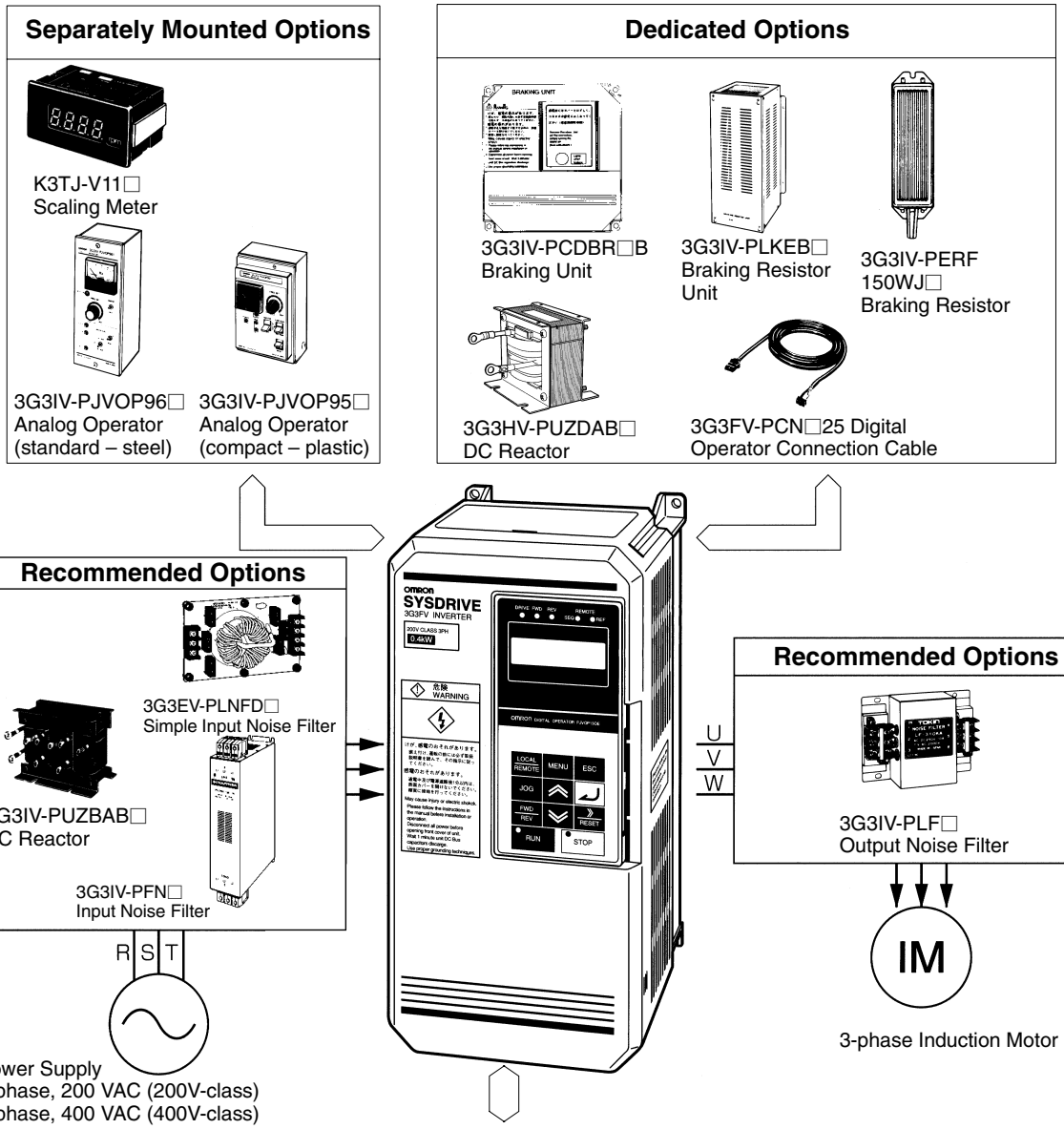
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■ Control Circuit Terminal Connections (All Models)

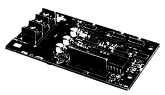
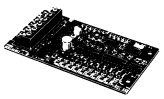
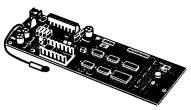
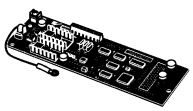
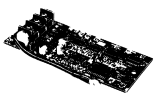
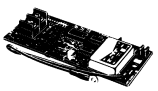
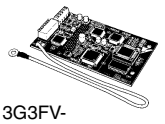
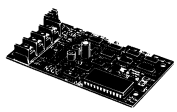
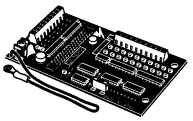
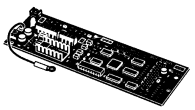
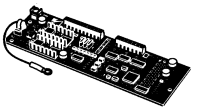
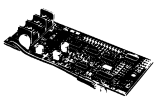


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Options



Optional Cards

 3G3IV-PAI14U Analog Reference Card	 3G3IV-PDI08 Digital Reference Card	 3G3FV-PPGA2 PG Speed Control Card	 3G3FV-PPGD2 PG Speed Control Card	 3G3IV-PAO08 Analog Monitor Card	 3G3IV-PPO36F Pulse Monitor Card	 3G3FV-PDRT1-SINV1 DeviceNet Communications Card
 3G3IV-PAI14B Analog Reference Card	 3G3FV-PDI16H2 Digital Reference Card	 3G3FV-PPGB2 PG Speed Control Card	 3G3FV-PPGX2 PG Speed Control Card	 3G3IV-PAO12 Analog Monitor Card		 3G3IV-PSIG SYSMAC BUS (Wired) I/F Card

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Options

■ Separately Mounted Options

Name	Model	Descriptions
Scaling Meter	K3TJ-V11□	Connects to the multi-functional analog output of the Inverter. It displays the rotational speed of a machine or the line speed.
Analog Operator (steel: standard type)	3G3IV-PJVOP96□	Allows frequency reference settings and ON/OFF operation control to be performed by analog commands from a remote location (50 m max.). Frequency counter specifications: 75 Hz, 150 Hz, 220 Hz
Analog Operator (plastic: compact type)	3G3IV-PJVOP95□	Allows frequency reference settings and ON/OFF operation control to be performed by analog commands from a remote location (50 m max.). Frequency counter specifications: 60/120 Hz, 90/180Hz

■ Dedicated Options

Name	Model	Descriptions
Braking Unit	3G3IV-PCDBR□B	Used in combination with a Braking Resistor Unit for reducing motor's deceleration time. Not necessary for 200V-class models of 7.5 kW max. or 400V-class models of 15 kW max.
Braking Resistor Unit	3G3IV-PLKEB□	Consumes the regenerative energy of the motor and reduces the deceleration time of the motor.
Braking Resistor	3G3IV-PERF150WJ□	Used for 200-V class of 3.7 kW max. and 400-V class of 2.2 kW max. Consumes the regenerative energy of the motor and reduces the deceleration time of the motor.
DC Reactor	3G3HV-PUZDAB□	Suppresses the harmonic currents of the 3G3FV and improves the power factor of the 3G3FV. Models of 18.5 kW or more have a built-in DC Reactor.
Digital Operator Connection Cable	3G3FV-PCN125 (1 m)	A dedicated cable for the 3G3FV Series. Used to connect the 3G3FV and Digital Operator when they are separated.
	3G3FV-PCN325 (3 m)	

■ Optional Cards

Name	Model	Descriptions
Analog Reference Card	3G3IV-PAI14U	The 3G3FV incorporates analog input terminals for frequency references with a resolution of 1/2,048. This card increases the resolution to 1/16,384.
	3G3IV-PAI14B	Allows –10- to 10-VDC frequency reference inputs with a resolution of 1/8,192 + mark. Forward and reverse rotation is selected with the polarity of the input voltage.
Digital Reference Card	3G3IV-PDI08	Used to set frequency references in 2-digit BCD or 8-bit binary.
	3G3FV-PDI16H2	Used to set frequency references with 16 or 12 bits (switchable). A parameter setting can be used to select BCD or binary data. The card incorporates a 24-VDC battery (8 mA max.).
Analog Monitor Card	3G3IV-PAO08	Makes it possible to use the analog output of the terminals as control signals. The card, which has two-point, 0 to 10 V analog output, is used to monitor the output frequency, output current, output voltage reference, or DC voltage of the 3G3FV. The 3G3IV-PAO08 has an output resolution of 1/256 (output voltage of 0 to 10 V) and the 3G3IV-PAO12 has an output resolution of 1/2,048 (output voltage of 0 to ±10 V).
	3G3IV-PAO12	
Pulse Monitor Card	3G3IV-PPO36F	Used to output pulse-train signals according to the output frequency of the 3G3FV. The pulse-train signals can be input to another device such as a frequency meter or counter.
PG Speed Control Card	3G3FV-PPGA2	Used for V/f control using the PG at a maximum response frequency of 30 kHz for phase-A (single) pulse input and open-collector output. Pulse monitor output is incorporated.
	3G3FV-PPGB2	Used for vector control using the PG at a maximum response frequency of 30 kHz for phase-A/phase-B inputs and open-collector output. Pulse monitor output is incorporated.
	3G3FV-PPGD2	Used for V/f control using the PG at a maximum response frequency of 300 kHz for phase-A (single) pulse input and RS-422 line driver input. Pulse monitor output is incorporated.
	3G3FV-PPGX2	Used for vector control using the PG at a maximum response frequency of 300 kHz for phase-A/phase-B/phase-Z pulse inputs and RS-422 line driver input. Pulse monitor output is incorporated.
DeviceNet Communications Card	3G3FV-PDRT1-SINV1	Used for communications between a Programmable Controller or another Master Unit and the DeviceNet system.
SYSMAC BUS (Wired) I/F Card	3G3IV-PSIG	Used for communications between a Programmable Controller and the SYSMAC BUS (Wired) system.

Note: 1. Use the Digital Reference Card when setting frequencies digitally from a PC's Output Unit or thumbwheel switches.

2. Use the PG Speed Control Card for speed control with the Pulse Generator (PG).

■ Recommended Options

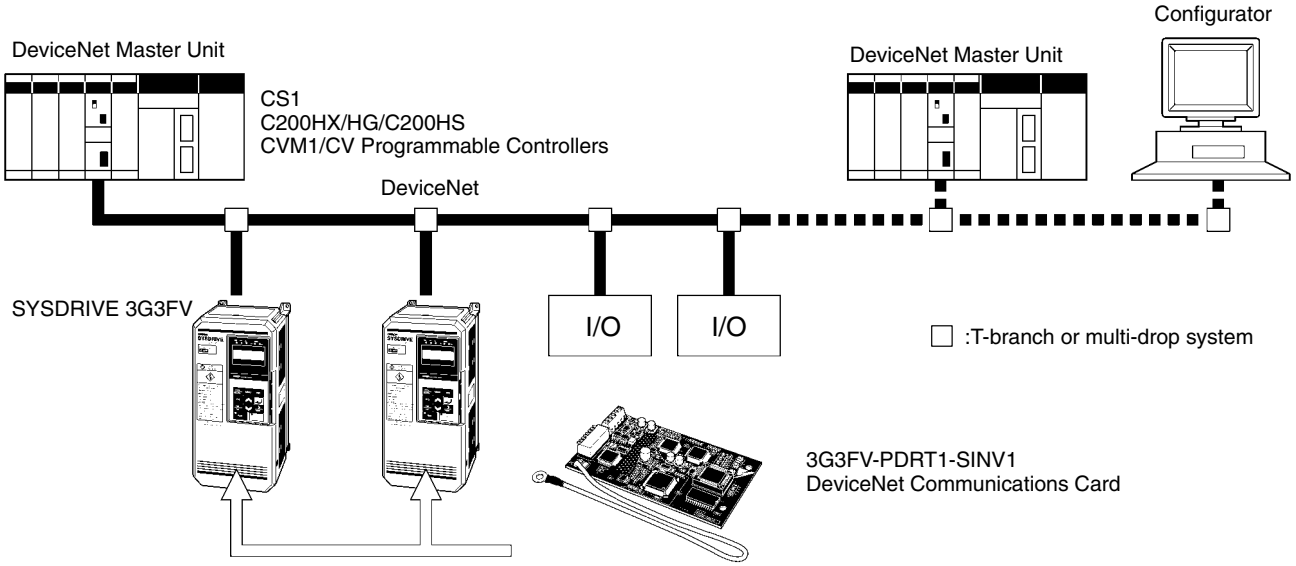
Name	Model	Descriptions
AC Reactor	3G3IV-PUZBAB□	Used if the harmonic currents of the 3G3FV must be suppressed or the capacity of the power supply connected to the 3G3FV is much larger than the capacity of the 3G3FV. The AC Reactor improves the power factor of the 3G3FV.
Simple Input Noise Filter (Yaskawa Electric)	3G3EV-PLNFD□	Used to eliminate noise coming into the Inverter from the power supply line and to reduce noise flowing from the Inverter into the power supply line. Connect to the power supply input side.
Input Noise Filter (Schaffner)	3G3IV-PFN□	Used to eliminate noise coming into the Inverter from the power supply line and to reduce noise flowing from the Inverter into the power supply line. Connect to the power supply input side.
Output Noise Filter	3G3IV-PLF□	Used to suppress noise that is generated by the Inverter from affecting the power supply side. Connect to the motor output side.

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Options

■ 3G3FV-PDRT1-SINV1 DeviceNet Communications Card

Used for DeviceNet communications between an OMRON Programmable Controller's Master Unit, or other controller, and the SYSDRIVE 3G3FV.

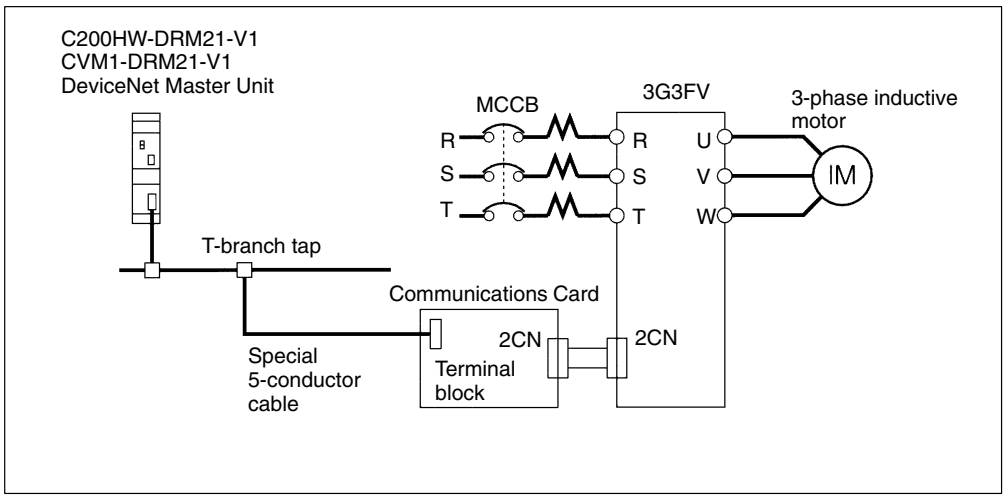


Specifications

Item	Communications			
Connection method	T-branch or multi-drop method			
Communications baud rate	500,000/250,000/125,000 bps			
Communications cycle time	Approx. 10, 20, or 40 ms			
Communications cable	Special 5-conductor cable			
Maximum number of Units connected (See note 1.)		Configurator	Message function	Number of Units
	1 2 3	Used Used Not used	Not used Used Not used, used	63 Units 25 Units 25 Units
Remote I/O words occupied	2 words for input and 2 words for output (See note 2)			

Note: 1. For C200HX/HG/HE.
2. Switchable to 3-word input and 3-word output.

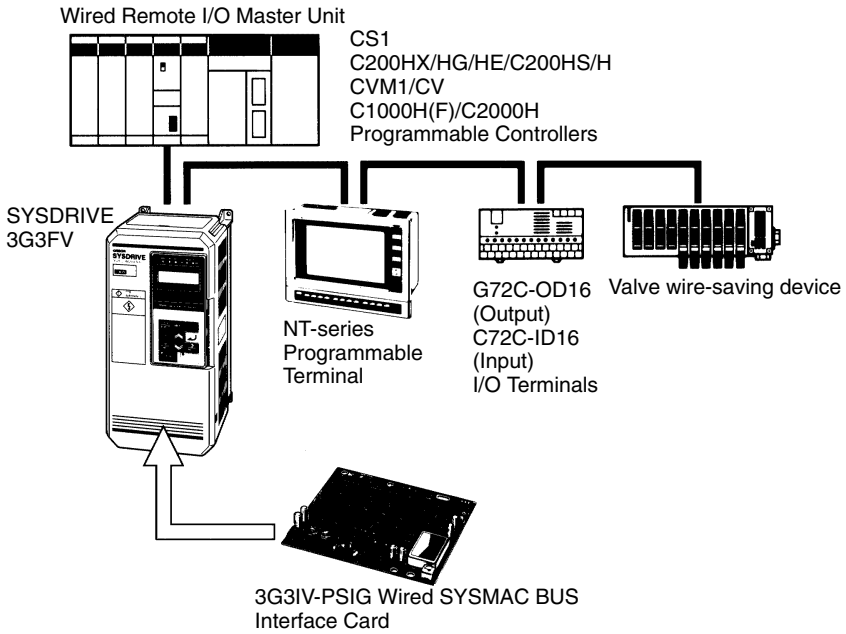
Wiring Example



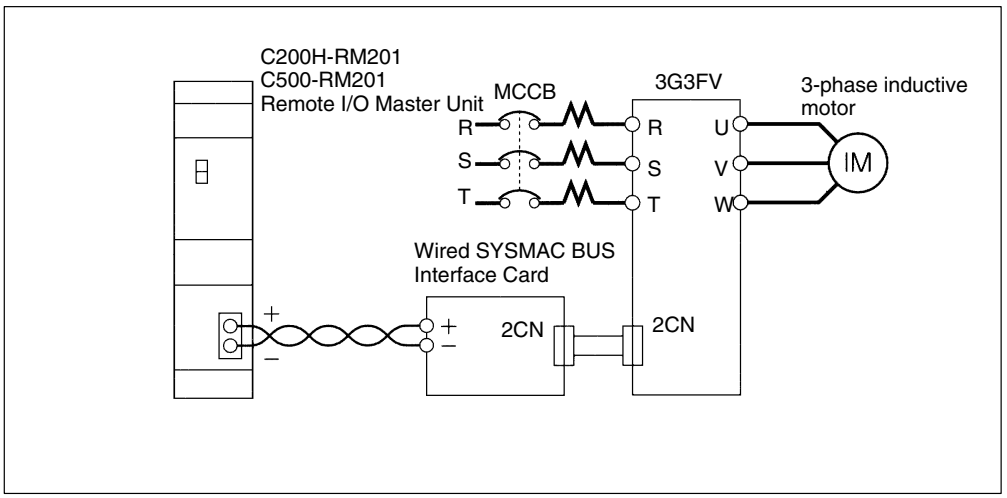
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■ 3G3IV-PSIG Wired SYSMAC BUS Interface Card

Used for communications with a Programmable Controller via the Wired SYSMAC BUS.



Wiring Example



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Standard Models

■ Standard Models

Voltage class	Protective structure	Maximum applied motor capacity	Model
200-V class	Enclosed wall-mounted type	0.4 kW	3G3FV-A2004
		0.75 kW	3G3FV-A2007
		1.5 kW	3G3FV-A2015
		2.2 kW	3G3FV-A2022
		3.7 kW	3G3FV-A2037
		5.5 kW	3G3FV-A2055
		7.5 kW	3G3FV-A2075
		11 kW	3G3FV-A2110
		15 kW	3G3FV-A2150
	Panel-mounted type	18.5 kW	3G3FV-B2185
		22 kW	3G3FV-B2220
		30 kW	3G3FV-B2300
		37 kW	3G3FV-B2370
		45 kW	3G3FV-B2450
		55 kW	3G3FV-B2550
		75 kW	3G3FV-B2750-E
400-V class	Enclosed wall-mounted type	0.4 kW	3G3FV-A4004
		0.75 kW	3G3FV-A4007
		1.5 kW	3G3FV-A4015
		2.2 kW	3G3FV-A4022
		3.7 kW	3G3FV-A4037
		5.5 kW	3G3FV-A4055
		7.5 kW	3G3FV-A4075
		11 kW	3G3FV-A4110
		15 kW	3G3FV-A4150
	Panel-mounted type	18.5 kW	3G3FV-B4185
		22 kW	3G3FV-B4220
		30 kW	3G3FV-B4300
		37 kW	3G3FV-B4370
		45 kW	3G3FV-B4450
		55 kW	3G3FV-B4550
		75 kW	3G3FV-B4750-E
		110 kW	3G3FV-B411K-E
		160 kW	3G3FV-B416K-E
		185 kW	3G3FV-B418K-E
		220 kW	3G3FV-B422K-E
		300 kW	3G3FV-B430K-E

■ Model Numbers

3G3FV-A2037-CUE

- **Specifications**
- **Maximum applied motor capacity**
- **Voltage class**
- **Installation type**
- **Series name:** (3G3FV Series)

Specifications

None	Japanse model
-E	English model
-CE	Model conforming to EN standards
-CUE	Model conforming to EN and UL/cUL standards

Maximum Applied Motor Capacity

004	0.4 kW
007	0.75 kW
015	1.5 kW
022	2.2 kW
037	3.7 kW
055	5.5 kW
075	7.5 kW
110	11 kW
150	15 kW
185	18.5 kW
220	22 kW
300	30 kW
370	37 kW
450	45 kW
550	55 kW
750	75 kW
11K	110 kW
16K	160 kW
18K	185 kW
22K	220 kW
30K	300 kW

Voltage Class

2	3-phase, 200 VAC (200-V class)
4	3-phase, 400 VAC (400-V class)

Installation Type

A	Panel-mounting (IP10 min.) or closed wall-mounting models
B	Panel-mounting (IP00)

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■ Notes

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Printed in Japan
1202-0.3M

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