

General

The 3G3JV is a miniature high-efficiency frequency inverter with an excellent price- performance relationship.

The generous dimensions of the power section ensure a high starting torque and low susceptibility to overload which increases machine reliability.

Its many programmable inputs and outputs, an integrated potentiometer for speed control and various monitor functions provide the inverter with high versatility and flexibility. The multifunction inputs can be set to either PNP or NPN. The analog inputs can be 0..10 V, 4..20 mA or 0..20 mA.

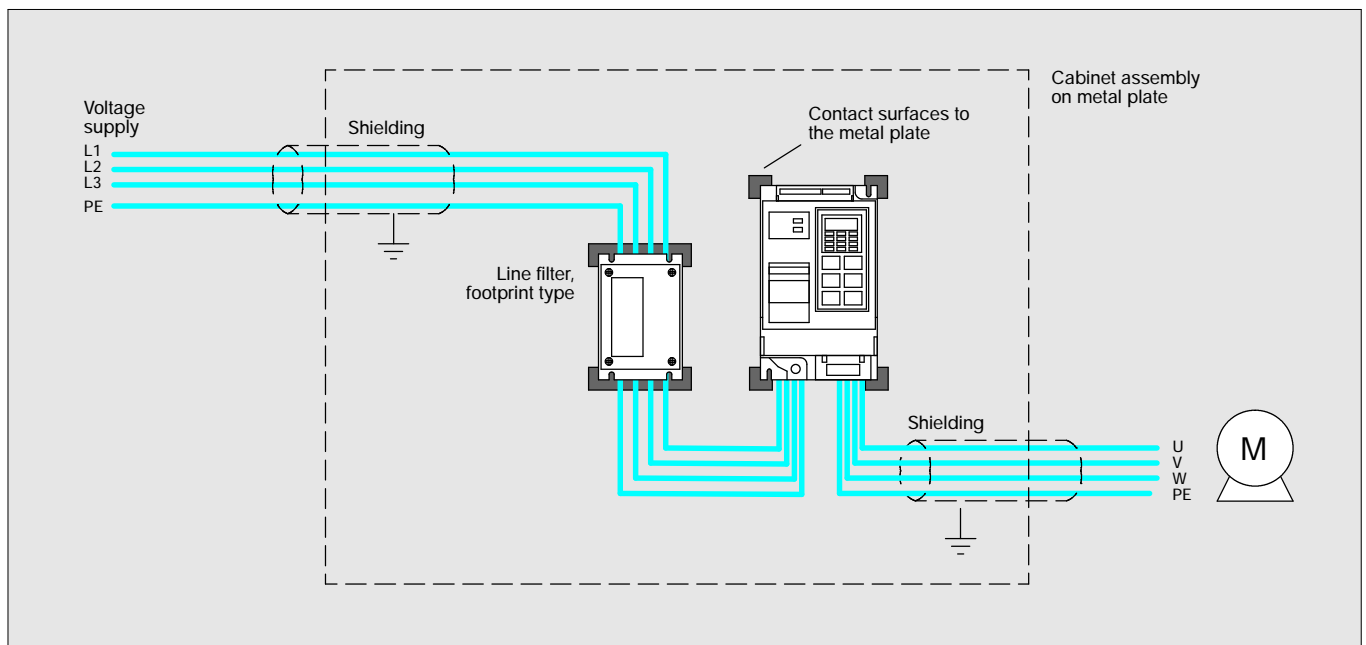
Features

- exceptionally compact design
- integrated reference value potentiometer
- modbus interface, optional
- 8 fixed frequencies
- 4 multifunction digital inputs
- 1 multifunction digital output
- 1 multifunction analog output
- Approval: CE, UL, CSA



System architecture

To comply with relevant EMC guidelines it is imperative for frequency inverters to be operated with line filters.



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3G3JV inverter

Product overview

Max. motor output	Output current	Rated voltage	Product number
			Standard type
Single phase 230 V			
0,1 kW	0,8 A	1 x 230 VAC	3G3JV-AB001
0,25 kW	1,6 A	1 x 230 VAC	3G3JV-AB002
0,55 kW	3,0 A	1 x 230 VAC	3G3JV-AB004
1,1 kW	5,0 A	1 x 230 VAC	3G3JV-AB007
1,5 kW	8,0 A	1 x 230 VAC	3G3JV-AB015
Three phase 230 V			
0,1 kW	0,8 A	3 x 230 VAC	3G3JV-A2001
0,25 kW	1,6 A	3 x 230 VAC	3G3JV-A2002
0,55 kW	3,0 A	3 x 230 VAC	3G3JV-A2004
1,1 kW	5,0 A	3 x 230 VAC	3G3JV-A2007
1,5 kW	8,0 A	3 x 230 VAC	3G3JV-A2015
2,2 kW	11 A	3 x 230 VAC	3G3JV-A2022
4,0 kW	11 A	3 x 230 VAC	3G3JV-A2040
Three phase 400 V			
0,37 kW	1,2 A	3 x 400 VAC	3G3JV-A4002
0,55 kW	1,8 A	3 x 400 VAC	3G3JV-A4004
1,1 kW	3,4 A	3 x 400 VAC	3G3JV-A4007
1,5 kW	4,8 A	3 x 400 VAC	3G3JV-A4015
2,2 kW	5,5 A	3 x 400 VAC	3G3JV-A4022
3,0 kW	7,2 A	3 x 400 VAC	3G3JV-A4030
4,0 kW	9,2 A	3 x 400 VAC	3G3JV-A4040

Accessories

Line filter, braking resistors, ferrite rings, DIN track mounting bracket

Inverter	Product number		
	Line filter (footprint filter)	Ferrite rings	DIN track mounting bracket
3G3JV-AB001	3G3JV-PFI1010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-AB002	3G3JV-PFI1010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-AB004	3G3JV-PFI1010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-AB007	3G3JV-PFI1020-E	3G3IV-PFO OC/1	3G3IV-PZZ08122B
3G3JV-AB015	3G3JV-PFI1020-E	3G3IV-PFO OC/2	3G3IV-PZZ08122B
3G3JV-A2001	3G3JV-PFI2010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-A2002	3G3JV-PFI2010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-A2004	3G3JV-PFI2010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-A2007	3G3JV-PFI2010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122A
3G3JV-A2015	3G3JV-PFI2020-E	3G3IV-PFO OC/2	3G3IV-PZZ08122B
3G3JV-A2022	3G3JV-PFI2020-E	3G3IV-PFO OC/2	3G3IV-PZZ08122B
3G3JV-A2040	3G3JV-PFI2030-E	3G3IV-PFO OC/2	3G3IV-PZZ08122C
3G3JV-A4002	3G3JV-PFI3005-E	3G3IV-PFO OC/1	3G3IV-PZZ08122B
3G3JV-A4004	3G3JV-PFI3005-E	3G3IV-PFO OC/1	3G3IV-PZZ08122B
3G3JV-A4007	3G3JV-PFI3010-E	3G3IV-PFO OC/1	3G3IV-PZZ08122B
3G3JV-A4015	3G3JV-PFI3010-E	3G3IV-PFO OC/2	3G3IV-PZZ08122B
3G3JV-A4022	3G3JV-PFI3010-E	3G3IV-PFO OC/2	3G3IV-PZZ08122B
3G3JV-A4030	3G3JV-PFI3020-E	3G3IV-PFO OC/2	3G3IV-PZZ08122C
3G3JV-A4040	3G3JV-PFI3020-E	3G3IV-PFO OC/2	3G3IV-PZZ08122C

Technical data
230 V class

Single phase: 3G3JV-AB		AB001	AB002	AB004	AB007	AB015				
Three phase: 3G3JV-A2		A2001	A2002	A2004	A2007	A2015	A2022	A2040		
Maximum allowed motor output	kW	0,12	0,25	0,55 (0,4*)	1,1 (0,75*)	1,5 (1,1*)	2,2	4,0		
Output data	Inverter output	kVA	0,3	0,6	1,1	1,9	3,0	4,2	6,7	
	Output rated current	A	0,8	1,6	3,0	5,0	8,0	11,0	17,5	
	Max. output voltage	proportional to the input voltage: 0..240 V								
	Output frequencies	400 Hz								
Supply	Rated input voltage and frequency	200..240 V, 50/60 Hz								
	Max. voltage variation	-15 % to +10 %								
	Max. frequency variation	+5 %								

* With single phase connection for JV-A2 type s

400 V class

Three phase: 3G3JV-A4		A4002	A4004	A4007	A4015	A4022	A4030	A4040		
Maximum allowed motor output	kW	0,37	0,55	1,1	1,5	2,2	3,0	4,0		
Output data	Inverter output	kVA	0,9	1,4	2,6	3,7	4,2	5,5	7,0	
	Output rated current	A	1,2	1,8	3,4	4,8	5,5	7,2	9,2	
	Max. output voltage	proportional to the input voltage: 0..460 V								
	Output frequencies	400 Hz								
Supply	Rated input voltage and frequency	3-phase, 380..460 V, 50/60 Hz								
	Max. voltage variation	-15 % to +10 %								
	Max. frequency variation	+/- 5 %								

* With single phase connection for JV-A2 type s

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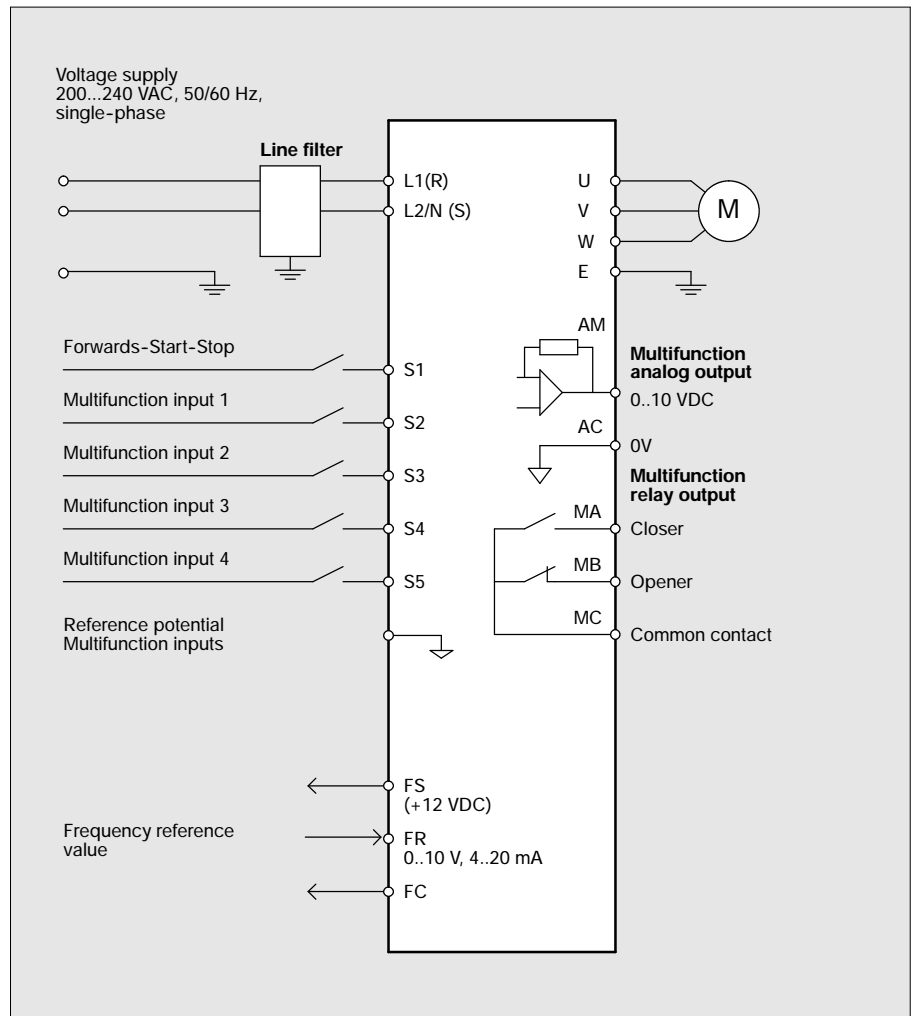
Technical data (continued)

General data

Control functions	Control method	Sinusoidal PWM, terminal Volts/Hertz control	
	Output frequency range	0,1..400 Hz	
	Frequency precision	digital reference value: $\pm 0,01\%$ ($-10..+50^{\circ}\text{C}$)	
		analogue reference value: $\pm 0,5\%$ ($25 \pm 10^{\circ}\text{C}$)	
	Resolution of frequency reference value	digital reference value: 0,01 Hz (<100 Hz), 0.1 Hz (>100 Hz)	
		analogue reference value 1/1000 of maximum frequency	
	Resolution of output frequency	0,01 Hz	
	Overload capacity	150%/60 s	
	Frequency reference value	0..10 V (20 kW), 4-20 mA (250 W), 0-20 mA (250 W)	
	Braking torque (short-time peaks)	up to 200 W	150%
550W, 1,1 kW		100%	
1,5 kW		50%	
>1,5 kW		20%	
Sustained braking torque approx. 20% without, 150% with external braking resistor			
Protective functions	Motor overload protection	electronically adjustable motor protection	
	Instantaneous overcurrent protection	stops at approx. 250% of rated output current	
	Overload protection	stops at 150% of rated current for 1 min.	
	Overvoltage protection	stops when maincircuit DC voltage is approx. 410 V	
	Undervoltage protection	stops when maincircuit DC voltage is approx. 160 V	
	Momentary power interruption compensation (selection)	stops for 15 ms or more by setting the inverter to momentary power interruption mode, operation can be continued if power is restored within approx. 0,5 sec.	
	Cooling fin overheating	detects at $110^{\circ}\text{C} \pm 10^{\circ}\text{C}$	
	Ventilator control	electronic protection against blocking	
	Grounding protection	protection at rated output current level	
Functions	Digital inputs	4 multifunction digital input	
	Digital outputs	1 multifunction digital output	
	Analog output	1 multifunction analog output (0..10 V)	
	Braking and acceleration times	0,0..999 s	
	Display	frequency, current or reference value by selection	
		error and status LED	
Ambient conditions	Type of protection	IP20, wall installation	
	Cooling	separate cooler for 0,75 kW (200 V)	
	Ambient temperature	open installation:	-10°C to 50°C
		wall installation:	-10°C to 40°C
	Air humidity	95% (without condensation)	
	Storage temperature	-20°C to $+60^{\circ}\text{C}$	
	Assembly	in cabinet, free of dust and corrosive gases	
Position height	max. 1000 m		
Ambient conditions	Vibration resistance	1 g at <20 Hz, 0,2 g at <50 Hz	

Connections diagram

L3 remains free with single-phase equipment



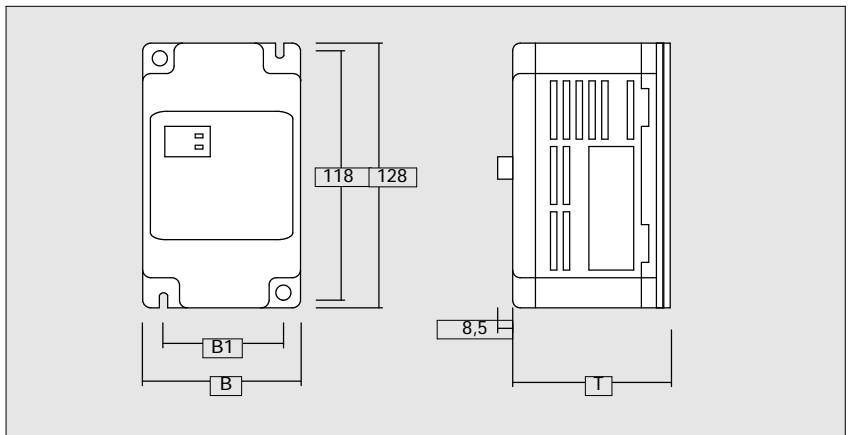
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Dimensions (mm)

3G3JV

			Product number	
B	B1	T	AB	A2
68	56	70	001	001
68	56	70	002	002
68	56	112	004	004
68	56	112	-	007
108	96	129	007	015
108	96	154	015	022
140	128	161	-	040



			Product number
B	B1	T	A4
108	96	81	002
108	96	99	004
108	96	129	007
108	96	154	015
108	96	154	022
140	128	161	030
140	128	161	040

Line filter 3G3JV-PFI_

B	B1	H	H1	T	Product number
71	51	169	156	45	1010E
111	91	169	156	50	1020E
82	62	194	181	50	2010E
111	91	169	156	50	2020E
144	120	174	161	50	2030E
111	91	169	156	50	3005E
111	91	169	156	50	3010E
144	120	174	161	50	3020E

