



Frequency inverter GD20-EU Series

For Power Rating from 0,4 - 110 kW
Protection class IP20



Compact - efficient - simple operation

The GD20-EU is a compact frequency inverter series in the power range from 0.4 kW to 110 kW in different sizes. The GD20-EU series has excellent sensorless vector control characteristics over the entire speed range.

The frequency inverter has a certified STO function (SIL2/SIL3) and is CE, UL + cUL (≤ 11 kW) and TÜV SÜD approved.

The GD20-EU is widely used in global machinery and equipment manufacturing, paper and plastics industries, and water/wastewater applications.

The GD20-EU series of frequency inverters fulfills the requirements of a wide variety of speed control and ensures energy-saving operation of pumps and fans.

In addition, the GD20-EU supports your application with a programmable sequence control.

The GD20-EU series combines versatile options in one device to operate different types of motors and to meet a wide range of requirements.



Power supply	Recommended motor rating (kW)																		
	0,4	0,75	1,5	2,2	4	5,5	7,5	11	15	18,5	22	30	37	45	55	75	90	110	
1ph-240V	█																		
3ph-240V	█																		
3ph-400V	█																		

Main features

- ✓ V/F and sensorless vector control
- ✓ Certified STO function (SIL2/SIL3)
- ✓ Integrated DC reactor from 18,5 to 110 kW
- ✓ Design for Heavy Duty 150%/60 sec.
- ✓ DC bus solution (400 V; ≥ 4 kW)
- ✓ Integrated C3 filter (≥ 4 kW), optional filter ($\leq 2,2$ kW)
- ✓ Optional control panel with parameter copy function
- ✓ Brake chopper integrated in all power ranges
- ✓ DIN rail mounting $\leq 2,2$ kW possible
- ✓ Modbus RTU & ASCII communication as standard
- ✓ Drive synchronous and asynchronous motors
- ✓ Speed control accuracy $\pm 0,2\%$ for vector control

Flexible installation options

The frequency inverters in the power range ≤ 2.2 kW are also suitable for space-saving "side-by-side" DIN rail mounting.



Units ≥ 4 kW can be mounted on the mounting plate or as a push-through variant.

Virtual digital inputs

Up to 9 digital virtual inputs controllable via communication extend the functional range of the frequency inverter.

Fast counter input (HDI)

The GD20-EU has an HDI input. This input can be used as a setpoint input with up to 50 kHz pulse frequency.

External LED control panel

The external LED control panel is optionally equipped with a copy function for parameters.



PC software

The PC software "INVT-Workshop" connects you via USB-RS485 adapter (Modbus®) with your GD20-EU. The transfer of parameter data between different INVT frequency inverter series is possible.



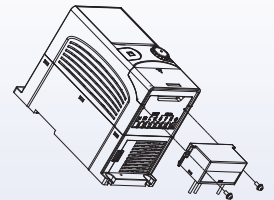
Fan

Plug-in design of the fans for easy maintenance.



EMC filter

In the power range ≥ 4 kW, C3 filters are installed as standard. For powers ≤ 2.2 kW, C3 filters can be fitted as an option. C1 filters for building automation or low leakage current filters are available as option.

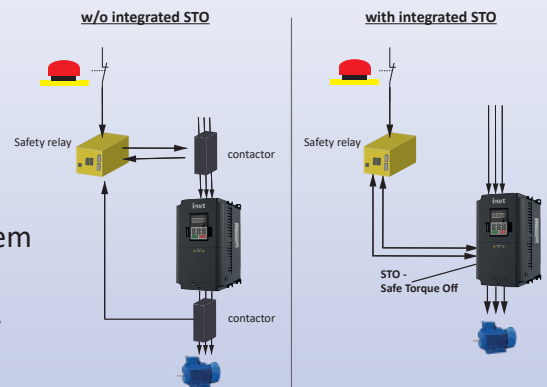


STO - Safe Torque Off

With the integrated STO function (Safe Torque Off), your drive meets the IEC 61800-1/ SIL2/SIL3 / IEC 62061 / ISO 13849-1 / PL "d" / PL "e" standards.

The motor is safely set to the torque-free state by switching off the power output stages. The reliability and safety of your system is thus guaranteed.

The STO of the GD20-EU enables a two-channel safe shutdown.



Numerous special functions

Start delay, delay time between reversal of direction of rotation, guided deceleration in case of power failure, Mains failure bypass, torque limits, torque control, drooping, sleep & wake up, freely programmable U/F characteristic, motor catch function, energy-consumption-break

Applications

Your individual requirements in different application areas or projects need a multifunctional frequency inverter series.

The GD20-EU series can be found in the entire machine and plant construction, as well as in diverse industries.



Technical Data GD20-EU (Protection class IP20) 230V / 400V class																														
Model	GD20-EU-	0R4G-S2-EU	0R7G-S2-EU	1R5G-S2-EU	2R2G-S2-EU	0R4G-2-EU	0R7G-2-EU	1R5G-2-EU	2R2G-2-EU	004G-2-EU	5R5G-2-EU	7R5G-2-EU	0R7G-4-EU	1R5G-4-EU	2R2G-4-EU	004G-4-EU	5R5G-4-EU	7R5G-4-EU	011G-4-EU	015G-4-EU	018G-4-EU	022G-4-EU	030G-4-EU	037G-4-EU	045G-4-B-EU	055G-4-B-EU	075G-4-B-EU	090G-4-B-EU	110G-4-B-EU	
Power rating (kW)		0,4	0,75	1,5	2,2	0,4	0,75	1,5	2,2	4	5,5	7,5	0,75	1,5	2,2	4	5,5	7,5	11	15	18,5	22	30	37	45	55	75	90	110	
Output current (A)		2,5	4,2	7,5	10	2,5	4,2	7,5	10	16	20	30	2,5	4,2	5,5	9,5	14	18,5	25	32	38	45	60	75	92	115	150	180	215	
Main voltage, frequency		AC 1-ph. 220 V ... 240 V (-15% ... +10%), 50 Hz/60 Hz (± 5%)					AC 3-ph. 220 V ... 240 V (-15% ... +10%), 50 Hz/60 Hz (± 5%)					AC 3-ph. 380 V ... 440 V (-15% ... +10%), 50 Hz/60 Hz (± 5%)																		
Output voltage		3-ph. 0 V ... 480 V (max. input voltage)																												
Overload capacity		150% for 60s, 180% for 10s, 200% for 1s																												
Output frequency		0 ... 400 Hz																												
Control inputs		Analog: 2 inputs (AI2: 0 ... 10 V / 0(4) ... 20 mA; AI3: -10 ... 10 V) Digital: 5 programmable inputs, thereof 1 High-Speed-input (50 kHz)																												
Control outputs		Analog: up to 2,2 kW 1 output 0 ... 10 V / 0(4) ... 20 mA). From 4 kW 2 outputs 0 ... 10 V / 0(4) ... 20 mA) Digital: 1 potential free digital output Relais: 2 free programmable change-over contacts ≥ 4 kW, 1 free programmable change-over contact at units ≤ 2,2 kW																												
Interfaces		RS485 on terminals (Modbus RTU & ASCII)																												
Braking unit		integrated																												
EMC filter		Integrated filter ≥ 4 kW; optional filter ≤ 2,2 kW (meets the requirements of IEC61800-3 C2, IEC61800-3 C3)																												
DC reactor																integrated														
Safety functions		2-channel STO, SIL2, PL "d"					2-channel STO, SIL3, PL "e"					2-channel STO, SIL2, PL "d"					2-channel STO, SIL3, PL "e"													
Protection class		IP20																												
Ambient conditions		-10 °C ... +50 °C; power reduction required if ambient temperature exceeds +40 °C, air cooling																												
Conformance		CE, TÜV SÜD, UL- & cUL-certification for models 1-ph./3-ph. 220 V ≤ 2,2 kW and 3-ph. 380 V ≤ 11 kW																												

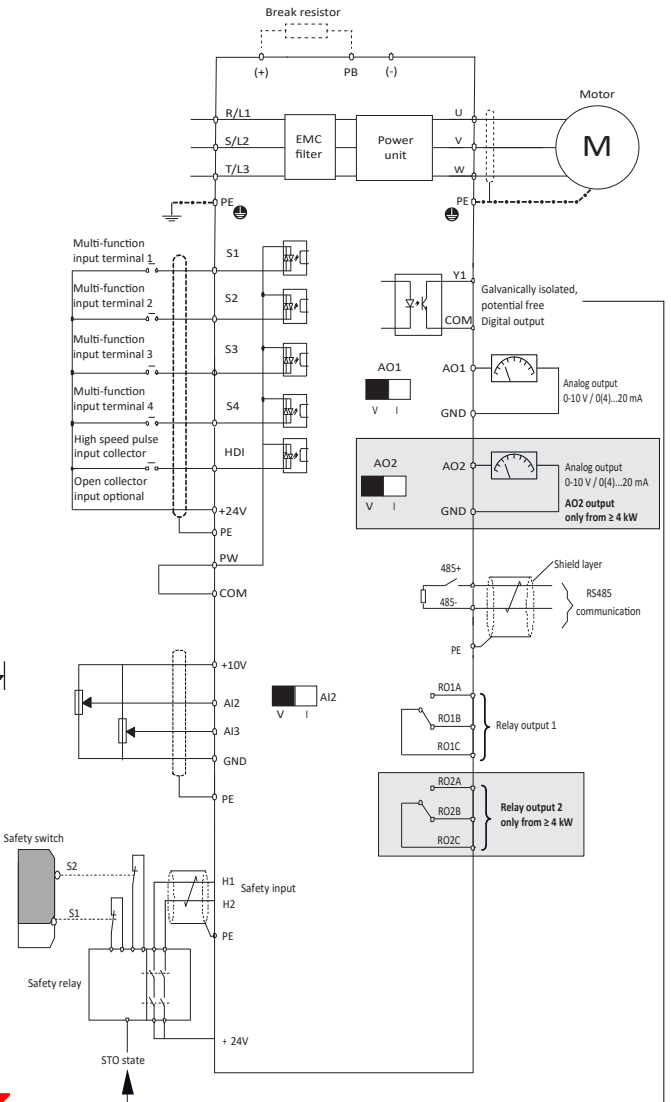
Dimension and Weight

Model	GD20-	Power rating (kW)	Dimension (mm) *			Weight (kg)
AC 1-ph. 220 V ... 240 V (-15% ... +10%)						
0R4G-S2-EU		0,4	80	160	123,5	0,9
0R7G-S2-EU		0,75	80	160	123,5	0,9
1R5G-S2-EU		1,5	80	185	140,5	1,2
2R2G-S2-EU		2,2	80	185	140,5	1,2
AC 3-ph. 220 V ... 240 V (-15% ... +10%)						
0R4G-2-EU		0,4	80	185	140,5	1
0R7G-2-EU		0,75	80	185	140,5	1
1R5G-2-EU		1,5	146	256	167	3,1
2R2G-2-EU		2,2	146	256	167	3,1
004G-2-EU		4	146	256	167	3,1
5R5G-2-EU		5,5	170	320	196,3	5,6
7R5G-2-EU		7,5	170	320	196,3	5,6
AC 3-ph. 380 V ... 440 V (-15% ... +10%)						
0R7G-4-EU		0,75	80	185	140,5	1
1R5G-4-EU		1,5	80	185	140,5	1
2R2G-4-EU		2,2	80	185	140,5	1
004G-4-EU		4	146	256	167	3,1
5R5G-4-EU		5,5	146	256	167	3,1
7R5G-4-EU		7,5	170	320	196,3	5,6
011G-4-EU		11	170	320	196,3	5,6
015G-4-EU		15	170	320	196,3	5,6
018G-4-EU		18,5	200	340,6	184,3	9
022G-4-EU		22	200	340,6	184,3	9
030G-4-EU		30	250	400	202	15,5
037G-4-EU		37	250	400	202	15,5
045G-4-B-EU		45	282	560	238	25
055G-4-B-EU		55	282	560	238	25
075G-4-B-EU		75	282	560	238	25
090G-4-B-EU		90	338	554	329,2	45
110G-4-B-EU		110	338	554	329,2	45

* Dimensions when installed on the mounting plate.
The optional C3-EMV filters of the units up to 2.2 kW increase the height by 28 mm.



Wiring diagram example (depending on model)



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