MOELLER

Type: **DF51–322–1K5**
Article No.: **289107**
Sales text **"""Frequency inverter DF51(1,5 kW; 230V)**

Ordering information			
Rated voltage	U_e	V	1 AC 180...264 V ± 0 % 3 AC 180...264 V ± 0 %
Max. rated operational current	I_e	A	7.1
Rated power for motors			
at 230 V 3–phase AC	P	kW	1.5
Rating range			0.25 – 2.2 kW at 230 V
Description			Single and three–phase connection

Notes concerning the table header

All rating data of the power section is based on a switching frequency of 5 kHz (default setting) and an ambient temperature of +40 °C, for operation of a four–pole three–phase asynchronous motor.

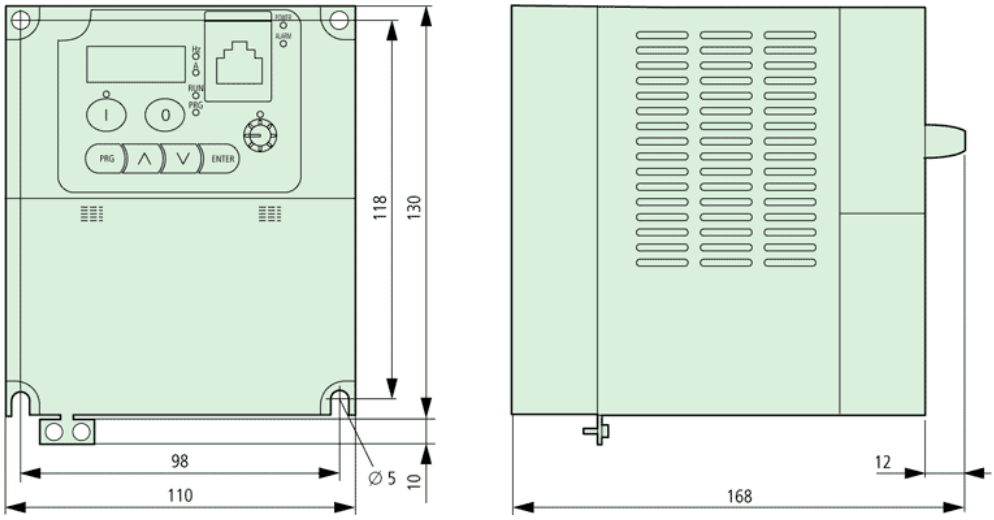
General			
Standards			EN 50178, IEC 61800–3
Ambient temperature			
Operating temperature		°C	–10 to +40 with rated current I_e at a clock frequency of 5 kHz; up to +50 °C at a reduced clock frequency of 2 kHz and reduced output current of 80 % I_e

Max. duty factor (c.d.f.) with lowest impedance R_B		°C	–25...+70
Shock resistance			Vibration and impact, max. 5.9 m/s^2 (0.6 g) at 10 to 55 Hz
Pollution degree			VDE 0110 Part 2, pollution degree 2
Climatic proofing			Class 3K3 according to EN 50178 (non–condensing, average relative humidity 20 to 90 %)
Altitude		m	0 to 1000 a.s.l.
Mounting position			Vertically suspended
Free surrounding areas			100 mm above and below device
Emitted interference			IEC/EN 61800–3 (EN 55011 group 1 class B)
Interference immunity			IEC/EN 61800–3, industrial environment
Insulation resistance			Overvoltage category III according to VDE 0110
Discharge current to PE		mA	< 3.5 (to EN 50178)
Protection type			IP 20
Protection against direct contact			Finger and back–of–hand proof
Protective isolation against switching circuitry			Safe isolation from the mains. Double basic isolation (to EN 50178)
Protective measures			Overcurrent, earth fault, overvoltage, undervoltage, overload, overtemperature, electronic overload protection: I^2t monitoring and PTC input (thermistor or thermostat)
Heat dissipation with rated operational current I_e		W	55
Dimensions (W × H × D)		mm	110 × 130 × 127
Weight		kg	1,9
Power section			
Rated operating voltage	U_e	V AC	230
Rated voltage	U_e	V	1 AC 180...264 V ± 0 % 3 AC 180...264 V ± 0 %
Supply frequency		Hz	50/60 (47...63 ± 0 %)
Mains current			
U_i = 1–phase 230 V AC	I	A	17,5

U_i = 3–phase 230 V AC	I	A	9,3
Alternative DC supply	U_{DC}	V DC	260...370 ± 0 %
Modulation method			sinusoidal pulse–width modulation (PWM), *U*/*f* characteristic control
Switching frequency			5 kHz, can be selected between 2 and 14 kHz
Output voltage		V	3 AC U_e
Output frequency		Hz	0 to 50, max. 400
Frequency resolution		Hz	0.1, with digital setpoint values/maximum frequency/1000 with analog setpoint values
Frequency resolution		kHz	0.1 with digital setpoint values, maximum frequency/1000 with analog setpoint values
Frequency error limit at 20 C ± 10 K			± 0.01 % of maximum frequency for digital reference values, ± 0.2 % of maximum frequency for analog reference values
Max. rated operational current	I_e	A	7,1
Permissible overcurrent			150 % for 60 s, every 600 s
Torque during start			From 6 Hz 100 % or higher with torque boost activated
Apparent power at 240 V		kVA	2,9
Standard operation at 150 % overload Assigned motor rating (4–pole ASM)			
230 V		kW	1,5
240 V		HP	2
Control circuit			
Relay			1 changeover contact, 230 V AC, 0.2 A inductive load, 2.5 A resistive load; or 24 V DC, 0.7 A inductive load, 3 A resistive load
Serial interface			RS485
Control voltage			
Output setpoint voltage		V	+10 DC, 10 mA
Output control voltage		V	+24 DC, 30 mA
Parameterization			1 parameter set (online/offline parameterization), parameter protection (programmable)
Inputs			

digital (parameters can be defined)			5 × +24 V DC, configurable
Analog		Number	2 × 0 to +10 V DC (input impedance 10 k&, 4 to 20 mA (load impedance 250 &), resolution 10 bit
Outputs			
Digital			2 × 24 V DC transistor (open−collector, configurable)
analog (parameters can be defined)			1 × 0 to +10 V DC, 1 mA (configurable), resolution 10 bit
Terminal capacities			
Cable lengths			
		mm^2	4
		AWG	12
Relay connection			
		mm^2	1,5
		AWG	6
Control circuit			
		mm^2	1.5
		AWG	6
Notes			

Dimensions



Notes

If the frequency inverter is to be installed in an enclosure, control panel or similar housing, the ambient temperature T_a is taken to be the temperature inside this enclosure or control panel.

All rating data of the power section is based on a switching frequency of 5 kHz (default setting) and an ambient temperature of +40 °C, for operation of a four−pole three−phase asynchronous motor.

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