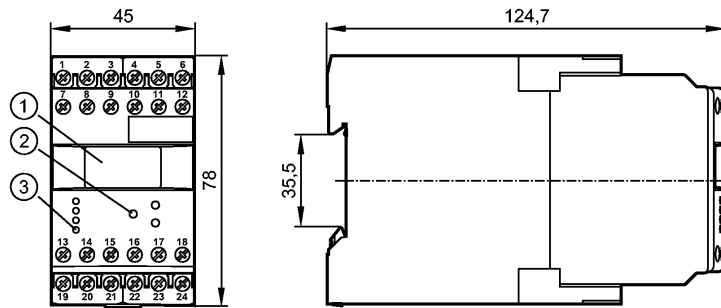


DD2503

MONITOR/FR-1 /110-240VAC/DC

Evaluation systems, power supplies



- 1: OLED display
- 2: Programming buttons
- 3: LEDs

Made in Germany



Product characteristics

MONITOR
FR-1
Housing for DIN rail mounting
2 relay outputs
2 transistor outputs
Analogue output
0/4...20 mA
programmable
Test function without external frequency
Key function

Application

Application	single pulse evaluation system with μ processor for frequency; rotational speed; speed and machine cycles
Switching function	2 switch points for monitoring overspeed/underspeed and acceptable range

Electrical data

Nominal voltage	[V]	110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)
Voltage tolerance	[%]	-20...+10
Power consumption	[VA]	5 (3 W)

Inputs

Inputs	<p>pnp/npn; NAMUR (24 V) auxiliary supply: typ. 24 V DC / 15 mA; short-circuit protected threshold pnp: > 12 V on; < 5 V off threshold npn: > 15 V off; < 8 V on input frequency (max): 5 kHz (corresponds to min. pulse length / space 0.1 ms)</p>
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Outputs

Relay	
Contact rating	6 A (250 V AC); B300, R300
Transistor	
Transistor outputs	pnp; external supply switching voltage/current: 24 V DC / max. 15 mA; short-circuit protected
analogue	
Analogue output	0/4...20 mA
Max. load	[Ω] 500
	limitation: 20.5 mA; accuracy: 1 % (of the final value)



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Measuring / setting range	
Setting range [pulses/min.]	1...60000 (0.1...1000 Hz)
Accuracy / deviations	
Measuring error [% of the final value]	< 1
Environment	
Ambient temperature [°C]	-40...60
Storage temperature [°C]	-40...85
Max. relative air humidity [%]	80 (31°C), linearly decreasing to 50 % (40 °C)
Protection housing / terminals	IP 50 / IP 20
Tests / approvals	
EMC	EN 61010 2011 EMC 89/336/EEC EN 61000-6-2 2005 EN 61000-6-4 2007
Mechanical data	
Housing materials	plastics
Weight [kg]	0.375
Displays / operating elements	
Input pulses LED	yellow
Output status indication LED	green (lights when the relay is energised / the transistor is closed)
Display	OLED display 128 x 64 dots luminous
Electrical connection	
Connection	dual-chamber terminals 2 x 2.5 mm ² (2 x AWG 14)
Wiring	
1: DC Supply voltage (L-) 2: DC Supply voltage (L+) 3: supply transistor outputs (L+) 4: sensor signal pnp 5: DC Sensor supply (L+) 6: DC Sensor supply (L-) 7: AC Supply voltage (L) 8: AC Supply voltage (N) 9: n.c. 10: sensor signal npn 11: n.c. 12: n.c. 13: Relay 1 (common) 14: Relay 1 (normally open) 15: Relay 1 (normally closed) 16: transistor output 1 pnp 17: Reset 1 pnp 18: Reset 2 pnp 19: Relay 2 (common) 20: Relay 2 (normally open) 21: Relay 2 (normally closed) 22: analogue output (+) 23: analogue output (-) 24: transistor output 2 pnp	
Remarks	
Remarks	overvoltage category II; degree of soiling 2
Pack quantity [piece]	1