



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

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)

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)

Measuring / setting range

Setting range [pulses/min.]

1...60000 (0.1...1000 Hz)

Accuracy / deviations

Measuring error [% of the final value]

< 1

DD2503 - MONITOR - eclass: 27279213 / 27-27-92-13

Environment	
Ambient temperature [°C]	-40...60
Storage temperature [°C]	-40...85
Max. relative air humidity [%]	80 (31°C), linear abnehmend bis 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
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