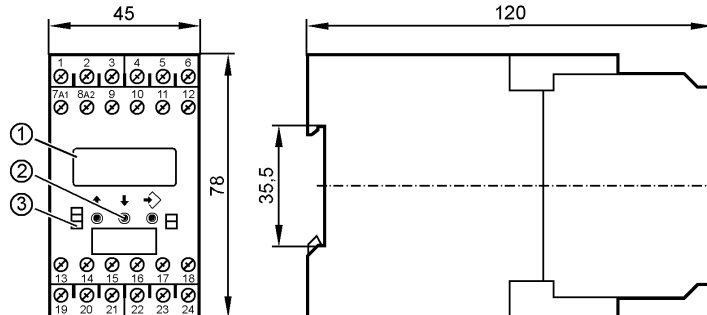


DD2003

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

Evaluation systems, power supplies

replaced by: **DD2503**
Article available until 31 March 2014



- 1: LCD display; 7/14-segment
- 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)
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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



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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)
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Accuracy / deviations

Measuring error [% of the final value]	< 1
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Environment

Ambient temperature [°C]	-20...60
Storage temperature [°C]	-25...80
Max. relative air humidity [%]	75 (35°C)
Protection housing / terminals	IP 50 / IP 20

Tests / approvals

EMC	EN 61010	: 2001
	EMC 89/336/EEC	
	EN 61000-6-3	: 2007
	EN 61000-6-2	: 2005

Mechanical data

Housing materials	plastics
Weight [kg]	0.364

Displays / operating elements

Input pulses LED	yellow
Output status indication LED	green (lights when the relay is energised / the transistor is closed)
Function display LED	LCD display; 7/14-segment

Electrical connection

Connection	dual-chamber terminals 2 x 2.5 mm ² (2 x AWG 14)
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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 (L1)
- 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

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Remarks	overvoltage category II; degree of soiling 2
Pack quantity [piece]	1

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