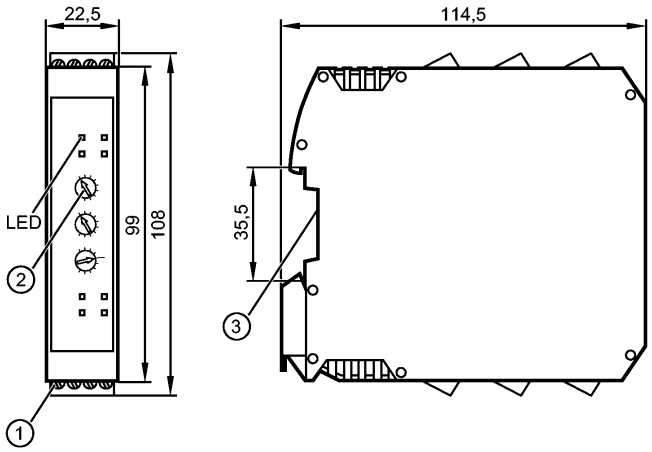
ecomat200

DD110S

Safety speed monitor

Evaluation systems



1: screw terminals
2: Rotary switch
3: Mounting on DIN rail

Product characteristics		
Safety speed monitor		
Evaluation system for safe speed monitoring		
for 2 pnp switching sensors		
Diagnostic and fault output		
Adjustable frequency range 0.5...990 Hz / speed range 1...49500 rpm		
Complies with the requirements: EN ISO 13849-1: category 4 PL e IEC 61508: SIL 3		
Application		
Application		Monitoring of rotational or linear movements for adherence to a maximum setpoint (overspeed)
Electrical data		
Electrical design		Relay
Operating voltage	[V]	19.2...28.8 DC; incl. 5 % residual ripple
Nominal voltage	[V]	24 DC
Current consumption	[mA]	≤ 125
Protection class		II
Power-on delay time	[ms]	≤ 3000
Sensor supply		24 V DC / ≤ 70 mA
Inputs		
Input characteristics		Pulse inputs S34, S43: "1": 6 mA / 24 V DC
Adjustable speed range [rpm]		1...49500
Adjustable frequency range [Hz]		0.5...990
Input frequency [Hz]		≤ 2000
Outputs		
Output function		2 safety-related switching outputs (floating contacts) 1 fault output "Fault" (positive switching) 1 diagnostic output "Overspeed" (positive switching)
Output data		Fault output "Fault" Y7 and diagnostic output "Overspeed" Y8 ≤ 20 mA, 24 V DC, voltage drop ≤ 2 V DC, short-circuit proof, non safe

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Contact rating		6 A, 250 V AC / 24 V DC (≥ 6 mA); ohmic resistance
Short-circuit protection		The contacts are to be protected by means of fuses with a nominal current of < 3.6 A.
Switching function		Switching outputs 13-14 and 23-24 open if input frequency/speed above switch point Transistor output "Fault" Y7 open (LOW) in case of device fault or external fault Transistor output "Overspeed" Y8 open (LOW) when the switching outputs 13-14 and 23-24 are opened.
Accuracy / deviations		
Hysteresis	[%]	5
Reaction times		
Risk time (response time for safety-related faults)	[ms]	5.5
Response time [ms]		[fsel ≥ 30 Hz]: t = 8.5 + 400 x (fsel ÷ fin) [fsel < 30 Hz]: t = 8.5 + (4500 ÷ fin)
Environment		
Ambient temperature	[°C]	-40...55, observe the free space for convection (see operating instructions)
Storage temperature [°C]		-40...75
Height above sea level	[m]	≤ 2000
Relative humidity [%]		
Protection		IP 20
Safety classification		
Mission time TM	[h]	≤ 175200, (20 years)
Safety-related reliability PFHd	[1/h]	7.69E-09
MTTFd	[Years]	528.73
DC/CCF/Cat.		99.0 %
Mechanical data		
Housing materials		PA (polyamide)
Installation		rail TH35 (to EN 60715)
Weight	[kg]	0.3
Displays / operating elements		
Display		Voltage green Release yellow Configuration blue Fault Red Switching status 2x green Input pulses 2x yellow
Electrical connection		
Connection		screw terminals; 0.5...2.5 mm² (AWG 30...12)
Remarks		
Remarks		Safety classification considering 1000 relay operations/year; DC13 (2 A), 24 V DC fsel = selected frequency (by potentiometer) fin = selected frequency (from sensors) RoHS compliant
Pack quantity	[piece]	1