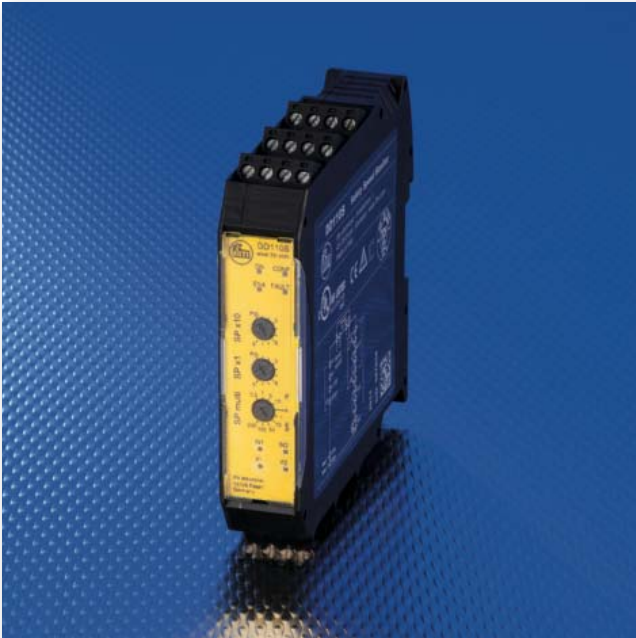


Safe monitoring of speeds



Safe speed monitor uses standard sensors as pick-ups

- Easy parameter setting via rotary switch
- No restrictions for the design of the cam disc
- Monitoring functions can be enabled / disabled
- Reliable operation at extreme ambient temperatures down to -40 °C
- Housing width only 25 mm



Applications

The DD110S speed monitor has been designed for the safety-related maximum-speed monitoring that is used in wind turbines, carousels or centrifuges.

The DD110S is also suited for safety-related monitoring of the operating mode "reduced speed" on machine tools.

Special features

The speed monitor is certified to EN 62061 / SIL 3 and EN ISO 13849-1 cat. 4 / PL e – even though non-safety-related sensors are used as pulse pick-ups.

When the safety output has been triggered, it can be reset again manually or automatically.



Easy setting of the limit speed

The speed is determined via the interval measurement on the inputs where for example two inductive sensors are used as pulse pick-ups.

The user can set the limit speed easily and effectively via three rotary switches (x 1, x 10, multiplier) – either in rpm or Hz. It was decided not to use any complicated setting menus.

An easy and intuitive setting algorithm prevents unintentional change or manipulation of the set values.

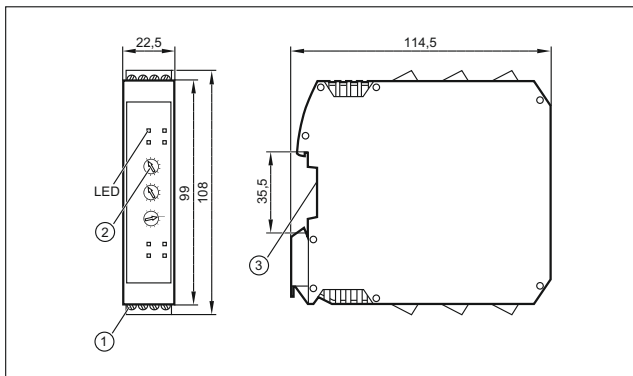
More functions

Automatic or manual reset of overspeed is possible. This function is set via wire links.

The monitoring function can be enabled and disabled via a switching input.

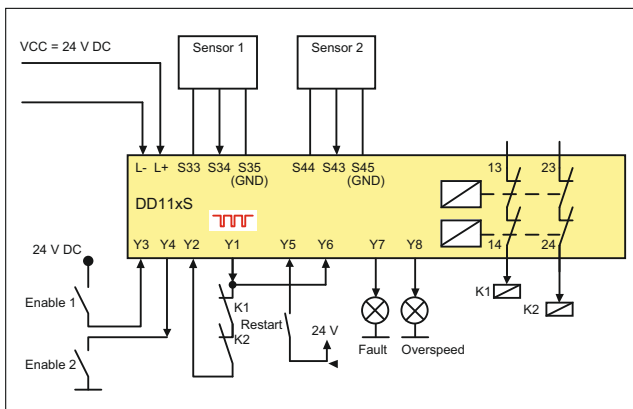
Besides the 2-pole safety relay, transistor outputs can also be used as output for the status and error indication.

Dimensions



- 1) Screw terminals
- 2) Rotary switch
- 3) DIN rail mounting

Wiring diagram



Technical data

Safety speed monitor DD110S Evaluation system for safe speed monitoring		
Operating voltage	[V DC]	19.2...28.8; incl. 5 % residual ripple
Nominal voltage	[V DC]	24
Current consumption	[mA]	≤ 125
Sensor supply		24 V DC / ≤ 70 mA
Protection		IP 20 / II
Input characteristics		Pulse inputs S34, S43: "1": 6 mA / 24 V DC
Adjustable speed range	[rpm]	10...49500
Adjustable frequency range	[Hz]	0.1...990
Input frequency	[Hz]	≤ 5000
Output function		2 safety-related switching outputs (floating contacts) 1 fault output "Fault" (positive switching) 1 diagnostic output "Overspeed" (positive switching)
Output characteristics		Fault output "Fault" Y7 and diagnostic output "Overspeed" Y8 ≤ 20 mA, 24 V DC, voltage drop ≤ 2 V DC, short-circuit proof, non safe
Contact rating		6 A, 250 V AC / 24 V DC (≥ 6 mA); resistive load
Ambient temperature	[°C]	-40...55
Storage temperature	[°C]	-40...75
Max. permissible relative humidity	[%]	95, non condensing
Housing materials		PA (polyamide)
Mounting		Rail TH35 (according to EN 60715)
Connection		Screw terminals; 0.5...2.5 mm ² (AWG 12...30)