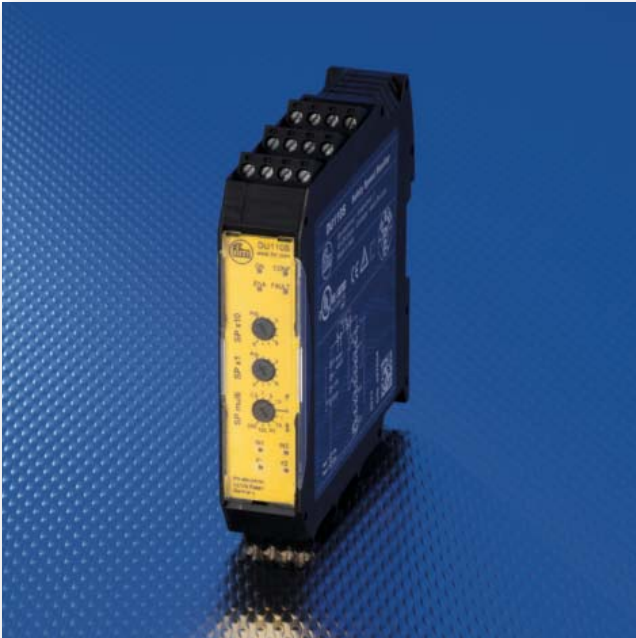
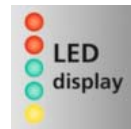


# Safe monitoring of underspeed



## 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 speed monitor DU110S has been developed for safety-related minimum-speed monitoring required, for example, for slip or V-belt monitoring.

An application example is the industrial thermo-processing equipment according to EN 746-2. In this case, safety-related monitoring of the air exchange is required. To do so, monitoring is done via the rotational speed monitoring of the fans.

### 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.

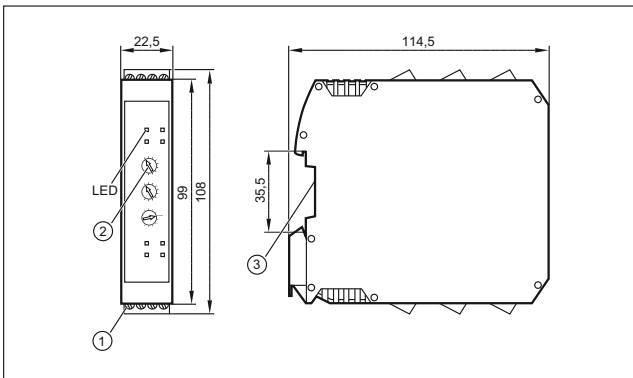
### More functions

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

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

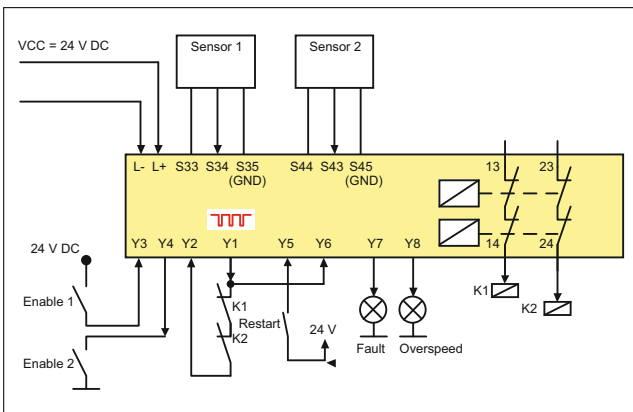
Besides the 2-pole safety relay, transistor outputs can also be used as output for the status and error indication.

### Dimensions



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



### Wiring diagram



### Technical data

Safety speed monitor DU1105 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 <sup>2</sup> (AWG 12...30)

### Accessories

Type	Description	Order no.
<b>Power supplies</b>		
	Plastic housing, 24 V DC, 2.5 A	DN1031
	Metal housing, 24 V DC, 3.3 A	DN4011