

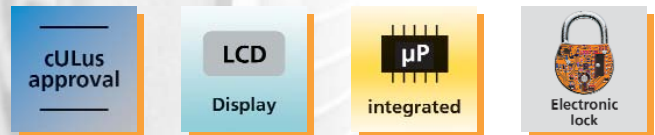


Evaluation systems with cULus certification.



For worldwide use.

- ▲ Speed monitor.
- ▲ Compact speed monitor M18.
- ▲ Slip/synchronous monitor.
- ▲ Direction monitor.
- ▲ Frequency-to-current converter, analogue threshold relay.



Pulse evaluation systems with cULus...

support the worldwide use of evaluation systems that have been tried and tested for many years. They are suitable for simple speed monitoring for underspeed or blockage on elevators, conveyors and ventilation systems, as overspeed monitors in wind power systems or load monitoring on hoists.

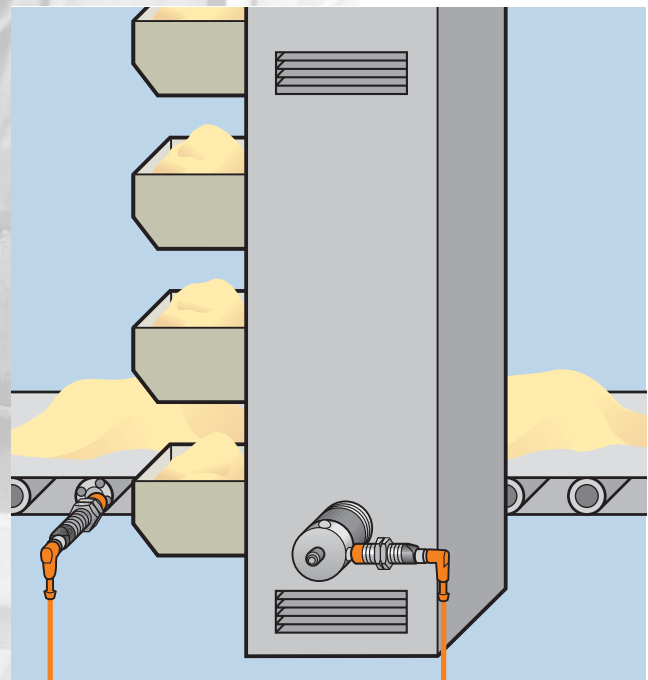
Slip and synchronous monitors protect hoists from misalignment, conveyor belts and slipping clutches from wear and destruction.

Direction monitors signal wrong directions of rotation, e.g. of twin pumps.

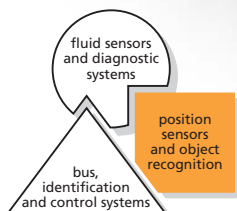
Frequency-to-current converters convert pulse sequences into analogue signals, 0/4...20 mA or 0...10 V.

The configurable M18 compact speed monitors are suitable for a wide range of applications and provide ease of monitoring.

A wide-range power supply of 90...260 V AC in combination with the cULus approval supports the worldwide use of the evaluation systems.



Use for rotational speed monitoring on conveyor belts and elevators.





Applications:

Conveyor technology in all industries

Machine construction, machine tools, mills and animal feed plants

Units with integrated sensor

- **Compact speed monitor M18**

with additional pulse output

10...36 V DC

M12 connector

12 mm sensing range

You can adjust:

switch point

start-up delay

output function

Units for DIN rail mounting

- **Speed monitor FR-1**

Monitoring range up to 60,000 pulses/min.

2 switch points with one switching output each

1 analogue output 0/4...20 mA

- **Slip / synchronous monitor FS-1**

Measurement and comparison of two rotational speeds

switch point in %

slip with additional speed monitor

- **Slip monitor FS-2, synchronous monitor FS-3**
Counting and comparison of two pulse sequences

2 switch points with one switching output each

input-dependent slip signals

- **Direction monitor FD-1, FD-2**

Detection of direction using 2 sensors

with additional speed monitor (FD-1)

2 separate direction signals (FD-2)

- **Frequency-to-current converter FA-1**
Conversion of pulse sequences in mA or V

1 scaleable analogue output

with additional speed monitor

- **Analogue threshold relay AL-3**

Evaluation of analogue standard signals mA

2 analogue inputs

1 scaleable analogue output

Common technical data

110...240 V AC/DC

Pulse inputs pnp / npn, Namur

switching outputs relay

switching outputs transistor

Products

With integrated sensor	Order no.
Compact speed monitor M18	DI6001
For DIN rail mounting	
Speed monitor FR-1	DD2003
Slip / synchronous monitor FS-1	DS2003
Slip monitor FS-2	DS2005
Synchronous monitor FS-3	DS2006
Direction monitor FD-1	DR2003
Direction monitor FD-2	DR2005
Frequency-to-current converter FA-1	DW2003
Threshold relay AL-3	DL2003

Operation

The parameters of the compact speed monitor can be set via an integrated pushbutton. To do so, the rotational speed to be monitored is measured and the switch point is automatically calculated.





The units for DIN rail mounting can be set via three pushbuttons.

A 7-segment LCD display indicates the current values, parameters and parameter values. This enables the user to adapt the units quickly and easily to different requirements.

Accessories

Description	Order no.
Securing clip for dust (Ex) group II, category 3D	E11532
Target wheel 1 - 8 cams	E89010
Cams for shaft mounting	E89013

Connectors and splitter boxes

Type	Description	Order no.
	Socket, M12, 2 m black, PUR cable	EVC001
	Socket, M12, 5 m black, PUR cable	EVC002
	Socket, M12, 2 m black, PUR cable	EVC004
	Socket, M12, 5 m black, PUR cable	EVC005