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Find the *Pilz PDZK* at our website: ***Click HERE***

Speed/standstill
PDZK

Device not shown

Speed and standstill monitor in accordance with VDE 0113-1, EN 60204-1 and EN 1088

Features

- Combined standstill and speed monitor
- Separate relay outputs for standstill and speed monitoring
- Suitable for frequency converter operation
- Programmable response speed
- Programmable speed reduction
- Detection via pulse generator

Approvals

	PDZK	
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Technical details	PDZK
Electrical data	
Supply voltage	24 V DC
Tolerance	85 ... 110 %
Residual ripple DC	20 %
Power consumption	max. 10 W
Utilisation category in accordance with EN 60947-4-1	AC1: 240 V/5 A/1200 VA DC1: 24 V/5 A/120 W
Output contacts	
for speed monitoring	3 safety contacts (N/O) + 1 auxiliary contact (N/C)
for standstill monitoring	1 safety contact (N/O) + 1 auxiliary contact (N/C)
Contact fuse protection to EN 60947-5-1	6 A quick or slow 4 A slow
Response values	See tables
Temperature dependency of switching point	0.02 % per °C
Repetition accuracy	±0.1 %
Mechanical data	
Connector	42-pin, Harting HAN 42 DD
Housing material	Aluminium
Protection type	IP65 (when inserted)
Dimensions (H x W x D)	230 x 115 x 115 mm
Weight	1600 g

The standard versions current on 05/03 shall apply.

Description

- Aluminium housing, secured by screws
- Positive-guided relay outputs:
  - 3 safety contacts (N/O) and 1 auxiliary contact (N/C) for speed monitoring
  - 1 safety contact (N/O) and 1 auxiliary contact (N/C) for standstill monitoring
- 2-channel speed and standstill monitoring
- R-input for variable set-up speed
- Pulse generator connected via a 15-pin D-Sub connector
- 3 semiconductor outputs for status display

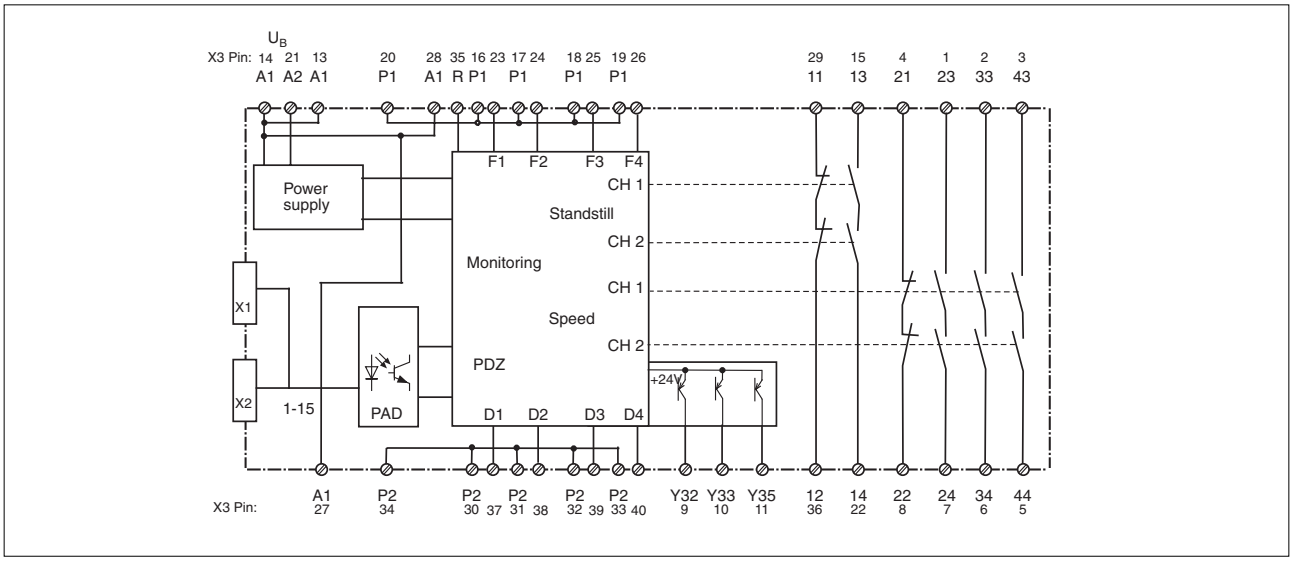
Function description

The PDZK enables speed and standstill to be monitored safely. Standstill detection and speed monitoring operate independently. Movement is detected by means of pulse generators. The response value is defined via programming inputs. The speed is determined from the frequency. The frequency depends on the number of pulses per rotation.

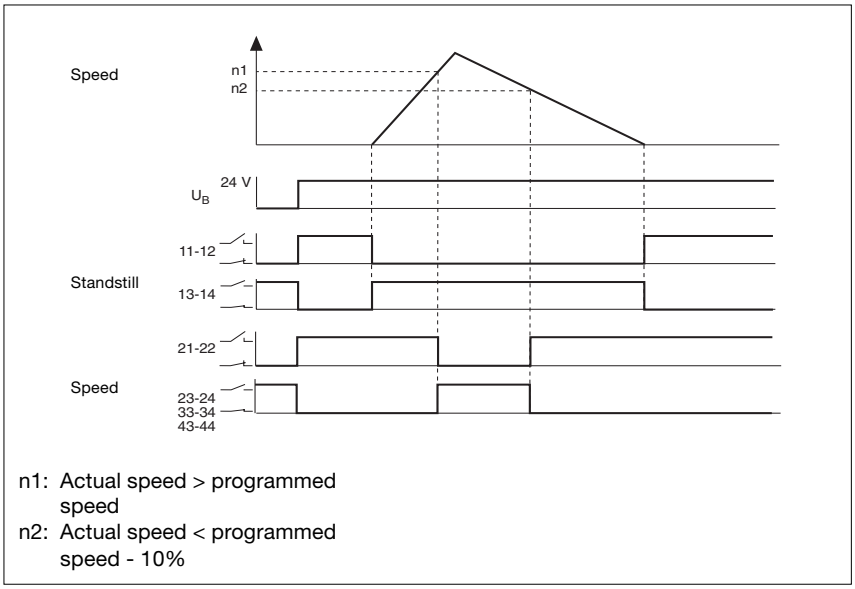
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Speed/standstill
PDZK

Internal wiring diagram



Timing diagram

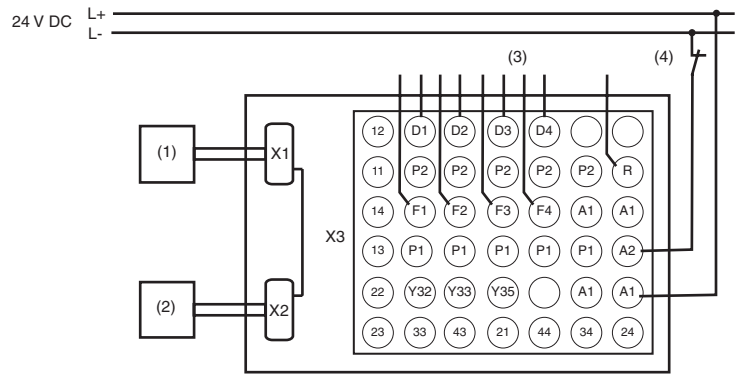


n1: Actual speed > programmed speed
n2: Actual speed < programmed speed - 10%

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Speed/standstill
PDZK

Connection example



(1) Rotary encoder
(2) Controller
(3) Programming inputs for frequency (max. speed)
(4) Contact to reset after error

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Speed/standstill
PDZK

Programming the response values for automatic and set-up mode

Programming inputs				Automatic mode (max. speed) F1 ... F4 = 24 VDC	Set-up mode F1 ... F4 = 0 V	
				Frequency in Hz	Frequency in Hz	Frequency in Hz
D1	D2	D3	D4	R = 24 VDC	R = 0 V	
0 V	0 V	0 V	0 V	100	2	5
24 V	0 V	0 V	0 V	112	2.2	5
0 V	24 V	0 V	0 V	140	2.4	5
24 V	24 V	0 V	0 V	180	2.8	5
0 V	0 V	24 V	0 V	200	3.0	5
24 V	0 V	24 V	0 V	224	3.2	5
0 V	24 V	24 V	0 V	275	3.6	5
24 V	24 V	24 V	0 V	315	4.2	5
0 V	0 V	0 V	24 V	355	4.7	5
24 V	0 V	0 V	24 V	400	5.3	5
0 V	24 V	0 V	24 V	450	6.0	5
24 V	24 V	0 V	24 V	500	6.6	5
0 V	0 V	24 V	24 V	550	7.3	5
24 V	0 V	24 V	24 V	630	8.4	5
0 V	24 V	24 V	24 V	700	9.3	5
24 V	24 V	24 V	24 V	800	10	5

Programming inputs				Reduction of max. speed in accordance with D1 ... D4	Set-up mode F1 ... F4 = 0 V	
				%	Frequency in Hz	Frequency in Hz
F1	F2	F3	F4		R = 24 V DC, D1 ... D4 = 0 V	R = 0 V
0 V	0 V	0 V	0 V		*	5
24 V	0 V	0 V	0 V	25	1.2*	5
0 V	24 V	0 V	0 V	30	1.3*	5
24 V	24 V	0 V	0 V	35	1.3*	5
0 V	0 V	24 V	0 V	40	1.4*	5
24 V	0 V	24 V	0 V	45	1.4*	5
0 V	24 V	24 V	0 V	50	1.5*	5
24 V	24 V	24 V	0 V	55	1.5*	5
0 V	0 V	0 V	24 V	60	1.6*	5
24 V	0 V	0 V	24 V	65	1.6*	5
0 V	24 V	0 V	24 V	70	1.7*	5
24 V	24 V	0 V	24 V	75	1.7*	5
0 V	0 V	24 V	24 V	80	1.8*	5
24 V	0 V	24 V	24 V	85	1.8*	5
0 V	24 V	24 V	24 V	90	1.9*	5
24 V	24 V	24 V	24 V	100	2*	5

* Final status of F-inputs is stored.

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Speed/standstill
PDZK

General details

Unless stated otherwise in the technical details for the specific unit.

Electrical data	
Frequency range AC	50 ... 60 Hz
Residual ripple DC	160 %
Contact material	$AgSnO_2$
Continuous duty	100 %
Environmental data	
EMC	EN 60947-5-1
Vibration in accordance with EN 60068-2-6	Frequency: 10 ... 55 Hz, Amplitude: 0,35 mm
Airgap creepage	DIN VDE 0110-1
Ambient temperature	-10 ... +55 °C
Storage temperature	-40 ... +85 °C
Mechanical data	
Torque setting for connection terminals	0.6 Nm (screws)
Mounting position	Any
Housing material	PPO UL 94 V0
Protection types	Mounting: IP54 Housing: IP40 Terminals: IP20

Units have been tested in accordance with the standards valid at the time of development.

Order reference

Type	U_B	Order no.
PDZK	24 VDC	774 420

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