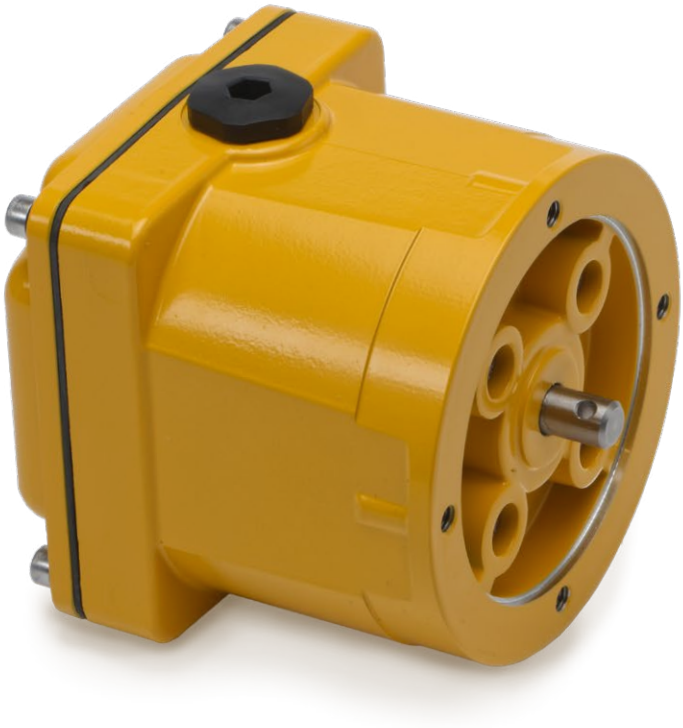
kiepe.INDUSTRY

STANDSTILL MONITOR

SW

 # 92.099 060.xxx



APPLICATION

Kiepe standstill monitors are used to monitor transport and conveyor systems of all kinds, such as elevators and conveyor belts, fans, mills as well as fabric, wire, foil or paper tears in AC circuits.

The devices are also installed as brake monitors on presses, transfer line drives, balancing machines and centrifuges. On mixing machines and drives, the standstill monitors take on the function of direction of rotation monitors.

FUNCTION

Kiepe SW standstill monitors are electromechanical devices that do not require a power supply. The drive shaft 1 drives the hermetically sealed fluid coupling 4 5 via the magnetic coupling 2 3 . This actuates the respective contact spring set 6 for clockwise or anticlockwise rotation. As the drive speed increases, so does the torque generated in the fluid coupling.

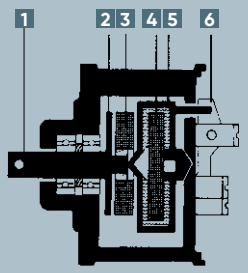
If the torque is greater than the counteracting preload force of the factory-set contact springs, the contact is switched over. A further increase in the drive speed increases the contact pressure only slightly, as the torque of the fluid coupling is stabilized by the slip of the magnetic coupling.

If the speed drops, the contact switches back when the preload of the contact springs becomes greater than the torque generated by the drive speed.

The switching point setting of the standstill monitor is determined by the viscosity of the oil in the fluid coupling and by the pretension of the contact spring sets. The set switching speeds have a tolerance of +/- 30% depending on the ambient temperature and the operating temperature. Contact is made gradually. The operating speed must therefore be higher than the switching speed to ensure contact reliability.

Due to their design, standstill monitors with very low switching points have an advantageous switching delay of approx. 2 seconds. The standstill monitors are single-mechanical devices. They must be protected by suitable design measures. If speeds greater than 500 rpm are to be monitored, the use of our electronic speed monitors is recommended.

PRINCIPLE ILLUSTRATION



Standstill monitor with magnetic/liquid coupling

TECHNICAL DATA

Designation	Speed monitoring standstill monitor SW
Type of actuation	Electromechanical via magnetic-oil coupling
Complies with	DIN EN 60204-1, DIN EN 60947-1, DIN EN 60947-5-1
Suitable for	Control circuits (230V) according to DIN EN 60204-1
Mechanics	
Enclosure	Aluminum
Finish	PU 2K-Paint yellow, RAL 1004
Seal (cover)	EPDM
Shaft	-2 S: Round 10mm ○ ; -3S: Flat 9 mm x 2.8 mm ⊖
Fastening	4 x M6
Rated speed (max.)	3000 rev/min
Weight	1,3 kg
Electrical system	
Switching system	2 SPDT (slow-action contacts)
Cable entry (included in the scope of delivery)	1 x M20 x 1,5; seald with 1x red screw plug (1x screwed cable gland; sealing area Ø9 mm to Ø13mm)
Utilization category	AC-14: 240 V; 0,3 A
Connection cross section (max.)	2,5 mm^2
Protective conductor connection	Protection class I / protection by protective conductor
Rated insulation voltage U_i	250 V
Rated impulse withstand voltage U_{imp}	2,5 kV, overvoltage category II, degree of soiling 2
Ambient conditions in accordance with DIN EN 60947-5-5	
Permissible ambient temperature	– 25°C... +70°C
Protection rating (nach EN 60529)	IP67

SELECTION TABLE

Type	Shaft	Typical operation point on falling speed* rpm		Typical reset point on rising speed rpm		Minimum running speed rpm	Maximum running speed rpm	Ordering code
		NC	NO	NC	NO			
SW 01 -2S	Round 10mm ○	0,5	1	0,75	3	6	2000	92.099 060.201
SW 02 -2S	Round 10mm ○	1	2	1,5	5	10	2000	92.099 060.202
SW 03 -2S	Round 10mm ○	2	4	6	10	20	2000	92.099 060.203
SW 04 -2S	Round 10mm ○	30	40	30	50	80	2000	92.099 060.204
SW 05 -2S	Round 10mm ○	40	80	50	100	150	2000	92.099 060.205
SW 01-3 S	Flat 9 mm x 2.8 mm ⊖	0,5	1	0,75	3	6	2000	92.099 060.301
SW 02-3 S	Flat 9 mm x 2.8 mm ⊖	1	2	1,5	5	10	2000	92.099 060.302
SW 03-3 S	Flat 9 mm x 2.8 mm ⊖	2	4	6	10	20	2000	92.099 060.303

* Typical values

Further shaft variants on request

Spare parts and accessories:		
Screwed cable gland M20 x 1,5; sealing area Ø 9mm to Ø 13mm		113.41.06.15.01
Coupling K1 (curved-tooth gear)	for -2 S ○	94.040 535.001
Coupling K6 (rubber)	for -3 S ⊖	96.040 535.002
Coupling K7 (rubber bellow)	for -2 S ○	94.040 535.004
Flange F1 		96.038 986.003
Flange F2 		96.038 986.004
Fixing Foot F4 		96.038 986.002
Belt Drive B, Alu (S), without Roller		92.038 800.001
Plastic roller K		96.038 993.001
Rubber roller G		96.038 993.002
Hinge Pedestal GB		93.041190.001

MOUNTING

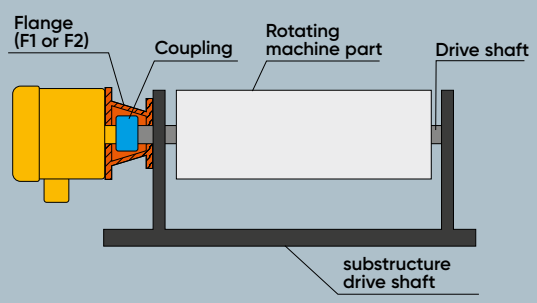
Standstill monitors type SW are attached to the substructure of the monitored machine using 4 M6 screws each. This is done using flange (F1, F2) or fixing foot F4. The connection to the rotating shaft is made using couplings (K1, K6, K7) depending on the SW shaft version. When the speed is taken directly from the belt, the SW is attached to the belt drive B. The belt drive is pressed against the cleaned side of the belt using a hinge pedestal GB.

The electrical connection is made when the device is open via the cable gland included in the scope of delivery directly to the accessible connection screws (see connection drawing, 1,2,P or 3,4,P) of the potential-free changeover contacts of the SW.

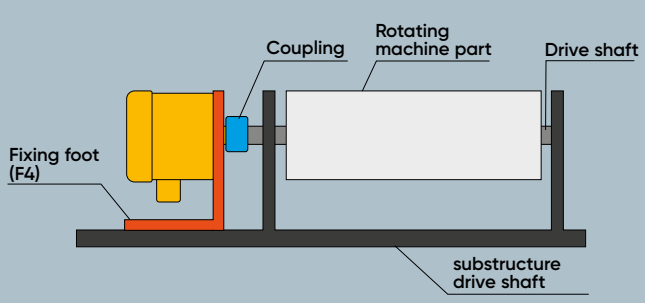
Note:
When using the belt drive B, make sure that the belt load cannot damage the SW.
With direct connection using fasteners, care must be taken to ensure that the SW can resonate with the rotating part of the machine.

MOUNTING DRAWING

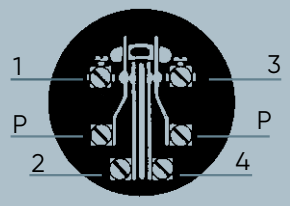
Mounting directly on shaft



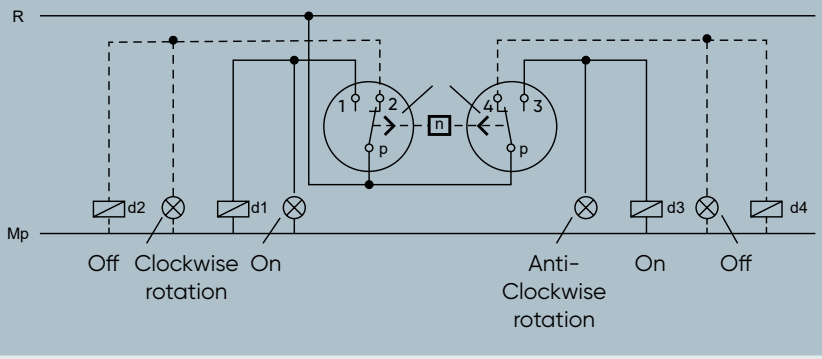
Mounting on substructure



CONNECTION DRAWING

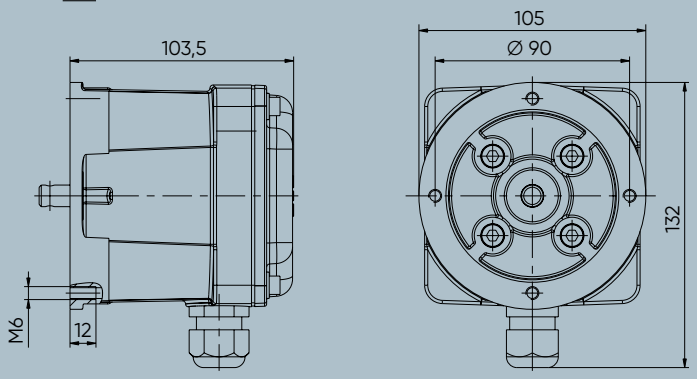


Contact assembly for clock or anti-clockwise rotation

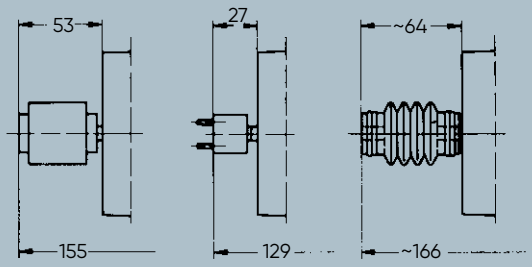


DIMENSIONS

SW

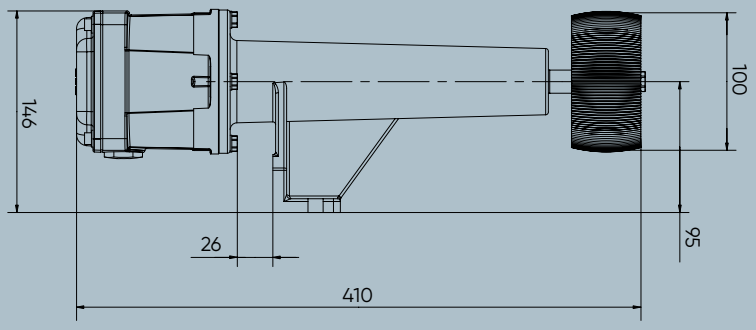


Coupling

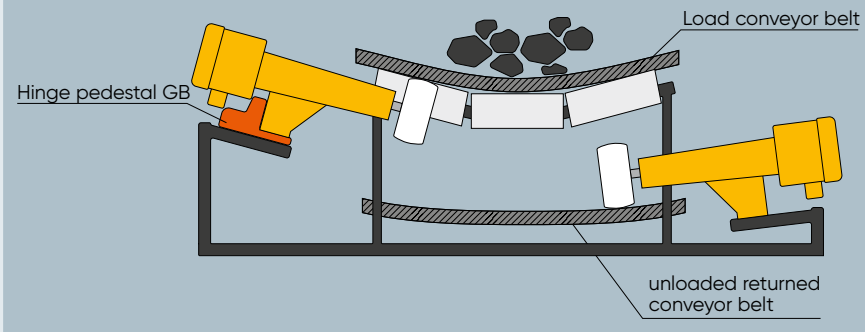


SWB

SW with belt drive B and roller



Mounting on upper belt **Mounting on lower belt**



Doc-No.: DB09906019 1 AA 01_09/24

Kiepe Electric GmbH - Industry
Kiepe-Platz 1
40599 Düsseldorf, Germany
Tel.: +49 211 74 97 -0
E-Mail: info@kiepe-elektrik.com
Web: www. kiepe-elektrik.com