kiepe.INDUSTRY

SPEED MONITORING
INCL. IMPULSE TRANSDUCER

# SWE

**# 92.045 336.xxx**

## APPLICATION

The SWE electronic speed monitor is used for underspeed monitoring, slip monitoring and standstill monitoring, especially in harsh "on-site operation". The opto-electronic pulse transducer, the speed evaluation relay and the power supply unit are combined into a single unit in the compact device.

This compact design eliminates the need for connecting cables between the encoder and evaluation relay, which are prone to interference in conventional electronic speed monitoring systems. This ensures interference-free signal transmission even over extremely long distances.

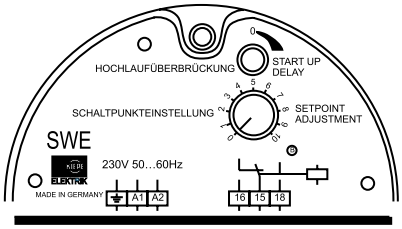
Only the supply voltage and the cables for the potential-free relay contact output are connected to the SWE.

The Kiepe electronic speed monitor type SWE conforms to the Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

**Note:**
The SWE may only be used in control circuits.

## FUNCTION

The device has a separate connection chamber in which the connection terminals, the potentiometers for setting the switching points and the start-up delay as well as the LED for the operating display are located. The time for the start up delay can be set from 0.5 to 15 seconds.
If the drive speed exceeds the pre-set operating speed, the relay is energized and the LED is lit. If the drive speed falls below the pre-set operating speed, the relay drops. The LED is extinguished.




## TECHNICAL DATA

| | |
|---|---|
| Designation | Under-Speed Monitoring with Pulse Transducer Type SWE |
| Complies with | EN 50178<br>EN 61000-6-2<br>EN 61000-6-3 |
| Suited for | Control circuits in accordance with DIN EN 60204-1 |
| **Mechanics** | |
| Enclosure | Aluminum |
| Finish | PU 2K-paint, yellow (RAL 1004) |
| Mounting | 4 x M6 |
| Range of set point adjustment | see selection table |
| Weight | 1.4 kg |
| **Electrical system** | |
| Supply voltages | AC 230 V ±10%, 50 ... 60 Hz |
| Relay output (Ag, flash plated) | 1 change-over contact |
| Short circuit capacity | AC 230 V / 2 A (ohm resistive load)<br>AC 230 V / 1 A (cos φ = 0.4) |
| Switch point hysteresis (max.)<br>of switch-off to switch-on speed | 20 % |
| Switch point deviation | < 2 % |
| Output relay's operate time<br>after switching on the actuating voltage | 200 ms |
| Run-up bypass | 0.5 ... 15 sec, adjustable |
| Cable entry<br>(included in scope of supply) | 2 x M25 x 1,5,<br>(1x PA screwed cable gland: sealing area Ø9 mm to Ø17 mm; 1x dummy screw) |
| Connection cross section (max.) | 2.5 $mm^2$ |
| Protective conductor connection | Protection class I / Protective earthing |
| **Ambient conditions in accordance with DIN EN 60947-5-5** | |
| Permissible ambient temperature | −20 °C ...+70 °C |
| Protection rating (EN 60529) | IP 65 |

## SELECTION TABLE

| Type | Number of Imp. / Rev. | Range of set point adjustment [rpm] | Cut-out delay sec. | Ordering Code |
|---|---|---|---|---|
| SWE 001 -2S | 1 | 40 - 600 | 2.5 - 1.1 | 92.045 336.114 |
| SWE 005 -2S | 5 | 8 - 120 | 2.5 - 1.1 | 92.045 336.113 |
| SWE 010 -2S | 10 | 4 - 60 | 2.5 - 1.1 | 92.045 336.112 |
| SWE 025 -2S | 25 | 1.6 - 24 | 2.5 - 1.1 | 92.045 336.111 |

**Equipment options**

SWE for AC 110 V, 50-60 Hz on request

## SPARE PARTS AND ACCESSORIES

| | | |
|---|---|---|
| Screwed cable gland, PA, M25 x 1,5; sealing area Ø 9mm to Ø 17mm | | 113.51.00.20.10 |
| Screw plug, PA, M25 x 1,5 | | 113.43.87.20.01 |
| Circuit board (assembled), AC 230 V, 50 – 60 Hz | | 93.056 396. 001 |
| Circuit board (assembled), AC 110 V, 50 – 60 Hz | | 93.056 396.002 |
| Coupling K1 (curved-tooth gear) | for -2 S ◯ | 94.040 535.001 |
| 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 |

**Complete device assemblies consisting of SWE and accessories on request**

## MOUNTING

The SWE electronic speed monitors are supplied ready for operation.

Speed monitroing devices type SWE 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, K7). When the speed is taken directly from the belt, the SWE is attached to the belt drive B. The belt drive is pressed against the cleaned side of the belt using a hinge pedestal GB.

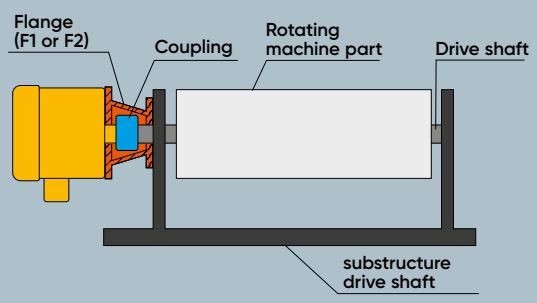
The electrical connection is made when the device is open via the cable gland included in the scope of delivery directly to the accessible connection terminals.

***Note:***

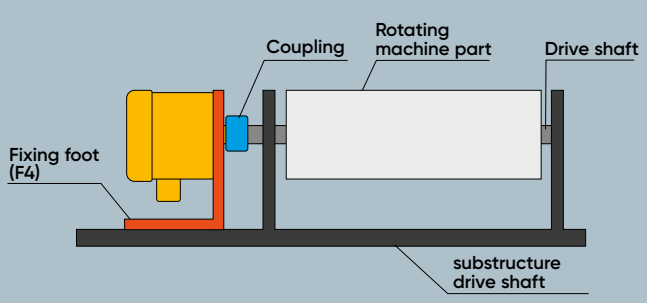
*When using the belt drive B, make sure that the belt load cannot damage the SWE. With direct connection using fasteners, care must be taken to ensure that the SWE can resonate with the rotating part of the machine. (See mounting drawing)*

## MOUNTING DRAWING

**Mounting directly on shaft**

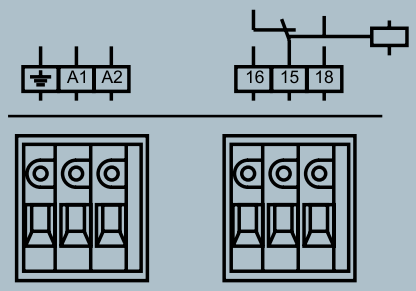



**Mounting on substructure**

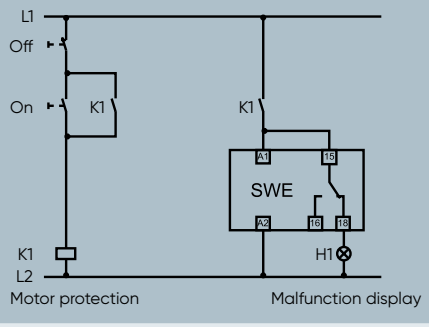


## CONNECTION DRAWING

**Connection**

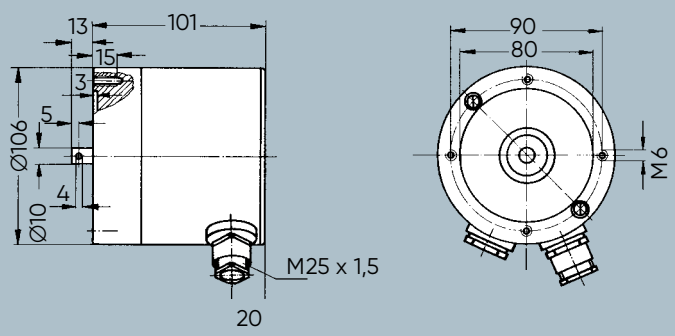



**Circuit example**

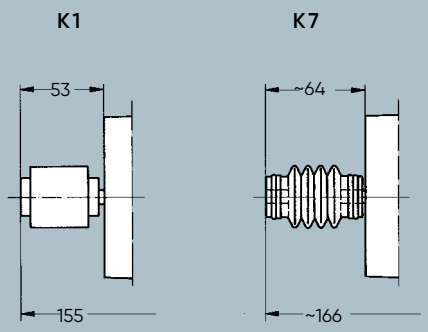



## DIMENSIONS

**SWE**

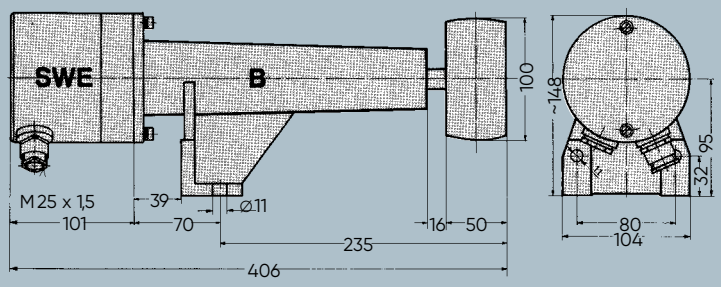



**Coupling**

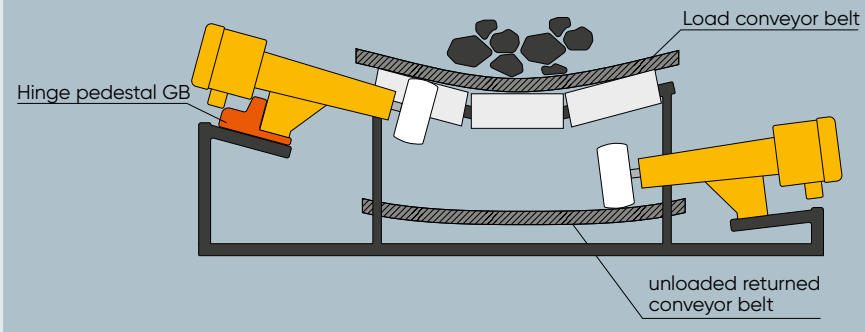



**SWEB**

SWE with belt drive B and roller G or K




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

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