

### Characteristics

Rated operating distance 0.7 ... 2.4 mm for modules 0.75 ... 3.

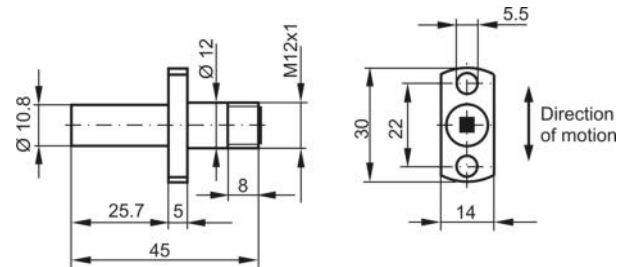
Dynamic version, 5 Hz ... 20 kHz.

DC three-pole, push-pull output (plus- and minus-switching).

Rotation speed detection with high operating frequency (up to 20 kHz) and high geometrical resolution (module  $\geq 1$ ).

Hall element sensors are unsuitable for detecting slots, for axial approach, and for non-magnetic materials.

### Dimensions



### Technical Data

(Unless otherwise specified  $U_B = 24$  V,  $T_U \approx 23$  °C, and  $I_L = 0$ )

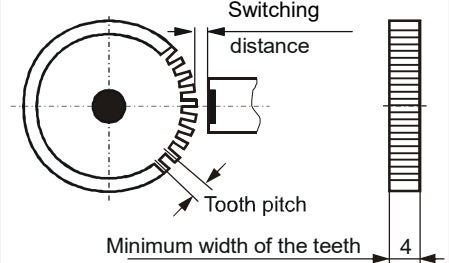
|                                                 |                                                                                             |
|-------------------------------------------------|---------------------------------------------------------------------------------------------|
| Rated operating distances $s_n$ (10 kHz)        | 0.7 mm for module 0.75<br>1.3 mm for module 1<br>1.8 mm for module 2<br>2.4 mm for module 3 |
| Effective operating distance $s_r$              | $s_n (1 \pm 10 \%)$                                                                         |
| Operating voltage $U_B$                         | 6 ... 24 ... 30 VDC                                                                         |
| Permissible ripple voltage                      | 10 %                                                                                        |
| Current consumption without load                | $\leq 10$ mA                                                                                |
| Maximum current load capacity of the output     | $\leq 25$ mA                                                                                |
| Residual current (locked output)                | plus-switching $\leq 0.5$ mA<br>minus-switching $\leq 2.5$ mA                               |
| Voltage drop (conductive output; $I_L = 25$ mA) | plus-switching $\leq 12$ V<br>minus-switching $\leq 10$ V                                   |
| Output                                          | push-pull,<br>temporary short-circuit protection $\leq 20$ s                                |
| Operating frequency $f$                         | 5 Hz ... 20 kHz                                                                             |
| Ambient temperature range $T_U$                 | - 25 ... + 100 °C                                                                           |
| Reverse polarity protection                     | yes                                                                                         |
| Connection                                      | M12 connector, 4-pole                                                                       |
| Maximum lead length                             | $\leq 150$ m                                                                                |
| Weight                                          | 30 g                                                                                        |
| Design                                          | cylinder, $\varnothing 10.8$ , with flange                                                  |
| Housing material / sensing face                 | brass / plastic (PBT)                                                                       |
| Protection rating according to EN 60529         | IP 65                                                                                       |

### Notes

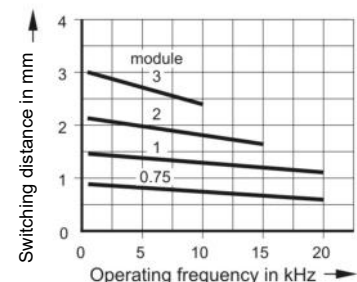
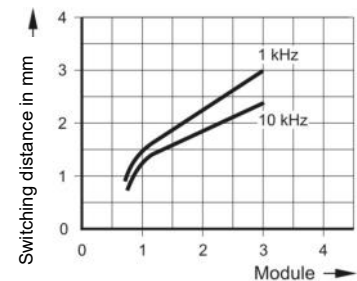
For mounting, a precise vertical alignment of the housing to the tooth flanks is necessary. The switching point is not in the geometric axis of the hall element sensor. Keep away metal cuttings from the sensing face. Avoid operation near strong magnetic fields. The distance between the connecting lead and the control leads of the inductive loads should be  $\geq 30$  cm. Use a shielded lead for lead length  $> 10$  m. When the sensor is switched on but not activated, the output signal may adopt either the low or the high state.

### Mounting Instructions

Gear wheel St37 / C45



### Switching Distance as a Function of Module and Operating Frequency



### Certification

Complies with standard EN 60947-5-2



### Safety Regulations

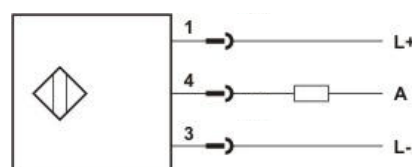
Connection, commissioning and maintenance may only be accomplished by qualified or instructed staff.

We are certified according to DIN EN ISO 9001

Subject to technical changes!

### Wiring

DC voltage, three-pole,  
push-pull output, plug-in connection



### Plug

