


## Specifications (cont.) EN 60947-5-2

|  |  |   |  |
|--|--|---|--|
| <b>Repeat accuracy (R)</b>                         | ≤ 5%   | <b>Temperature alarm output</b>                   | 60°C ± 5°C   |
| <b>Hysteresis (H)</b>                              | 3 - 20%  | Response time examples<br>T <sub>A</sub> = 25°C   | 16 sec @ T <sub>EXC</sub> = 800°C<br>390 sec @ T <sub>EXC</sub> = 80°C |
| <b>Rated operational volt. (U<sub>B</sub>)</b>     | 10 to 40 VDC (ripple incl.)  | <b>TRIPLESHIELD™</b>                              |  |
| <b>Ripple</b>                                      | ≤ 10%  | <b>Exceeding the norms for capacitive sensors</b> |  |
| <b>Output function</b>                             | NPN or PNP   | Electrostatic discharge (EN61000-4-2)             |  |
| <b>Output switching function</b>                   | N.O. and N.C.  | Contact discharge                                 | > 40 kV  |
| <b>Rated operational current (I<sub>a</sub>)</b>   | ≤ 200 mA (continuous)  | Air discharge                                     | > 40 kV  |
| <b>Capacitive load</b>                             | 100 nF   | Electrical fast transients/burst (EN 61000-4-4)   | ±4kV   |
| <b>No-load supply current (I<sub>o</sub>)</b>      | ≤ 12 mA  | Surge (EN 61000-4-5)                              |  |
| <b>Voltage drop (U<sub>d</sub>)</b>                | ≤ 2.0 VDC @ 200 mA DC  | Power-supply                                      | > 2kV (with 500 Ω)   |
| <b>Minimum operational current (I<sub>m</sub>)</b> | ≥ 0.5 mA   | Sensor output                                     | > 2kV (with 500 Ω)   |
| <b>OFF state current (I<sub>i</sub>)</b>           | ≤ 100 μA   | Wire conducted disturbances (EN 61000-4-6)        | > 20 Vrms  |
| <b>Protection</b>                                  | Short-circuit, reverse polarity, transients  | Power-frequency magnetic fields (EN 61000-4-8)    |  |
| <b>Frequency of operating cycles (f)</b>           | 50 Hz  | Continuous  | > 60 A/m, 75.9 μ tesla   |
| <b>Response time OFF-ON (t<sub>on</sub>)</b>       | ≤ 10 ms  | Short-time  | > 600 A/m, 759 μ tesla   |
| <b>Response time ON-OFF (t<sub>off</sub>)</b>      | ≤ 10 ms  | Radiated RF electromagnetic fields (EN 61000-4-3) | > 20 V/m   |
| <b>Power ON delay (t<sub>v</sub>)</b>              | ≤ 200 ms   | Shock (IEC 60068-2-27)                            | 30 G / 11ms, 3 pos, 3 neg per axis                                     |
| <b>Indication</b>                                  |  | Rough handling shocks (IEC 60068-2-31)            | 2 times from 1m<br>100 times from 0,5m                                 |
| For output ON                                      | LED, yellow  | Vibration (IEC 60068-2-6)                         | 10 to 150 Hz, 1 mm / 15 G  |
| Power and signal stability                         | LED, green   | <b>Housing material</b>                           |  |
| <b>Environment</b>                                 |  | Body  | PBT, grey,<br>30% glass reinforced                                     |
| Installation category                              | III (IEC 60664, 60664A; 60947-1)   | Cable gland                                       | PA12, black  |
| Degree of pollution                                | 3 (IEC 60664, 60664A; 60947-1)   | Fingernuts  | PA12, black  |
| Degree of protection                               | IP 67, IP 68/60 min., IP69K* (IEC 60529; 60943-1)  | Trimmershaft                                      | Nylon  |
| NEMA type  | 1, 2, 4, 4X, 5, 6, 6P, 12  | <b>Weight</b>                                     |  |
| Operating temperature                              | -30 to +85°C (-22 to +185°F)   | Cable version                                     | 190 g  |
| Max. temperature on sensing face                   | 120°C (248°F)  | Plug version                                      | 106 g  |
| Storage temperature                                | -40 to +85°C (-40 to +185°F)   | <b>Approvals</b>                                  | cULus (UL508)  |
| <b>Rated insulation voltage</b>                    | 1 kVAC (rms)<br>IEC protection class III  | <b>CE-marking</b>                                 | Yes  |
| <b>Tightening torque</b>                           | ≤ 7.5 Nm   | <b>MTTF<sub>d</sub></b>                           | 829 years @ 40°C (+104°F)  |
| <b>Connection</b>                                  |  |   |  |
| Cable  | PVC,<br>Ø5.2 x 2 m, 4 x 0.34 mm <sup>2</sup><br>Oil proof, grey  |   |  |
| Plug (M1)  | M12 x 1, - 4 pin   |   |  |

\* The IP69K test according to DIN 40050-9 for high-pressure, high-temperature wash-down applications. The sensor must not only be dust tight (IP6X), but also able to withstand high-pressure and steam cleaning. The sensor is exposed to high pressure water from a spray nozzle that is fed with 80°C water at 8'000–10'000 KPa (80–100bar) and a flow rate of 14–6L/min. The nozzle is held 100–150 mm from the sensor at angles of 0°, 30°, 60° and 90° for 30s each. The test device sits on a turntable that rotates with a speed of 5 times per minute. The sensor must not suffer any damaging effects from the high pressure water in appearance and function.

