



CE  UL US LISTED 

## Electrical data

|   |               |
|---|---------------|
| Load capacitance max. at Ue                 | 1 $\mu$ F     |
| Magnetic field strength, interference field | 100 kA/m      |
| Min. operating current Im                   | 0 mA          |
| No-load current Io max., damped             | 20 mA         |
| No-load current Io max., undamped           | 15 mA         |
| Operating voltage Ub                        | 10...30 VDC   |
| Output resistance Ra                        | 33.0 kOhm + D |
| Protection class                            | II            |
| Rated insulation voltage Ui                 | 250 V AC      |
| Rated operating current Ie                  | 200 mA        |
| Rated operating voltage Ue DC               | 24 V          |
| Rated short circuit current                 | 100 A         |
| Ready delay tv max.                         | 30 ms         |
| Residual current Ir max.                    | 80 $\mu$ A    |
| Ripple max. (% of Ue)                       | 15 %          |
| Switching frequency                         | 250 Hz        |
| Utilization category                        | DC -13        |
| Voltage drop static max.                    | 2.5 V         |

|                    |     |
|--------------------|-----|
| Function indicator | yes |
| Power indicator    | yes |

|                                   |                            |
|-----------------------------------|----------------------------|
| Connection                        | M12x1-Male, 4-pin, A-coded |
| Polarity reversal protected       | yes                        |
| Protection against device mix-ups | yes                        |
| Short-circuit protection          | yes                        |

Inductive Sensors  
BES Q40KFU-PAC25E-S04G  
Order Code: BES021A



Environmental conditions

|                         |                                       |
|-------------------------|---------------------------------------|
| Ambient temperature     | -25...70 °C                           |
| Contamination scale     | 3                                     |
| EN 60068-2-27, Shock    | Half-sinus, 30 g <sub>n</sub> , 11 ms |
| EN 60068-2-6, Vibration | 55 Hz, amplitude 1 mm, 3x30 min       |
| IP rating               | IP67                                  |
| Magnetic field immune   | magnetic field immune (AC/DC)         |

Functional safety

|              |       |
|--------------|-------|
| MTTF (40 °C) | 520 a |
|--------------|-------|

Interface

|                  |   |
|------------------|---|
| Switching output | PNP normally open/normally closed (NO/NC) |
|------------------|---|

Material

|                          |     |
|--------------------------|-----|
| Housing material         | PBT |
| Material sensing surface | PBT |

Mechanical data

|              |                 |
|--------------|-----------------|
| Dimension    | 40 x 40 x 62 mm |
| Installation | non-flush       |
| Size         | 40x40           |

Range/Distance

|                                  |        |
|----------------------------------|--------|
| Assured operating distance Sa    | 2.2 mm |
| Hysteresis H max. (% of Sr)      | 15.0 % |
| Rated operating distance Sn      | 25 mm  |
| Real switching distance sr       | 25 mm  |
| Repeat accuracy max. (% of Sr)   | 5.0 %  |
| Temperature drift max. (% of Sr) | 10 %   |
| Tolerance Sr                     | ±10 %  |

Remarks

LED 1: Function  
LED 2: Operating voltage  
Switching distance and tolerance data apply to the sensing surface location shown.  
The sensor is functional again after the overload has been eliminated.  
For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings



Wiring Diagrams

