

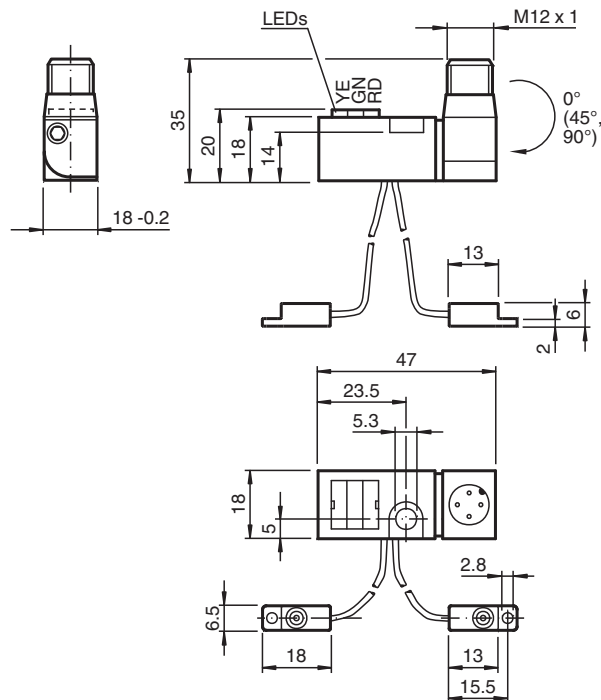
# Inductive power clamp sensor

## NBN2-F581-80S3-E8-V1

- Extremely bright triple luminous band indication
- M12 plug with safety screw assembly adjustable in 45° grid
- For use in direct- and alternating-field welding systems
- Completely halogen and silicon free



### Dimensions



### Technical Data

#### General specifications

|                            |       |                        |
|----------------------------|-------|------------------------|
| Switching function         |       | 2 x normally open (NO) |
| Output type                |       | PNP                    |
| Rated operating distance   | $s_n$ | 2 mm                   |
| Installation               |       | non-flush              |
| Output polarity            |       | DC                     |
| Assured operating distance | $s_a$ | 0 ... 1.62 mm          |
| Reduction factor $r_{AI}$  |       | 0.45                   |
| Reduction factor $r_{Cu}$  |       | 0.35                   |
| Reduction factor $r_{304}$ |       | 0.75                   |
| Output type                |       | 4-wire                 |

#### Nominal ratings

|                     |       |              |
|---------------------|-------|--------------|
| Operating voltage   | $U_B$ | 10 ... 30 V  |
| Switching frequency | $f$   | 0 ... 100 Hz |

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

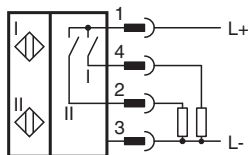
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

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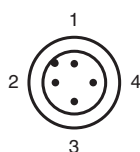
## Technical Data

|                                                 |       |                                                                                             |
|-------------------------------------------------|-------|---------------------------------------------------------------------------------------------|
| Reverse polarity protection                     |       | reverse polarity protected                                                                  |
| Short-circuit protection                        |       | pulsing                                                                                     |
| Voltage drop                                    | $U_d$ | $\leq 3 \text{ V}$                                                                          |
| Operating current                               | $I_L$ | 0 ... 100 mA                                                                                |
| No-load supply current                          | $I_0$ | $\leq 15 \text{ mA}$                                                                        |
| Constant magnetic field                         | B     | 100 mT                                                                                      |
| Alternating magnetic field                      | B     | 100 mT                                                                                      |
| Tuning-out                                      |       | typically 1 s                                                                               |
| Operating voltage indicator                     |       | LED green                                                                                   |
| Switching state indicator                       |       | Switching state "closed" = LED red (S2)<br>switching state "open" = LED yellow (S1)         |
| <b>Functional safety related parameters</b>     |       |                                                                                             |
| MTTF <sub>d</sub>                               |       | 1445 a                                                                                      |
| Mission Time (T <sub>M</sub> )                  |       | 20 a                                                                                        |
| Diagnostic Coverage (DC)                        |       | 0 %                                                                                         |
| <b>Compliance with standards and directives</b> |       |                                                                                             |
| Standard conformity                             |       |                                                                                             |
| Standards                                       |       | EN 60947-5-2:2007<br>EN 60947-5-2/A1:2012<br>IEC 60947-5-2:2007<br>IEC 60947-5-2 AMD 1:2012 |
| <b>Approvals and certificates</b>               |       |                                                                                             |
| UL approval                                     |       | cULus Listed, General Purpose                                                               |
| CCC approval                                    |       | CCC approval / marking not required for products rated $\leq 36 \text{ V}$                  |
| <b>Ambient conditions</b>                       |       |                                                                                             |
| Ambient temperature                             |       | 0 ... 50 °C (32 ... 122 °F)                                                                 |
| Storage temperature                             |       | -40 ... 85 °C (-40 ... 185 °F)                                                              |
| <b>Mechanical specifications</b>                |       |                                                                                             |
| Connection type                                 |       | Connector plug M12 x 1 , 4-pin                                                              |
| Flexible lead, housing-sensor                   |       | 80 mm , PUR (halogen-free) ; Outlet position - 1                                            |
| Housing material                                |       | amplifier; PBT, PA6 + GD-ZN AL4<br>oscillators; PBT                                         |
| Degree of protection                            |       | IP65                                                                                        |

## Connection



## Connection Assignment



Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

Accessories

|                                                                                   |                      |                                                                                        |
|-----------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------|
|  | <b>V1-G-OR2M-POC</b> | Female cordset single-ended M12 A-coded 4-pin, TPE cable welding-bead resistant orange |
|-----------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------|

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