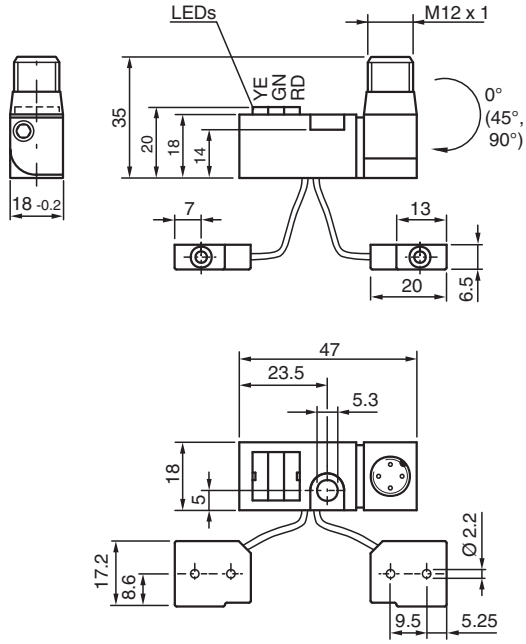


# Inductive power clamp sensor

## NBN2-F581-100S6-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

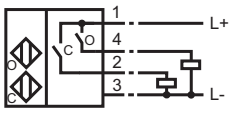
| | | |
|---|---|---|
| **General specifications** | | |
| Switching function | | 2 x normally open (NO) |
| Output type | | PNP |
| Rated operating distance | $s_n$ | 2 mm |
| Installation | | non-flush |
| Output polarity | | DC |
| Assured operating distance | $s_a$ | 0 ... 1.62 mm |
| Reduction factor $r_{Al}$ | | 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 DC |

Release date: 2025-05-21 Date of issue: 2025-05-21 Filename: 904157_eng.pdf

## Technical Data

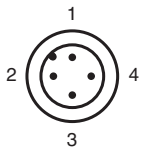
| | | |
|---|---|---|
| Switching frequency | f | 0 ... 25 Hz |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | $U_d$ | ≤ 3 V |
| Operating current | $I_L$ | 0 ... 100 mA |
| Off-state current | $I_r$ | ≤ 10 µA |
| No-load supply current | $I_0$ | ≤ 15 mA |
| Constant magnetic field | B | 100 mT |
| Alternating magnetic field | B | 100 mT |
| Operating voltage indicator | | LED green |
| Switching state indicator | | Switching state "closed" = LED red (S2)<br>switching state "open" = LED yellow (S1) |
| **Functional safety related parameters** | | |
| $MTTF_d$ | | 1445 a |
| Mission Time ($T_M$) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| **Compliance with standards and directives** | | |
| Standard conformity | | |
| Standards | | EN IEC 60947-5-2 |
| **Approvals and certificates** | | |
| UL approval | | cULus Listed, General Purpose |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |
| **Ambient conditions** | | |
| Ambient temperature | | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| **Mechanical specifications** | | |
| Connection type | | Connector plug |
| Flexible lead, housing-sensor | | (100 ± 5) mm, PUR (halogen-free) |
| Housing material | | amplifier; PBT, PA6 + GD-ZN AL4<br>oscillators; PBT |
| Degree of protection | | IP65 |
| Connector | | |
| Threading | | M12 x 1 |
| Number of pins | | 4 |

## Connection




Release date: 2025-05-21 Date of issue: 2025-05-21 Filename: 904157_eng.pdf

## Connection Assignment




Wire colors in accordance with EN 60947-5-2

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

Release date: 2025-05-21 Date of issue: 2025-05-21 Filename: 904157_eng.pdf