

Reflex Sensor with Background Suppression

HN55NA3

Part Number



- Precision background suppression
- Red light
- Stainless steel plug (V2A)

Technical Data

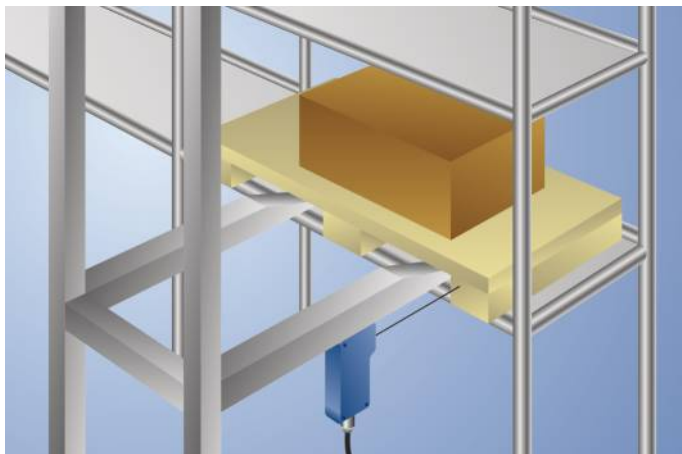
| Optical Data | |
|---------------------------|-------------|
| Range | 500 mm |
| Adjustable Range | 70...500 mm |
| Switching Hysteresis | < 5 % |
| Light Source | Red Light |
| Service Life (T = +25 °C) | 100000 h |
| Max. Ambient Light | 10000 Lux |
| Spot Diameter | see Table 1 |

| Electrical Data | |
|---|--------------|
| Supply Voltage | 10...30 V DC |
| Current Consumption (U _b = 24 V) | 30 mA |
| Switching Frequency | 1 kHz |
| Response Time | 500 μs |
| Temperature Drift | < 5 % |
| Temperature Range | -25...60 °C |
| Switching Output Voltage Drop | < 2,5 V |
| NPN Switching Output/Switching Current | 100 mA |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Overload Protection | yes |
| Protection Class | III |

| Mechanical Data | |
|----------------------|----------------|
| Setting Method | Potentiometer |
| Housing Material | Plastic |
| Degree of Protection | IP67 |
| Connection | M12 × 1; 4-pin |

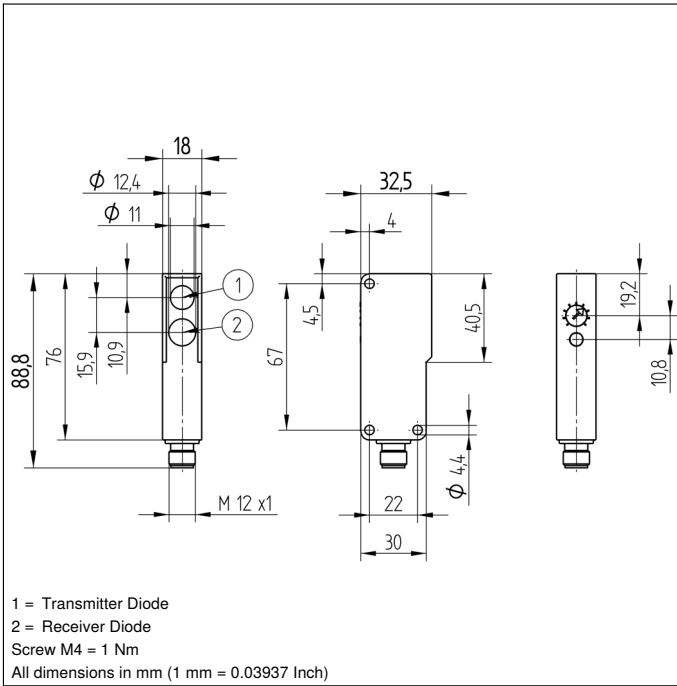
| | |
|------------------------------------|------------|
| NPN NO/NC antivalent | ● |
| Connection Diagram No. | 301 |
| Control Panel No. | N3 |
| Suitable Connection Technology No. | 2 |
| Suitable Mounting Technology No. | 350 |

These sensors detect distance by measuring angles. They are particularly good at recognizing objects in front of any background. The color, shape and surface characteristics of the object have practically no influence on sensor switching performance.

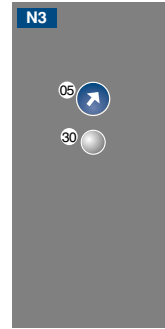


Complementary Products

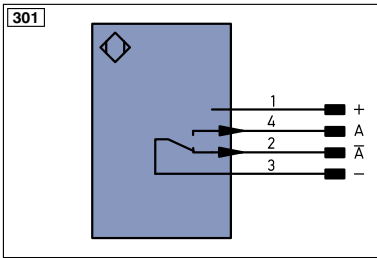
| |
|------------------------------------|
| Dust extraction tube STAUBTUBUS-03 |
| Protection Housing Set ZSN-NN-02 |



Ctrl. Panel



05 = Switching Distance Adjuster
 30 = Switching Status/Contamination Warning



Legend

| | | | | | |
|----------|--|----------|------------------------------|--------|---------------------|
| + | Supply Voltage + | PT | Platinum measuring resistor | ENa | Encoder A |
| - | Supply Voltage 0 V | nc | not connected | ENb | Encoder B |
| ~ | Supply Voltage (AC Voltage) | U | Test Input | AMIN | Digital output MIN |
| A | Switching Output (NO) | U | Test Input inverted | AMAX | Digital output MAX |
| Ā | Switching Output (NC) | W | Trigger Input | AOK | Digital output OK |
| V | Contamination/Error Output (NO) | O | Analog Output | SY In | Synchronization In |
| V̄ | Contamination/Error Output (NC) | O- | Ground for the Analog Output | SY OUT | Synchronization OUT |
| E | Input (analog or digital) | BZ | Block Discharge | Out | Brightness output |
| T | Teach Input | AWV | Valve Output | M | Maintenance |
| Z | Time Delay (activation) | a | Valve Control Output + | | |
| S | Shielding | b | Valve Control Output 0 V | | |
| RxD | Interface Receive Path | SY | Synchronization | | |
| TxD | Interface Send Path | E+ | Receiver-Line | | |
| RDY | Ready | S+ | Emitter-Line | | |
| GND | Ground | ≡ | Grounding | | |
| CL | Clock | SnR | Switching Distance Reduction | | |
| E/A | Output/Input programmable | Rx+/- | Ethernet Receive Path | | |
| IO-Link | IO-Link | Tx+/- | Ethernet Send Path | | |
| PoE | Power over Ethernet | Bus | Interfaces-Bus A(+)/B(-) | | |
| IN | Safety Input | La | Emitted Light disengageable | | |
| OSSD | Safety Output | Mag | Magnet activation | | |
| Signal | Signal Output | RES | Input confirmation | | |
| Bl_D+/- | Ethernet Gigabit bidirect. data line (A-D) | EDM | Contactor Monitoring | | |
| EN0RS42Z | Encoder 0-pulse 0-0 (TTL) | ENAR542Z | Encoder A/Ā (TTL) | | |
| | | ENBR542Z | Encoder B/B̄ (TTL) | | |

Wire Colors according to DIN IEC 757

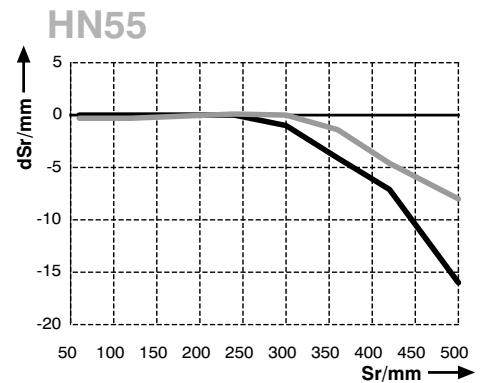
| | |
|------|--------------|
| BK | Black |
| BN | Brown |
| RD | Red |
| OG | Orange |
| YE | Yellow |
| GN | Green |
| BU | Blue |
| VT | Violet |
| GY | Grey |
| WH | White |
| PK | Pink |
| GNVE | Green/Yellow |

Table 1

| Detection Range | 60 mm | 200 mm | 500 mm |
|-----------------|-------|--------|--------|
| Spot Diameter | 9 mm | 11 mm | 20 mm |

Switching Distance Deviation

Typical characteristic curve based on Kodak white (90 % remission)



Sr = Switching Distance
 dSr = Switching Distance Change
 — black 6 % remission
 — grey 18 % remission

