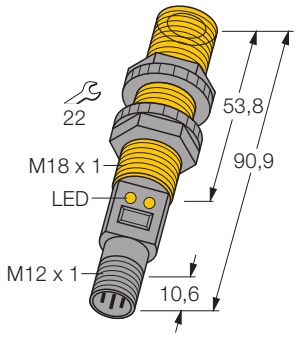
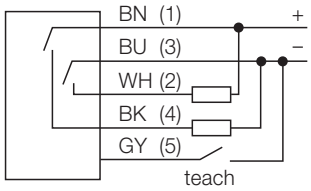
# ultrasonic sensor
# diffuse mode sensor
# S18UBAQ

Industrial Automation




- **compact housing style**
- **connection via M12 x 1 connector**
- **temperature compensation**
- **very small blind zone**
- **switching range adjustable via teach-in**
- **adjustable retro-reflective mode**

### Wiring diagram

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|---|---|
| **Type** | S18UBAQ |
| Ident-No. | 3002712 |
| **Range** | 3… 30 cm |
| Ultrasound frequency | 300 kHz |
| Temperature drift | ± 0.3 % of full scale |
| Repeatability | ≥ ± 0.25 mm |
| Edge lengths of the nominal actuator | 50 mm |
| Ambient temperature | -20…+ 60 °C |
| **Operating voltage** | 10… 30VDC |
| No-load current $I_0$ | 100 mA |
| Output function | normally open, PNP/NPN |
| Short-circuit protection | yes |
| Reverse polarity protection | complete |
| Switching frequency | 8 Hz |
| Wire breakage protection | yes |
| **Housing** | cylindrical/threaded, S18U |
| Dimensions | 90.9 mm |
| Housing diameter | 18 mm |
| Thread length | 53.8 mm |
| Housing material | plastic, PBT |
| Connection | connectors, M12 x 1 |
| Degree of protection | IP67 |
| **Display switch state** | LED yellow |
| Display ' Object detected ' | LED green |

### Functional principle

Ultrasonic sensors use ultrasonic waves for non-contact and wear-free detection of a large variety of objects. It does not matter whether the object is transparent or opaque, metallic or non-metallic, or of liquid, solid or powdery consistence. Environmental conditions such as spray, dust or rain hardly affect their function.

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