

Distance Sensor

U18T003



- Digital and analog output
- IO-Link 1.1
- Stainless steel housing
- Switching output adjustable via teach-in button
- Synchronous and multiplex mode

These ultrasonic sensors evaluate the sound reflected from the object. They are capable of detecting almost any object, regardless of material and condition. As such, they are especially well suited for monitoring fill levels of liquids and bulk goods and for detecting transparent objects. The measured value can be read out via IO-Link, and the sensor can be adapted as needed to the application. The sensor can be used in reflex mode operation and as an ultrasonic through-beam sensor.



Ultrasonic Data

| | |
|------------------------------------|--------------|
| Working range, reflex sensor | 50...600 mm |
| Working range, through-beam sensor | 50...1200 mm |
| Setting Range | 50...600 mm |
| Reproducibility maximum | 1 mm |
| Linearity Deviation | 2 mm |
| Resolution | 1 mm |
| Ultrasonic Frequency | 300 kHz |
| Service Life (T = +25 °C) | 100000 h |
| Switching Hysteresis | 2 % * |

Electrical Data

| | |
|---|-----------------------------------|
| Supply Voltage | 18...30 V DC |
| Current Consumption (U _b = 24 V) | < 40 mA |
| Switching frequency, reflex sensor | 9 Hz |
| Switching frequency, through-beam sensor | 9 Hz |
| Response time, reflex sensor | 56 ms |
| Response time, through-beam sensor | 56 ms |
| Temperature Drift | < 1 % |
| Temperature Range | -30...60 °C |
| Number of Switching Outputs | 1 |
| Switching Output Voltage Drop | < 2.5 V |
| Switching Output/Switching Current | 100 mA |
| Analog Output | 4...20 mA |
| Synchronous Mode | Up to 32 sensors |
| Multiplex Mode | up to 16 sensors |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Overload Protection | yes |
| Lockable | yes |
| Interface | IO-Link V1.1 Smart Sensor Profile |
| Data Storage | yes |
| Protection Class | III |

Mechanical Data

| | |
|----------------------|-------------------------------------|
| Setting Method | IO-Link |
| Setting Method | Teach input (for switching output) |
| Setting Method | Teach-in (for switching output) |
| Housing Material | Stainless steel, V2A (1.4305 / 303) |
| Sensing face | Epoxy resin/glass bubble mixture |
| Sensing face | Plastic, PBT |
| Sensing face | Silicone |
| Degree of Protection | IP67 |
| Connection | M12 × 1; 5-pin |

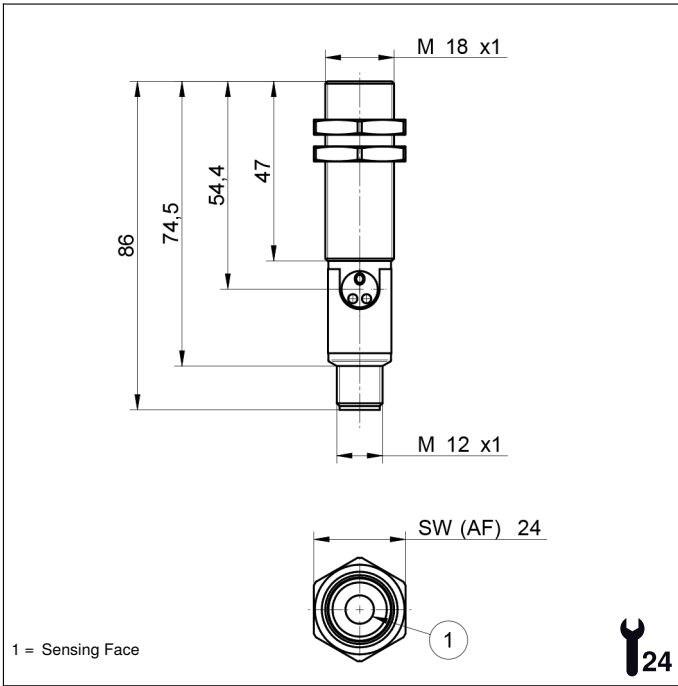
Safety-relevant Data

| | |
|------------------------|------------|
| MTTFd (EN ISO 13849-1) | 1122,83 a |
| PNP NO/NC switchable | ● |
| Analog Output | ● |
| IO-Link | ● |
| Connection Diagram No. | 370 |
| Control Panel No. | D12 |

* Relative to switching distance, at least 1 mm

Complementary Products

| | |
|---------------------------|--|
| Baffle Plate Z0021, Z0022 | |
| IO-Link Master | |
| IO-Link converter | |
| Software | |

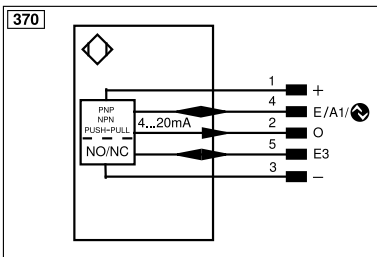


Ctrl. Panel

D12



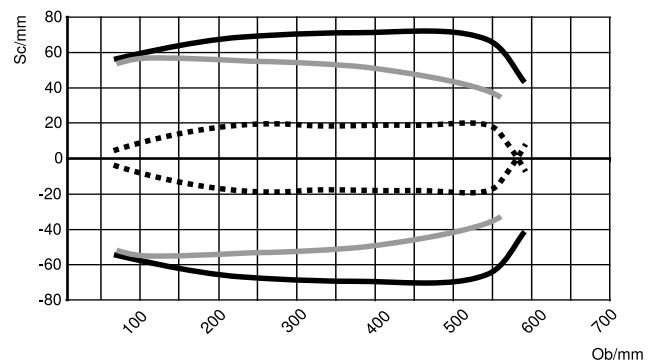
01 = Switching Status Indicator
 06 = Teach Button
 79 = Run/Error Indicator



Characteristic response curve

Characteristic curves show the position of the center of the measured object (100 × 100 mm plate) at the time of switching.

U18T Short-Range



Ob = Object
 Sc = Sonic cone width

- Standard sonic cone (center of the measured object)
- Extra-narrow sonic cone (center of the measured object)
- - - Standard sonic cone (front edge of the measured object)

