# SAPP02D-06AP002

Safeguard Detector

**SAFETY SYSTEMS FOR AUTOMATING MATERIAL FLOWS**

**SICK**
Sensor Intelligence.

# SAPP02D-06AP002 | Safeguard Detector
## SAFETY SYSTEMS FOR AUTOMATING MATERIAL FLOWS

## Ordering information

| Type | part no. |
|------|----------|
| SAPP02D-06AP002 | 1066072 |

**Included in delivery:** FX3-CPU000000 (1), FX3-XTIO84002 (1), FX3-MPL000001 (1)

Other models and accessories ➜ www.sick.com/Safeguard_Detector

## Detailed technical data

### Features

| Safety-related parameters | |
|---|---|
| Category | Category 3 (EN ISO 13849-1) |
| Performance level | PL d (EN ISO 13849-1) |
| $PFH_D$ (mean probability of a dangerous failure per hour) | $1.8 \times 10^{-7}$ |
| $DC_{avg}$ (diagnostic coverage) | 91 % (EN ISO 13849-1) |
| $MTTF_D$ (mean time to dangerous failure) | 63 years (EN ISO 13849-1) |
| **Items supplied** | 1 x main module CPU0<br>1 x system plug FX3-MPL000001<br>1 x FX3-XTIO84002 I/O module<br>1 x SAPP02D-06A0002 MultiPulse sensor pair |

### Flexi Soft safety controller

| Note | The Flexi Soft station has a modular design and can be customized based on the operator's requirements. At least one main module, the right system plug, and at least one I/O module must be used. |
|---|---|
| **Flexi Soft station construction** | Modular<br>1 main module<br>1 system plug<br>0 ... 2 gateways<br>1 ... 12 expansion modules |
| **Module interconnection** | Internal bus (FLEXBUS+) |
| **Configuration method** | Via software |
| Configuration software | Flexi Soft Designer |
| Software | You can find the software in the Flexi Soft Designer. |
| **Number of connectable sensor pairs** | Approx. 30 (depending on logic/number of logic modules used) |
| **Connection type** | Spring terminals |
| **Pulse rate of the sensors** | 2 Hz |
| **Max. safety controller cycle time** | |
| Pulse rate 10 Hz | ≤ 28 ms |
| Pulse rate 2 Hz | ≤ 148 ms |
| **Supply voltage $V_s$** | 24 V DC (16.8 V ... 30 V) |
| **Protection class** | III (EN 50178) |
| **Enclosure rating** | IP20 (EN 60529) |

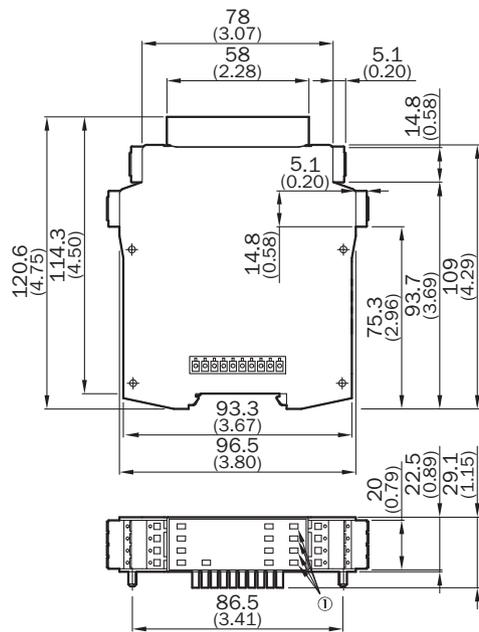| | |
|---|---|
| **Ambient operating temperature** | −25 °C ... 55 °C |
| **Fieldbus, industrial network** | CANopen, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET, DeviceNet™ |
| **Type of fieldbus integration** | Via gateway |

## MultiPulse photoelectric proximity sensor

| | |
|---|---|
| **Number of sensors** | 2 pieces |
| **Detection zone** | 30 mm ... 100 mm [1] |
| **Remission** | 6 % ... 90 % |
| **Pulse frequency** | 2 Hz |
| **Response time** | ≤ 500 ms |
| **Type of light** | Visible red light |
| **Wave length** | 650 nm |
| **Light spot size (distance)** | Ø 7 mm (50 mm) |
| **Connection type** | Connector M8, 3-pin |
| **Voltage supply** | Via Flexi Soft |
| **Enclosure rating** | IP67 (EN 60529) |
| **Ambient operating temperature** | −40 °C ... +60 °C |

[1] If no movable physical guard is identified in the detection zone, the safety controller prompts the machine to enter the safe state.
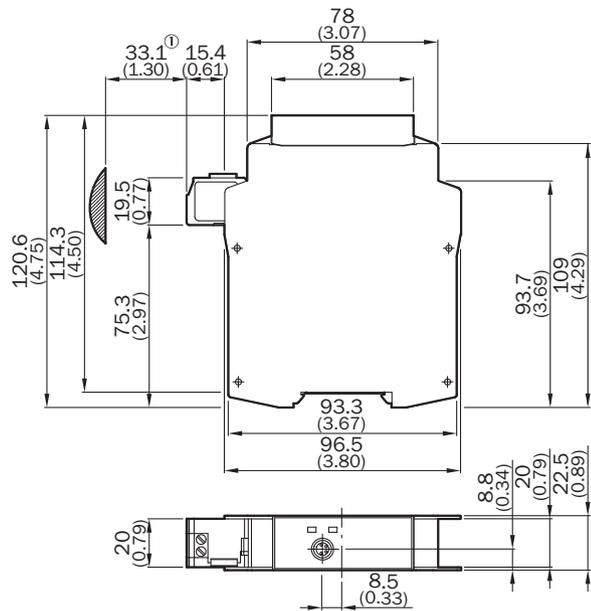
## Classifications

| | |
|---|---|
| **ECLASS 5.0** | 27279090 |
| **ECLASS 5.1.4** | 27279090 |
| **ECLASS 6.0** | 27279090 |
| **ECLASS 6.2** | 27279090 |
| **ECLASS 7.0** | 27279090 |
| **ECLASS 8.0** | 27279090 |
| **ECLASS 8.1** | 27279090 |
| **ECLASS 9.0** | 27279090 |
| **ECLASS 10.0** | 27279090 |
| **ECLASS 11.0** | 27279090 |
| **ECLASS 12.0** | 27279090 |
| **ETIM 5.0** | EC001449 |
| **ETIM 6.0** | EC001449 |
| **ETIM 7.0** | EC001449 |
| **ETIM 8.0** | EC001449 |
| **UNSPSC 16.0901** | 32151705 |

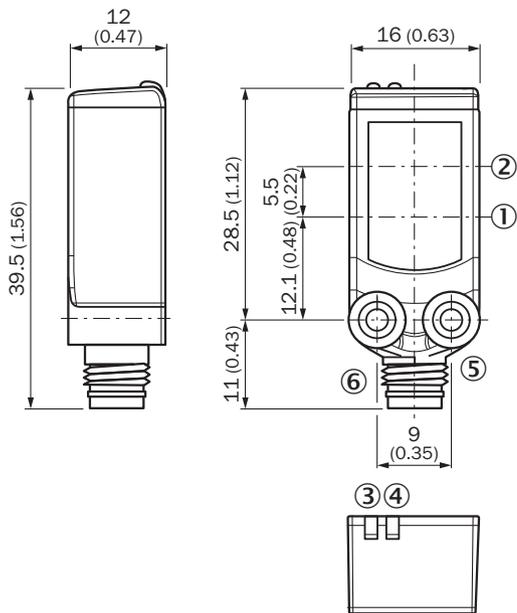## Dimensional drawing FX3-XTIO, FX3-XTDI

Dimensions in mm (inch)
① Only valid for FX3-XTIO

## Dimensional drawing FX3-CPU0

Dimensions in mm (inch)
① Approximate connector range

## Dimensional drawing

Dimensions in mm (inch)

# SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is "Sensor Intelligence."**

# WORLDWIDE PRESENCE:

Contacts and other locations –**www.sick.com**

SICK AG  |  Waldkirch  |  Germany  |  www.sick.com

**SICK**
Sensor Intelligence.