

# TECNO TIN - UVC

## Tin side detection system

- Various UV fiber optics available
- UV LED, 280 nm (AC-/DC- operation or OFF for luminous objects can be switched)
- High scan frequency
- Gray scale detection (12-bit resolution)
- Averaging can be activated (from 1 up to over 32000 values)
- TEACH via PC or PLC
- 2 digital inputs (0V/+Ub)
- 2 digital outputs (max. 60kHz switching frequency)
- 1 analog output (0V ... +10V and 4 ... 20mA)
- Switching state indication by means of 2 yellow LEDs
- RS232 interface (USB or ETHERNET converter available)
- Parametrizable via Windows® software, scope function
- Temperature compensated
- Automatic threshold correction can be activated
- Switching threshold can be parameterized relative or absolute

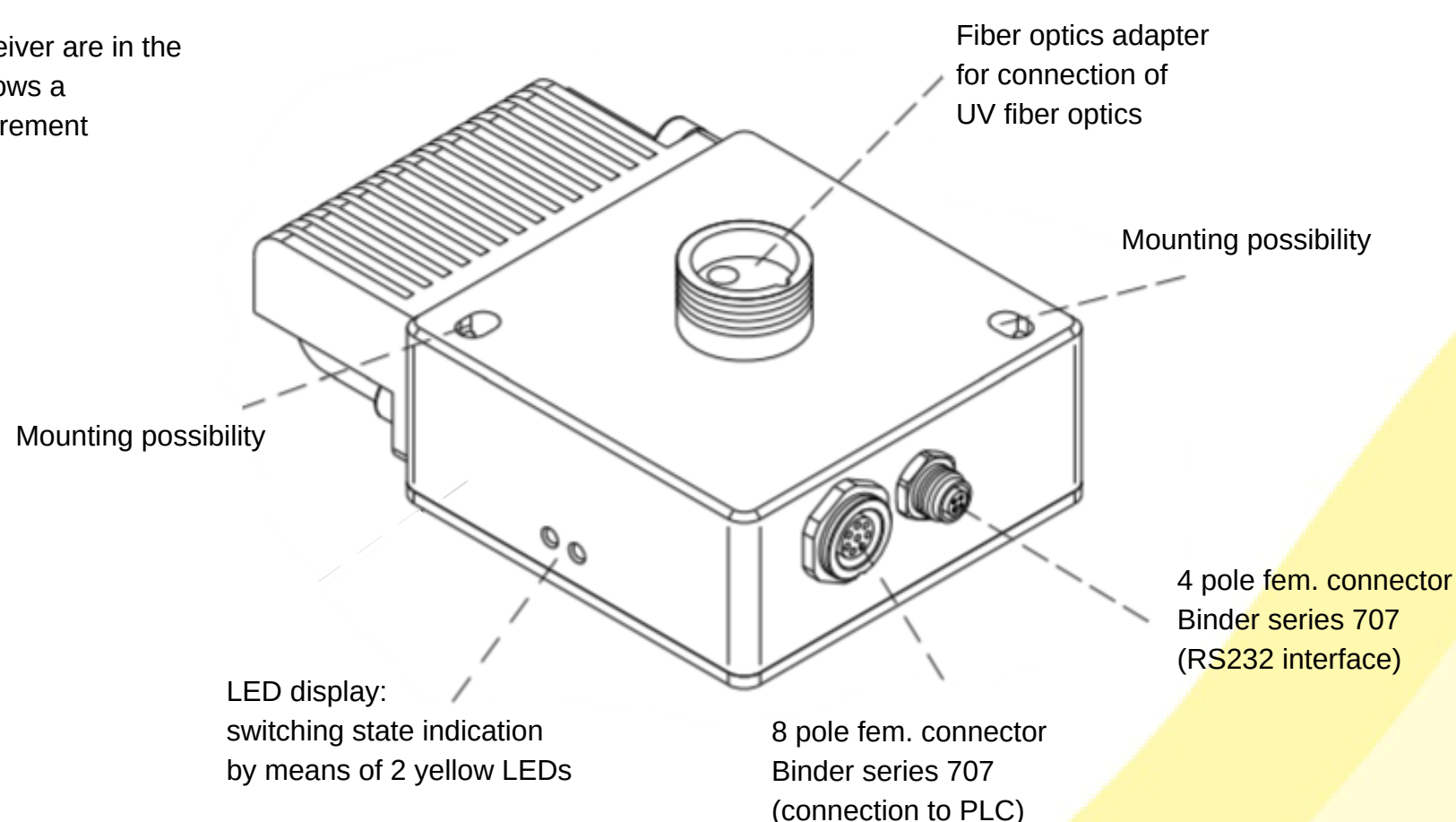


## Design

### Product name

TECNO TIN - UVC

Transmitter and receiver are in the UV range, which allows a transmission measurement in the UV range



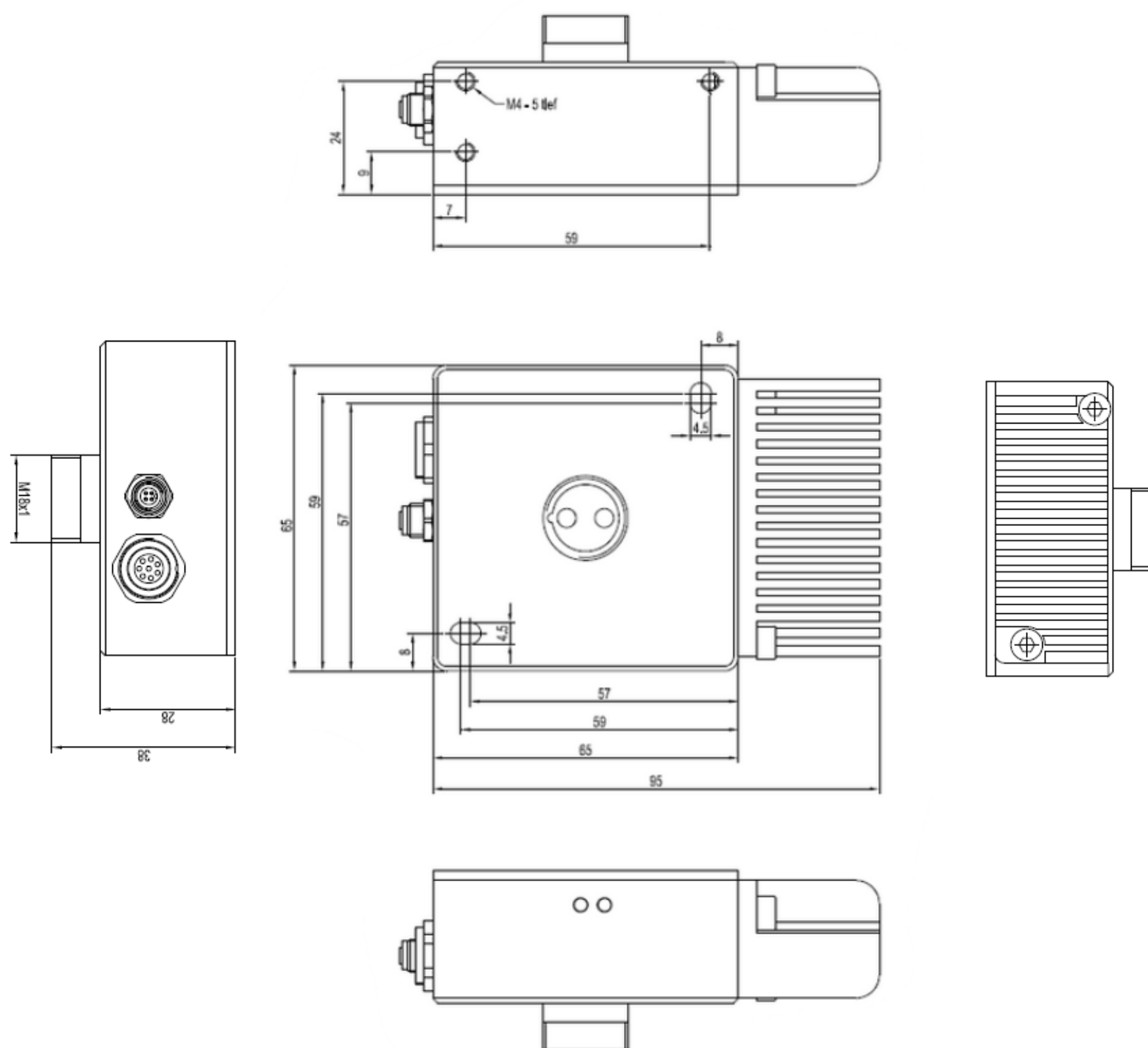
# Tin side detection system

## Technical data

|                                          |                                                                                                                                                                         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Voltage supply</b>                    | +24VDC ( $\pm 10\%$ ), reverse polarity protected, overcurrent protected                                                                                                |
| <b>Current consumption</b>               | < 160 mA                                                                                                                                                                |
| <b>Max. switching current</b>            | 100 mA, short circuit proof                                                                                                                                             |
| <b>Switching state indication</b>        | 2 yellow LED visualize the physical state of the outputs OUT0 and OUT1                                                                                                  |
| <b>Digital inputs (2x)</b>               | IN0 and IN1 (Pin 3 and 4): digital (0V/+24V)                                                                                                                            |
| <b>Digital outputs (2x)</b>              | OUT0 and OUT1 (Pin 5 and 6): digital (0V/+24V), npn-/pnp-able (bright-/dark-switching, can be switched)                                                                 |
| <b>Analog output (1x)</b>                | ANALOG (Pin 8): voltage 0 ... +10V or current 4 ... 20mA, adjustable via PC software                                                                                    |
| <b>Interface</b>                         | RS232                                                                                                                                                                   |
| <b>Averaging</b>                         | max. 32768 values, adjustable via PC software                                                                                                                           |
| <b>Analog band width</b>                 | max. 90 kHz (-3 dB)                                                                                                                                                     |
| <b>Transmitter (light source)</b>        | UV LED, 280 nm                                                                                                                                                          |
| <b>Object distance (measuring range)</b> | with reflected light fiber optics: typ. 1 mm ... 50 mm (depends on fiber optics)<br>with transmitted light fiber optics: typ. 1 mm ... 200 mm (depends on fiber optics) |
| <b>Ambient light</b>                     | max. 5000 Lux                                                                                                                                                           |
| <b>Size of light spot</b>                | typ. $\varnothing$ 1 mm ... $\varnothing$ 10 mm depends on fiber optics (cf. FIO series)                                                                                |
| <b>Housing dimensions</b>                | LXWxH approx. 95 mm x 65 mm x 38 mm (incl. fiber optics adaptor M18x1, without connectors)                                                                              |
| <b>Housing material</b>                  | Aluminum, anodized in black                                                                                                                                             |
| <b>Enclosure rating</b>                  | IP64                                                                                                                                                                    |
| <b>Connecting cables</b>                 | to PLC: cab-las8/SPS or cab-las8/SPS-w<br>to PC/Ethernet interface: cab-4/ETH<br>to PC/USB interface: cab-4/USB or cab-4/USB-w                                          |
| <b>Type of connector</b>                 | connection to PLC: 8-pole fem. connector (Binder series 712)<br>connection to PC: 4-pole fem. connector (Binder series 707)                                             |
| <b>Operating temp. range</b>             | -20°C ... +55°C                                                                                                                                                         |
| <b>Storage temp. range</b>               | -20°C ... +85°C                                                                                                                                                         |
| <b>EMC test acc. to</b>                  | DIN EN 60947-5-2                                                                   |

## Tin side detection system

### Dimensions



All dimensions are in mm

## Tin side detection system

### ➤ Connector assignment

#### Connection to PLC:

##### 8-pole fem. connector Binder series 712

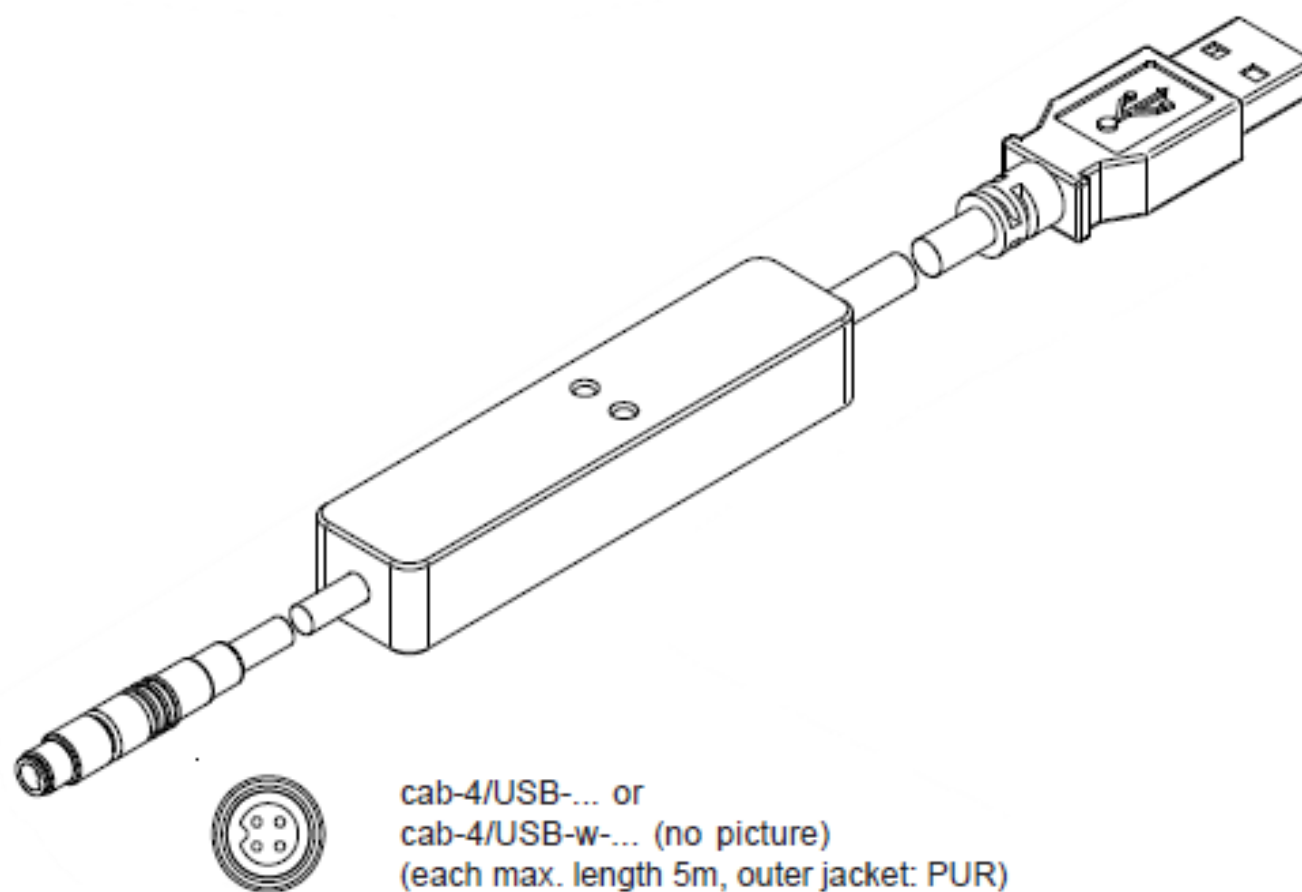
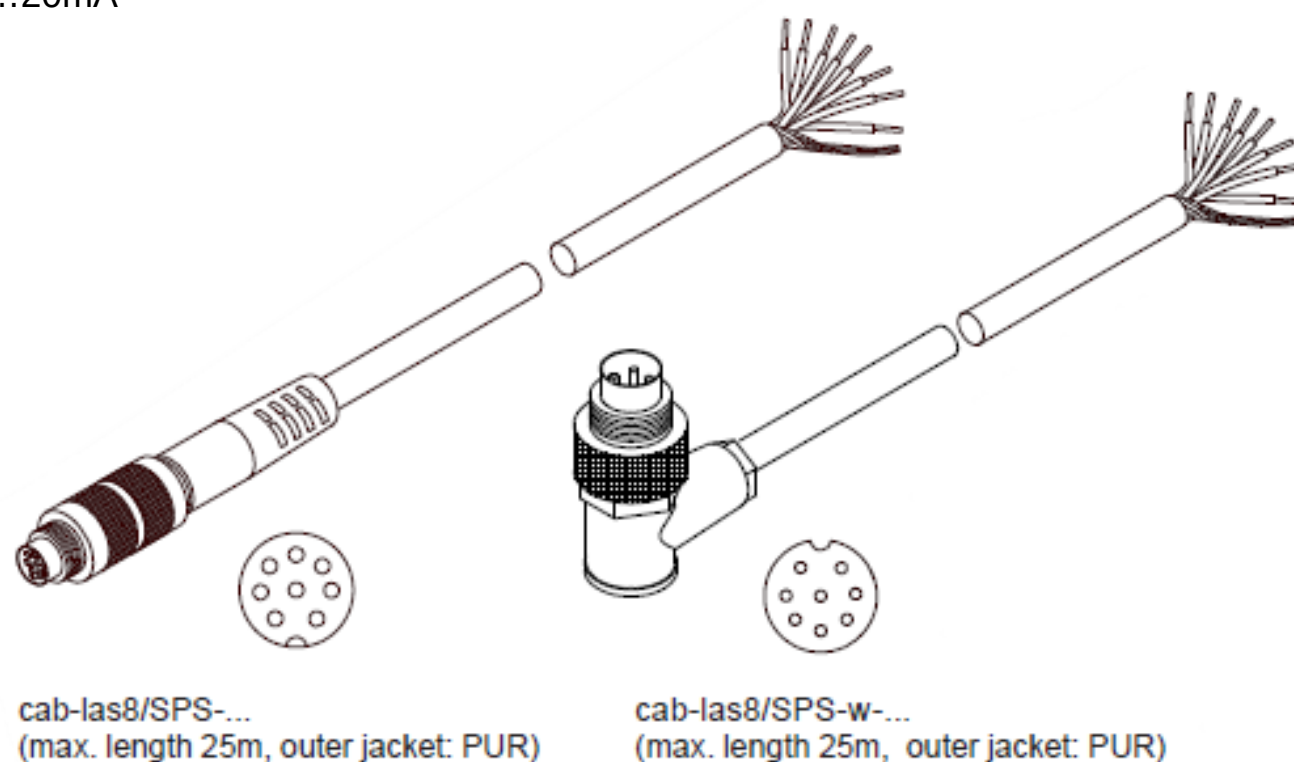
| Pin: | Color: | Assignment:                                                |
|------|--------|------------------------------------------------------------|
| 1    | white  | GND (0V)                                                   |
| 2    | brown  | +24VDC ( $\pm 10\%$ )                                      |
| 3    | green  | IN0 (Digital 0: 0 ... 1V, Digital 1: +Ub - 10%)            |
| 4    | yellow | IN1 (Digital 0: 0 ... 1V, Digital 1: +Ub - 10%)            |
| 5    | grey   | OUT0 (Digital 0: Type 0 ... 1V, Digital 1: Type +Ub - 10%) |
| 6    | pink   | OUT1 (Digital 0: Type 0 ... 1V, Digital 1: Type +Ub - 10%) |
| 7    | blue   | voltage 0...+10V                                           |
| 8    | red    | ANALOG current 4...20mA                                    |

#### Connecting cable:

cab-las8/SPS-(length)

cab-las8/SPS-w-(length)

(standard length 2m)

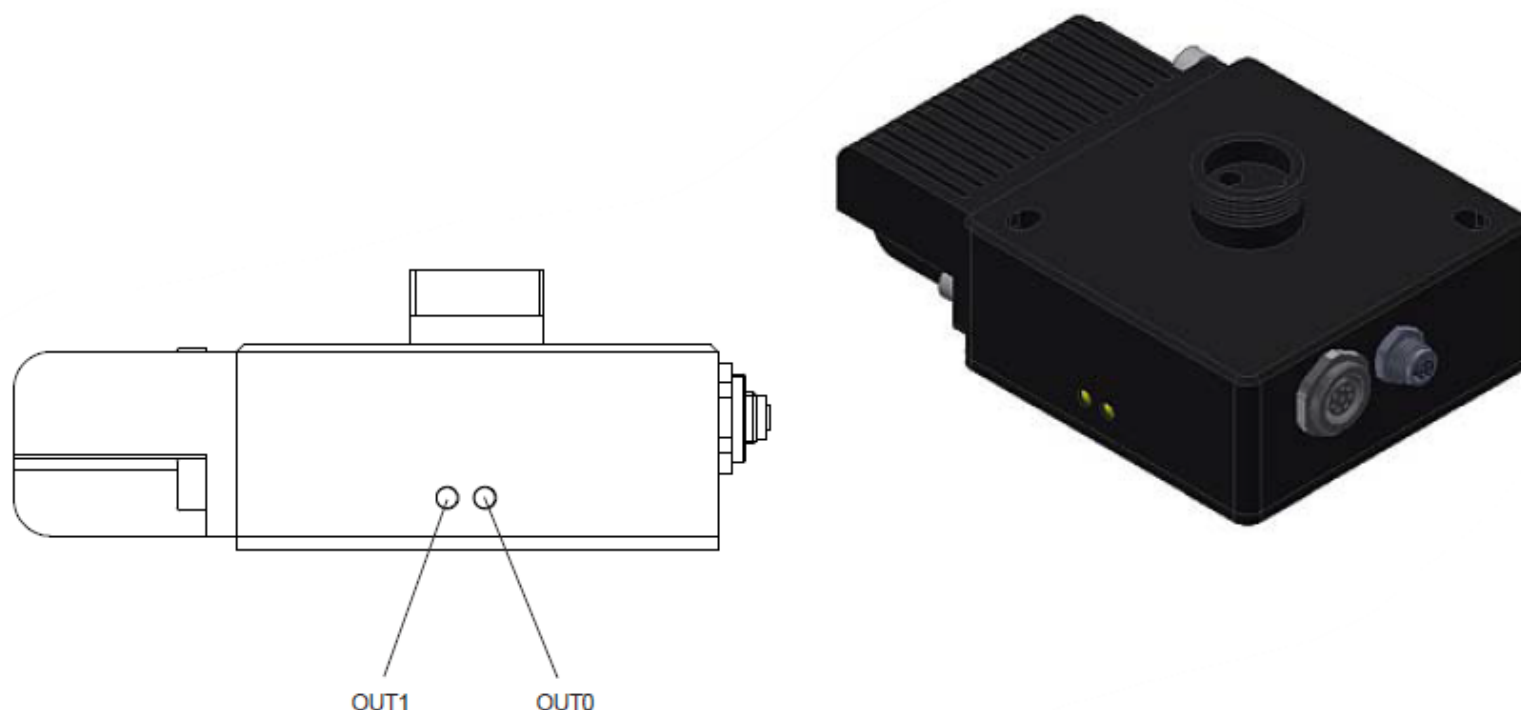


## Tin side detection system

### LED Display

#### LED display:

By means of the two LEDs  
the physical state of the two outputs  
OUT0 and OUT1 is visualized:



### Measuring principle

#### Measuring principle of the sensors of TECNO TIN - UVC:

The sensors inside the TECNO TIN-UVC is of single-channel design, i.e. they acquire the analog signal that comes from a receiver and evaluate this signal. UV light source is used as a transmitter. The receiver is correspondingly matched to the transmitter. The acquired analog signal is provided through a voltage output and a current output.

The software can be used to select various evaluation modes for the analog signal. The status of the analog signal is provided through 2 digital outputs in accordance with the selected evaluation mode. A digital input allows external "teaching" of the sensor. An additional input allows the "freezing" of the analog output signal upon a positive input edge.

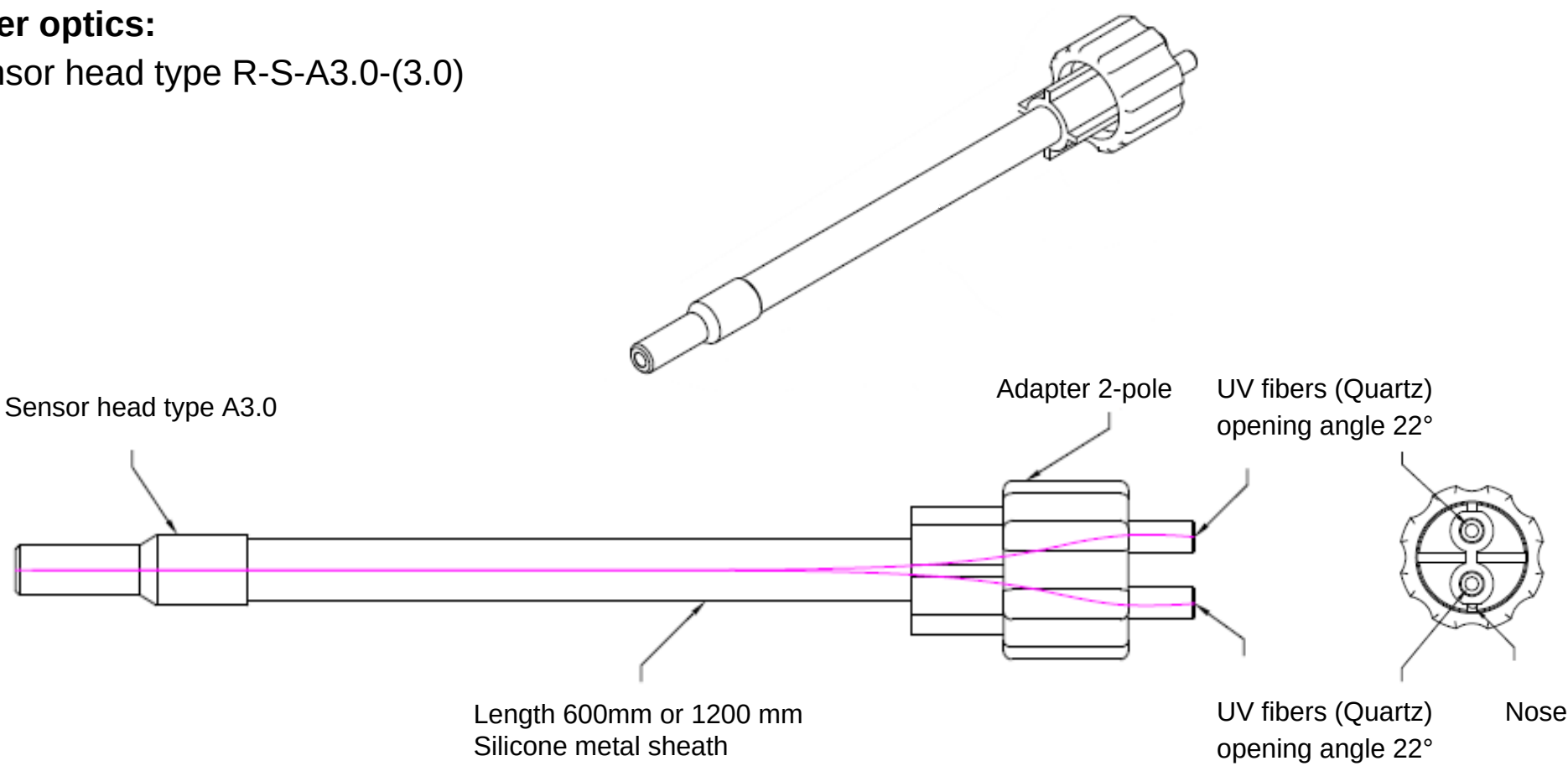
Parameters and measurement values can be exchanged between PC and sensor either through RS232 or Ethernet. Through the interface all the parameters can be stored in the non-volatile EEPROM.

Possible firmware updates can be easily performed through the RS232 interface, even with the sensor system in installed condition.

# Tin side detection system

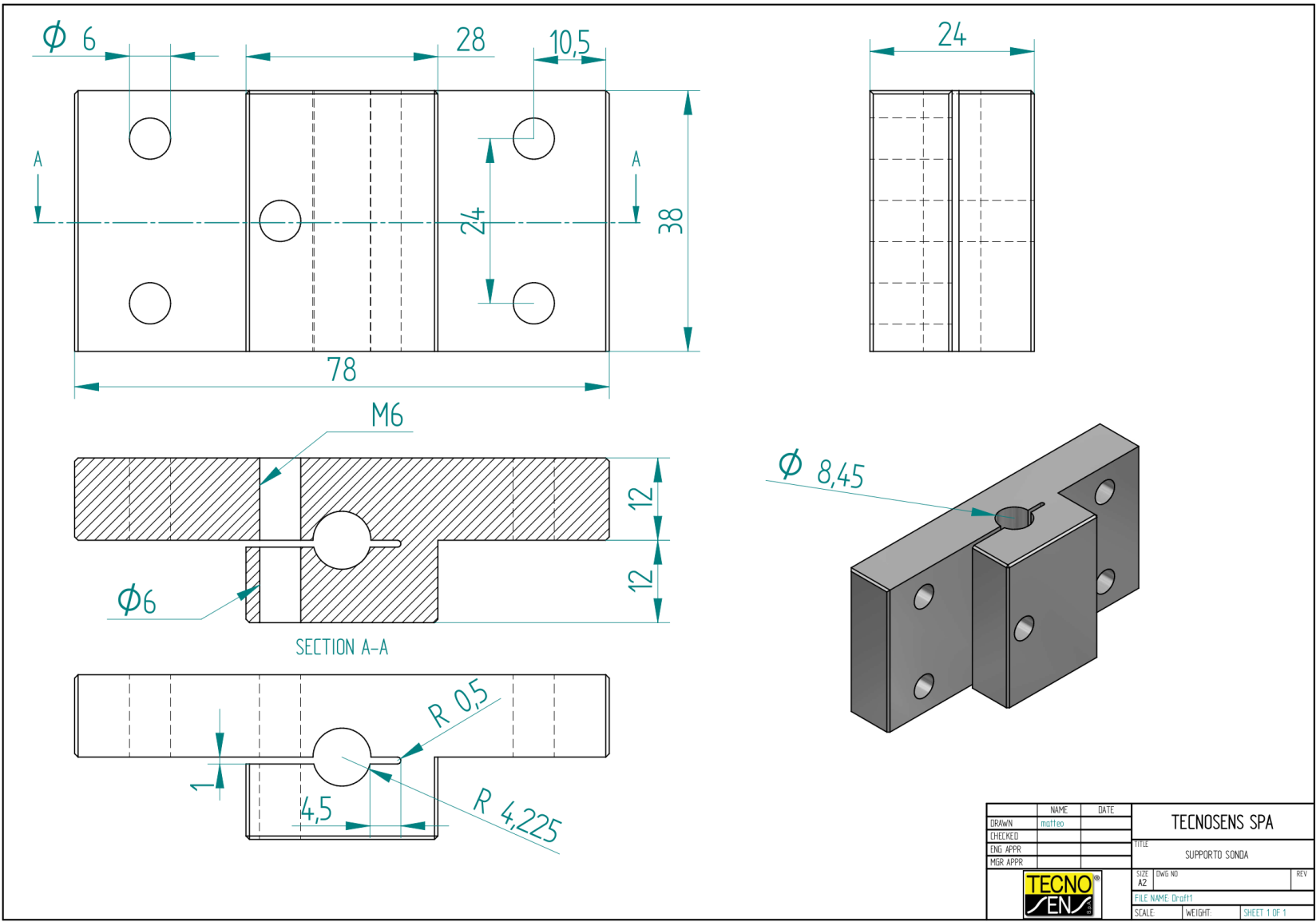
## Fiber optics

**Fiber optics:**  
Sensor head type R-S-A3.0-(3.0)



## Head holder

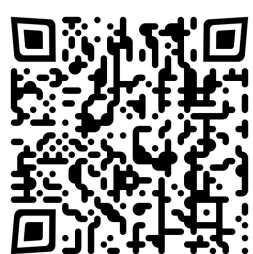
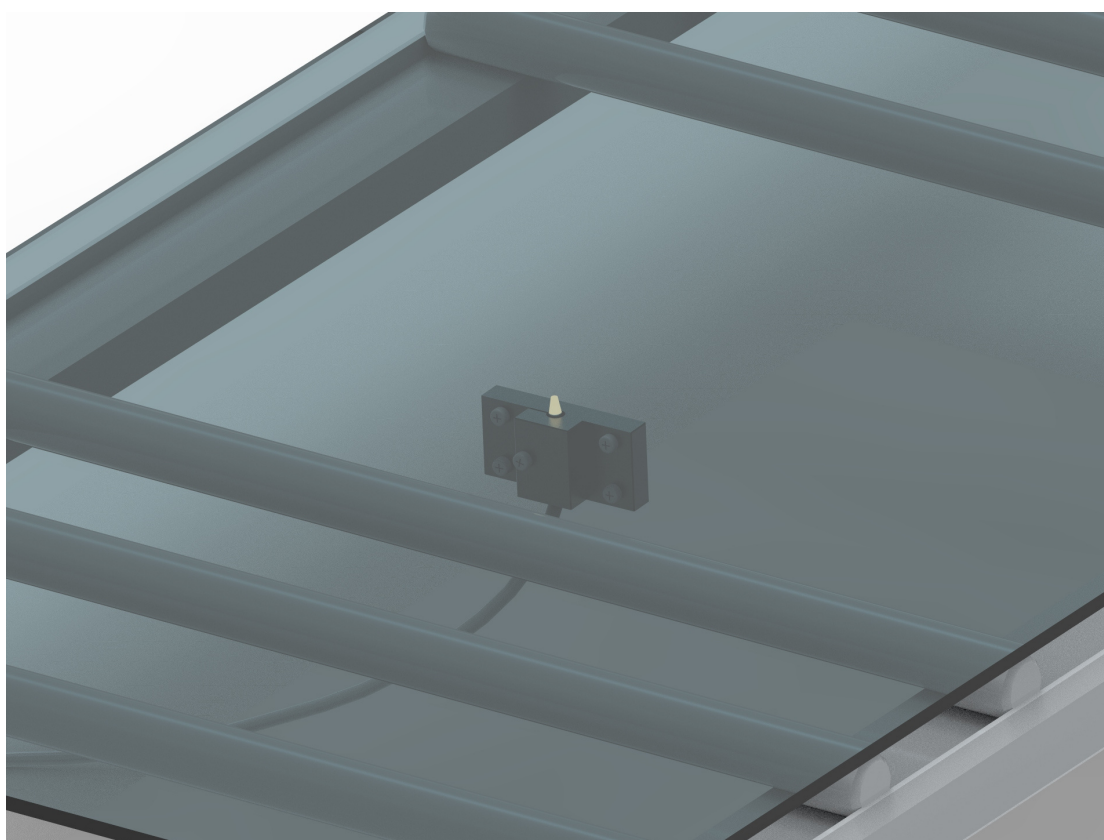
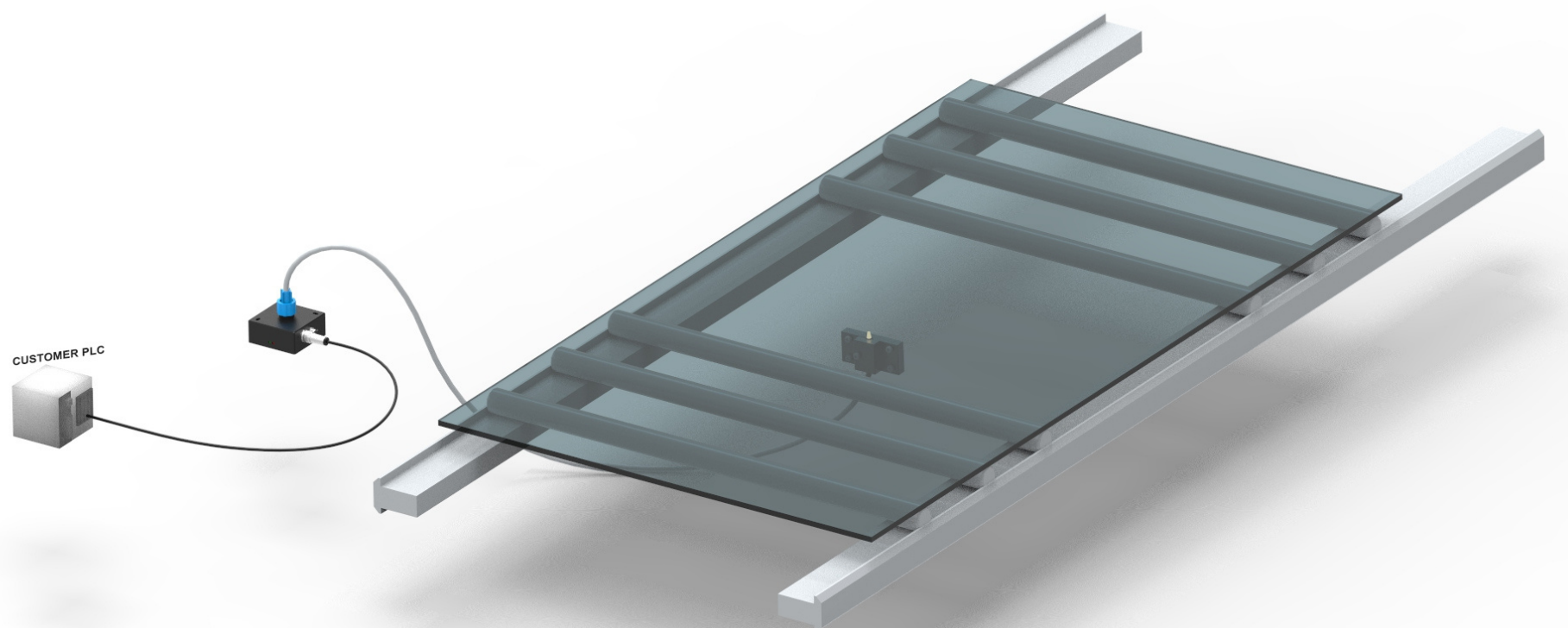
**OH1**  
Dedicated head holder for optical head fixing



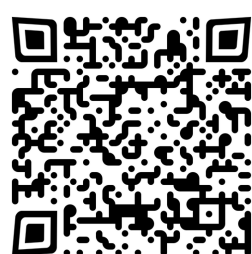
## Tin side detection system

➤ **Complete system**

Layout example



Glass Gauging



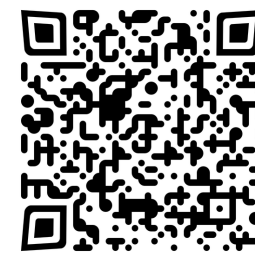
Multilayer



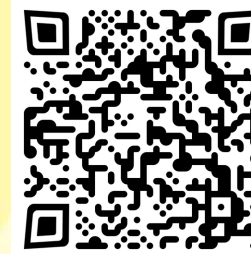
Caliber WI



Tin side



Air Gap



Black band