

# SMARTRANGE

## F 92 Distance sensors

### High-performance and cost-efficient.

You are looking for a precise distance measuring device at a reasonable price? You need a very good ease of use and a superior optical performance? The SmartRange F 92 is the solution for

- measuring and positioning tasks in automation, as needed e.g. for coils and different lengths of material
- the type classification of sub-assemblies, e.g. in the automotive industry and the automotive supply industry
- reliable and precise robot control
- the packaging industry
- the steel industry
- the timber industry



Positioning of robots



Measurement of coils



Automobile production



Storage techniques and materials handling

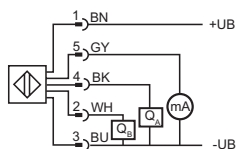


### Features

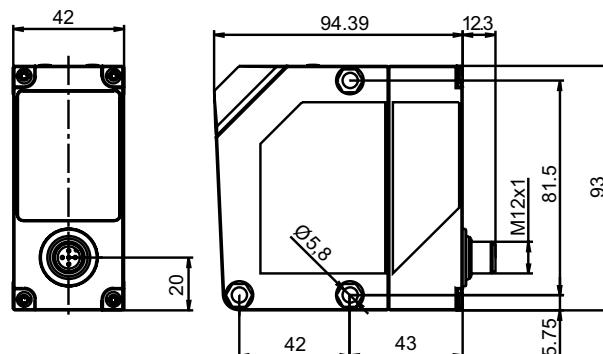
- Large scanning distances and working ranges (proximity version up to 6 m on white objects, 30 m on reflector)
- High repeatability
- High measuring rates
- Very good cost-performance ratio
- Optional red pilot laser 
- 2 PNP signal outputs
- 1 analogue output 4 ... 20 mA
- All outputs in the measuring range freely adjustable
- Standard M12 plug

| Technical data                                        | FT 92 ILA                                                    | FR 92 ILA                                                    |
|-------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| <b>Optical data</b>                                   |                                                              |                                                              |
| Measuring range                                       | 0.2 ... 6 m (grey 18 %)                                      | 0.2 ... 30 m (reflector RL250)                               |
| Measuring laser                                       | IR 900 nm, laser protection class I                          | IR 900 nm, laser protection class I                          |
| Diameter of light spot                                | 5 x 10 mm @ 3 m                                              | 15 x 20 mm @ 10 m                                            |
| Repeatability                                         | ± 10 mm / ± 15 mm (depending on mode of operation)           | ± 5 mm / ± 10 mm (depending on mode of operation)            |
| Linearity                                             | ± 40 mm                                                      | ± 60 mm                                                      |
| Pilot laser                                           | Red 650 nm, laser protection class 2                         | Red 650 nm, laser protection class 2                         |
| Switching points                                      | Freely adjustable(Teach-in)                                  | Freely adjustable(Teach-in)                                  |
| Switching hysteresis                                  | 30 mm (fixed)                                                | 30 mm (fixed)                                                |
| <b>Electrical data</b>                                |                                                              |                                                              |
| Operating voltage                                     | 18 ... 30V DC integrated polarity reversal protection        | 18 ... 30V DC integrated polarity reversal protection        |
| Residual ripple                                       | 10 % within U <sub>B</sub>                                   | 10 % within U <sub>B</sub>                                   |
| Current consumption                                   | < 3 W at 25° C                                               | < 3 W at 25° C                                               |
| Outputs Q1/Q2                                         | PNP, 100 mA                                                  | PNP, 100 mA                                                  |
| Protection class                                      | □                                                            | □                                                            |
| Short-circuit protection/polarity reversal protection | Yes (all outputs)/Yes                                        | Yes (all outputs)/Yes                                        |
| Analogue output                                       | 4 ... 20 mA                                                  | 4 ... 20 mA                                                  |
| <b>Mechanical data</b>                                |                                                              |                                                              |
| Casing material                                       | ABS shock-resistant                                          | ABS shock-resistant                                          |
| Protection standard                                   | IP67                                                         | IP67                                                         |
| Ambient temperature range                             | -10 ... +50 °C                                               | -10 ... +50 °C                                               |
| Plug connection                                       | Plug M12 5-pin                                               | Plug M12 5-pin                                               |
| <b>Accessories</b>                                    |                                                              |                                                              |
| Cable                                                 | 5-pin standard M12 cable , e.g. L5-2m-W-PUR (Art. 902-51613) | 5-pin standard M12 cable , e.g. L5-2m-W-PUR (Art. 902-51613) |
| Mounting component                                    |                                                              | e.g. MSP F90 (Art. 599-91002)                                |
| Reflector                                             |                                                              | e.g. RL 250 (Art. 904-51578)                                 |

Wiring diagram



Dimensional drawing



## FT 92 ILA-PSL5

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| Order no.:        | 591-91005                                              |
| Sensor principle: | Distance sensors                                       |
| Features:         | Laser distance measurement , 0.2 ... 6m, plug M12-5Pol |

### product data

|                      |                 |
|----------------------|-----------------|
| Housing:             | cube            |
| Connection type:     | Plug M12 5-pin  |
| Light type:          | LED, Infrared   |
| Output:              | analogue        |
| Range:               | 200 ... 6000 mm |
| Series:              | F 9x            |
| Protection standard: | IP67            |
| Typical resolution*: | +/- 5 mm        |

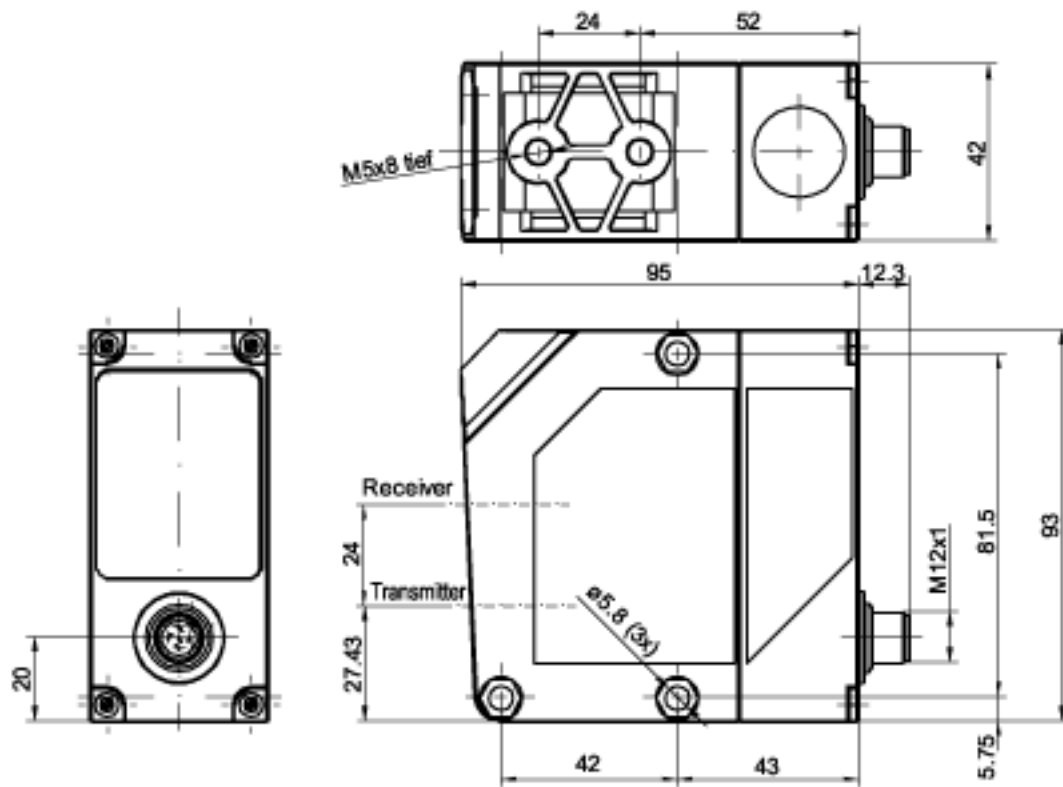
\*The resolution can differ depending on target object or ambient conditions.



Image may vary from product.



dimensional drawing:



connection diagram:

