


# FT 92 – proximity switch with long scanning distance

The far-sighted sensor with pulse time-of-flight measurement



 made in Germany



## TYPICAL FT 92

- Very long range
- Precise background suppression with time-of-flight technology
- User-friendly fine adjustment of sensor with pilot laser
- Rapid and easy adjustment via teach-in
- Safe operation thanks to Laser Class 1
- Robust housing/plug unit
- Well thought-out mounting accessories
- UL-certification

The FT 92 proximity switch has been specially designed for detection tasks with long distances to the process: the sensor, equipped with an infrared laser (Laser Class 1) reaches ranges of up to 6 m. Whereby its measurement principle of infrared pulse time-of-flight technology guarantees particularly precise background suppression, and thus reliable detection even against highly reflective or glossy backgrounds – as well as absolute immunity to ambient light.

Long distances not only require excellent optical performance, but also helpful functions for installation and commissioning. Thus a pilot laser that can be switched off simplifies fine adjustment of the sensor, and the wide variety of mounting options provides users with rapid and user-friendly installation.

The FT 92 is suitable for numerous applications in industrial automation, e.g. for small-part detection, for checking presence or for positioning tasks. The far-sighted sensor can therefore be found in many sectors: in the automotive industry and in mechanical engineering, in the wood-processing industry, in packaging machines or in the control of gates and doors. Its stable and robust design ensures smooth, trouble-free operation everywhere – as well as satisfied users!

F 92 – Product Overview						
	Type of light	Adjustment	Scanning distance / range	Special features	Page	
Photoelectric proximity sensor with background suppression						
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# FT 92 IL

Infrared photoelectric proximity sensor with background suppression



## PRODUCT HIGHLIGHTS

- Long range of 6 m
- Precise background suppression through time-of-flight technology
- Reliable operation even with highly reflective and glossy backgrounds
- Simple alignment via integrated pilot laser

Optical data		Functions	
Scanning distance	0.2 ... 6 m <sup>1</sup>	Indicator LED, green	Operating voltage indicator
Type of light, measurement laser	Infrared, 905 nm	Indicator LED, yellow	Switching output indicator
Laser Class, measurement laser (DIN EN 60825-1:2008-5)	1	Indicator LED, orange	Operating mode indicator (Fast / Slow)
Type of light, pilot laser	Laser, red, 650 nm	Scanning distance adjustment	Via Teach-in button
Laser Class, pilot laser (DIN EN 60825-1:2008-5)	2	Adjustment possibilities	Switching point set via Teach-in button
Repeatability, Fast / Slow	≤ ± 15 mm / 10 mm	Default settings	Switching window set via Teach-in button
			Slow / Fast mode via Teach-in button
			N.O./N.C. via Teach-in button
			Pilot laser via Teach-in button
			Sn = 5.8 m and N.O.
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	18 ... 30V DC <sup>2</sup>	Dimensions	95 x 93 x 42 mm <sup>3</sup>
No-load current, I <sub>0</sub>	≤ 125 mA	Enclosure rating	IP 67 <sup>3</sup>
Output current, I <sub>e</sub>	100 mA	Material, housing	ABS
Voltage drop, U <sub>D</sub>	≤ 2.4 V	Material, front screen	PMMA
Protective circuits	Reverse-polarity protection, U <sub>B</sub> / short-circuit protection (Q)	Type of connection	See Selection Table
Protection Class	2	Ambient temperature: operation	-20 ... +50 °C
Power On Delay	< 300 ms	Ambient temperature: storage	-40 ... +80 °C
Switching output, Q	PNP/NPN (see Selection Table)	Weight (plug device)	200 g
Output function	N.O./N.C.	Weight (cable device)	270 g
Response time, Fast / Slow	13 / 80 ms	Vibration and impact resistance	EN 60947-5-2

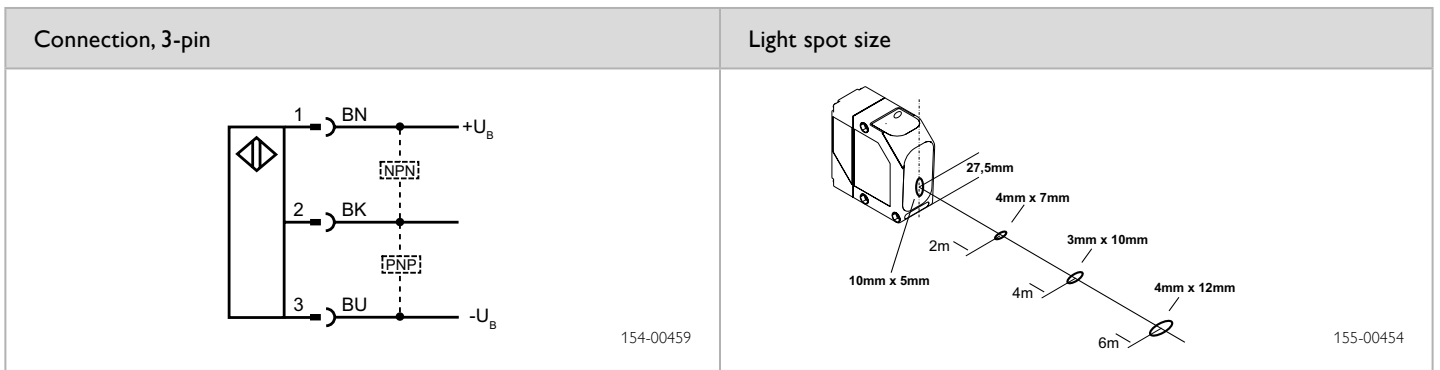
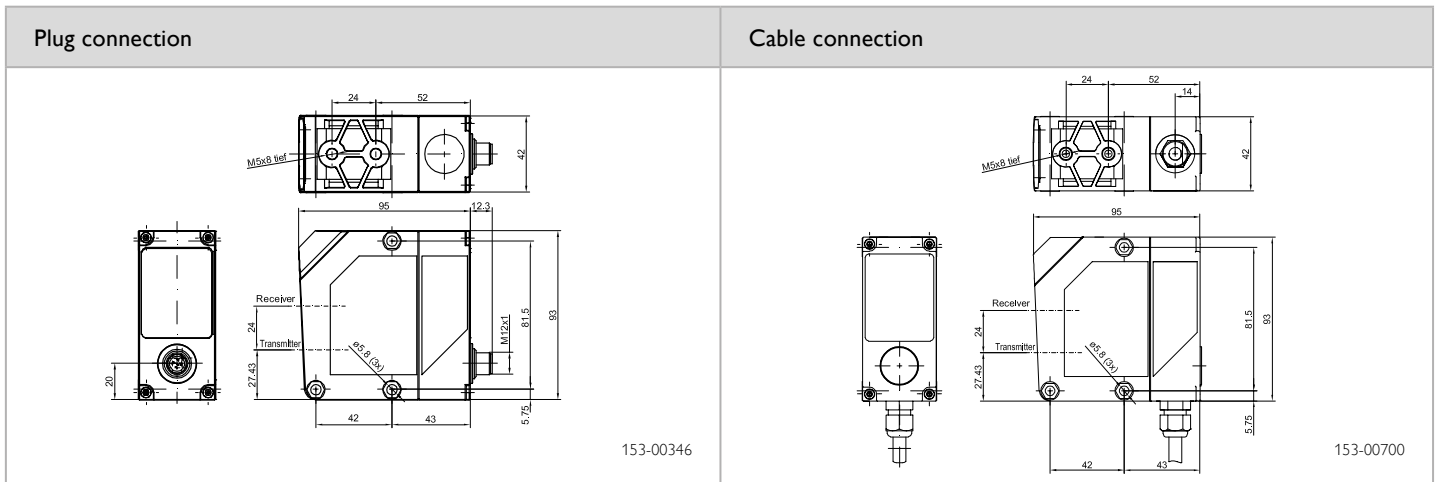
<sup>1</sup> Reference material, white, 90 % reflectivity    <sup>2</sup> Max. 10 % ripple, within U<sub>B</sub>    <sup>3</sup> With connected IP 67 plug

Scanning distance	Switching output	Type of connection	Part number	Article number
0.2 ... 6 m	PNP	Plug, M12x1, 4-pin	FT 92 IL-PSL4	591-91007
0.2 ... 6 m	NPN	Plug, M12x1, 4-pin	FT 92 IL-NSL4	591-91009
0.2 ... 6 m	PNP	Cable, 3 m, 3-wire	FT 92 IL-PSK3	591-91011
0.2 ... 6 m	NPN	Cable, 3 m, 3-wire	FT 92 IL-NSK3	591-91010
0.2 ... 6 m	PNP	Pigtail, 300 mm, with M12x1 plug, 4-pin	FT 92 IL-PS-KL4	591-91012

## Accessories

Connection cables  
Brackets

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Smallest detectable part	Reference material	Detection range
<p>155-00207</p>	White (90 %)	0.2 ... 6 m
	Grey (18 %)	0.2 ... 6 m
	Black (6 %)	0.2 ... 2.5 m