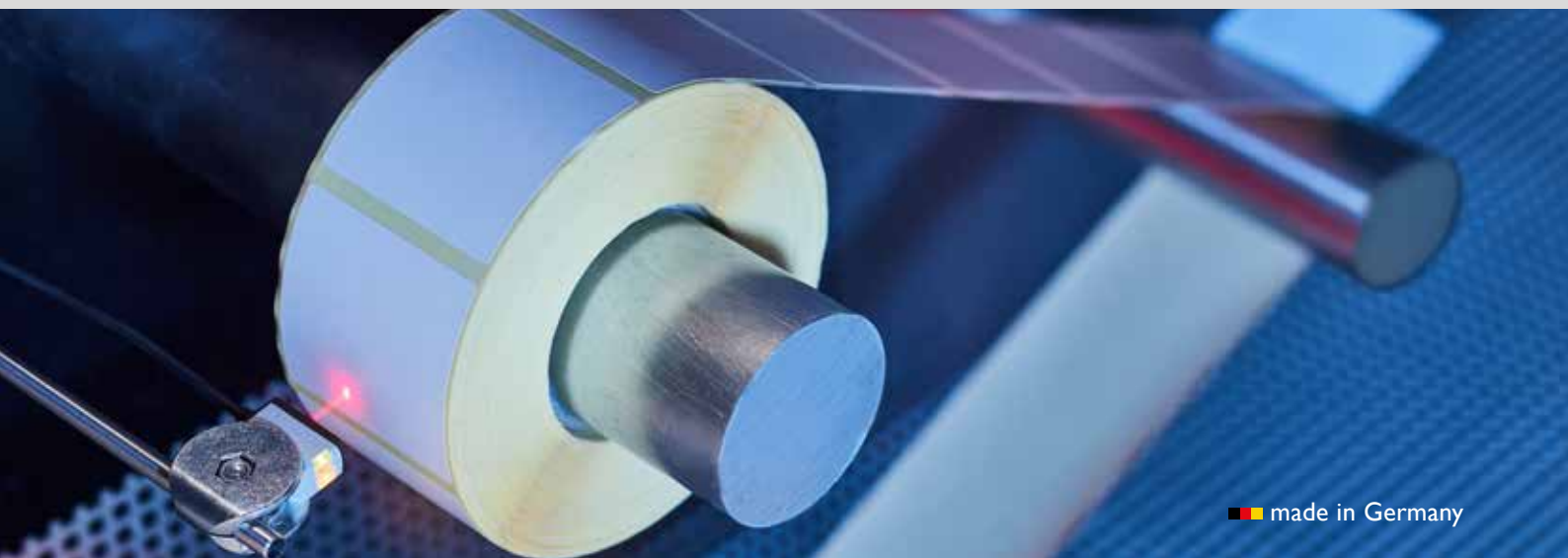


FT 10-RLA – The smallest optical distance sensor in the world

Subminiature distance sensor for precision measurement tasks in confined spaces



When things get too cramped:

The **FT 10-RLA** demonstrates outstanding ability, even in extremely cramped installation conditions. As the smallest optical distance sensor on the market, it is ideally suited to challenging measurement tasks, e.g. during assembly of semi-conductor devices or in robotics applications.



Small but powerful

Measuring just 21.1 x 14.6 x 8 mm in size and only 10 grammes in weight, it is scarcely larger than the tip of your finger – and therefore ideal for cramped conditions.

TYPICAL FT 10-RLA

Minimum weight, ideal for robotics applications


- Also suited to smallest installation space thanks to minimal dimensions
- Measurement value output via IO-Link
- Excellent sensor characteristics with repeat accuracy and linearity
- Measuring range 10 to 70 mm
- Laser class 1 for optimum eye safety

Reduced to the smallest possible size and weight: Measuring just 21.1 x 14.6 x 8 mm and only approximately 10 g, SensoPart's new laser distance sensor is the smallest of its kind. Despite a subminiature design, it has excellent sensor capacities with particularly exceptional linearity and repeatability. The measuring range is 10 to 70 mm with only a tiny blind zone of 10 mm. The sharp rectangular light spot (1 x 3 mm), which is characteristic of laser sensors, guarantees reliable small part detection.

Examples of sectors and applications:

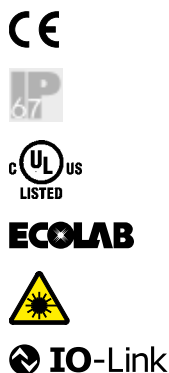
- Robotics, e.g. distance measurement on gripper
- Electronics production, e.g. double layer control on printed circuit boards or height check of components
- Assembly and handling technology, e.g. for checking accuracy of installation

5

FT 10-RLA – Product Overview			
	Operating range	Special features	Page
FT 10-RLA	10 ... 70 mm	Laser, small housing, Measurement value output via IO-Link 	199

FT 10-RLA

Sub-miniature laser distance sensor



PRODUCT HIGHLIGHTS

- Measurement value output via IO-Link
- Minimum weight
- Also suited to smallest installation spaces thanks to minimal dimensions
- Adjustable averaging times
- Laser class 1 for optimum eye safety

Optical data		Functions	
Measurement range	10 ... 70 mm ¹	Indicator LED, green	Operating voltage indicator
Resolution	0.01 mm	Indicator LED, yellow	Switching output indicator
Linearity	± 0.2 ... 0.8 mm (see characteristics) ²	Measurement range adjustment	Via IO-Link
Repeatability	0.01 ... 0.2 mm (6 σ , see characteristics) ^{2,3}	Adjustment possibilities	Button lock via control input N.O./N.C. and Auto-Detect / NPN / PNP via Teach-in button or IO-Link Smart functions and averaging times via IO-Link
Type of light	Laser, red, 655 nm	Default settings	See selection table
Light spot size	1 x 3 mm		
Laser class (IEC 60825-1)	1		
Resistance to ambient light	≤ 5000 Lux		
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC	Dimensions	21.1 x 14.6 x 8 mm
No-load current, I ₀	≤ 12 mA	Enclosure rating	IP 67 ⁵
Output current, I _{e Q}	≤ 50 mA	Material, housing	PUR
Protective circuits	Reverse-polarity protection, U _B / short-circuit protection (Q)	Material, front screen	PMMA
Protection Class	2	Type of connection	See selection table
Switching output, Q	1x Auto-Detect (PNP/NPN) ⁴	Ambient temperature: operation	-20 ... +50 °C ⁶
Output function Q	N.O./N.C.	Ambient temperature: storage	-20 ... +60 °C
Switching frequency, f (ti/tp 1:1) Q	≤ 1000 Hz	Weight (cable device)	22 g
Response time Q	500 μ s	Weight (pigtail)	10 g
Warm-up time	10 min.	Resistance to vibrations and impacts	EN 60947-5-2
Response time measurement value	4 ms		
Averaging times	4 / 40 / 80 / 120 / 160 / 200 / 240 / 280 / 320 / 360 / 400 ms (Default setting 4 ms)		
Temperature-specific measurement deviation	0.01 mm/K (typ.)		
IO-Link			
Communication mode	COM 2		
Min. cycletime	2.7 ms		
SIO mode	Compatible		
Data storage	Compatible		
Length process data	24 Bit		
Specification	1.1		

¹ Reference material 5...90 % reflectivity be fixed ⁵With connected IP 67 plug

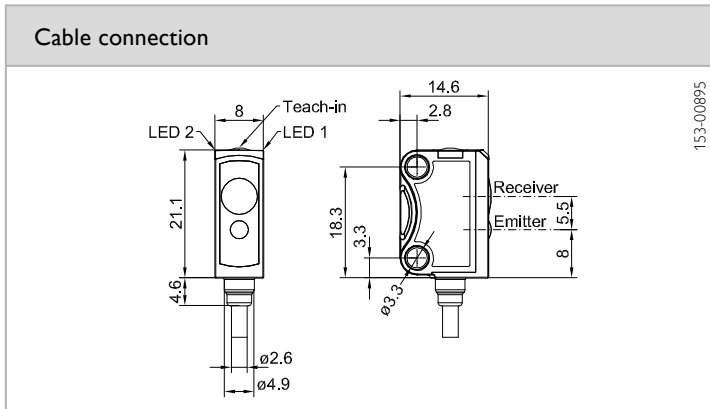
² Reference material 90 % reflectivity

³ Stationary object,

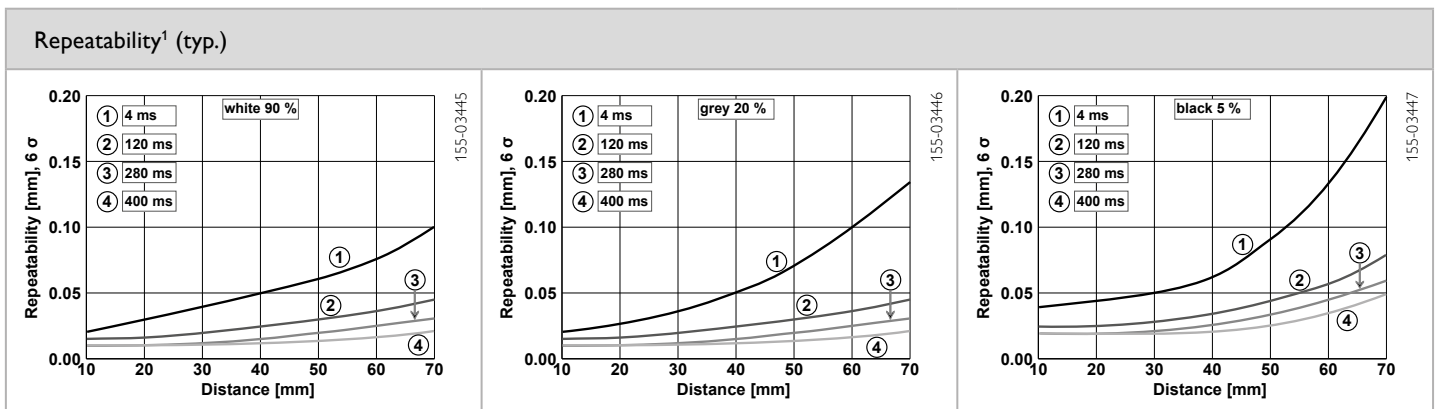
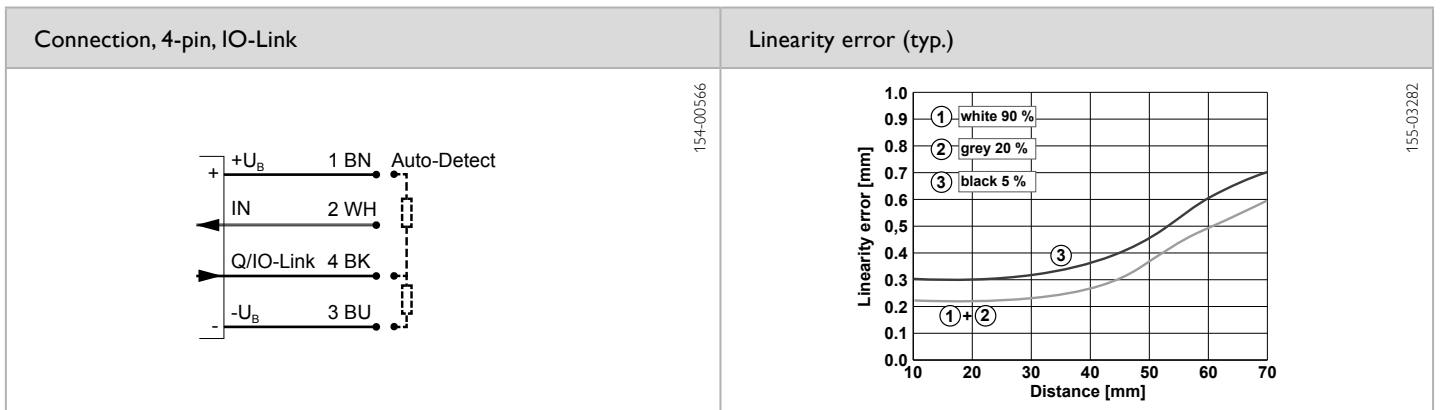
⁴ Auto-Detect: Automatic selection of PNP or NPN by the sensor; PNP or NPN can

⁶ UL: max. +30 °C

Measurement range	Measurement value output	Switching output	Type of connection	Part number	Article number
10 ... 70 mm	IO-Link	Auto-Detect	Pigtail, 200 mm with plug, M8 4-pin, IO-Link	FT 10-RLA-60-PNSL-KM4	600-11175
10 ... 70 mm	IO-Link	Auto-Detect	Cable, 2 m, 4-wire, IO-Link	FT 10-RLA-60-PNSL-K4	600-11176



5



¹ At constant ambient conditions, minimum distance between sensors 3 mm

Accessories

Connection cables	www.sensopart.com/en/accessories
Brackets	
SensolO (901-01001)	