FT 55-RLAM-480-PNSUIDL-L5M-00

Distance sensor for a wide range of applications



PRODUCT HIGHLIGHTS

- Operating range up to 600 mm enables versatile applications in which precision at large distances is required
- Precise measurements thanks to repeatability up to ≤ 20 µm
- Switching hysteresis of 1.2 enables smart part detection even at large distances up to 600 mm

Optical data		Functions	
Operating range	120 … 600 mm	Indicator LED 1, green	Operating voltage indicator
Resolution (14 Bit)	30 µm	Indicator LED 2, yellow	Status indicator Q
Linearity (typ.)[1]	± 0.6 mm	Measurement range adjustment	Via display or IO-Link
Repeatability[1]	20 … 200 µm, see illustration	Adjustment possibilities	Teach-in Q_A, Q as switching window or switching point Setting of mean value at Q_A Auto-Detect/NPN/PNP/Push-Pull Smart Functions (On-delay and drop-out delay, counter, impulse, frequency)
Hysteresis[1]	≤ 1.2 mm		
Type of light	Laser, red 655 nm		
Immunity to ambient light	≤ 20,000 lux		
Light spot size (w x h)	4 x 1 mm		
Measurement frequency	5 kHz		
Laser class (IEC 60825-1)	1		

Electrical data			
Operating voltage $+U_B$	15 … 30 V DC	Load	≤ 1 kOhm (2 ... 10 mA) ≤ 500 Ohm (4 … 20 mA) ≥ 2 kOhm (0 … 10 V, 2 ... 10 V)
Power consumption	≤ 1.5 W		
Output current le Q	< 50 mA	Max. input current at GND/Pin 4	< 50 mA
Protection circuits	Reverse polarity protection U_B/ short-circuit protection (Q)	Switching frequency f (ti/tp 1:1) Q	≤ 1000 Hz
Protection class	2	Response time Q	600 µs
Power On Delay	< 300 ms	Response time Q_A	400 us
Switching output Q	Auto-Detect[2]/PNP/NPN/Push-Pull	Averaging time[3]	1 ms, 10 ms, 100 ms, 1000 ms
Output function Q	N.O./N.C.	Update time measured value	Update time Q_A + averaging time
Thermal response Q_A/digital	< 0.02 %/K/0.01 %/K	Analogue output Q_A	2 … 10 mA /4 … 20 mA 0 … 10 V[4]/2 … 10 V
Warm-up time	20 min.		

Mechanical data			
Dimensions	50 x 50.5 x 25 mm	Ambient temperature: operation	-20 … +50 °C[6]
Enclosure rating	IP 67 & IP 69[5]	Ambient temperature: storage	-20 … +60 °C
Material, housing	Zinc die-cast, matt chrome	Weight (plug device)	185 g
Material, front screen/Display	PMMA	Resistance to vibration and impacts	EN IEC 60947-5-2
Type of connection	See selection table	Display	LCD, with background illumination

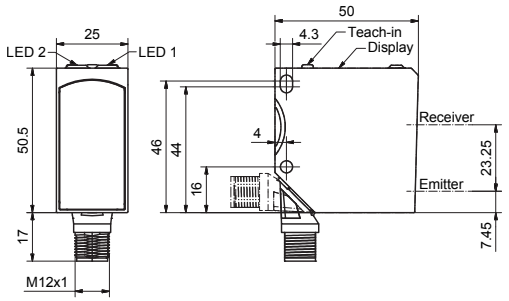
[1] 5 ... 90 %; homogenous object, not moving [2] Auto-Detect: Automatic selection of PNP or NPN by the sensor, PNP or NPN can be fixed [3] Scalable [4] up to 0.1 V undefined accuracy
[5] With connected IP 67/IP 69 plug [6] UL: max. +45 °C

IO-Link			
Communication mode	COM 2	Length process data	32 Bit
Min. cycletime	3 ms	Data Storage	compatible
SIO mode	Compatible	Specification	1.1

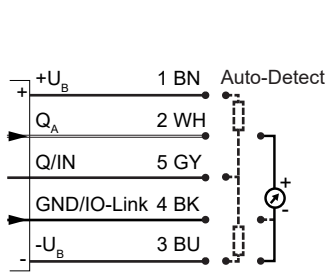
097-00005 10.08.2022-00. Subject to changes; diagrams similar

Interface	Type of connection	Laser class	Part Number	Article number
IO-Link	Plug, M12x1, 5-pin, IO-Link	1	FT 55-RLAM-480-PNSUIDL-L5M-00	624-41015

Plug connection and optical axis

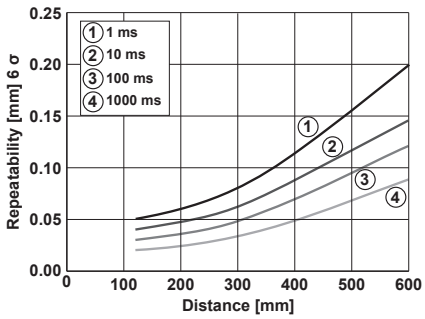


Connection, 5-pin, Auto-Detect[7, 8]

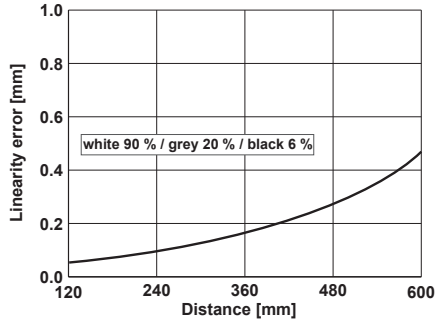


[7] In IO-Link mode, a 4-pin cable must be used [8] For analogue transmisson of measured values we recommend shielded cables

Repeatability (typ.)[9]



Linearity error (typ.)



[9] Repeatability 6 σ, 5 ... 90 %, homogenous object, not moving

Default setting		Accessories	
Analogue output Q_A	4 ... 20 mA, Measurement range limits	Connection cables	www.sensopart.com/en/accessories
Switching output Q	440 mm, N.O	Bracket SensoClip MBD F 55ST2 (579-50012)	
		SensoIO (901-01001)	