FT 55-RLAM-160-PNSUID-S1L8M

Ordering information

Designation for ordering	FT 55-RLAM-160-PNSUID-S1L8M
Part number	**624-41001**
Order text	Laser distance sensor, operating range 40...200 mm, 2xQ, QA 4...20 mA / 0.1...10 V, RS-485, laser class 1, Auto-detect (PNP/NPN), metal housing, IP 67 / IP 69K, display, metal plug M12, 8-pin
Components supplied	Operating manual, Sensor, Laser warning signs

Optical data	
Setting range *[mm]*	40 ... 200
Resolution *[mm]*	0.010
Explanation of resolution	QA, 14 bit
Linearity *[mm]*	0.20
Explanation of linearity	Typical; output via IO-Link, deviation QA < 0.2 mm from digital value; 5...90%; homogeneous, stationary object
Repeatability *[mm]*	≤ 0.05
Explanation of repeatability	5...90%; homogeneous, stationary object, see graphic
Light source	Laser
Laser class	1 (IEC 60825-1)
Light color	Red
Wavelength *[nm]*	655
Light spot size *[mm]*	4 x 1
Switching frequency ≤ *[Hz]*	≤ 600
Explanation of switching frequency	Reliable object detection up to 1 kHz
Switching hysteresis *[mm]*	0.3
Explanation of switching hysteresis	5...90%; homogeneous, stationary object
Measuring frequency *[Hz]*	5000.00
Sensitivity to ambient light *[Lux]*	≤ 10000

Funktionen	
Display, LED yellow	Status indicator Q1/Q2
Display, LED green	Operating voltage indicator
Setting options	Teach-in Q1, Q2, QA, Q as switching window or switching point Average value setting on QA Auto-detect / NPN / PNP / Push-Pull Smart functions (on and off delay, counter, pulse, frequency)
Default settings	Analogue output QA: 4...20 mA, measurement range limits Switching output Q1: 90 mm, N.O. Switching output Q2: 150 mm, N.O.
Measuring range adjustment	Via display and IO-Link

IO-Link	
Data storage	Yes
Communication mode	COM 2
Length of the process data *[Bit]*	32
Min. cycle time *[ms]*	3.0
SIO mode	is supported
IO-Link specification	1.1

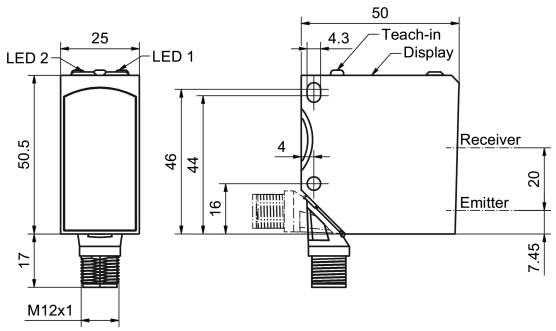
Electrical data	
Operating voltage UB *[V DC]*	15 ... 30
Output current *[mA]*	≤ 50
Readiness delay *[ms]*	≤ 300
Reverse polarity protection	Yes
Short circuit protection	Yes
Response time Q *[µs]*	≤ 800
Response time QA *[µs]*	≤ 600.0
Explanation of response time	at 0...10 V to 0.1 V undefined accuracy
Analog output QA	2 ... 10 mA / 4 ... 20 mA; 0 ... 10 V / 2 ... 10 V
Measured value output	Analog (voltage), Analog (current), IO Link, RS-485
Protection class	2
Output function	N.O./N.C.
Power consumption *[W]*	1.50
Switching output Q	Auto-detect/PNP/NPN/Push-Pull
Explanation of switching output Q	Auto-detect: Automatic selection of PNP or NPN by the sensor
Number of outputs	2
Warm-up time *[Min.]*	20
Temperature profile *[mm/K]*	0.01
Averaging times	0.2 ms, 1 ms, 10 ms, 100 ms, 1000 ms
Measured value refresh time	Response time QA + averaging rate
Explanation of thermal response	QA ± 0,02%/K, digital ± 0,01%/K
Load *[Ω]*	1000
Explanation of load	≤ 1 kOhm (2...10 mA) / ≤ 500 Ohm (4...20 mA) ≥ 2 kOhm (0...10 V, 2...10 V)

Mechanical data

Height *[mm]*	50.5
Length *[mm]*	50.0
Width *[mm]*	25.0
Weight *[g]*	~ 157
Front panel material	PMMA
Housing material	Die-cast zinc, matte chrome
Display material	PMMA
Ambient temperature: operation *[°C]*	-20 ... 50
Ambient temperature: storage *[°C]*	-20 ... 60
Protection class	IP 67, IP 69
Explanation of protection class	with IP 67 / IP 69 plug connected
Vibration and shock resistance	EN IEC 60947-5-2
Connection name	Plug, M12x1, 8-pole
- Number of pins	8
- Thread	M12x1
Housing type	Cuboidal
Display	LCD, with background illumination

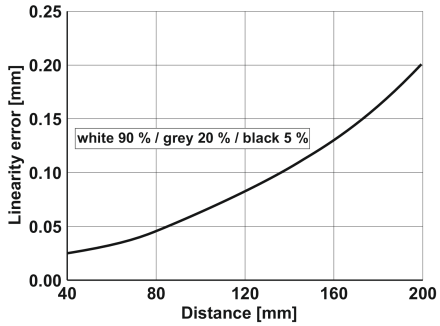
Technical drawings

Dimensional drawing



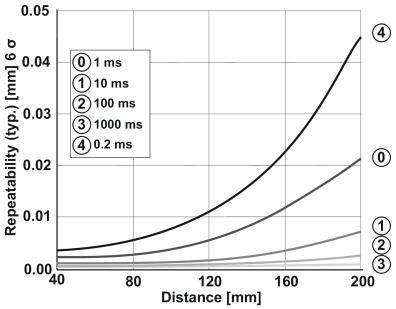
153-01271

Linearity (typ.)



155-03749

Repeatability (typ.)

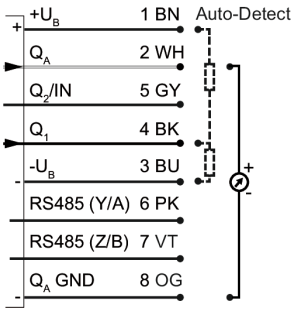


155-03750

(4): Laser class 2: 0.4 ms

Connections

8-pin, Auto-detect



154-00553

PIN 8 deviates functionally from EN IEC 60947-5-2.

Product link

https://www.sensopart.com/en/products/details/624-41001