

FT 25-RLHP

Diffuse laser sensor with background suppression



PRODUCT HIGHLIGHTS

- Compact time-of-flight sensor with long range up to 1500 mm
- Excellent detection properties on almost all surfaces such as metal or coloured plastic
- Precisely adjustable background suppression
- Simple alignment thanks to easily visible light spot
- Switching point, window mode and switching frequency adjustable via button, control input or IO-Link

Optical data		Functions	
Scanning distance	0 ... 1500 mm (see selection table) ¹	Indicator LED, green	Constantly lit operating voltage indicator Flashing: IO-Link operation
Adjustment range	100 ... 1500 mm ¹	Indicator LED, yellow	Switching output indicator Q
Switching hysteresis	4 ... 7 mm ^{1/2} , see diagram	Scanning distance adjustment	Via Teach-in button, control input ⁵ and IO-Link
Black/white shift typ. (5 %/90 %)	≤ 20 mm	Teach-in modes	Mode 1: during running process Mode 2: during standing process
Grey value shift typ. (20 %/90 %)	≤ 15 mm	Adjustment possibilities	N.O./N.C., window mode, switching frequency and Auto-detect/NPN/PNP via teach-in button, control input and IO link, button lock via control input and IO-Link, wide variety of adjustment possibilities for service and process data via IO-Link
Type of light	Laser, red, 655 nm	Default settings	Max. scanning distance and N.O.
Light spot size	See diagram		
Laser Class (IEC 60825-1)	1		
Electrical data		Mechanical data	
Operating voltage, +U _B	18 ... 30V DC ³	Dimensions	34 x 20 x 12 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 69 & IP 67 ⁶
Output current, I _e	≤ 100 mA	Material, housing	ABS
Protective circuits	Reverse-polarity protection, U _B / short-circuit protection (Q)	Material, front screen	PMMA
Protection Class	2	Type of connection	See selection table
Power On Delay	< 300 ms	Ambient temperature: operation	-20 ... +50 °C
Switching output, Q	Auto-Detect (PNP/NPN) ⁴	Ambient temperature: storage	-20 ... +80 °C
Output function	N.O./N.C.	Weight (metal plug device ⁷)	10 g
Thermal response	0.7 mm/K	Weight (pigtail)	20 g
Switching frequency, f (ti/tp 1:1)	5 ... 500 Hz, default 50 Hz ⁵	Vibration and impact resistance	EN IEC 60947-5-2
Response time	1 ... 100 ms		
Control input, IN ⁴	+U _B = teach-in / -U _B = button locked Open = normal operation		
IO-Link			
Communication mode	COM 2	Length process data	8 bit input, 8 bit output
Min. cycletime	3 ms	Specification	1.1.3
SIO mode	Compatible		

¹ Reference material: white, 90 % reflectivity ² At switching frequency 5 Hz ³ Max. 10 % ripple, within U_B, ~ 50 Hz / 100 Hz ⁴ Auto-Detect, automatic PNP/NPN selection by the sensor; PNP or NPN fixed ⁵ Adjustable via teach-in button, control input and IO link ⁶ With connected IP 67/IP 69 plug ⁷ No Ecolab

Scanning distance	Switching output	Type of connection	Part number	Article number
0 ... 1500 mm ¹	1 x Auto-Detect	Metal plug, M8x1, 4-pin, IO-Link	FT 25-RLHP-PNSL-M4M	609-11023
0 ... 1500 mm ¹	1 x Auto-Detect	Pigtail, 150 mm with plug, M12 4-pin, IO-Link	FT 25-RLHP-PNSL-KL4	609-11022

Plug connection	Cable connection

Connection, 4-pin, IO-Link	Light spot size

Hysteresis 90 %	Hysteresis 20 %	Hysteresis 5 %

Reference material	Detection range	Accessories
White (90 %)	0 ... 1500 mm	Connection cables
Grey (20 %)	0 ... 1500 mm	Brackets
Black (5 %)	5 ... 800 mm	SensolO (901-01001)
		www.sensopart.com/en/accessories