FT 05

Photoelectric diffuse sensor



PRODUCT HIGHLIGHTS

- Very small size with IO-Link
- Parameterisation via IO-Link (i.a. sensitivity, switching frequency, N.O. / N.C., teach-in)
- No mutual interference

Optical data	
Maximum range	0 … 60 mm[1]
Scanning distance	0 … 50 mm[1]
Type of light	Red, 630 nm
Light spot size	See diagram

Functions	
Indicator LED, green	Switching state indicator
Indicator LED, yellow	Functional reserve indicator
Sensitivity adjustment	20 ... 60 mm, IO-Link
IO-Link	1.0

Electrical data	
Operating voltage, $+U_B$	10 … 30 V DC
No-load current, I_0	≤ 12 mA
Output current, Ie	≤ 100 mA
Protective circuits	Reverse-polarity protection, U_B / short-circuit protection
Power On Delay	120 ms
Switching output, Q	PNP max. 100 mA / high ≤ (U_B - 2.0 V) / approx. 0 V
Output function	N.O.[2] / N.C.
Switching frequency, f (ti/tp 1:1)	≤ 500 Hz / ≤ 1 kHz[2] / ≤ 2,5 kHz
Response time[2]	≤ 200 µs / ≤ 500 µs[2] / ≤ 1 ms

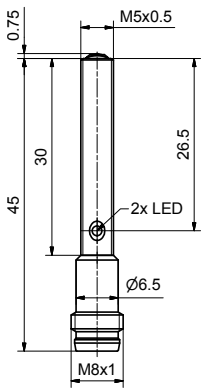
Mechanical data	
Dimensions (plug device)	M5 x 45 mm
Dimensions (cable device)	M5 x 35 mm
Enclosure rating	IP 67[3]
Material, housing	Stainless steel, V2A
Material, front screen	PBT / PMMA
Type of connection	See selection table
Ambient temperature: operation	-25 … +65 °C
Ambient temperature: storage	-25 … +65 °C
Weight (plug device)	4 g
Weight (cable device)	30 g
Vibration and impact resistance	IEC 60947-5-2

IO-Link	
Communication mode	COM 2
Min. cycletime	2.3 ms
SIO mode	Compatible
Length process data	2-bit input
Specification	1.0

[1] Reference material: Kodak white, 90 % reflectivity [2] Standard: N.O. / 1 kHz / 500 µs, further values parameterizable via IO-Link [3] With connected IP 67 plug

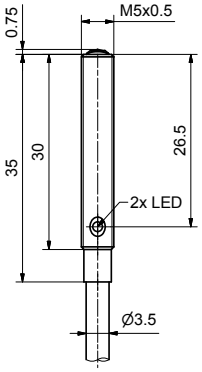
Switching output	Type of connection	Part number	Article number
PNP / IO-Link	Plug, M8, 3-pin	FT 05 R-PSL-M3	719-21002
PNP / IO-Link	Cable, PUR, 3-wire, 2 m	FT 05 R-PSL-K3	719-21003

Plug connection



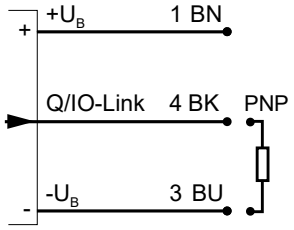
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Cable connection



153-13582

Connection, 3-pin, IO-Link



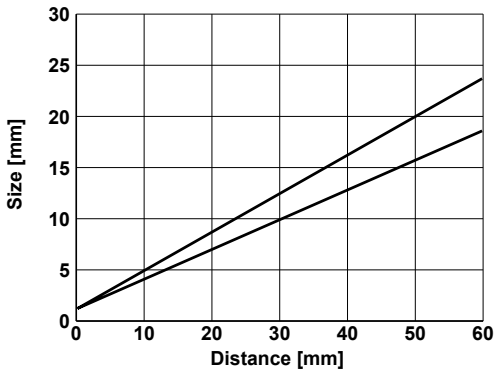
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Functional reserves



155-03319

Light spot size



155-03363

Reference material	Scanning distance
White (90 %)	50 mm
Grey (18 %)	30 mm
Black (6 %)	12 mm

Accessories	
Connection cables	www.sensopart.com/en/accessories
Brackets	