



FF + FFRS

FFR3/0P-1E

Photo.M18,PNP-NO/NC,M12 plug,Diffuse
M18 IP69K PHOTOELECTRIC SENSORS FOR HARSH
ENVIRONMENTS

OVERVIEW



TECHNICAL FEATURES

Detection properties

Nominal sensing distance	100mm
Thermal drift of Sr	10% Sr
Repeat Accuracy	5%
Sensitivity adjustment	Teach-in

Application

Function Principle	Diffuse reflection (short distance, $\leq 200\text{mm}$)
Notes	white target Kodak 90% 100 x 100mm

Optic position	Axial
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Outputs

Output type	PNP L/D Selectable
Output Function	L/D Selectable
Switching frequency	500Hz
Response time	1ms

Electrical data

Operating Voltage	10...30VDC
No-Load supply current	$\leq 35\text{mA}$
Load current	$\leq 100\text{mA}$
Leakage current	$\leq 10\mu\text{A}$
Output voltage drop	$\leq 2\text{V}@I_{\text{load}}=100\text{mA}$
Max ripple content	$\leq 10\%$
LED indicators	Green Stability ; Yellow Output state ,
Time delay before availability	$\leq 200\text{ms}$
Short-circuit protection	Yes
Reverse Polarity Protection	Yes
Emission	LED Red (660nm)

Interference to external light	5.000lux (incandescent lamp), 10.000lux (sunlight)
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Mechanical data

Dimensions	M18x1/L=83mm
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Housing material	Stainless steel AISI 316L / PA12 plug
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Weight	60g
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Connections	M12 plug
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Active Head Material	PA12
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Tightening torque	50Nm
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Operating temperature	-25°C...+80°C (without freeze)
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Diameter/Dimension	M18
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Test/Approvals

Approvals	CE cULus ECOLAB Diversey
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EMC compatibility	EN 60947-5-2
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Shocks and vibrations	Vibration IEC 60068-2-6 / Shock IEC 60068-2-27
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Degree of protection	IP68, IP69K
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Accessories

Supplied Accessories	Nuts M18 x 1
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Generical Data

Dimensions	M18x1/L=83mm
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Operating Temperature

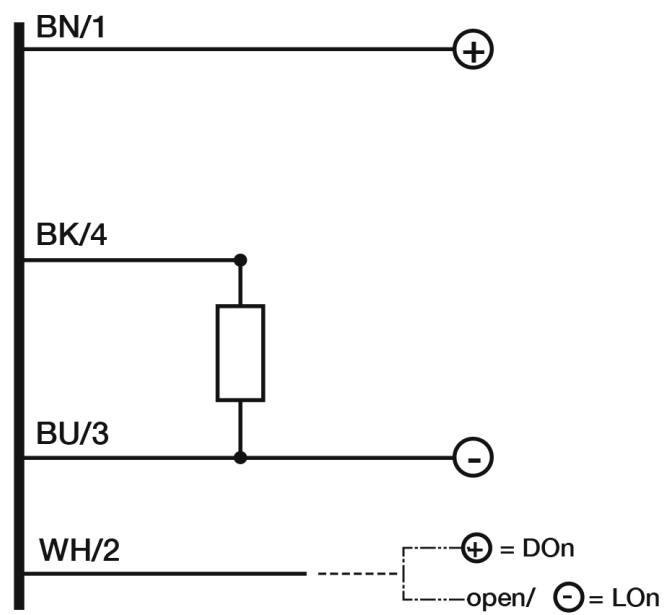
- 25°C...+ 80°C (Without freeze)

Mechanical Protection

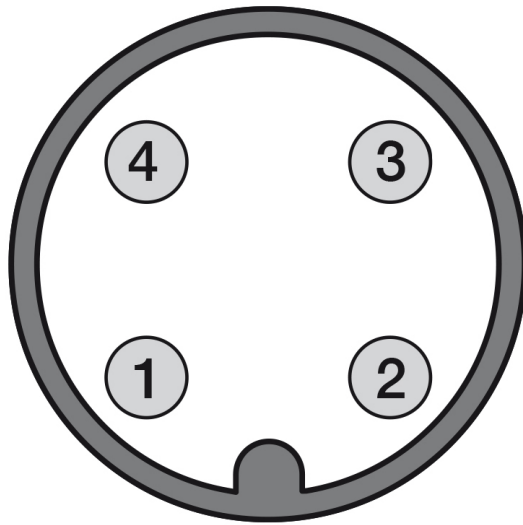
IP68, IP69K

CONNECTIONS

Electrical diagram

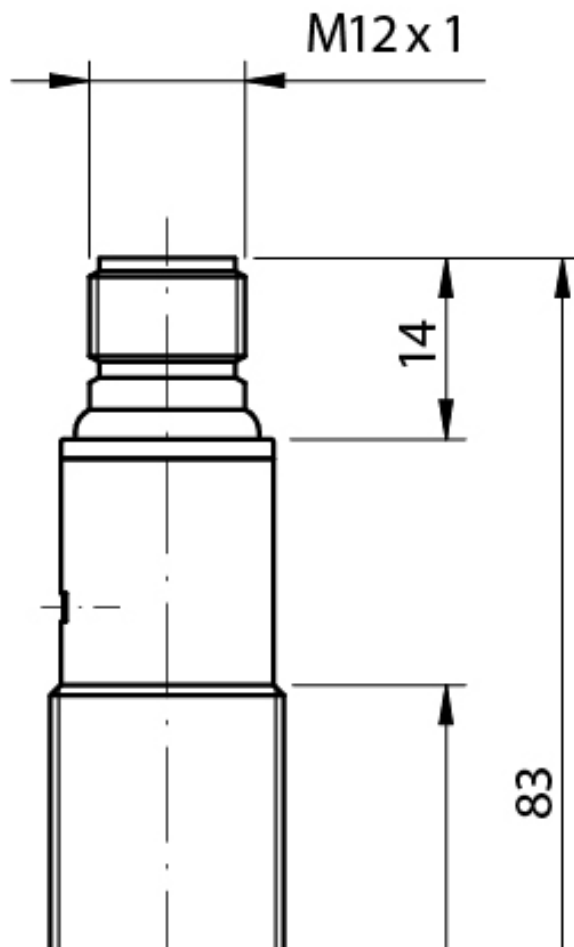


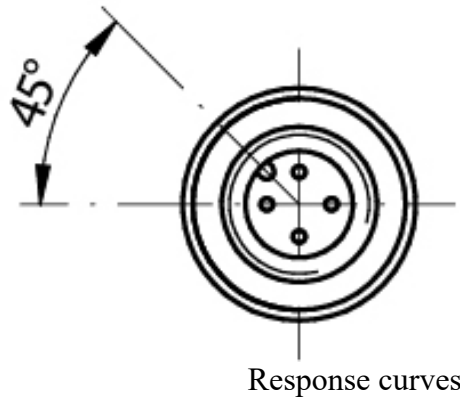
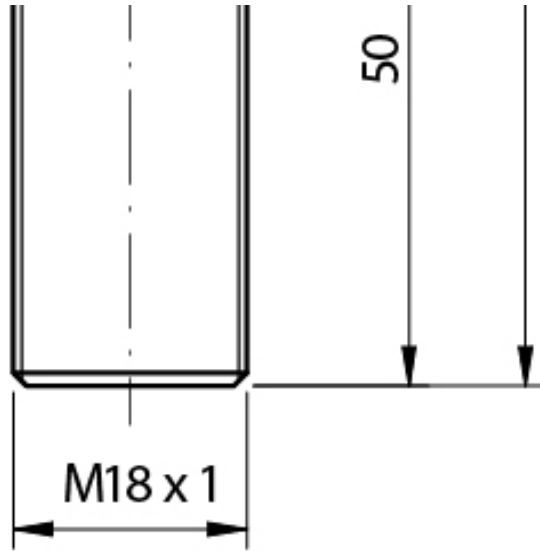
Connector

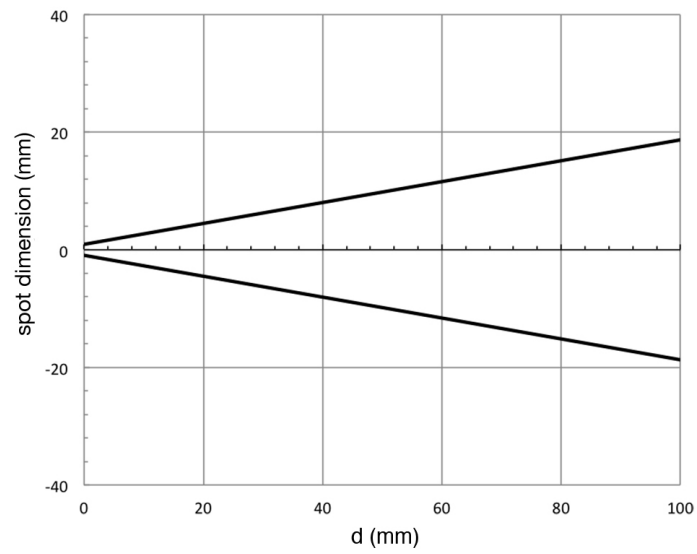


OTHERS

Dimensions







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**date of
printing**
13/06/2026
13:31:39