



fig.1

Operating principle

The presented shielded type M12 inductive proximity sensor, serves to switch 3- and 4-wire direct current circuits. Its output is activated by approaching of metallic object to him active area. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, <i>S_n</i>	3.5 mm ±4%
Measuring plate steel, <i>St 37</i>	12x12x1 mm
Hysteresis, <i>h</i>	5...12%
Supply voltage, <i>U_s</i>	9...36 Vdc (Ripple ±10 %)
Output voltage (max), <i>U_{out}</i>	39 Vdc (open drain)
Load current (max), <i>I_{out}</i>	100 mA (option 250 mA)
Residual voltage, <i>U_{res}</i>	0.8 V (I = 100 mA)
Protection of output (recoverable), <i>I_{prot}</i>	250 mA (25°C)
Current consumption (max), <i>I_s</i>	6 mA
Switching frequency (max), <i>f_o</i>	1000 Hz (S _n =1.8 mm)
Time of fall and time of rise, <i>t_f / t_r</i>	2µs / 2µs
Operating temperature range, <i>T_{amb}</i>	-25°...+70° C
Degree of protection	IP67 (IEC144)
Light output indicator	LED
Joining - cable "LIYY"	4x0.25 mm ² , L=2 m, PVC, grey
Overall dimensions	M12x1, L=33 mm
Housing material	CuZn (Ni plated)

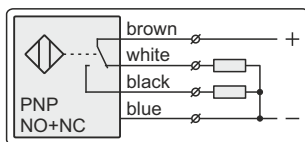
Full protection to 40V:

Protection against incorrect connection of the cables, overcurrent and short-circuit at the output.

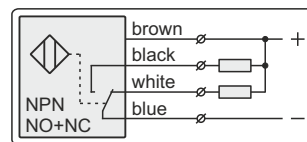
Type parameters

Type	Output function	Scheme of connection
M1-12.10.SK	PNP / NO+NC	10
M1-12.20.SK	NPN / NO+NC	20

Schemes of connection



Scheme 10



Scheme 20



fig.1

Operating principle

The presented unshielded type M12 inductive proximity sensor, serves to switch 3- and 4-wire direct current circuits. Its output is activated by approaching of metallic object to him active area. The inductive proximity sensor is resistant to moisture and dust. It has a long service life thanks to the non-contact switching of the electrical circuit in which it is connected.

Technical parameters

Nominal sensing distance, S_n	5.0 mm \pm 4%
Measuring plate steel, $St\ 37$	12x12x1 mm
Hysteresis, h	5...12%
Supply voltage, U_s	9...36 Vdc (Ripple \pm 10 %)
Output voltage (max), U_{out}	39 Vdc (open drain)
Load current (max), I_{out}	100 mA (option 250 mA)
Residual voltage, U_{res}	0.8 V ($I = 100$ mA)
Protection of output (recoverable), I_{prot}	250 mA (25°C)
Current consumption (max), I_s	6 mA
Switching frequency (max), f_o	800 Hz ($S_n=2.5$ mm)
Time of fall and time of rise, t_f / t_r	2 μ s / 2 μ s
Operating temperature range, T_{amb}	-25°...+70° C
Degree of protection	IP67 (IEC144)
Light output indicator	LED
Joining - cable "LIYY"	4x0.25 mm ² , L=2 m, PVC, grey
Overall dimensions	M12x1, L=33 mm
Housing material	PVC

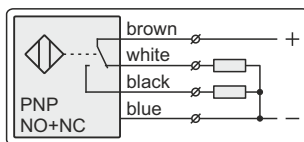
Full protection to 40V:

Protection against incorrect connection of the cables, overcurrent and short-circuit at the output.

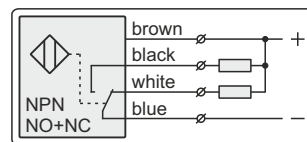
Type parameters

Type	Output function	Scheme of connection
P1-12.10.SK	PNP / NO+NC	10
P1-12.20.SK	NPN / NO+NC	20

Schemes of connection

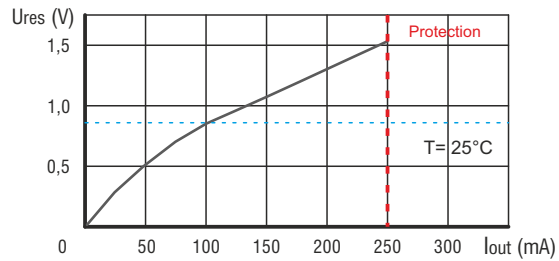


Scheme 10



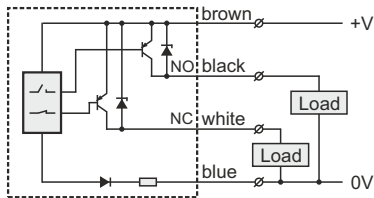
Scheme 20

Output characteristic /residual voltage/

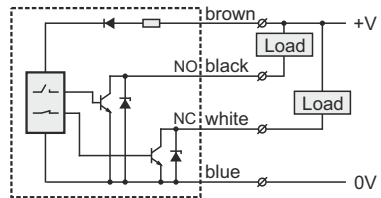


Dependence of the residual voltage (U_{res}) on the output current (I_{out})

Electrical schematics



Scheme 10 (PNP / NO+NC)



Scheme 20 (NPN / NO+NC)

Housing /mm/

