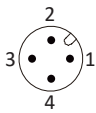


M12 SERIES

ARTICLE PROPERTIES

SENSOR TYPE	Inductive sensor	CONNECTION TYPES (see table)
SIZE	M12x1	<ul style="list-style-type: none"> Cable PVC, 0.25 mm², 2 m** M12 connector, A-coded
RATED OPERATING DISTANCE	See table	
NUMBER OF CONDUCTORS	2-wire / 3-wire / 4-wire (see table)	

** Other cable lengths are available on request

MECHANICAL DATA

MOUNTING (mounting nuts included in delivery)	Flush / non-flush (see table)
HOUSING	Threaded cylindrical
MATERIAL HOUSING	Brass nickel-plated
MATERIAL SENSING SURFACE	PBT
TIGHTENING TORQUE LOCKING	10 N·m
STANDARD TEST	FE360
ATTENUATION COEFFICIENT	St37 = 1, V2A = 0.7, Al = 0.3

ELECTRICAL DATA

OPERATING VOLTAGE	DC: 10 ... 30 V DC AC: 20 ... 250 V AC AC/DC: 20 ... 250 V AC/DC
RATED OPERATING CURRENT	2-wire DC: ≤ 100 mA 2-wire AC: ≤ 200 mA 3-wire: ≤ 200 mA 4-wire: ≤ 200 mA
SWITCHING FREQUENCY	See table
SWITCHING OUTPUT	See table
FUNCTION INDICATOR	Yellow LED
HYSTERESIS	3 ... 15 %
TEMPERATURE DRIFT	±10 %
SHORT-CIRCUIT PROTECTION	Yes
OVERLOAD RESISTANCE	Yes
REVERSE POLARITY PROTECTION	Yes

ENVIRONMENTAL CONDITIONS

PROTECTION CLASS	IP67	VIBRATION RESISTANCE (EN 60068-2-6)	10 ... 55 Hz, 1 mm
AMBIENT TEMPERATURE	-25 ... +70 °C	SHOCK RESISTANCE (EN 60068-2-27)	30 g, 11 ms

STANDARDS AND DIRECTIVES

EMC DIRECTIVE 2014/30/EU	EN IEC 60947-5-2
ROHS DIRECTIVE 2011/65/EU	EN IEC 63000

APPROVALS



M12 SERIES

DC 2-WIRE OUTPUT CABLE

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OD6L	flush	2 mm	DC NO (WD1)	1000 Hz	see Fig. 1
Fi2-M12-CD6L	flush	2 mm	DC NC (WD2)	1000 Hz	see Fig. 1
Ni4-M12-OD6L	non-flush	4 mm	DC NO (WD1)	800 Hz	see Fig. 2
Ni4-M12-CD6L	non-flush	4 mm	DC NC (WD2)	800 Hz	see Fig. 2
Ni5-M12-OD6L	non-flush	5 mm	DC NO (WD1)	800 Hz	see Fig. 2
Ni5-M12-CD6L	non-flush	5 mm	DC NC (WD2)	800 Hz	see Fig. 2

DC 2-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OD6L-Q12	flush	2 mm	DC NO (WD1)	1000 Hz	see Fig. 3
Fi2-M12-CD6L-Q12	flush	2 mm	DC NC (WD2)	1000 Hz	see Fig. 3
Ni4-M12-OD6L-Q12	non-flush	4 mm	DC NO (WD1)	800 Hz	see Fig. 4
Ni4-M12-CD6L-Q12	non-flush	4 mm	DC NC (WD2)	800 Hz	see Fig. 4
Ni5-M12-OD6L-Q12	non-flush	5 mm	DC NO (WD1)	800 Hz	see Fig. 4
Ni5-M12-CD6L-Q12	non-flush	5 mm	DC NC (WD2)	800 Hz	see Fig. 4

AC 2-WIRE OUTPUT CABLE

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OSA3L	flush	2 mm	AC NO (WD3)	40 Hz	see Fig. 5
Fi2-M12-CSA3L	flush	2 mm	AC NC (WD4)	40 Hz	see Fig. 5
Ni4-M12-OSA3L	non-flush	4 mm	AC NO (WD3)	40 Hz	see Fig. 6
Ni4-M12-CSA3L	non-flush	4 mm	AC NC (WD4)	40 Hz	see Fig. 6

AC 2-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OSA3L-Q12	flush	2 mm	AC NO (WD3)	40 Hz	see Fig. 3
Fi2-M12-CSA3L-Q12	flush	2 mm	AC NC (WD4)	40 Hz	see Fig. 3
Ni4-M12-OSA3L-Q12	non-flush	4 mm	AC NO (WD3)	40 Hz	see Fig. 4
Ni4-M12-CSA3L-Q12	non-flush	4 mm	AC NC (WD4)	40 Hz	see Fig. 4

M12 SERIES

AC/DC 2-WIRE OUTPUT CABLE

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OA41L	flush	2 mm	AC/DC NO (WD5)	40 Hz	see Fig. 5
Fi2-M12-CA41L	flush	2 mm	AC/DC NC (WD6)	40 Hz	see Fig. 5
Ni4-M12-OA41L	non-flush	4 mm	AC/DC NO (WD5)	40 Hz	see Fig. 6
Ni4-M12-CA41L	non-flush	4 mm	AC/DC NC (WD6)	40 Hz	see Fig. 6

AC/DC 2-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OA41L-Q12	flush	2 mm	AC/DC NO (WD5)	40 Hz	see Fig. 3
Fi2-M12-CA41L-Q12	flush	2 mm	AC/DC NC (WD6)	40 Hz	see Fig. 3
Ni4-M12-OA41L-Q12	non-flush	4 mm	AC/DC NO (WD5)	40 Hz	see Fig. 4
Ni4-M12-CA41L-Q12	non-flush	4 mm	AC/DC NC (WD6)	40 Hz	see Fig. 4

DC 3-WIRE OUTPUT CABLE

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OP6L	flush	2 mm	PNP NO (WD7)	1000 Hz	see Fig. 1
Fi2-M12-ON6L	flush	2 mm	NPN NO (WD8)	1000 Hz	see Fig. 1
Fi2-M12-CP6L	flush	2 mm	PNP NC (WD9)	1000 Hz	see Fig. 1
Fi2-M12-CN6L	flush	2 mm	NPN NC (WD10)	1000 Hz	see Fig. 1
Ni4-M12-OP6L	non-flush	4 mm	PNP NO (WD7)	800 Hz	see Fig. 2
Ni4-M12-ON6L	non-flush	4 mm	NPN NO (WD8)	800 Hz	see Fig. 2
Ni4-M12-CP6L	non-flush	4 mm	PNP NC (WD9)	800 Hz	see Fig. 2
Ni4-M12-CN6L	non-flush	4 mm	NPN NC (WD10)	800 Hz	see Fig. 2
Ni5-M12-OP6L	non-flush	5 mm	PNP NO (WD7)	800 Hz	see Fig. 2
Ni5-M12-ON6L	non-flush	5 mm	NPN NO (WD8)	800 Hz	see Fig. 2
Ni5-M12-CP6L	non-flush	5 mm	PNP NC (WD9)	800 Hz	see Fig. 2
Ni5-M12-CN6L	non-flush	5 mm	NPN NC (WD10)	800 Hz	see Fig. 2

M12 SERIES

DC 3-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-OP6L-Q12	flush	2 mm	PNP NO (WD7)	1000 Hz	see Fig. 3
Fi2-M12-ON6L-Q12	flush	2 mm	NPN NO (WD8)	1000 Hz	see Fig. 3
Fi2-M12-CP6L-Q12	flush	2 mm	PNP NC (WD9)	1000 Hz	see Fig. 3
Fi2-M12-CN6L-Q12	flush	2 mm	NPN NC (WD10)	1000 Hz	see Fig. 3
Ni4-M12-OP6L-Q12	non-flush	4 mm	PNP NO (WD7)	800 Hz	see Fig. 4
Ni4-M12-ON6L-Q12	non-flush	4 mm	NPN NO (WD8)	800 Hz	see Fig. 4
Ni4-M12-CP6L-Q12	non-flush	4 mm	PNP NC (WD9)	800 Hz	see Fig. 4
Ni4-M12-CN6L-Q12	non-flush	4 mm	NPN NC (WD10)	800 Hz	see Fig. 4
Ni5-M12-OP6L-Q12	non-flush	5 mm	PNP NO (WD7)	800 Hz	see Fig. 4
Ni5-M12-ON6L-Q12	non-flush	5 mm	NPN NO (WD8)	800 Hz	see Fig. 4
Ni5-M12-CP6L-Q12	non-flush	5 mm	PNP NC (WD9)	800 Hz	see Fig. 4
Ni5-M12-CN6L-Q12	non-flush	5 mm	NPN NC (WD10)	800 Hz	see Fig. 4

DC 4-WIRE OUTPUT CABLE

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-BP6L	flush	2 mm	PNP NO+NC (WD11)	1000 Hz	see Fig. 1
Fi2-M12-BN6L	flush	2 mm	NPN NO+NC (WD12)	1000 Hz	see Fig. 1
Ni4-M12-BP6L	non-flush	4 mm	PNP NO+NC (WD11)	800 Hz	see Fig. 2
Ni4-M12-BN6L	non-flush	4 mm	NPN NO+NC (WD12)	800 Hz	see Fig. 2
Ni5-M12-BP6L	non-flush	5 mm	PNP NO+NC (WD11)	800 Hz	see Fig. 2
Ni5-M12-BN6L	non-flush	5 mm	NPN NO+NC (WD12)	800 Hz	see Fig. 2

DC 4-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi2-M12-BP6L-Q12	flush	2 mm	PNP NO+NC (WD11)	1000 Hz	see Fig. 3
Fi2-M12-BN6L-Q12	flush	2 mm	NPN NO+NC (WD12)	1000 Hz	see Fig. 3
Ni4-M12-BP6L-Q12	non-flush	4 mm	PNP NO+NC (WD11)	800 Hz	see Fig. 4
Ni4-M12-BN6L-Q12	non-flush	4 mm	NPN NO+NC (WD12)	800 Hz	see Fig. 4
Ni5-M12-BP6L-Q12	non-flush	5 mm	PNP NO+NC (WD11)	800 Hz	see Fig. 4
Ni5-M12-BN6L-Q12	non-flush	5 mm	NPN NO+NC (WD12)	800 Hz	see Fig. 4

M12 SERIES

DIMENSIONS

Fig. 1 Inductive sensor with cable (flush)

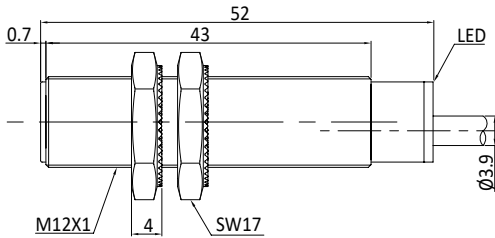


Fig. 2 Inductive sensor with cable (non-flush)

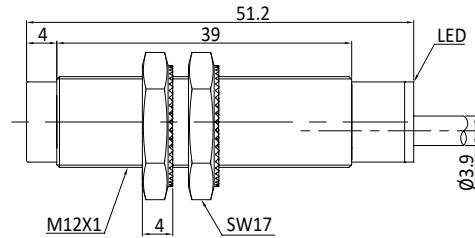


Fig. 3 Inductive sensor with M12 connector (flush)

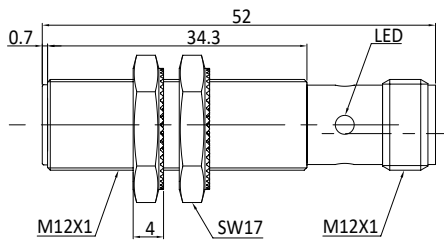


Fig. 4 Inductive sensor with M12 connector (non-flush)

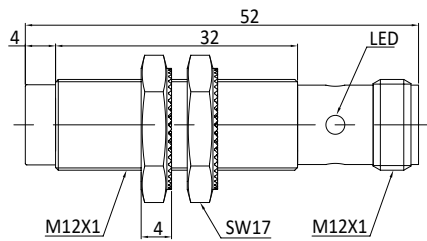


Fig. 5 Inductive sensor with cable (flush)

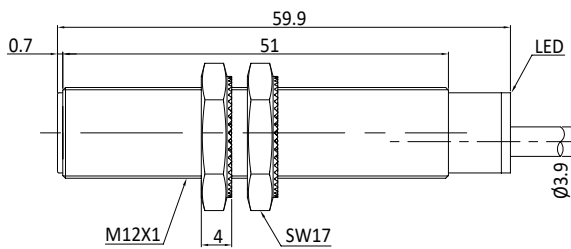
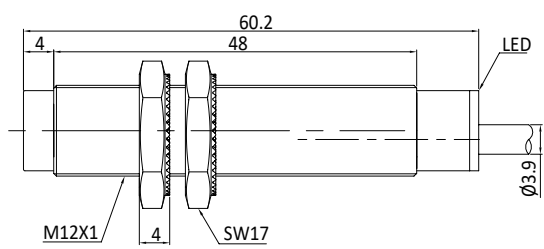


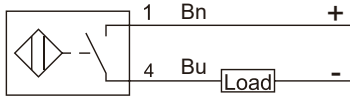
Fig. 6 Inductive sensor with cable (non-flush)



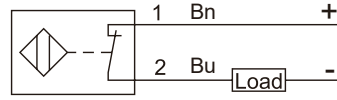
M12 SERIES

WIRING DIAGRAMS (Note: 1 / 2 / 3 / 4 connector and terminals pin number Bn / Bu / Wh / Bk cable color)

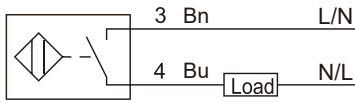
WD1 DC 2-wire NO



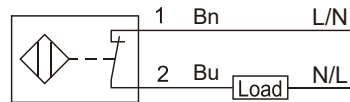
WD2 DC 2-wire NC



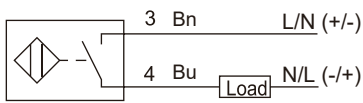
WD3 AC 2-wire NO



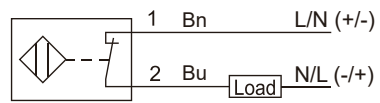
WD4 AC 2-wire NC



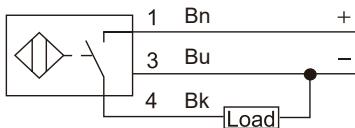
WD5 AC / DC 2-wire NO



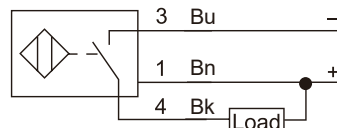
WD6 AC / DC 2-wire NC



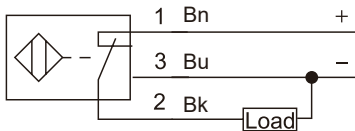
WD7 DC 3-wire PNP NO



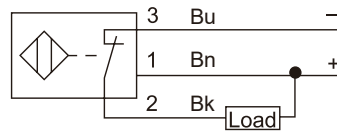
WD8 DC 3-wire NPN NO



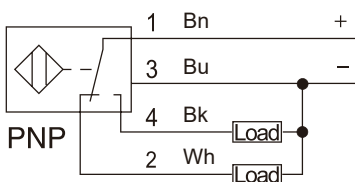
WD9 DC 3-wire PNP NC



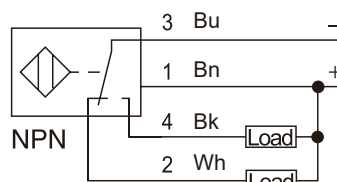
WD10 DC 3-wire NPN NC



WD11 DC 4-wire PNP NO + NC



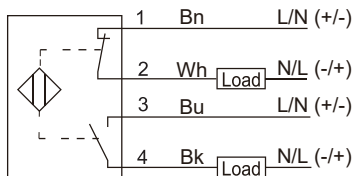
WD12 DC 4-wire NPN NO + NC



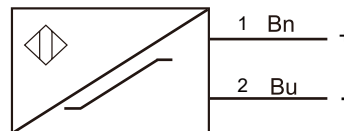
M12 SERIES

WIRING DIAGRAMS (Note: 1 / 2 / 3 / 4 connector and terminals pin number Bn / Bu / Wh / Bk cable color)

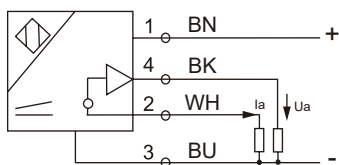
WD13 AC/DC 4-wire NO+NC



WD14 NAMUR 2-wire NC



WD15 DC 4-wire 0-10V+0-20mA



M12 SERIES

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