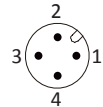


W80 LOW TEMPERATURE SERIES

ARTICLE PROPERTIES

SENSOR TYPE	Inductive sensor	CONNECTION TYPES (see table)	
SIZE	80 x 80 x 40 mm	<ul style="list-style-type: none"> terminals for cables with wire cross-section up to 2.5 mm², cable gland M20x1.5 	
RATED OPERATING DISTANCE	see table		
NUMBER OF CONDUCTORS	2-wire / 3-wire / 4-wire (see table)	<ul style="list-style-type: none"> M12 connector, A-coded 	

MECHANICAL DATA

MOUNTING	flush/non-flush (see table)
HOUSING	rectangular
MATERIAL HOUSING	PBT
MATERIAL SENSING SURFACE	PBT
TIGHTENING TORQUE LOCKING	1.8 Nm
STANDARD TEST	FE360
ATTENUATION COEFFICIENT	St37 = 1, V2A = 0.7, Al = 0.3

ELECTRICAL DATA

OPERATING VOLTAGE	DC (6L): 10 ... 30 V DC DC (9L): 10 ... 60 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 60068-2-27)	55 Hz, 1 mm
AMBIENT TEMPERATURE	-40 ... 70 °C	SHOCK RESISTANCE (EN 60068-2-6)	30g/11 ms

STANDARDS AND DIRECTIVES

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR	DIN EN IEC 60947-5-2:2021-04
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APPROVALS



W80 LOW TEMPERATURE SERIES

DC 2-WIRE OUTPUT TERMINALS

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OD6L-Q/TB40	flush	40 mm	DC NO (WD1)	50 Hz	see Fig. 1
Fi40-W80-CD6L-Q/TB40	flush	40 mm	DC NC (WD2)	50 Hz	see Fig. 1
Ni50-W80-OD6L-Q/TB40	non-flush	50 mm	DC NO (WD1)	30 Hz	see Fig. 1
Ni50-W80-CD6L-Q/TB40	non-flush	50 mm	DC NC (WD2)	30 Hz	see Fig. 1
Fi50-W80-OD6L-Q/TB40	flush	50 mm	DC NO (WD1)	50 Hz	see Fig. 1
Fi50-W80-CD6L-Q/TB40	flush	50 mm	DC NC (WD2)	50 Hz	see Fig. 1
Ni70-W80-OD6L-Q/TB40	non-flush	70 mm	DC NO (WD1)	30 Hz	see Fig. 1
Ni70-W80-CD6L-Q/TB40	non-flush	70 mm	DC NC (WD2)	30 Hz	see Fig. 1

DC 2-WIRE OUTPUT TERMINALS

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OD9L-Q/TB40	flush	40 mm	DC NO (WD1)	50 Hz	see Fig. 1
Fi40-W80-CD9L-Q/TB40	flush	40 mm	DC NC (WD2)	50 Hz	see Fig. 1
Ni50-W80-OD9L-Q/TB40	non-flush	50 mm	DC NO (WD1)	30 Hz	see Fig. 1
Ni50-W80-CD9L-Q/TB40	non-flush	50 mm	DC NC (WD2)	30 Hz	see Fig. 1
Fi50-W80-OD9L-Q/TB40	flush	50 mm	DC NO (WD1)	50 Hz	see Fig. 1
Fi50-W80-CD9L-Q/TB40	flush	50 mm	DC NC (WD2)	50 Hz	see Fig. 1
Ni70-W80-OD9L-Q/TB40	non-flush	70 mm	DC NO (WD1)	30 Hz	see Fig. 1
Ni70-W80-CD9L-Q/TB40	non-flush	70 mm	DC NC (WD2)	30 Hz	see Fig. 1

DC 2-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OD6L-Q12/TB40	flush	40 mm	DC NO (WD1)	50 Hz	see Fig. 2
Fi40-W80-CD6L-Q12/TB40	flush	40 mm	DC NC (WD2)	50 Hz	see Fig. 2
Ni50-W80-OD6L-Q12/TB40	non-flush	50 mm	DC NO (WD1)	30 Hz	see Fig. 2
Ni50-W80-CD6L-Q12/TB40	non-flush	50 mm	DC NC (WD2)	30 Hz	see Fig. 2
Fi50-W80-OD6L-Q12/TB40	flush	50 mm	DC NO (WD1)	50 Hz	see Fig. 2
Fi50-W80-CD6L-Q12/TB40	flush	50 mm	DC NC (WD2)	50 Hz	see Fig. 2
Ni70-W80-OD6L-Q12/TB40	non-flush	70 mm	DC NO (WD1)	30 Hz	see Fig. 2
Ni70-W80-CD6L-Q12/TB40	non-flush	70 mm	DC NC (WD2)	30 Hz	see Fig. 2

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DC 2-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OD9L-Q12/TB40	flush	40 mm	DC NO (WD1)	50 Hz	see Fig. 2
Fi40-W80-CD9L-Q12/TB40	flush	40 mm	DC NC (WD2)	50 Hz	see Fig. 2
Ni50-W80-OD9L-Q12/TB40	non-flush	50 mm	DC NO (WD1)	30 Hz	see Fig. 2
Ni50-W80-CD9L-Q12/TB40	non-flush	50 mm	DC NC (WD2)	30 Hz	see Fig. 2
Fi50-W80-OD9L-Q12/TB40	flush	50 mm	DC NO (WD1)	50 Hz	see Fig. 2
Fi50-W80-CD9L-Q12/TB40	flush	50 mm	DC NC (WD2)	50 Hz	see Fig. 2
Ni70-W80-OD9L-Q12/TB40	non-flush	70 mm	DC NO (WD1)	30 Hz	see Fig. 2
Ni70-W80-CD9L-Q12/TB40	non-flush	70 mm	DC NC (WD2)	30 Hz	see Fig. 2

AC/DC 2-WIRE OUTPUT TERMINALS

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OA41L-Q/TB40	flush	40 mm	AC/DC NO (WD5)	20 Hz	see Fig. 1
Fi40-W80-CA41L-Q/TB40	flush	40 mm	AC/DC NC (WD6)	20 Hz	see Fig. 1
Fi50-W80-OA41L-Q/TB40	flush	50 mm	AC/DC NO (WD5)	20 Hz	see Fig. 1
Fi50-W80-CA41L-Q/TB40	flush	50 mm	AC/DC NC (WD6)	20 Hz	see Fig. 1
Ni50-W80-OA41L-Q/TB40	non-flush	50 mm	AC/DC NO (WD5)	20 Hz	see Fig. 1
Ni50-W80-CA41L-Q/TB40	non-flush	50 mm	AC/DC NC (WD6)	20 Hz	see Fig. 1
Ni70-W80-OA41L-Q/TB40	non-flush	70 mm	AC/DC NO (WD5)	20 Hz	see Fig. 1
Ni70-W80-CA41L-Q/TB40	non-flush	70 mm	AC/DC NC (WD6)	20 Hz	see Fig. 1

AC/DC 2-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OA41L-Q12/TB40	flush	40 mm	AC/DC NO (WD5)	20 Hz	see Fig. 2
Fi40-W80-CA41L-Q12/TB40	flush	40 mm	AC/DC NC (WD6)	20 Hz	see Fig. 2
Fi50-W80-OA41L-Q12/TB40	flush	50 mm	AC/DC NO (WD5)	20 Hz	see Fig. 2
Fi50-W80-CA41L-Q12/TB40	flush	50 mm	AC/DC NC (WD6)	20 Hz	see Fig. 2
Ni50-W80-OA41L-Q12/TB40	non-flush	50 mm	AC/DC NO (WD5)	20 Hz	see Fig. 2
Ni50-W80-CA41L-Q12/TB40	non-flush	50 mm	AC/DC NC (WD6)	20 Hz	see Fig. 2
Ni70-W80-OA41L-Q12/TB40	non-flush	70 mm	AC/DC NO (WD5)	20 Hz	see Fig. 2
Ni70-W80-CA41L-Q12/TB40	non-flush	70 mm	AC/DC NC (WD6)	20 Hz	see Fig. 2

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DC 3-WIRE OUTPUT TERMINALS

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OP6L-Q/TB40	flush	40 mm	PNP NO (WD7)	50 Hz	see Fig. 1
Fi40-W80-ON6L-Q/TB40	flush	40 mm	NPN NO (WD8)	50 Hz	see Fig. 1
Fi40-W80-CP6L-Q/TB40	flush	40 mm	PNP NC (WD9)	50 Hz	see Fig. 1
Fi40-W80-CN6L-Q/TB40	flush	40 mm	NPN NC (WD10)	50 Hz	see Fig. 1
Ni50-W80-OP6L-Q/TB40	non-flush	50 mm	PNP NO (WD7)	30 Hz	see Fig. 1
Ni50-W80-ON6L-Q/TB40	non-flush	50 mm	NPN NO (WD8)	30 Hz	see Fig. 1
Ni50-W80-CP6L-Q/TB40	non-flush	50 mm	PNP NC (WD9)	30 Hz	see Fig. 1
Ni50-W80-CN6L-Q/TB40	non-flush	50 mm	NPN NC (WD10)	30 Hz	see Fig. 1
Fi50-W80-OP6L-Q/TB40	flush	50 mm	PNP NO (WD7)	50 Hz	see Fig. 1
Fi50-W80-ON6L-Q/TB40	flush	50 mm	NPN NO (WD8)	50 Hz	see Fig. 1
Fi50-W80-CP6L-Q/TB40	flush	50 mm	PNP NC (WD9)	50 Hz	see Fig. 1
Fi50-W80-CN6L-Q/TB40	flush	50 mm	NPN NC (WD10)	50 Hz	see Fig. 1
Ni70-W80-OP6L-Q/TB40	non-flush	70 mm	PNP NO (WD7)	30 Hz	see Fig. 1
Ni70-W80-ON6L-Q/TB40	non-flush	70 mm	NPN NO (WD8)	30 Hz	see Fig. 1
Ni70-W80-CP6L-Q/TB40	non-flush	70 mm	PNP NC (WD9)	30 Hz	see Fig. 1
Ni70-W80-CN6L-Q/TB40	non-flush	70 mm	NPN NC (WD10)	30 Hz	see Fig. 1

DC 3-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-OP6L-Q12/TB40	flush	40 mm	PNP NO (WD7)	50 Hz	see Fig. 2
Fi40-W80-ON6L-Q12/TB40	flush	40 mm	NPN NO (WD8)	50 Hz	see Fig. 2
Fi40-W80-CP6L-Q12/TB40	flush	40 mm	PNP NC (WD9)	50 Hz	see Fig. 2
Fi40-W80-CN6L-Q12/TB40	flush	40 mm	NPN NC (WD10)	50 Hz	see Fig. 2
Ni50-W80-OP6L-Q12/TB40	non-flush	50 mm	PNP NO (WD7)	30 Hz	see Fig. 2
Ni50-W80-ON6L-Q12/TB40	non-flush	50 mm	NPN NO (WD8)	30 Hz	see Fig. 2
Ni50-W80-CP6L-Q12/TB40	non-flush	50 mm	PNP NC (WD9)	30 Hz	see Fig. 2
Ni50-W80-CN6L-Q12/TB40	non-flush	50 mm	NPN NC (WD10)	30 Hz	see Fig. 2
Fi50-W80-OP6L-Q12/TB40	flush	50 mm	PNP NO (WD7)	50 Hz	see Fig. 2
Fi50-W80-ON6L-Q12/TB40	flush	50 mm	NPN NO (WD8)	50 Hz	see Fig. 2
Fi50-W80-CP6L-Q12/TB40	flush	50 mm	PNP NC (WD9)	50 Hz	see Fig. 2
Fi50-W80-CN6L-Q12/TB40	flush	50 mm	NPN NC (WD10)	50 Hz	see Fig. 2
Ni70-W80-OP6L-Q12/TB40	non-flush	70 mm	PNP NO (WD7)	30 Hz	see Fig. 2
Ni70-W80-ON6L-Q12/TB40	non-flush	70 mm	NPN NO (WD8)	30 Hz	see Fig. 2
Ni70-W80-CP6L-Q12/TB40	non-flush	70 mm	PNP NC (WD9)	30 Hz	see Fig. 2
Ni70-W80-CN6L-Q12/TB40	non-flush	70 mm	NPN NC (WD10)	30 Hz	see Fig. 2

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DC 4-WIRE OUTPUT TERMINALS

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-BP6L-Q/TB40	flush	40 mm	PNP NO+NC (WD11)	50 Hz	see Fig. 1
Fi40-W80-BN6L-Q/TB40	flush	40 mm	NPN NO+NC (WD12)	50 Hz	see Fig. 1
Fi50-W80-BP6L-Q/TB40	flush	50 mm	PNP NO+NC (WD11)	50 Hz	see Fig. 1
Fi50-W80-BN6L-Q/TB40	flush	50 mm	NPN NO+NC (WD12)	50 Hz	see Fig. 1
Ni50-W80-BP6L-Q/TB40	non-flush	50 mm	PNP NO+NC (WD11)	30 Hz	see Fig. 1
Ni50-W80-BN6L-Q/TB40	non-flush	50 mm	NPN NO+NC (WD12)	30 Hz	see Fig. 1
Ni70-W80-BP6L-Q/TB40	non-flush	70 mm	PNP NO+NC (WD11)	30 Hz	see Fig. 1
Ni70-W80-BN6L-Q/TB40	non-flush	70 mm	NPN NO+NC (WD12)	30 Hz	see Fig. 1

DC 4-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-BP6L-Q12/TB40	flush	40 mm	PNP NO+NC (WD11)	50 Hz	see Fig. 2
Fi40-W80-BN6L-Q12/TB40	flush	40 mm	NPN NO+NC (WD12)	50 Hz	see Fig. 2
Fi50-W80-BP6L-Q12/TB40	flush	50 mm	PNP NO+NC (WD11)	50 Hz	see Fig. 2
Fi50-W80-BN6L-Q12/TB40	flush	50 mm	NPN NO+NC (WD12)	50 Hz	see Fig. 2
Ni50-W80-BP6L-Q12/TB40	non-flush	50 mm	PNP NO+NC (WD11)	30 Hz	see Fig. 2
Ni50-W80-BN6L-Q12/TB40	non-flush	50 mm	NPN NO+NC (WD12)	30 Hz	see Fig. 2
Ni70-W80-BP6L-Q12/TB40	non-flush	70 mm	PNP NO+NC (WD11)	30 Hz	see Fig. 2
Ni70-W80-BN6L-Q12/TB40	non-flush	70 mm	NPN NO+NC (WD12)	30 Hz	see Fig. 2

AC/DC 4-WIRE OUTPUT TERMINALS

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-VA41L-Q/TB40	flush	40 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 1
Ni50-W80-VA41L-Q/TB40	non-flush	50 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 1
Fi50-W80-VA41L-Q/TB40	flush	50 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 1
Ni70-W80-VA41L-Q/TB40	non-flush	70 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 1

AC/DC 4-WIRE OUTPUT M12 CONNECTOR

Article number	Mounting	Rated operating distance Sn	Switching output (wiring diagram)	Switching frequency	Dimensions
Fi40-W80-VA41L-Q12/TB40	flush	40 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 2
Ni50-W80-VA41L-Q12/TB40	non-flush	50 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 2
Fi50-W80-VA41L-Q12/TB40	flush	50 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 2
Ni70-W80-VA41L-Q12/TB40	non-flush	70 mm	AC/DC NO+NC (WD13)	20 Hz	see Fig. 2

W80 LOW TEMPERATURE SERIES

DIMENSIONS

Fig. 1 Inductive sensor with terminals (flush/non-flush)

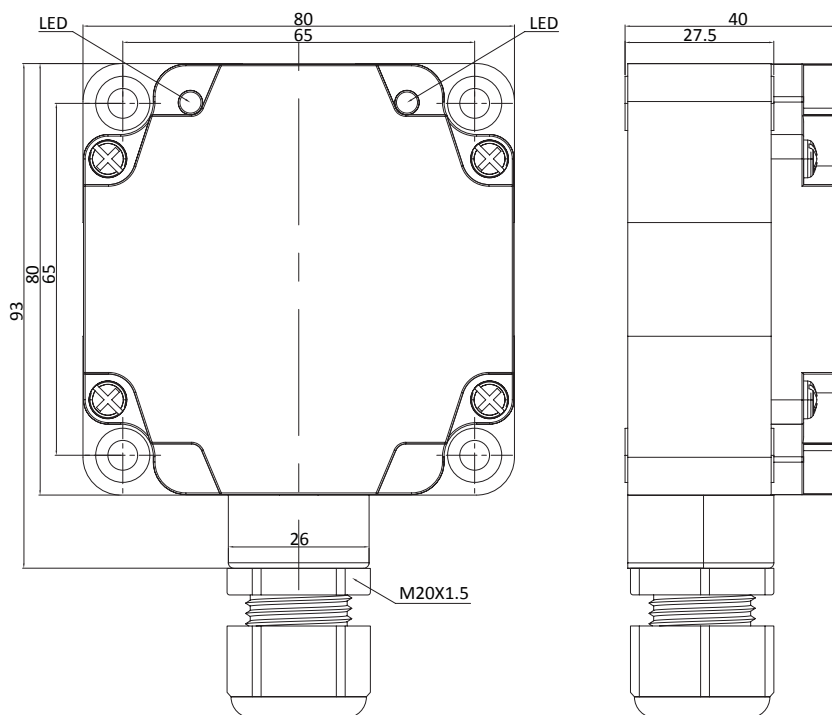
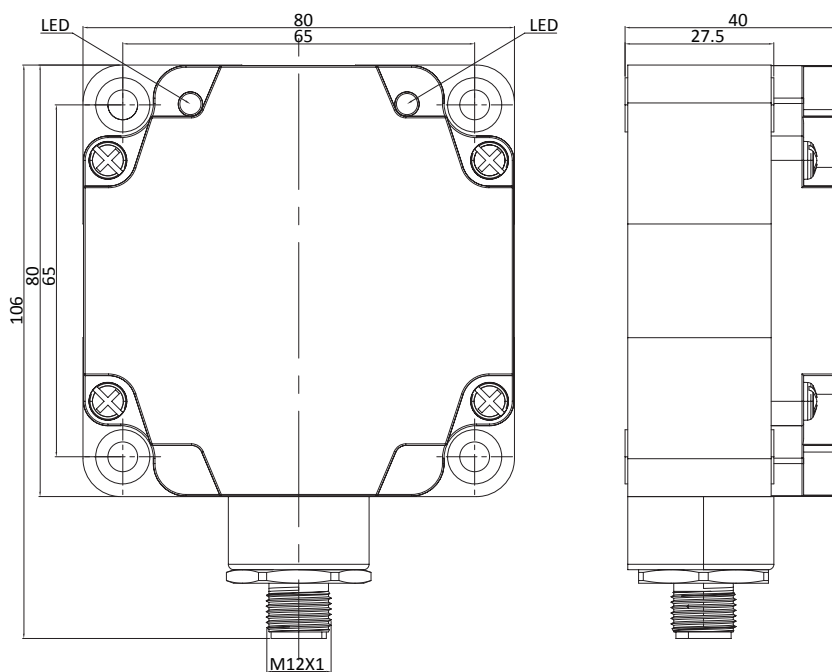


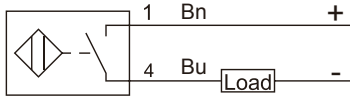
Fig. 2 Inductive sensor with M12 connector (flush/non-flush)



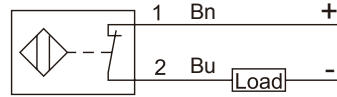
W80 LOW TEMPERATURE SERIES

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

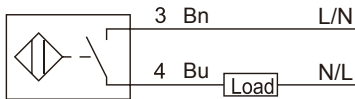
WD1 DC 2-wire NO



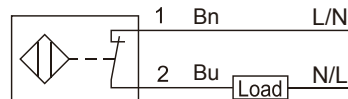
WD2 DC 2-wire NC



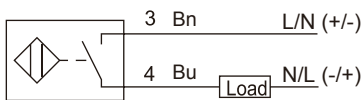
WD3 AC 2-wire NO



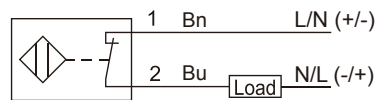
WD4 AC 2-wire NC



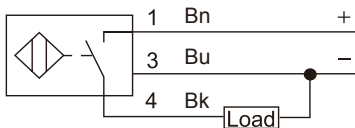
WD5 AC / DC 2-wire NO



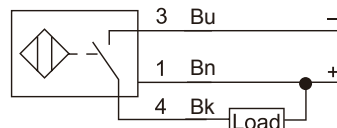
WD6 AC / DC 2-wire NC



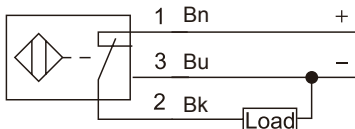
WD7 DC 3-wire PNP NO



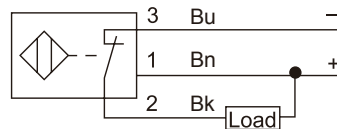
WD8 DC 3-wire NPN NO



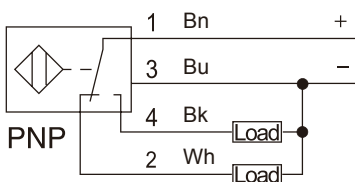
WD9 DC 3-wire PNP NC



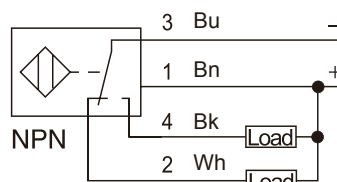
WD10 DC 3-wire NPN NC



WD11 DC 4-wire PNP NO + NC



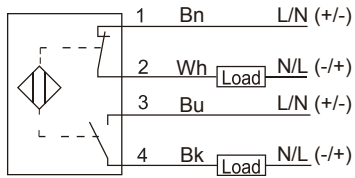
WD12 DC 4-wire NPN NO + NC



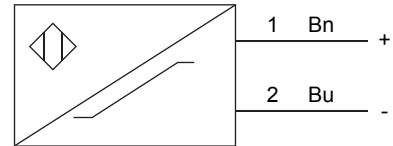
W80 LOW TEMPERATURE SERIES

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

