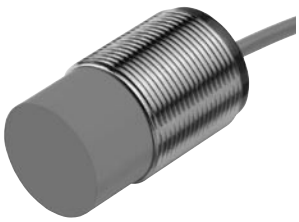
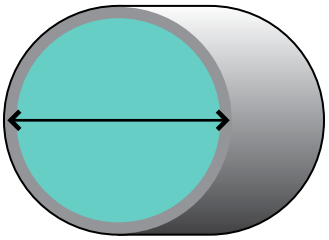
2-Wire AC & AC/DC 30 mm Diameter Inductive Sensors

- 10 to 25 mm sensing ranges
- 30 mm threaded barrels
- LED power and output indication
- Cable and quick disconnect models





Technical Specifications

SUPPLY VOLTAGE	*Suffix WS, WO*	20-250 VAC
	Suffix US	20-250 VAC/300 VDC
SUPPLY FREQUENCY		45-65 Hz
LOAD CURRENT (I_L)	*Suffix WS, WO*	5-200 mA max.
	Suffix US	4-500 mA max.
LEAKAGE CURRENT (OFF-STATE)	*Suffix WS, WO*	≤ 1.7 mA
	Suffix US	≤ 0.8 mA
OUTPUT	*Suffix WS, US*	Normally open
	Suffix WO	Normally closed
VOLTAGE DROP AT I_L (MAX.)		≤ 8 V
INRUSH CURRENT		< 1.7 A/20 ms
HYSTERESIS		3-15% (5% typical)
SHORT CIRCUIT AND OVERLOAD PROTECTION	*Suffix WS, WO*	No
	Suffix US	Yes
REVERSE POLARITY PROTECTED		Yes
LED INDICATION		See dimension drawings
SENSING FACE MATERIAL		PBT
STANDARDS		EN 60947-5-2
ENVIRONMENTAL PROTECTION		IP67
AMBIENT TEMPERATURE		-13 ºF to +158 ºF (-25 ºC to +70 ºC)
APPROVALS		CE, cULus, FM, CSA

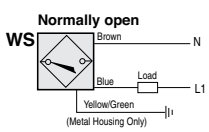
See pages 803-854 for cordsets

See pages 865-872 for accessories

Wiring Diagrams

2-Wire AC

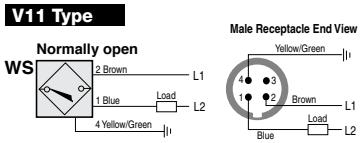
Cable Connection



Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

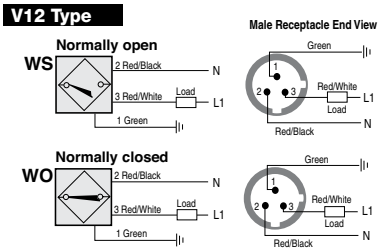
V11 Type



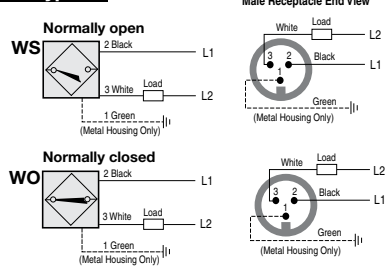
Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

V12 Type

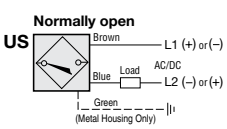


V93 Type



2-Wire AC/DC

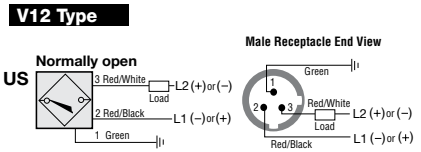
Cable Connection



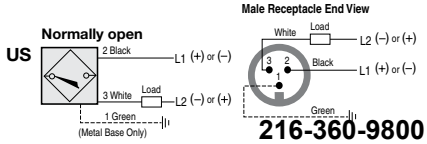
Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

V12 Type



V93 Type



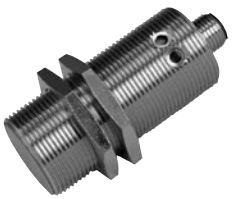
30 mm Diameter

2-Meter Cable Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Electrical Output	Switching Frequency	Barrel Material†	Cable Jacket/Size	Dwg. No.
30	NBB10-30GM50-WS ⚡	10	Flush	Normally open	25 Hz	Ni-Brass	PVC/#22 AWG	1
	NBB10-30GM50-WO ⚡	10	Flush	Normally closed	25 Hz	Ni-Brass	PVC/#22 AWG	1
	NBB10-30GK-WS	10	Flush	Normally open	25 Hz	Ni-Brass	PVC/#22 AWG	2
	NBB10-30GK-WO	10	Flush	Normally closed	25 Hz	Ni-Brass	PVC/#22 AWG	2
	NBB15-30GM50-WS ⚡	15	Semiflush	Normally open	20 Hz	Ni-Brass	PVC/#22 AWG	3
	NBB15-30GM50-WO ⚡	15	Semiflush	Normally closed	20 Hz	Ni-Brass	PVC/#22 AWG	3
	NBB15-30GK-WS	15	Semiflush	Normally open	25 Hz	Ni-Brass	PVC/#22 AWG	4
	NBB15-30GK-WO	15	Semiflush	Normally closed	25 Hz	Ni-Brass	PVC/#22 AWG	4
	NBB15-30GM50-US ⚡	15	Flush	Normally open	30 Hz	Ni-Brass	PUR/#20 AWG	5
	NBN25-30GM50-US ⚡	25	Nonflush	Normally open	30 Hz	Ni-Brass	PUR/#20 AWG	6

Micro AC (1/2"-20) Quick Disconnect Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Electrical Output	Switching Frequency	Barrel Material†	Quick Disconnect	Dwg. No.
30	NBB10-30GM50-WS-V12 ⚡	10	Flush	Normally open	20 Hz	Ni-Brass	1/2"-20 Micro AC	7
	NBB10-30GM50-WO-V12 ⚡	10	Flush	Normally closed	20 Hz	Ni-Brass	1/2"-20 Micro AC	7
	NBB15-30GM50-WS-V12 ⚡	15	Semiflush	Normally open	25 Hz	Ni-Brass	1/2"-20 Micro AC	8
	NBB15-30GM50-WO-V12	15	Semiflush	Normally closed	20 Hz	Ni-Brass	1/2"-20 Micro AC	8
	NBB15-30GM50-US-V12 ⚡	15	Semiflush	Normally open	30 Hz	Ni-Brass	1/2"-20 Micro AC	9
	NBN25-30GM50-US-V12 ⚡	25	Nonflush	Normally open	30 Hz	Ni-Brass	1/2"-20 Micro AC	10



Mini AC/DC (7/8"-16) Quick Disconnect Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Electrical Output	Switching Frequency	Barrel Material†	Quick Disconnect	Dwg. No.
30	NBB10-30GM50-WS-V93 ⚡	10	Flush	Normally open	25 Hz	Ni-Brass	7/8"-16 Mini AC	11
	NBB10-30GM50-WO-V93	10	Flush	Normally closed	25 Hz	Ni-Brass	7/8"-16 Mini AC	11
	NBB15-30GM50-WS-V93 ⚡	15	Semiflush	Normally open	20 Hz	Ni-Brass	7/8"-16 Mini AC	12
	NBB15-30GM50-WO-V93	15	Semiflush	Normally closed	20 Hz	Ni-Brass	7/8"-16 Mini AC	12
	NBB15-30GM50-US-V93 ⚡	15	Flush	Normally open	30 Hz	Ni-Brass	7/8"-16 Mini AC	13
	NBN25-30GM50-US-V93 ⚡	25	Nonflush	Normally open	30 Hz	Ni-Brass	7/8"-16 Mini AC	14

Terminal Connection Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Electrical Output	Switching Frequency	Barrel Material	Electrical Connection	Dwg. No.
30	NBB10-30GKK-WS ●	10	Flush	Normally open	20 Hz	PBT	Terminal housing	15
	NBB10-30GKK-WO	10	Flush	Normally closed	20 Hz	PBT	Terminal housing	15
	NBB15-30GKK-WS	15	Flush	Normally open	20 Hz	PBT	Terminal housing	16
	NBB15-30GKK-WO	15	Flush	Normally closed	20 Hz	PBT	Terminal housing	16

†SS = stainless steel, Ni-Brass = nickel-plated brass

Note: See relay output models on pages 179-183 for other AC sensor options.

⚡ Stocked item
● Typical delivery 4 weeks or less
Consult factory for all other models

CONTINUED

30 mm Diameter

Look for this logo in the drawings to identify our X-Series extended range sensors

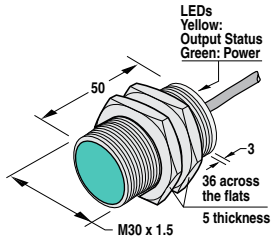
X-Series™
Sensing range 25-240% beyond "traditional" inductive sensors

Inductive Cylindrical

2-Wire AC & AC/DC

Drawing No. 1

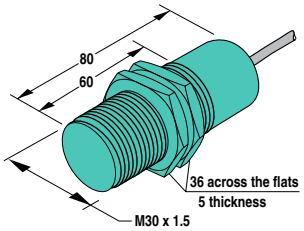
NBB10-30GM50-WS [N.O.]
NBB10-30GM50-WO [N.C.]



10 mm Sensing Range

Drawing No. 2

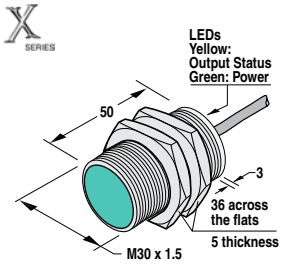
NBB10-30GK-WS [N.O.]
NBB10-30GK-WO [N.C.]



15 mm Sensing Range

Drawing No. 3

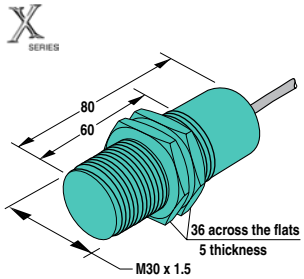
NBB15-30GM50-WS [N.O.]
NBB15-30GM50-WO [N.C.]



15 mm Sensing Range

Drawing No. 4

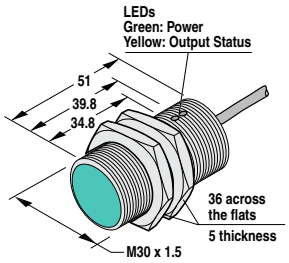
NBB15-30GK-WS [N.O.]
NBB15-30GK-WO [N.C.]



25 mm Sensing Range

Drawing No. 5

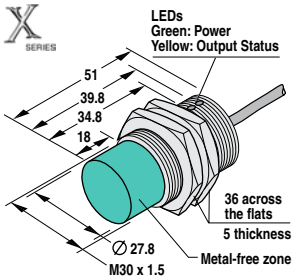
NBB15-30GM50-US [N.O.]



15 mm Sensing Range

Drawing No. 6

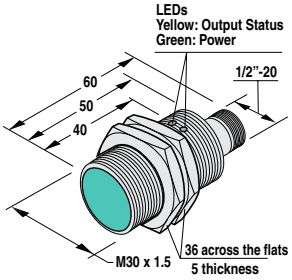
NBN25-30GM50-US [N.O.]



25 mm Sensing Range

Drawing No. 7

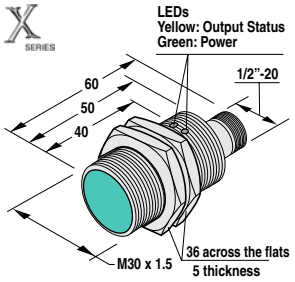
NBB10-30GM50-WS-V12 [N.O.]
NBB10-30GM50-WO-V12 [N.C.]



10 mm Sensing Range

Drawing No. 8

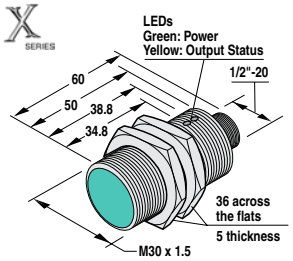
NBB15-30GM50-WS-V12 [N.O.]
NBB15-30GM50-WO-V12 [N.C.]



15 mm Sensing Range

Drawing No. 9

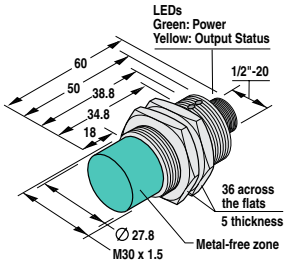
NBB15-30GM50-US-V12 [N.O.]



15 mm Sensing Range

Drawing No. 10

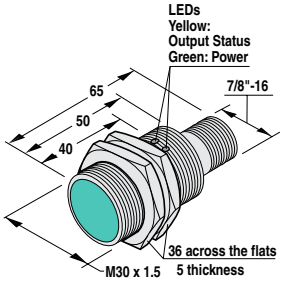
NBN25-30GM50-US-V12 [N.O.]



25 mm Sensing Range

Drawing No. 11

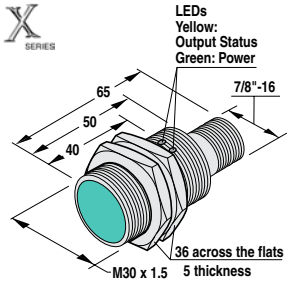
NBB10-30GM50-WS-V93 [N.O.]
NBB10-30GM50-WO-V93 [N.C.]



10 mm Sensing Range

Drawing No. 12

NBB15-30GM50-WS-V93 [N.O.]
NBB15-30GM50-WO-V93 [N.C.]

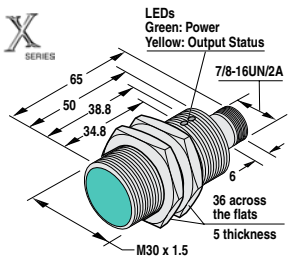


15 mm Sensing Range

30 mm Diameter

Drawing No. 13

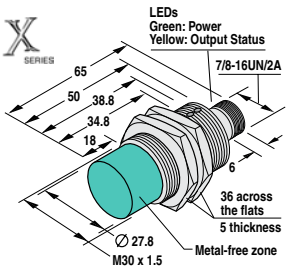
NBB15-30GM50-US-V93 [N.O.]



15 mm Sensing Range

Drawing No. 14

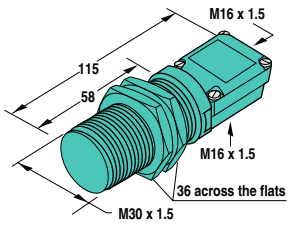
NBN25-30GM50-US-V93 [N.O.]



25 mm Sensing Range

Drawing No. 15

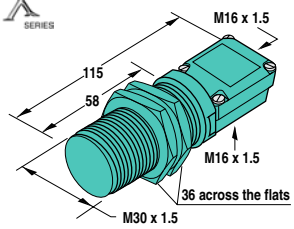
NBB10-30GKK-WS [N.O.]
NBB10-30GKK-WO [N.C.]



10 mm Sensing Range

Drawing No. 16

NBB15-30GKK-WS [N.O.]
NBB15-30GKK-WO [N.C.]



15 mm Sensing Range

Recommended Accessories

BF30

BF 30-F

BF5-30

AB30

Mounting Brackets

Model	Description
BF30	30 mm clamp bracket
BF 30-F	30 mm snap lever bracket
BF5-30	5-30 mm universal bracket
AB30	30 mm right angle bracket

See pages 865-872 for complete accessory listing.

Micro AC Cordsets

Straight "Micro" (M12)	
Model	Description
V11B-G-YE2M-PVC	2 m length, PVC jacket
V11B-G-YE4M-PVC	4 m length, PVC jacket

Right Angle "Micro" (M12)	
Model	Description
V11B-W-YE2M-PVC	2 m length, PVC jacket
V11B-W-YE4M-PVC	4 m length, PVC jacket

Mini Cordsets

Straight "Mini AC/DC" (7/8"-16)	
Model	Description
V93-G-YE2M-STOOW	2 m length, STOOW jacket
V93-G-YE4M-STOOW	4 m length, STOOW jacket

Right Angle "Mini AC/DC" (7/8"-16)	
Model	Description
V93-W-YE2M-STOOW	2 m length, STOOW jacket
V93-W-YE4M-STOOW	4 m length, STOOW jacket

Straight "Micro" (1/2"-20)	
Model	Description
V12-G-YE2M-PVC	2 m length, PVC jacket
V12-G-YE5M-PVC	5 m length, PVC jacket

Right Angle "Micro" (1/2"-20)	
Model	Description
V12-W-YE2M-PVC	2 m length, PVC jacket
V12-W-YE5M-PVC	5 m length, PVC jacket

See pages 803-854 for complete cordset listing.