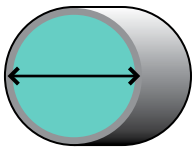
3- and 4-Wire DC
18 mm Diameter Inductive Sensors

- 5 to 20 mm sensing ranges
- 18 mm threaded barrels
- LED target indication
- Cable and Micro (M12) quick disconnect models



Technical Specifications

SUPPLY VOLTAGE	*NBB/NBN/NEB Models*	10-30 VDC
	NJ Models	10-60 VDC
LOAD CURRENT (I_L)	*GM20/GM30 Models*	150 mA max.
	All Other Models	200 mA max.
LEAKAGE CURRENT (OFF-STATE)	*NBB/NBN/NJ Models*	≤ 0.5 mA
	NEB/NEN Models	≤ 0.1 mA
OUTPUT	*Suffix E, E0*	NPN normally open
	Suffix E2	PNP normally open
	Suffix E3	PNP normally closed
	Suffix A0	NPN normally open & normally closed
	Suffix A2	PNP normally open & normally closed
VOLTAGE DROP AT I_L (MAX.)	*NBB/NBN/NJ Models*	≤ 3 VDC
	NEB/NEN Models	≤ 2 VDC
HYSTERESIS		3-15% (5% typical)
SHORT CIRCUIT AND OVERLOAD PROTECTION		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

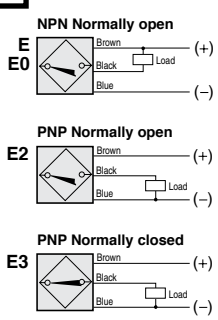
See pages 803-854 for cordsets

See pages 865-872 for accessories

Wiring Diagrams

3-Wire DC

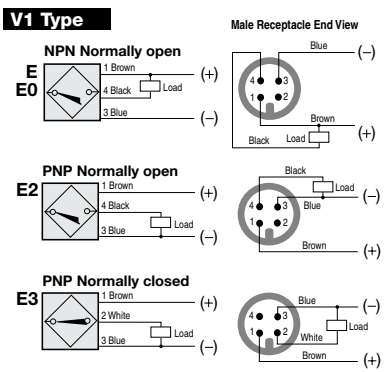
Cable Connection



Quick Disconnect

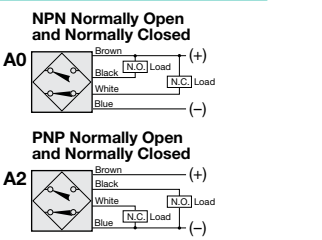
Note: Wiring diagrams show quick disconnect pin numbers.

V1 Type



4-Wire DC

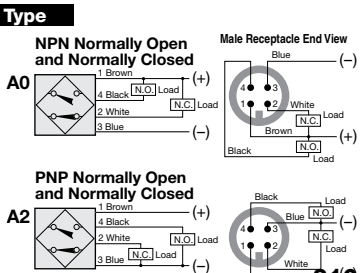
Cable Connection



Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

V1 Type



18 mm Diameter

2-Meter Cable Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Electrical Output	Switching Frequency	Barrel Material*	Cable Jacket/Size	Dwg. No.
18	NJ5-18GM50-E ⚡	5	Flush	NPN N.O.	1.5 kHz	SS	PVC/20 AWG	1
	NJ5-18GM50-E2 ⚡	5	Flush	PNP N.O.	1.5 kHz	SS	PVC/20 AWG	1
	NBB5-18GM50-E0 ⚡	5	Flush	NPN N.O.	800 Hz	Ni-Brass	PVC/22 AWG	2
	NBB5-18GM50-E2 ⚡	5	Flush	PNP N.O.	800 Hz	Ni-Brass	PVC/22 AWG	2
	NBB5-18GM60-A0 ⚡	5	Flush	NPN N.O.& N.C.	800 Hz	Ni-Brass	PVC/22 AWG	3
	NBB5-18GM60-A2 ⚡	5	Flush	PNP N.O.& N.C.	800 Hz	Ni-Brass	PVC/22 AWG	3
	NJ8-18GM50-E ⚡	8	Nonflush	NPN N.O.	1 kHz	SS	PVC/20 AWG	4
	NJ8-18GM50-E2 ⚡	8	Nonflush	PNP N.O.	1 kHz	SS	PVC/20 AWG	4
	NBB8-18GM30-E2 ⚡	8	Flush	PNP N.O.	500 Hz	Ni-Brass	PVC/22 AWG	5
	NBB8-18GM30-E3	8	Flush	PNP N.C.	500 Hz	Ni-Brass	PVC/22 AWG	5
	NBB8-18GM50-E0 ⚡	8	Flush	NPN N.O.	500 Hz	Ni-Brass	PVC/22 AWG	6
	NBB8-18GM50-E2 ⚡	8	Flush	PNP N.O.	500 Hz	Ni-Brass	PVC/22 AWG	6
	NBN8-18GM50-E0 ⚡	8	Nonflush	NPN N.O.	500 Hz	Ni-Brass	PVC/22 AWG	7
	NBN8-18GM50-E2 ⚡	8	Nonflush	PNP N.O.	500 Hz	Ni-Brass	PVC/22 AWG	7
	NBB8-18GM60-A0 ⚡	8	Flush	NPN N.O.& N.C.	500 Hz	Ni-Brass	PVC/22 AWG	8
	NBB8-18GM60-A2 ⚡	8	Flush	PNP N.O.& N.C.	500 Hz	Ni-Brass	PVC/22 AWG	8
	NBN8-18GM60-A0 ⚡	8	Nonflush	NPN N.O.& N.C.	700 Hz	Ni-Brass	PVC/22 AWG	9
	NBN8-18GM60-A2 ⚡	8	Nonflush	PNP N.O.& N.C.	700 Hz	Ni-Brass	PVC/22 AWG	9
	NBN12-18GM35-E2 ●	12	Nonflush	PNP N.O.	200 Hz	Ni-Brass	PVC/22 AWG	10
	NBN12-18GM50-E0 ⚡	12	Nonflush	NPN N.O.	200 Hz	Ni-Brass	PVC/22 AWG	11
	NBN12-18GM50-E2 ⚡	12	Nonflush	PNP N.O.	200 Hz	Ni-Brass	PVC/22 AWG	11
	NBN12-18GM50-A0 ●	12	Nonflush	NPN N.O.& N.C.	1 kHz	Ni-Brass	PVC/22 AWG	11
	NBN12-18GM50-A2 ●	12	Nonflush	PNP N.O.& N.C.	1 kHz	Ni-Brass	PVC/22 AWG	11

Micro (M12) Quick Disconnect Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Electrical Output	Switching Frequency	Barrel Material*	Quick Disconnect	Dwg. No.
18	NJ5-18GM50-E2-V1 ⚡	5	Flush	PNP N.O.	1.5 kHz	SS	M12 Micro	12
	NBB5-18GM20-E2-V1	5	Flush	PNP N.O.	1 kHz	Ni-Brass	M12 Micro	13
	NBB5-18GM50-E0-V1 ⚡	5	Flush	NPN N.O.	800 Hz	Ni-Brass	M12 Micro	14
	NBB5-18GM50-E2-V1 ⚡	5	Flush	PNP N.O.	800 Hz	Ni-Brass	M12 Micro	14
	NBB5-18GM60-A0-V1 ⚡	5	Flush	NPN N.O.& N.C.	800 Hz	Ni-Brass	M12 Micro	15
	NBB5-18GM60-A2-V1 ⚡	5	Flush	PNP N.O. & N.C.	800 Hz	Ni-Brass	M12 Micro	15
	NJ8-18GM50-E2-V1 ⚡	8	Nonflush	PNP N.O.	1 kHz	SS	M12 Micro	16
	NBB8-18GM30-E2-V1 ⚡	8	Flush	PNP N.O.	500 Hz	Ni-Brass	M12 Micro	17
	NBB8-18GM30-E3-V1	8	Flush	PNP N.C.	500 Hz	Ni-Brass	M12 Micro	17
	NBB8-18GM50-E0-V1 ⚡	8	Flush	NPN N.O.	500 Hz	Ni-Brass	M12 Micro	18
	NBB8-18GM50-E2-V1 ⚡	8	Flush	PNP N.O.	500 Hz	Ni-Brass	M12 Micro	18
	NBN8-18GM50-E0-V1 ⚡	8	Nonflush	NPN N.O.	500 Hz	Ni-Brass	M12 Micro	19
	NBN8-18GM50-E2-V1 ⚡	8	Nonflush	PNP N.O.	500 Hz	Ni-Brass	M12 Micro	19
	NBB8-18GM60-A0-V1 ●	8	Flush	NPN N.O.& N.C.	500 Hz	Ni-Brass	M12 Micro	20
	NBB8-18GM60-A2-V1 ⚡	8	Flush	PNP N.O.& N.C.	500 Hz	Ni-Brass	M12 Micro	20
	NBN8-18GM60-A0-V1 ⚡	8	Nonflush	NPN N.O.& N.C.	700 Hz	Ni-Brass	M12 Micro	21
	NBN8-18GM60-A2-V1 ⚡	8	Nonflush	PNP N.O.& N.C.	700 Hz	Ni-Brass	M12 Micro	21
	NEB12-18GM50-E2-V1 ⚡	12	Semi-flush	PNP N.O.	500 Hz	Ni-Brass	M12 Micro	22
	NBN12-18GM35-E2-V1 ●	12	Nonflush	PNP N.O.	200 Hz	Ni-Brass	M12 Micro	23
	NBN12-18GM50-E0-V1 ⚡	12	Nonflush	NPN N.O.	200 Hz	Ni-Brass	M12 Micro	24
	NBN12-18GM50-E2-V1 ⚡	12	Nonflush	PNP N.O.	200 Hz	Ni-Brass	M12 Micro	24
	NBN12-18GM50-A0-V1 ●	12	Nonflush	NPN N.O.& N.C.	1 kHz	Ni-Brass	M12 Micro	24
	NBN12-18GM50-A2-V1 ●	12	Nonflush	PNP N.O.& N.C.	1 kHz	Ni-Brass	M12 Micro	24
	NEN20-18GM50-E2-V1 ⚡	20	Nonflush	PNP N.O.	200 Hz	Ni-Brass	M12 Micro	25

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

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

CONTINUED

18 mm Diameter

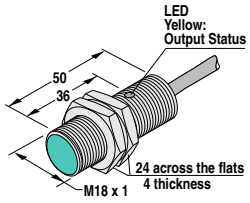
Look for these logos in the drawings to identify our X-Series extended range and Half Pint short-barrel sensors

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

Half Pint
Short-barrel cylindrical sensors for space-critical applications

Drawing No. 1

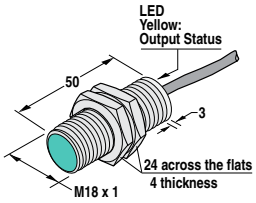
NJ5-18GM50-E [NPN N.O.]
NJ5-18GM50-E2 [PNP N.O.]



5 mm Sensing Range

Drawing No. 2

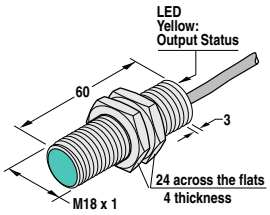
NBB5-18GM50-E0 [NPN N.O.]
NBB5-18GM50-E2 [PNP N.O.]



5 mm Sensing Range

Drawing No. 3

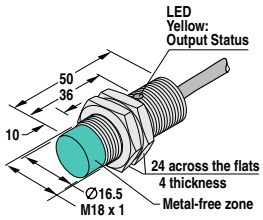
NBB5-18GM60-A0 [NPN N.O. & N.C.]
NBB5-18GM60-A2 [PNP N.O. & N.C.]



5 mm Sensing Range

Drawing No. 4

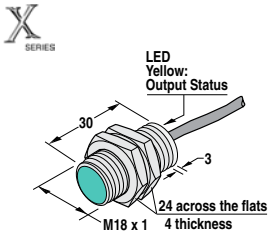
NJ8-18GM50-E [NPN N.O.]
NJ8-18GM50-E2 [PNP N.O.]



8 mm Sensing Range

Drawing No. 5

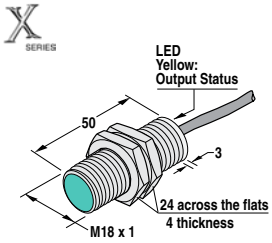
NBB8-18GM30-E2 [PNP N.O.]
NBB8-18GM30-E3 [PNP N.C.]



8 mm Sensing Range

Drawing No. 6

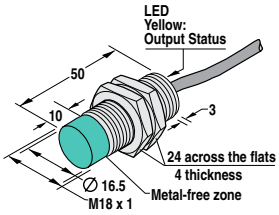
NBB8-18GM50-E0 [NPN N.O.]
NBB8-18GM50-E2 [PNP N.O.]



8 mm Sensing Range

Drawing No. 7

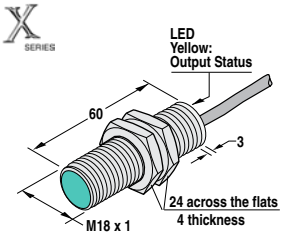
NBN8-18GM50-E0 [NPN N.O.]
NBN8-18GM50-E2 [PNP N.O.]



8 mm Sensing Range

Drawing No. 8

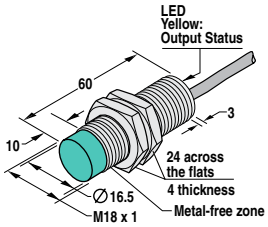
NBB8-18GM60-A0 [NPN N.O. & N.C.]
NBB8-18GM60-A2 [PNP N.O. & N.C.]



8 mm Sensing Range

Drawing No. 9

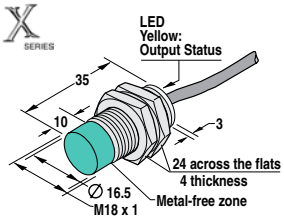
NBN8-18GM60-A0 [NPN N.O. & N.C.]
NBN8-18GM60-A2 [PNP N.O. & N.C.]



8 mm Sensing Range

Drawing No. 10

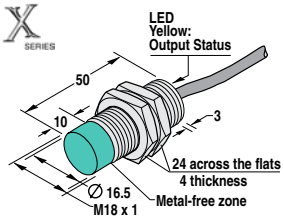
NBN12-18GM35-E2 [PNP N.O.]



12 mm Sensing Range

Drawing No. 11

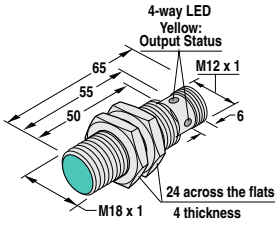
NBN12-18GM50-E0 [NPN N.O.]
NBN12-18GM50-E2 [PNP N.O.]
NBN12-18GM50-A0 [NPN N.O. & N.C.]
NBN12-18GM50-A2 [PNP N.O. & N.C.]



12 mm Sensing Range

Drawing No. 12

NJ5-18GM50-E2-V1 [PNP N.O.]



5 mm Sensing Range

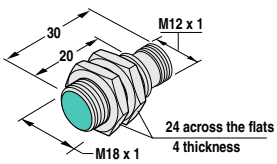
18 mm Diameter

See pages 803-854 for cordsets

See pages 865-872 for accessories

Drawing No. 13

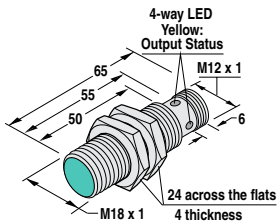
NBB5-18GM20-E2-V1 [PNP N.O.]



5 mm Sensing Range

Drawing No. 14

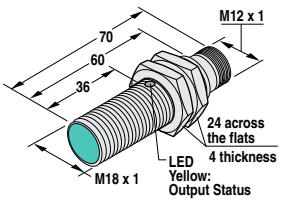
NBB5-18GM50-E0-V1 [NPN N.O.]
NBB5-18GM50-E2-V1 [PNP N.O.]



5 mm Sensing Range

Drawing No. 15

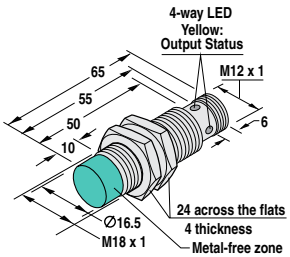
NBB5-18GM60-A0-V1 [NPN N.O. & N.C.]
NBB5-18GM60-A2-V1 [PNP N.O. & N.C.]



5 mm Sensing Range

Drawing No. 16

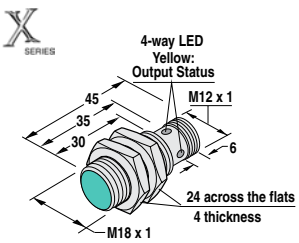
NJ8-18GM50-E2-V1 [PNP N.O.]



8 mm Sensing Range

Drawing No. 17

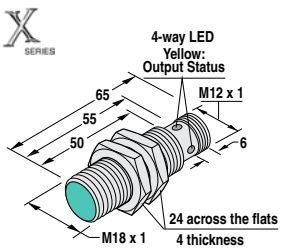
NBB8-18GM30-E2-V1 [PNP N.O.]
NBB8-18GM30-E3-V1 [PNP N.C.]



8 mm Sensing Range

Drawing No. 18

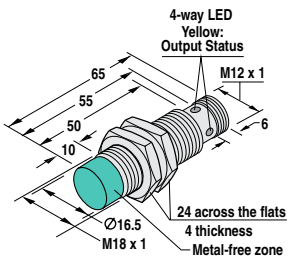
NBB8-18GM50-E0-V1 [NPN N.O.]
NBB8-18GM50-E2-V1 [PNP N.O.]



8 mm Sensing Range

Drawing No. 19

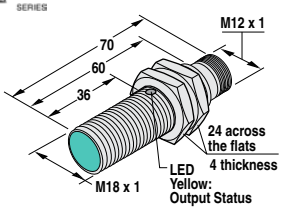
NBN8-18GM50-E0-V1 [NPN N.O.]
NBN8-18GM50-E2-V1 [PNP N.O.]



8 mm Sensing Range

Drawing No. 20

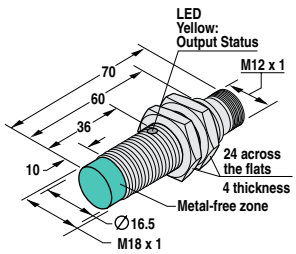
NBB8-18GM60-A0-V1 [NPN N.O. & N.C.]
NBB8-18GM60-A2-V1 [PNP N.O. & N.C.]



8 mm Sensing Range

Drawing No. 21

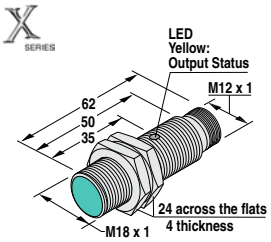
NBN8-18GM60-A0-V1 [NPN N.O. & N.C.]
NBN8-18GM60-A2-V1 [PNP N.O. & N.C.]



8 mm Sensing Range

Drawing No. 22

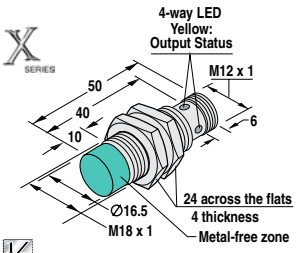
NEB12-18GM50-E2-V1 [PNP N.O.]



12 mm Sensing Range

Drawing No. 23

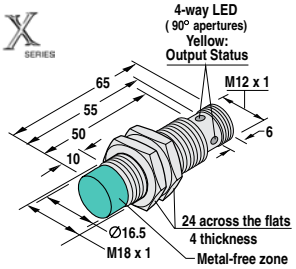
NBN12-18GM35-E2-V1 [PNP N.O.]



12 mm Sensing Range

Drawing No. 24

NBN12-18GM50-E0-V1 [NPN N.O.]
NBN12-18GM50-E2-V1 [PNP N.O.]
NBN12-18GM50-A0-V1 [NPN N.O. & N.C.]
NBN12-18GM50-A2-V1 [PNP N.O. & N.C.]



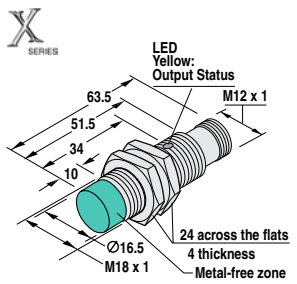
12 mm Sensing Range

CONTINUED

18 mm Diameter

Drawing No. 25

NEN20-18GM50-E2-V1 [PNP N.O.]



20 mm Sensing Range

Recommended Accessories


BF18


BF 18-F


BF5-30


AB18

Mounting Brackets

Model	Description
BF18	18 mm clamp bracket
BF 18-F	18 mm snap lever bracket
BF5-30	5-30 mm universal bracket
AB18	18 mm right angle bracket

See pages 865-872 for complete accessory listing.

Micro Cordsets

Straight "Micro" (M12)	
Model	**Description**
V1-G-YE2M-PVC	2 m length, PVC jacket
V1-G-YE5M-PVC	5 m length, PVC jacket
V1-G-YE2M-PUR	2 m length, PUR jacket
V1-G-YE5M-PUR	5 m length, PUR jacket

Right Angle "Micro" (M12)	
Model	**Description**
V1-W-YE2M-PVC	2 m length, PVC jacket
V1-W-YE5M-PVC	5 m length, PVC jacket
V1-W-YE2M-PUR	2 m length, PUR jacket
V1-W-YE5M-PUR	5 m length, PUR jacket

See pages 803-854 for complete cordset listing.


See pages 803-854 for cordsets

See pages 865-872 for accessories