

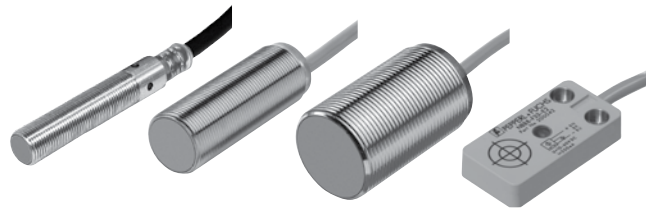


TOUGH SENSORS FOR MOBILE EQUIPMENT







Mobile Equipment and Harsh Duty

- Extended sensing range
- Heavy gauge cable
- -40 °F to +185 °F operating temperature
- IP69K rated
- High shock/vibration immunity
- Up to 100 V/m radiated field immunity
- 12 mm, 18 mm, and 30 mm models with load dump circuitry (per ISO 7637-2)
- Compatible with Deutsch, Weatherpack (Packard), and Amp/Tyco connectors



Technical Specifications

SUPPLY VOLTAGE	Flat Pack	5-60 VDC
	Cylindrical	10-60 VDC*
LOAD CURRENT (I _L)		200 mA max.
LEAKAGE CURRENT (OFF-STATE)		≤ 0.5 mA (10 µA typical)
OUTPUT	Suffix E0	NPN normally open
	Suffix E2	PNP normally open
VOLTAGE DROP AT I _L (MAX.)		≤ 3 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
ENVIRONMENTAL PROTECTION		IP69K
AMBIENT TEMPERATURE		-40 °F to +185 °F (-40 °C to +85 °C)
STANDARDS		EN 60947-5-2
APPROVALS		   

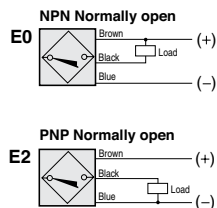
* For 5-30 VDC consult factory

Wiring Diagrams

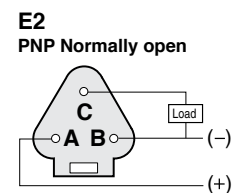
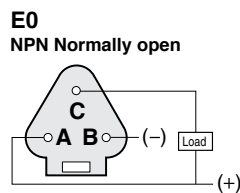
3-Wire DC



Cable Connection



Deutsch Connection

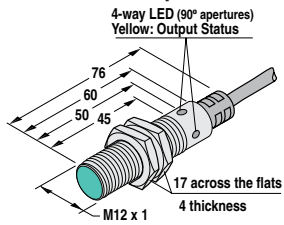


Cable and Deutsch Connector Models

Housing	Model Number	Range (mm)	Voltage	Electrical Output	Switching Frequency	Barrel Material	Termination	EMC Rating	Load Dump Circuitry	Dwg. No.
12	NBB4-12GM60-E0-M	4	10-60 VDC	NPN N.O.	800 Hz	Ni-brass	PUR/#18 AWG	100 V/m	n/a	1
	NBB4-12GM60-E2-M	4	10-60 VDC	PNP N.O.	800 Hz	Ni-brass	PUR/#18 AWG	100 V/m	n/a	1
	NBB4-12GM60-E0-M-150MM-3DT04	4	10-60 VDC	NPN N.O.	800 Hz	Ni-brass	Deutsch Conn.	100 V/m	n/a	2
	NBB4-12GM60-E2-M-150MM-3DT04	4	10-60 VDC	PNP N.O.	800 Hz	Ni-brass	Deutsch Conn.	100 V/m	n/a	2
	NCB4-12GM70-E0-M	4	10-60 VDC	NPN N.O.	1 kHz	SS	PUR/#18 AWG	100 V/m	Per ISO 7637-2	3
NCB4-12GM70-E2-M	4	10-60 VDC	PNP N.O.	1 kHz	SS	PUR/#18 AWG	100 V/m	Per ISO 7637-2	3	
18	NBB8-18GM50-E0-M	8	10-60 VDC	NPN N.O.	400 Hz	Ni-brass	PUR/#18 AWG	100 V/m	Per ISO 7637-2	4
	NBB8-18GM50-E2-M	8	10-60 VDC	PNP N.O.	400 Hz	Ni-brass	PUR/#18 AWG	100 V/m	Per ISO 7637-2	4
	NBB8-18GM50-E0-M-150MM-3DT04	8	10-60 VDC	NPN N.O.	400 Hz	Ni-brass	Deutsch Conn.	100 V/m	Per ISO 7637-2	5
	NBB8-18GM50-E2-M-150MM-3DT04	8	10-60 VDC	PNP N.O.	400 Hz	Ni-brass	Deutsch Conn.	100 V/m	Per ISO 7637-2	5
30	NBB15-30GM50-E0-M	15	10-60 VDC	NPN N.O.	200 Hz	Ni-brass	PUR/#18 AWG	100 V/m	Per ISO 7637-2	6
	NBB15-30GM50-E2-M	15	10-60 VDC	PNP N.O.	200 Hz	Ni-brass	PUR/#18 AWG	100 V/m	Per ISO 7637-2	6
	NBB15-30GM50-E0-M-150MM-3DT04	15	10-60 VDC	NPN N.O.	200 Hz	Ni-brass	Deutsch Conn.	100 V/m	Per ISO 7637-2	7
	NBB15-30GM50-E2-M-150MM-3DT04	15	10-60 VDC	PNP N.O.	200 Hz	Ni-brass	Deutsch Conn.	100 V/m	Per ISO 7637-2	7
Flat Pack	NBB8-F33-E0-M	8	5-60 VDC	NPN N.O.	350 Hz	PBT	PUR/#20 AWG	100 V/m	Per ISO 7637-2	8
	NBB8-F33-E2-M	8	5-60 VDC	PNP N.O.	350 Hz	PBT	PUR/#20 AWG	100 V/m	Per ISO 7637-2	8
	NBB8-F33-E0-M-150MM-3DT04	8	5-60 VDC	NPN N.O.	350 Hz	PBT	Deutsch Conn.	100 V/m	Per ISO 7637-2	9
	NBB8-F33-E2-M-150MM-3DT04	8	5-60 VDC	PNP N.O.	350 Hz	PBT	Deutsch Conn.	100 V/m	Per ISO 7637-2	9

Drawing No. 1

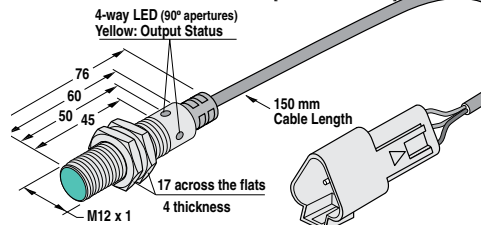
NBB4-12GM60-E0-M [NPN N.O. & N.C.]
NBB4-12GM60-E2-M [PNP N.O. & N.C.]



4 mm Sensing Range

Drawing No. 2

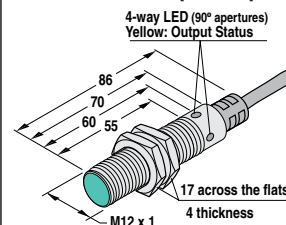
NBB4-12GM60-E0-M-150MM-3DT04 [NPN N.O. & N.C.]
NBB4-12GM60-E2-M-150MM-3DT04 [PNP N.O. & N.C.]



4 mm Sensing Range

Drawing No. 3

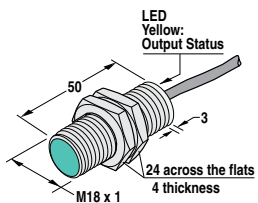
NCB4-12GM70-E0-M [NPN N.O.]
NCB4-12GM70-E2-M [PNP N.O.]



4 mm Sensing Range

Drawing No. 4

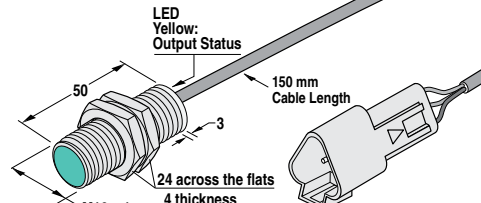
NBB8-18GM50-E0-M [NPN N.O.]
NBB8-18GM50-E2-M [PNP N.O.]



8 mm Sensing Range

Drawing No. 5

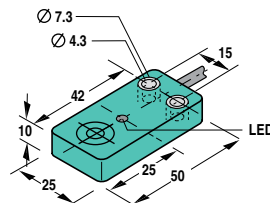
NBB8-18GM50-E0-M-150MM-3DT04 [NPN N.O.]
NBB8-18GM50-E2-M-150MM-3DT04 [PNP N.O.]



8 mm Sensing Range

Drawing No. 8

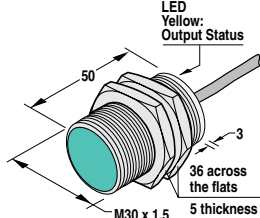
NBB8-F33-E0-M [NPN N.O. & N.C.]
NBB8-F33-E2-M [PNP N.O. & N.C.]



8 mm Sensing Range

Drawing No. 6

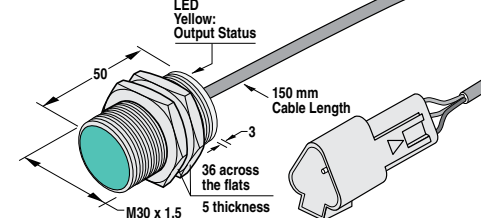
NBB15-30GM50-E0-M [NPN N.O.]
NBB15-30GM50-E2-M [PNP N.O.]



15 mm Sensing Range

Drawing No. 7

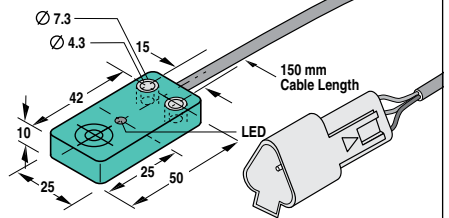
NBB15-30GM50-E0-M-150MM-3DT04 [NPN N.O.]
NBB15-30GM50-E2-M-150MM-3DT04 [PNP N.O.]



15 mm Sensing Range

Drawing No. 9

NBB8-F33-E0-M-150MM-3DT04 [NPN N.O.]
NBB8-F33-E2-M-150MM-3DT04 [PNP N.O.]



8 mm Sensing Range

FACTORY AUTOMATION – SENSING YOUR NEEDS



Pepperl+Fuchs sets the standard in quality and innovative technology for the world of automation. Our expertise, dedication, and heritage of innovation have driven us to develop the largest and most versatile line of industrial sensor technologies and interface components in the world. With our global presence, reliable service, and flexible production facilities, Pepperl+Fuchs delivers complete solutions for your automation requirements—wherever you need us.

Contact

Pepperl+Fuchs Inc.
1600 Enterprise Parkway
Twinsburg, Ohio 44087 · USA
Tel. +1 330 486-0001 · Fax +1 330 405-4710
E-mail: fa-info@us.pepperl-fuchs.com

Worldwide Headquarters

Pepperl+Fuchs GmbH · Mannheim · Germany
E-mail: fa-info@de.pepperl-fuchs.com

USA Headquarters

Pepperl+Fuchs Inc. · Twinsburg · USA
E-mail: fa-info@us.pepperl-fuchs.com

Asia Pacific Headquarters

Pepperl+Fuchs Pte Ltd · Singapore
Company Registration no. 199003130E
E-mail: fa-info@sg.pepperl-fuchs.com

www.pepperl-fuchs.com

 **PEPPERL+FUCHS**
SENSING YOUR NEEDS