

# 3-Wire DC 12, 18, and 30 mm Diameter Pile Driver™ Inductive Sensors

- 2 to 8 mm sensing ranges
- Stainless steel housing and sensing face
- LED power and target indication
- -40°F operational temperature



### Technical Specifications

SUPPLY VOLTAGE	10-30 VDC
CURRENT CONSUMPTION	≤ 10 mA
LOAD CURRENT (I <sub>L</sub> )	100 mA max.
LEAKAGE CURRENT (OFF-STATE)	≤ 0.01 mA
OUTPUT	Suffix E0 NPN normally open Suffix E2 PNP normally open Suffix E3 PNP normally closed
VOLTAGE DROP AT I <sub>L</sub> (MAX.)	≤ 2 VDC
HYSTERESIS	3-15% (5% typical)
SHORT CIRCUIT AND OVERLOAD PROTECTION	Yes
REVERSE POLARITY PROTECTED	Yes
LED INDICATION	See dimension drawings
HOUSING MATERIAL	303 stainless steel (face and barrel)
STANDARDS	EN 60947-5-2
ENVIRONMENTAL PROTECTION	IP68
AMBIENT TEMPERATURE	-40 °F to +158 °F (-40 °C to +70 °C)
APPROVALS	



See pages 803-854 for cordsets



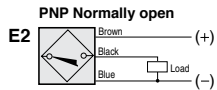
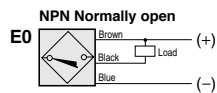
See pages 865-872 for accessories

## Wiring Diagrams

### 3-Wire DC



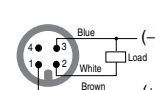
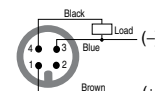
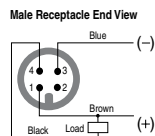
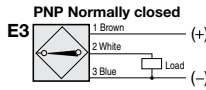
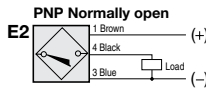
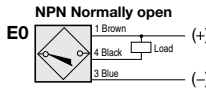
#### Cable Connection



#### Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

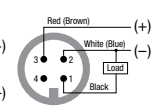
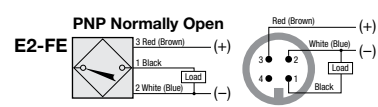
##### V1 Type



#### Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

##### V94 Type



12mm dia. Model	Reduction Factors							
	Mild Steel	Stainless Steel 303/304, 316		Al	Cu	Brass	Ti	Ni
Series FE (Ferrous)	1	0.25	0.1	0	0	0	0.5	0.35
Series NFE (Nonferrous)	0	0	0	1	1.1	0.9	0	0

18mm dia. Model	Reduction Factors							
	Mild Steel	Stainless Steel 303/304, 316		Al	Cu	Brass	Ti	Ni
Series FE (Ferrous)	1	0.5	0.2	0	0	0	0.5	0.35
Series NFE (Nonferrous)	0	0	0	1	1.1	0.9	0	0

30mm dia. Model	Reduction Factors							
	Mild Steel	Stainless Steel 303/304, 316		Al	Cu	Brass	Ti	Ni
Series FE (Ferrous)	1	0.7	0.2	0	0	0	0.5	0.35
Series NFE (Nonferrous)	0	0	0	1	1.1	0.9	0	0

Specified Sensing Range x Reduction Factor = Actual Sensing Range. For 400 series stainless, consult factory.

When detecting aluminum foil, Series FE Pile Driver must be used.

12, 18, and 30 mm Diameter

2-Meter Cable Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Std. Target Material	Electrical Output	Switching Frequency	Cable Jacket/Size	Dwg. No.
12	NMB2-12GM55-E0-FE ⚡	2	Flush	Steel	NPN N.O.	50 Hz	PUR/#22 AWG	1
	NMB2-12GM55-E2-FE ⚡	2	Flush	Steel	PNP N.O.	50 Hz	PUR/#22 AWG	1
18	NMB5-18GM55-E0-FE ⚡	5	Flush	Steel	NPN N.O.	15 Hz	PUR/#22 AWG	2
	NMB5-18GM55-E2-FE ⚡	5	Flush	Steel	PNP N.O.	15 Hz	PUR/#22 AWG	2
	NMB5-18GM55-E2-NFE ⚡	5	Flush	Aluminum	PNP N.O.	30 Hz	PUR/#22 AWG	2
30	NMB8-30GM55-E0-FE ⚡	8	Flush	Steel	NPN N.O.	10 Hz	PUR/#20 AWG	3
	NMB8-30GM55-E2-FE ⚡	8	Flush	Steel	PNP N.O.	10 Hz	PUR/#20 AWG	3



Micro (M12) Quick Disconnect Models

Dia. (mm)	Model Number	Range (mm)	Mounting	Std. Target Material	Electrical Output	Switching Frequency	Quick Disconnect	Dwg. No.
12	NMB2-12GM65-E0-FE-V1 ⚡	2	Flush	Steel	NPN N.O.	100 Hz	M12 Micro	4
	NMB2-12GM65-E0-NFE-V1 ⚡	2	Flush	Aluminum	NPN N.O.	15 Hz	M12 Micro	4
	NMB2-12GM65-E2-FE-V1 ⚡	2	Flush	Steel	PNP N.O.	100 Hz	M12 Micro	4
	NMB2-12GM65-E2-NFE-V1 ⚡	2	Flush	Aluminum	PNP N.O.	15 Hz	M12 Micro	4
	NMB2-12GM65-E3-FE-V1 ⚡	2	Flush	Steel	PNP N.C.	100 Hz	M12 Micro	4
18	NMB5-18GM65-E0-FE-V1 ⚡	5	Flush	Steel	NPN N.O.	15 Hz	M12 Micro	5
	NMB5-18GM65-E2-FE-V1 ⚡	5	Flush	Steel	PNP N.O.	15 Hz	M12 Micro	5
	NMB5-18GM65-E2-NFE-V1 ⚡	5	Flush	Aluminum	PNP N.O.	30 Hz	M12 Micro	5
	NMB5-18GM65-E3-FE-V1 ⚡	5	Flush	Steel	PNP N.C.	15 Hz	M12 Micro	5
30	NMB8-30GM65-E0-FE-V1 ⚡	8	Flush	Steel	NPN N.O.	10 Hz	M12 Micro	6
	NMB8-30GM65-E2-FE-V1 ⚡	8	Flush	Steel	PNP N.O.	10 Hz	M12 Micro	6
	NMB8-30GM65-E2-NFE-V1 ⚡	8	Flush	Aluminum	PNP N.O.	10 Hz	M12 Micro	6



Mini (7/8"-16) Quick Disconnect Model

Dia. (mm)	Model Number	Range (mm)	Mounting	Std. Target Material	Electrical Output	Switching Frequency	Quick Disconnect	Dwg. No.
18	NMB5-18GM70-E2-FE-V94 ⚡	5	Flush	Steel	PNP N.O.	15 Hz	Mini DC	7



Inductive Pile Driver™

3-Wire DC

**Drawing No. 1**

NMB2-12GM55-E0-FE [NPN N.O.]  
NMB2-12GM55-E2-FE [PNP N.O.]

Dual LED  
Green: Power  
Yellow: Output Status

55  
47  
2  
17 across the flats  
4 thickness  
M12 x 1

**2 mm Sensing Range**

**Drawing No. 2**

NMB5-18GM55-E0-FE [NPN N.O.]  
NMB5-18GM55-E2-FE [PNP N.O.]  
NMB5-18GM55-E2-NFE [PNP N.O.]

Dual LED  
Green: Power  
Yellow: Output Status

55  
47  
2.5  
24 across the flats  
4 thickness  
M18 x 1

**5 mm Sensing Range**

**Drawing No. 3**

NMB8-30GM55-E0-FE [NPN N.O.]  
NMB8-30GM55-E2-FE [PNP N.O.]

Dual LED  
Green: Power  
Yellow: Output Status

55  
45  
2.5  
36 across the flats  
5 thickness  
M30 x 1.5

**8 mm Sensing Range**

**Drawing No. 4**

NMB2-12GM65-E0-FE-V1 [NPN N.O.]  
NMB2-12GM65-E0-NFE-V1 [NPN N.O.]  
NMB2-12GM65-E2-FE-V1 [PNP N.O.]  
NMB2-12GM65-E2-NFE-V1 [PNP N.O.]  
NMB2-12GM65-E3-FE-V1 [PNP N.C.]

4-way Dual LED  
Green: Power  
Yellow: Output Status

65  
55  
44  
2  
17 across the flats  
4 thickness  
M12 x 1

**2 mm Sensing Range**

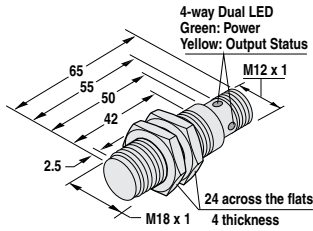
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12, 18, and 30 mm Diameter

Inductive Pile Driver™

Drawing No. 5

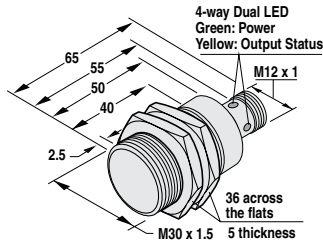
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 NMB5-18GM65-E2-FE-V1 [PNP N.O.]  
 NMB5-18GM65-E2-NFE-V1 [PNP N.O.]  
 NMB5-18GM65-E3-FE-V1 [PNP N.C.]



5 mm Sensing Range

Drawing No. 6

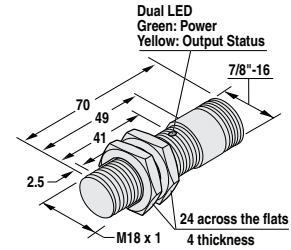
NMB8-30GM65-E0-FE-V1 [NPN N.O.]  
 NMB8-30GM65-E2-FE-V1 [PNP N.O.]  
 NMB8-30GM65-E2-NFE-V1 [PNP N.O.]



8 mm Sensing Range

Drawing No. 7

NMB5-18GM70-E2-FE-V94 [PNP N.O.]



5 mm Sensing Range

Recommended Accessories



BF12  
BF18  
BF30



BF 12-F  
BF 18-F  
BF 30-F



BF5-30



AB12  
AB18  
AB30

Mounting Brackets

Dia.	Model	Description
12	BF12	12 mm clamp bracket
	BF 12-F	12 mm snap lever bracket
	BF5-30	5-30 mm universal bracket
	AB12	12 mm right angle bracket

Dia.	Model	Description
18	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

Dia.	Model	Description
30	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 803-854 for complete cordset listing.

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

Mini Cordsets



Straight "Mini" (7/8"-16)	
Model	Description
V94-G-YE2M-ST00W	2 m length, ST00W jacket
V94-G-YE4M-ST00W	4 m length, ST00W jacket

Right Angle "Mini" (7/8"-16)	
Model	Description
V94-W-YE2M-ST00W	2 m length, ST00W jacket
V94-W-YE4M-ST00W	4 m length, ST00W jacket

3-Wire DC