

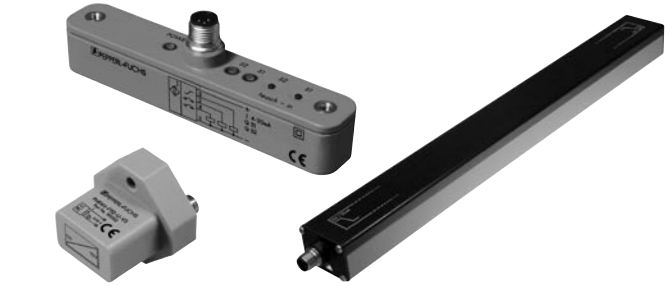
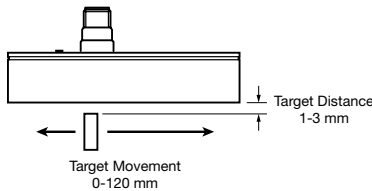
# Linear Position Sensors

- Inductive linear measurement
- High resolution and accuracy
- Noncontact detection
- Basic and enhanced models available
  - 0-10 V DC & 4-20 mA
  - 4-20 mA output + two PNP limit outputs

## PMI: Inductive Position Measurement

The F90 linear position-measuring sensor is designed for high precision and continuous noncontact linear measurement. The sensor system is based on proven inductive sensing technology coupled with innovative microcontroller evaluation.

This robust design offers a compact alternative for noncontact linear measurement. Available in usable measurement lengths up to 360 mm; the device is ideal for short-distance linear measurement solutions. Because it is based on inductive measurement technology, the sensor target can be made of any ferrous metal.



## Technical Specifications

SUPPLY VOLTAGE	18-30 VDC
SUPPLY CURRENT	< 40 mA
OUTPUT	Suffix U Analog 0-10 V
	Suffix IU Analog 4-20 mA/0-10 V
	Suffix IE8 Analog 4-20 mA and 2 x PNP N.O.
PNP OUTPUT VOLTAGE DROP	≤ 3 V
PNP OUTPUT LOAD CURRENT	0-100 mA
REPEATABILITY	± 0.05 mm
LINEARITY	± 0.4 mm
TEMPERATURE DRIFT	± 0.5 mm
LOAD RESISTANCE	Voltage Outputs > 1000 Ω
	Current Outputs < 400 Ω
SHORT CIRCUIT AND OVERLOAD PROTECTION	Yes
REVERSE POLARITY PROTECTED	Yes
LED INDICATION	See dimension drawings
HOUSING MATERIAL	P112, F90 PA6
	F110 Aluminum, PA6
STANDARDS	EN 60947-5-2
ENVIRONMENTAL PROTECTION	IP67
AMBIENT TEMPERATURE	-13 °F to +158 °F (-25 °C to +70 °C)
APPROVALS	CE U <sub>us</sub>



See pages 803-854 for cordsets



See pages 865-872 for accessories

## Wiring Diagrams

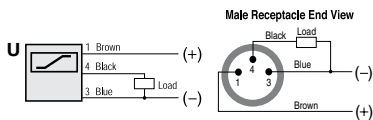
### 3-Wire DC



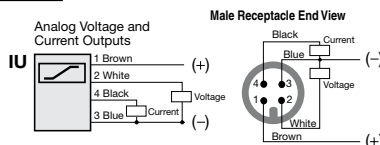
#### Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

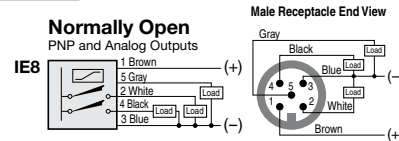
#### V3 Type



#### V1 Type



#### V15 Type

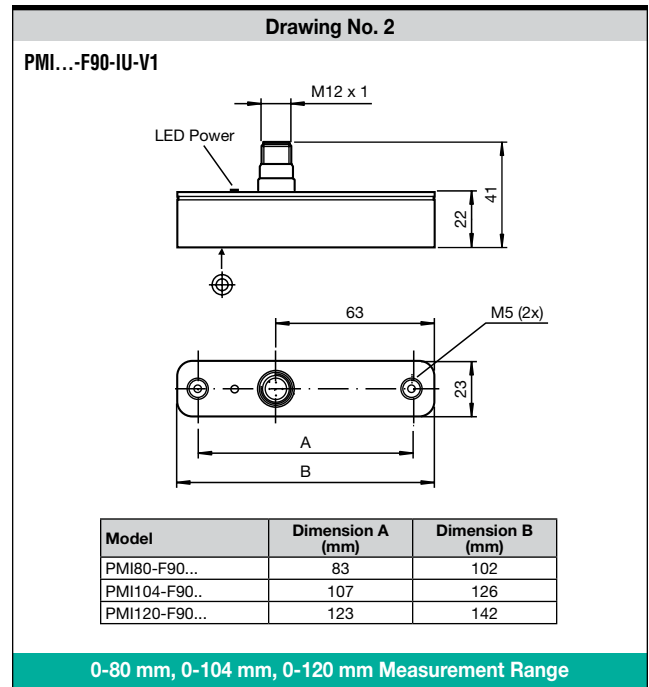
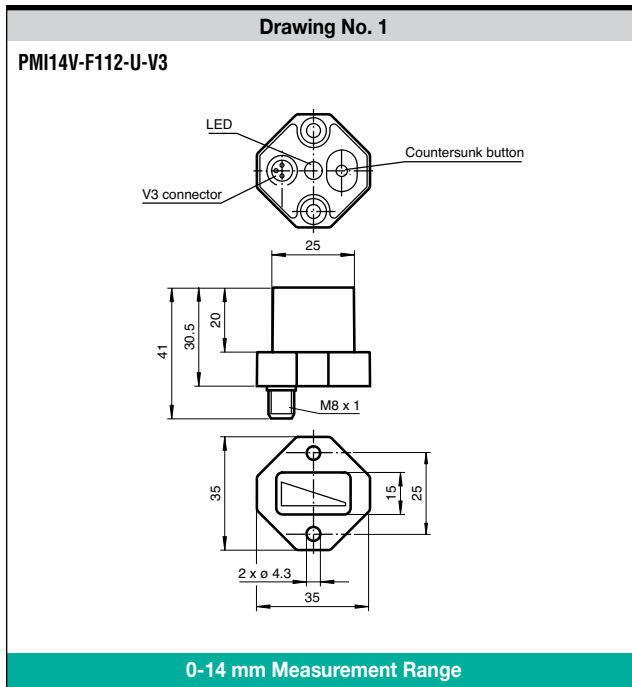


### Analog Output

Model Number	Measurement Range (mm)	Target Distance (mm)	Output Resolution (mm)	Mounting	Electrical Output	Housing Material	Electrical Connection	Dwg. No.
PMI14V-F112-U-V3 ⚡	0-14	1-2.5	0.033	Flush	Analog 0-10 V	PA6	M8 Nano	1
PMI80-F90-IU-V1 ⚡	0-80	1-3	0.125	Flush	Analog 4-20 mA/0-10 V	PA6	M12 Micro	2
PMI104-F90-IU-V1 ⚡	0-104	1-3	0.125	Flush	Analog 4-20 mA/0-10 V	PA6	M12 Micro	2
PMI120-F90-IU-V1 ⚡	0-120	1-3	0.125	Flush	Analog 4-20 mA/0-10 V	PA6	M12 Micro	2
PMI210-F110-IU-V1	0-210	1-6	0.210	Flush	Analog 4-20 mA/0-10 V	PA6 / AI	M12 Micro	3
PMI360-F110-IU-V1	0-360	1-6	0.360	Flush	Analog 4-20 mA/0-10 V	PA6 / AI	M12 Micro	3

### Analog Output and PNP

Model Number	Measurement Range (mm)	Target Distance (mm)	Output Resolution (mm)	Mounting	Electrical Output	Housing Material	Electrical Connection	Dwg. No.
PMI80-F90-IE8-V15 ●	0-80	1-3	0.125	Flush	Analog 4-20 mA and 2 x PNP N.O.	PA6	M12 Micro	4
PMI104-F90-IE8-V15 ●	0-104	1-3	0.125	Flush	Analog 4-20 mA and 2 x PNP N.O.	PA6	M12 Micro	4
PMI120-F90-IE8-V15 ●	0-120	1-3	0.125	Flush	Analog 4-20 mA and 2 x PNP N.O.	PA6	M12 Micro	4



## Linear Position Sensors

**Drawing No. 3**

PMI...-F90-IE8-V15

Model	Length L (mm)
PMI210-F110-IU-V1	250
PMI360-F110-IU-V1	390

0-210 mm, 0-360 mm Measurement Range

**Drawing No. 4**

PMI...-F90-IE8-V15

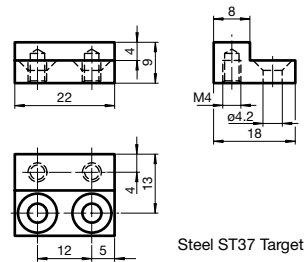
Model	Dimension A (mm)	Dimension B (mm)
PMI80-F90...	83	102
PMI104-F90..	107	126
PMI120-F90...	123	142

0-80 mm, 0-104 mm, 0-120 mm Measurement Range

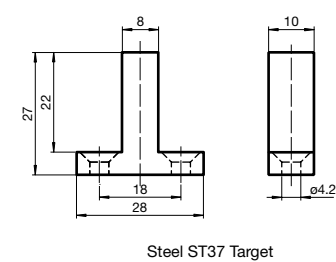
## Recommended Accessories

Sensor Model	Target
PMI14V-F112-...	BT-F90-G
PMI80-F90-...	BT-F90-W
PMI104-F90-...	BT-F90-W
PMI120-F90-...	BT-F90-W
PMI210-F110-...	BT-F110-G
PMI360-F110-...	BT-F110-W

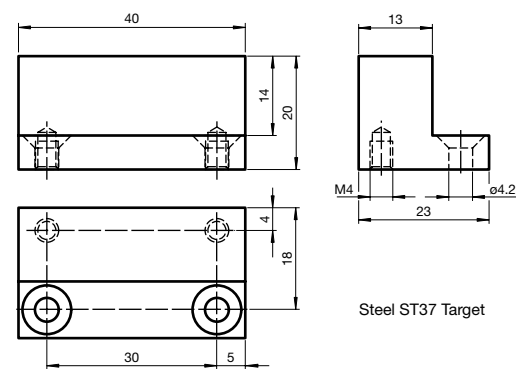
**Target BT-F90-G**  
(sold separately)



**Target BT-F90-W**  
(sold separately)



**Target BT-F110-G**  
(sold separately)



**Target BT-F110-W**  
(sold separately)

