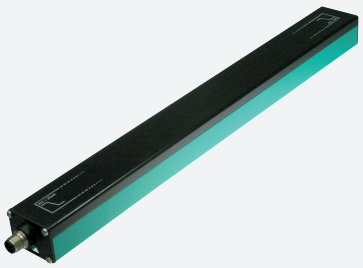
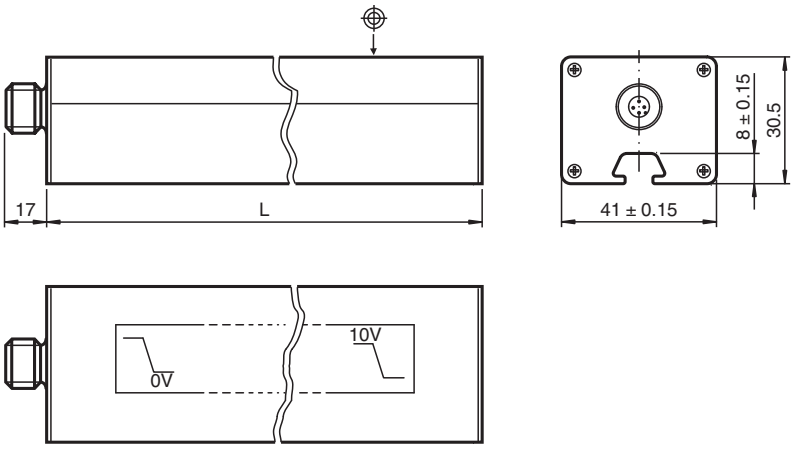


Inductive positioning system

PMI210-F110-2U-V1-Y70137901

- Measuring range 0 ... 210 mm
- Analog output 0 ... 10 V DC
- Analog output signal duplicated on Pin 2 and 4

Dimensions



Technical Data

General specifications		
Switching element function		Analog voltage output
Object distance		max. 6 mm
Measurement range		0 ... 210 mm
Nominal ratings		
Operating voltage	U_B	18 ... 30 V DC
Reverse polarity protection		reverse polarity protected
Linearity error		± 0.4 mm
Repeat accuracy	R	± 0.2 mm
Resolution		210 µm
Temperature drift		± 0.5 mm (-25 °C ... 70 °C)
No-load supply current	I_0	≤ 40 mA
Operating voltage indicator		LED green
Functional safety related parameters		
$MTTF_d$		337 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Analog output		

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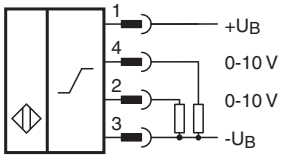
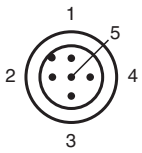
Technical Data

Output type		1 voltage output: 0 ... 10 V signal duplicated on Pin 2 and 4
Load resistor		voltage output: ≥ 1000 Ω
Short-circuit protection		voltage output: pulsing
Compliance with standards and directives		
Standard conformity		
Standards		EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012
Approvals and certificates		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		4-pin, M12 x 1 connector
Housing length L		250 mm
Degree of protection		IP65
Material		
Housing		PA 6 / AL
Target		mild steel, e. g. 1.0037, SR235JR (formerly St37-2)
Dimensions		
Height		30 mm
Width		41 mm
Length		267 mm
Note		The data relating to accuracy only apply to a distance to the object to be detected of 1 ... 6 mm.

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

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Installation

Installation and operating notes

- Security advice

  Warning

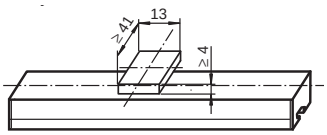
  This product must not be used in applications, where safety of persons depend on the correct device function.
  This product is not a safety device according to EC machinery directive.

- Sensor Properties

  The inductive positioning system F110 provides a voltage signal which is proportional to the position of the attenuating element. The output signal is equally output on Pins 2 and 4 (internally bridged).
  Output signal: 0 V ... 10 V

- Attenuating element

  The inductive position encoding system F110 is optimally adjusted to the geometry of the attenuating elements we offer (see accessories, below).



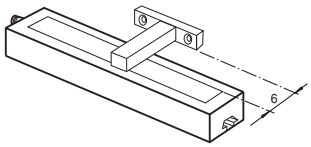
  Note

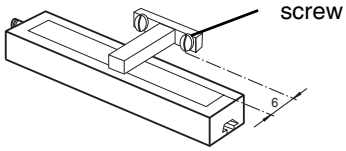
  When using your own attenuating elements, you must ensure that the active surface of the attenuating element has a width of exactly 13 mm and overlaps the entire sensor width (41 mm).
  A different width has a direct impact on the achievable resolution and accuracy of the system.
  Spacing between sensor and attenuating element is from 0 ... 6 mm.
  Sensing accuracy is guaranteed between 1 ... 6 mm.

- Installation and operation

Notes on installation

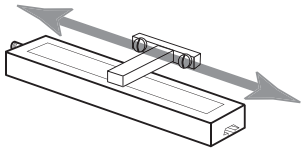
- A flush installation is possible.
- Fixation and installation of the positioning system F110 is carried out by the use of t-slides. This provides a flexible adaptation to the field situation.
- The distance between the measuring field (bordered area at the front of the sensor) and the fixing base or fixing element of the attenuating element must at least be 6 mm.

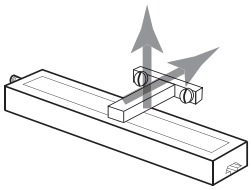




- Notes on operation

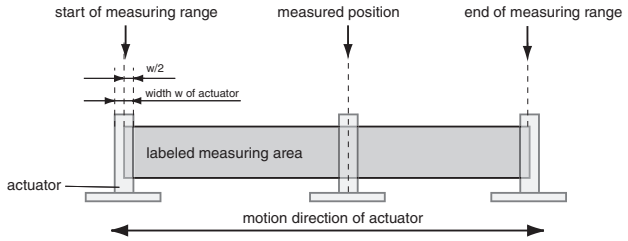
  The sensor accuracy can be guaranteed, when the spacing between attenuating element and sensor is within an interval of 1 ... 6 mm.
  When the attenuating element leaves the measurement range (figures below) the last valid value is maintained at the voltage output (Pin 2 and 4) until the attenuating element re-enters the valid range.





- Definition of measuring range / of measured position

  The measured attenuating elements (actuators) position refers to half its width (middle of the actuator). The measuring range starts and ends when the attenuating element overlaps the labeled measuring area on the sensor at transversal motion (see left figure above).



- Accessories

Attenuating elements

BT-F110-G

BT-F110-W

Mounting brackets

MH-F110

Straight cables:V1-G-2M-PVC (4 wire)
Angled cables:V1-W-2M-PVC (4 wire)

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