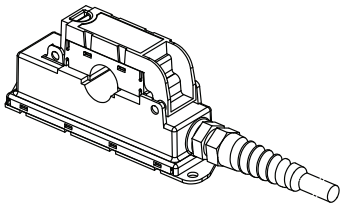
PointSenz PCM 5-PR/SP2

I_{PN} = 5 A

PointSenz PCM 5-PR/SP2 is optimised for the electronic measurement of AC currents, with a galvanic isolation between the primary (high power) circuit and the secondary (electronic) circuit.



Electrical data

I_{PN}	Primary nominal RMS current	5	A
I_{PM}	Primary current, measuring range	0 ... ±25	A
I_{out}	Analogue output current @ I = 0	4	mA
I_{out}	Analogue output current @ I_{PN}	12	mA
I_{out}	Analogue output current @ 2 x I_{PN}	20	mA
R_M	Measuring resistance	100 ... 500	Ω
U_C	Supply voltage [1] (±10%)	+24	V
$I_{C\,max}$	Maximum current consumption [2]	50	mA

Accuracy - Dynamic performance data

		Typ	
X	Accuracy [3] [4] (5 % I_P ... 2 x I_{PN}) @ T_A = +25°C		
	U_C = +24 V, f = 50 Hz	± 2	% of I_P
	Position sensitivity relative to centre reading (max)	± 1.5	% of I_P
ε_L	Linearity error [4] (5 % ... 2 x I_P)	± 1.0	% of I_P
$I_{O\,max}$	Maximum offset current @ I_P = 0, T_A = 25°C	+ 4 ± 0.3	mA
I_{OT}	Temperature variation of I_{OE}, T_A = +5 ... +50 °C	± 0.03	mA
TCG	Temperature coefficient of G, T_A = +5 ... +50 °C	± 0.10	%/°K
t_r	Step response time to 90 % of I_P	100	ms
BW	Frequency bandwidth (−3 dB)	0.040 ... 1	kHz

General data

T_A	Ambient operating temperature	−25 ... +55	°C
T_S	Ambient storage temperature	−25 ... +85	°C
	Relative humidity T_A = 40 °C	95	%
m	Mass	150	g
	Standards	EN 50155: 1995 EN 50121-4: 2001 EN 50121-3-2: 2015 [5]	

Notes: [1] Reverse polarity protection
[2] Including I_{out}
[3] Excludes electrical offset
[4] Includes linearity with the conductor in the centre of the aperture
[5] Deviation of the offset during the test IEC 61000-4-3 @ 20V/m between 500 MHz and 1 GHz

Features

- Closed loop (compensated) current transducer using the Hall effect
- Panel mounting
- Split core design for easy installation
- Isulating plastic case to UL 94-V0
- Reverse polarity protected
- True RMS output
- Water resistant design rated to IP67

Advantages

- Very good linearity
- Excellent accuracy
- Current overload capability
- No insertion losses
- Non - contact measurement (does not need a safety case).

Applications

- Points condition monitoring
- Signal light indication
- Battery supplied applications
- Uninterruptable Power Supplies (UPS).

Application Domain

- Track Side.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without prior notice

Current Transducer PCM 5-PR/SP2

Isolation characteristics

U_b	Rated isolation voltage RMS [5]	200 Min	V
d_{Cp}	Creepage distance	12	mm
d_{Cl}	Clearance	10	mm
CTI	Comparative Tracking Index (group IIIa)	175	

Note: [5] Overvoltage category II, Pollution degree 2.

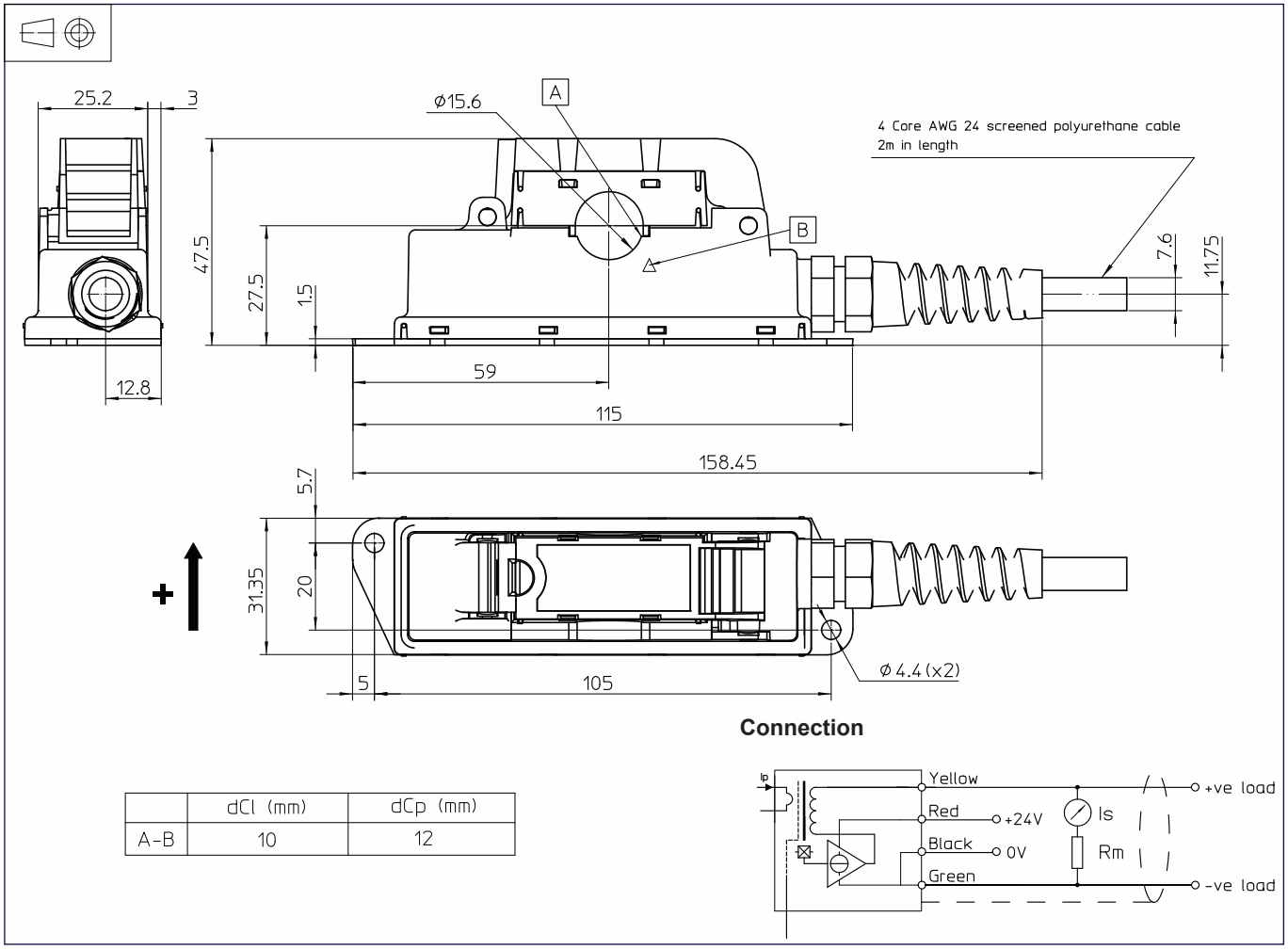
Safety

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.

Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.
A protective housing or additional shield could be used.
Main supply must be able to be disconnected.

Dimensions PCM 5-PR/SP2 (in mm. 1 mm = 0.0394 inch)



	dCl (mm)	dCp (mm)
A-B	10	12

Connection

Mechanical characteristics

- General tolerance ±0.5 mm
- Primary through-hole ⌀ 15 mm
- Connection of secondary 4 core AWG 24 screened polyurethane cable 2 m lenght
- Enclosure UL 94-V0 rated plastic

Remarks

- I_{out} is positive when I_P flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 90°C.
- This unit is intended for direct mounting in trackside applications. It should only be installed or removed from isolated hazardous live conductors or unisolated hazardous live conductors which are switched off.
- Connections between the transducer and the customers power supply and output monitoring equipment should be made with screened cable.

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