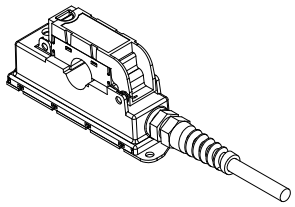
PointSenz PCM 10-P/SP3

I_{PN} = 10 A

PointSenz PCM 10-P/SP3 is optimized for the electronic measurement of bipolar DC currents, with galvanic separation between the primary circuit and the secondary circuit.



Electrical data

$I_{PN\,DC}$	Primary nominal DC current (nominal)	10	A
I_{PM}	Primary current, measuring range	0 … ±20	A
I_{out}	Analogue output current @ I_{PN} = 0	12	mA
I_{out}	Analogue output current @ +I_{PM}	20	mA
I_{out}	Analogue output current @ − I_{PM}	4	mA
R_M	Measuring resistance	50 … 250	Ω
U_C	Supply voltage [1] (−30 % , +25 % continuous)	+24	V
$I_{C\,max}$	Maximum current consumption [2]	50	mA

Accuracy - Dynamic performance data

ε	Error [3] [4] @ I_{PN}, T_A = +25 °C, U_C = +24 V	±1	% of I_{PN}
	Maximum position sensitivity relative to centre reading	±1.5	% of I_{PN}
ε_L	Linearity error [4] (0 … + I_{PN})	±0.2	% of I_{PN}
I_{OE}	Electrical offset current @ I_{PN} = 0, T_A = 25 °C	+12 ±0.3	mA
I_{OM}	Magnetic offset current @ I_{PN} = 0 and specified R_M, after an overload of 3 × I_{PN}	±0.04	mA
TCI_{OE}	Temperature coefficient of I_{OE} T_A = −25 °C … +70 °C	±0.06	mA/K
TCS	Temperature coefficient of S T_A = −25 °C … +70 °C	±0.05	%/K
$t_{D\,90}$	Delay time to 90 % of I_{PN} [5]	< 30	µs
BW	Frequency bandwidth (−3 dB)	DC … 1	kHz

General data

T_A	Ambient operating temperature (continuous)	−25 … +55	°C
T_S	Ambient storage temperature	−25 … +70	°C
RH	Relative humidity @ T_A = 40 °C	95	%
m	Mass	120	g
	Standards: Electrically driven points machines	BS 581	
	Vibration	BR 967: 1973 cat. D	
	EMC	EN 50121-5: 2001	
	EMC	EN 50121-3-2: 2015 [6]	
	Railway applications (power supply, temperature & humidity)	EN 50155: 1995	

This product is designed to conform with the relevant sections of GM/RC 1500, and is intended for use in applications and environments which comply with GS/ES 1914 and GM/R7 1031.

Features

- Closed loop (compensated) current transducer using the Hall effect
- Panel mounting
- Split core design for easy installation
- Insulated plastic case to UL 94-V0
- Reverse polarity protected.

Special feature

- Output connector RJ45 Male (8 poles).

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.

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Notes (see page 1):

[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] For a di/dt > 50 A/µs
[6] Deviation of the offset during the test IEC 61000-4-3 @ 20 V/m between 500 MHz and 1 GHz

Insulation coordination

U_b	Rated insulation RMS (OVII; PD2)	200 Min	V
d_{Cp}	Creepage distance	12	mm
d_{Cl}	Clearance	10	mm
CTI	Comparative tracking index (group IIIa)	175	

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 (e.g. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a build-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.

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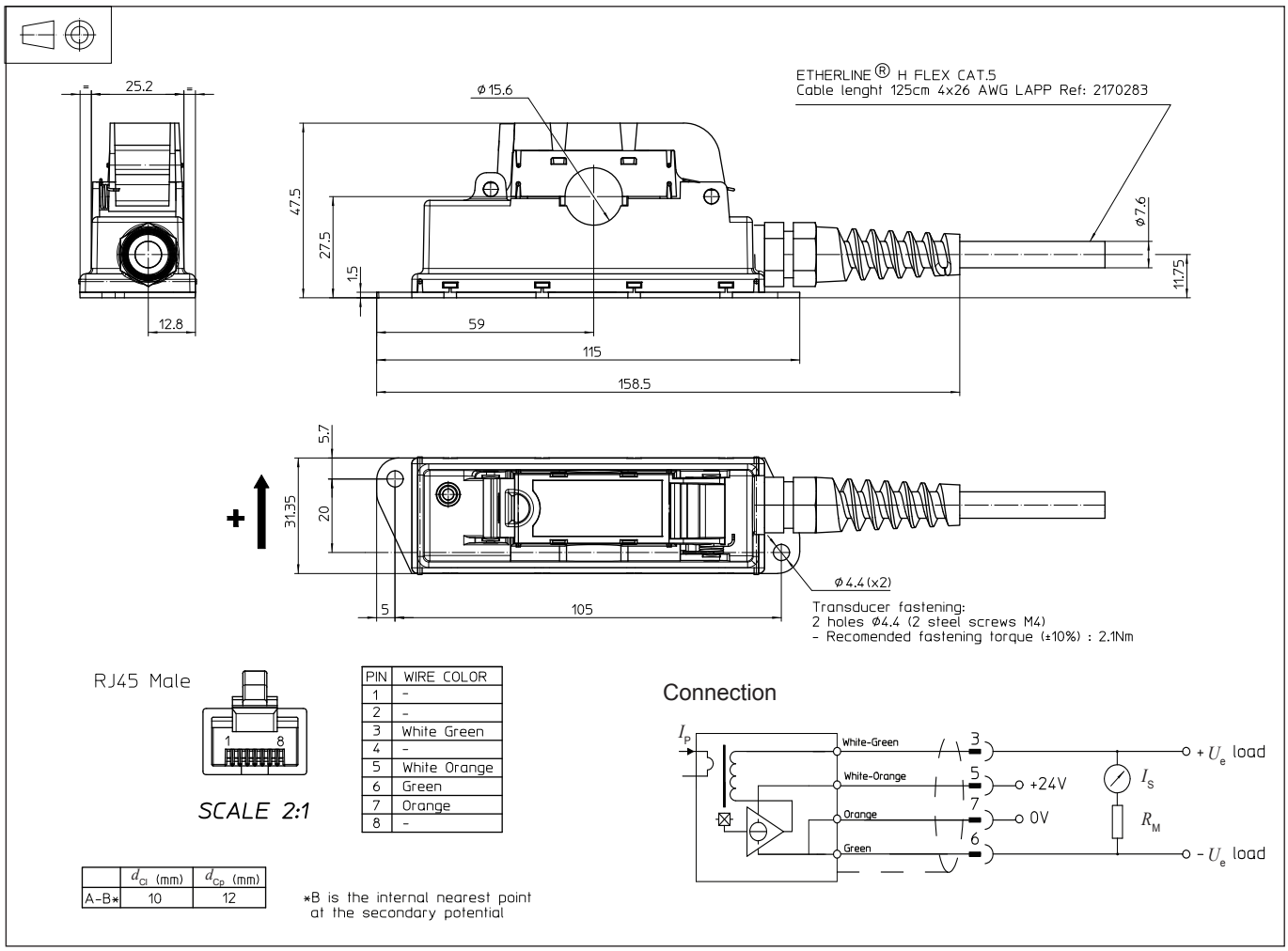
Dimensions PCM 10-P/SP3 (in mm)



	d_{Cl} (mm)	d_{Cp} (mm)
A-B*	10	12

*B is the internal nearest point at the secondary potential

Mechanical characteristics

- General tolerance ±0.5 mm
- Transducer fastening 2 holes ⌀ 4.4 mm
  2 steels screws M4
  Recommended fastening torque 2 N·m (±10 %)
- Primary through-hole ⌀ 15 mm
- Connection of secondary on connector
  RJ45 Male (8 poles)

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 track side applications. It should only be installed or removed from isolated hazardous live conductors or insulated 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.
- Installation of the transducer must be done unless otherwise specified on the datasheet, according to LEM Transducer Generic Mounting Rules. Please refer to LEM document N°ANE120504 available on our Web site: **https://www.lem.com/en/file/3137/download.**

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