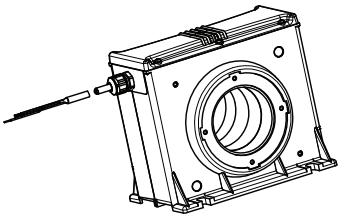
Current Transducer CD 1000-S/SP6

I_{PN} = 2 x 1200 A

For the detection of a differential current between two primary conductors carrying opposing currents, with galvanic separation between the primary circuit (high power) and the secondary circuit (electronic circuit).



Electrical data

I_{PN}	Primary nominal RMS current	2 x 1200	A
$\hat{I}_{P\,max}$	Primary withstand peak current (maximum)	2 x 3	kA
I_{PRN}	Primary nominal residual RMS current	±2	A
I_{PRM}	Primary residual current, measuring range	±0 ... 8	A
R_M	Measuring resistance	$R_{M\,min}$ $R_{M\,max}$	
	with ±15 ... 24 V @ $\pm I_{PRM}$	0 70	Ω
I_{out}	Output current @ I_{PRN}	20	mA
U_C	Supply voltage (± 5 %)	±15 ... 24	V
I_C	Current consumption @ U_C = ±24 V, @ I_{PRN} = 0 A	< 40	mA

Accuracy - Dynamic performance data

ε_{tot}	Total error @ I_{PRN}, T_A = 25 °C	< ±3	%
ε_L	Linearity error	< 1	%
I_O	Offset current @ I_P = 0, T_A = 25 °C	±0.1	mA
I_{OT}	Temperature variation of I_O −25 °C … +70 °C	±0.2	mA
$t_{D\,90}$	Delay time to 90 % of the final output value for I_{PN} step	< 40	µs
BW	Frequency bandwidth (−3 dB)	DC … 10	kHz

General data

T_A	Ambient operating temperature	−25 … +70	°C
$T_{A\,st}$	Ambient storage temperature	−40 … +85	°C
m	Mass	1.5	kg
	Standards	EN 50155: 2017 [1)] EN 50121-3-2: 2016	

Note: [1)] Additional information available on request.

Features

- Closed loop (compensated) current transducer
- Insulating plastic case recognized according to UL 94-V0.

Special feature

- Analog current output.

Advantages

- Very good linearity
- Low temperature drift
- Optimized delay time
- Wide frequency bandwidth
- No insertion losses
- Current overload capability.

Application

- Leakage current detection.

Application Domain

- Railway (fixed installations and onboard).

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Insulation coordination

U_d	RMS voltage for AC insulation test, 50 Hz, 1 min	6 [1)]	kV
d_{Cp}	Creepage distance	42.5 [2)]	mm
d_{Cl}	Clearance distance	38.4 [2)]	mm
CTI	Comparative tracking index (group III)	225	

Notes: [1)] Between primary and secondary
[2)] Between primary tube and secondary.

Safety

This transducer must be used in limited-energy secondary circuits according to IEC 61010-1.

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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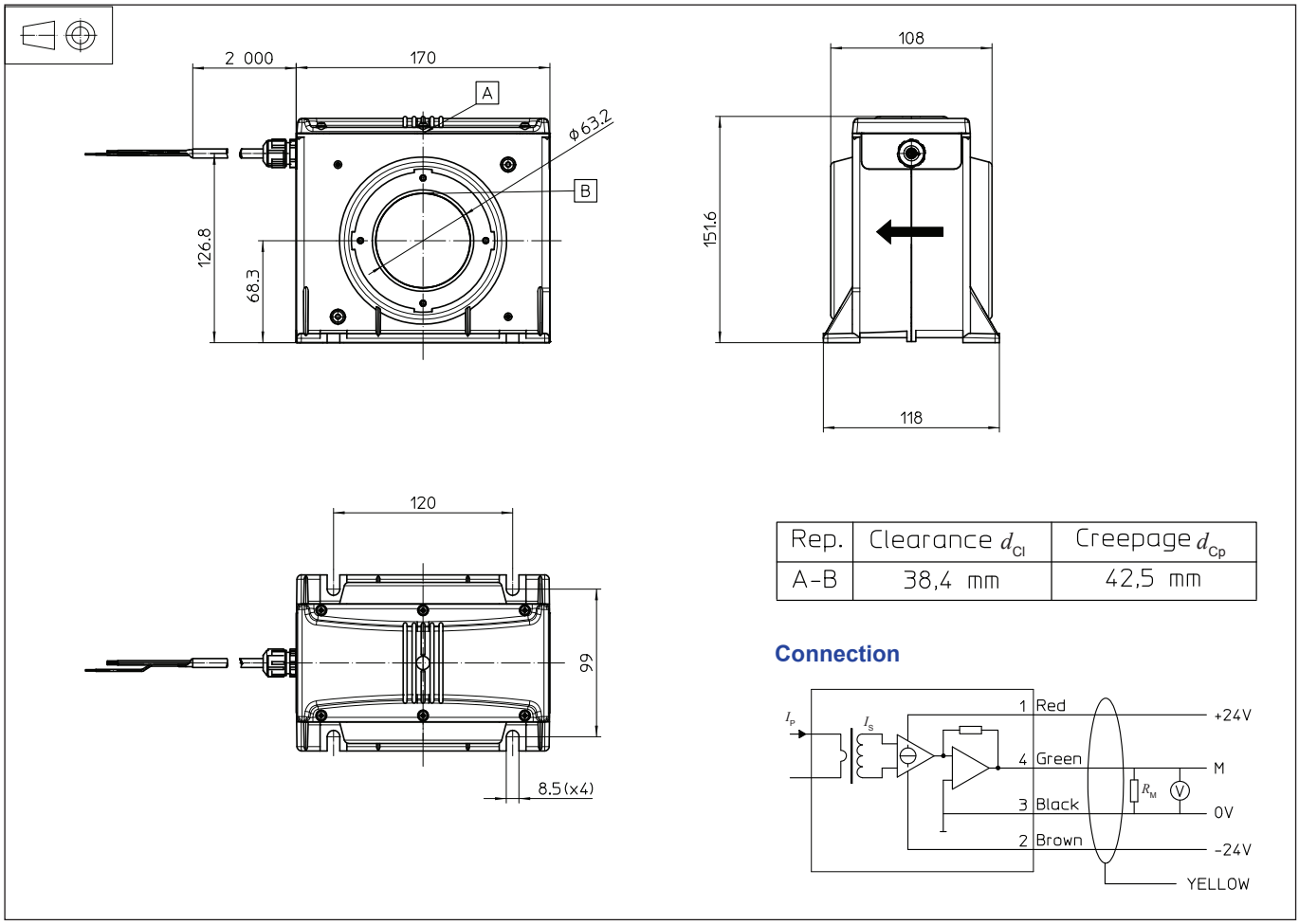
Dimensions CD 1000-S/SP6 (in mm)



Rep.	Clearance d_{Cl}	Creepage d_{Cp}
A-B	38,4 mm	42,5 mm

Connection

Mechanical characteristics

- General tolerance ±0.5 mm
- Transducer fastening 4 holes ⌀ 8.5 mm
  or 4 M8 steel screws
  Recommended fastening torque 7.2 N·m
- Primary through-hole ⌀ 63.2 mm
- Connection of secondary Shielded cable

Remarks

- U_{out} is positive when I_P flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100 °C.
- 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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