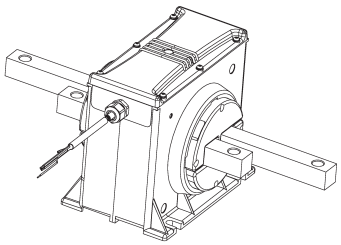
Current Transducer CD 1000-T/SP7

I_{PN} = 2 x 1500 A

For the detection of a differential current between 2 primary conductors traversed by opposed 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 1500	A
$\hat{I}_{P\,max}$	Primary withstand peak current (overload duration 100 ms)	3	kA
I_{PRN}	Primary residual nominal current	±10	A
$I_{PRM\,max}$	Maximum primary residual current, measuring range	±0 ... 10	A
U_{out}	Output voltage @ I_{PRN}	±10	V
U_C	Supply voltage (±5 %)	±24	V
I_C	Current consumption @ I_{PR} = 0 A	< 30	mA

Accuracy - Dynamic performance data

ε_{tot}	Total error @ I_{PRN}, T_A = 25 °C		< ±3		%
ε_L	Linearity error		< 1		%
			Typ	Max	
U_O	Offset voltage @ I_P = 0, T_A = 25 °C		±5	±20	mV
U_{OT}	Temperature variation of U_O	−25 °C … +70 °C	±5	±10	mV
		−40 °C … +70 °C	±10	±20	mV
$t_{D\,90}$	Delay time to 90 % of the final output value for I_{PN} step		< 20		µs
BW	Frequency bandwidth (−3 dB)		DC … 20		kHz

General data

T_A	Ambient operating temperature	−40 ... +70	°C
$T_{A\,st}$	Ambient storage temperature	−40 ... +85	°C
m	Mass	3.8	kg
	Standards	EN 50155: 2007	

Features

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

Special feature

- Analog voltage output.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized delay time
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

- Single or three phase inverters
- Propulsion and braking choppers
- Propulsion converters
- Auxiliary converters
- High power drives
- Substations.

Application Domain

- Railway (fixed installations and onboard).

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Insulation coordination

U_d	RMS voltage for AC insuation test, 50 Hz, 1 min	6	kV
d_{Cp}	Creepage distance	126.9	mm
d_{Cl}	Clearance	60.7	mm
CTI	Comparative tracking index (group III)	225	

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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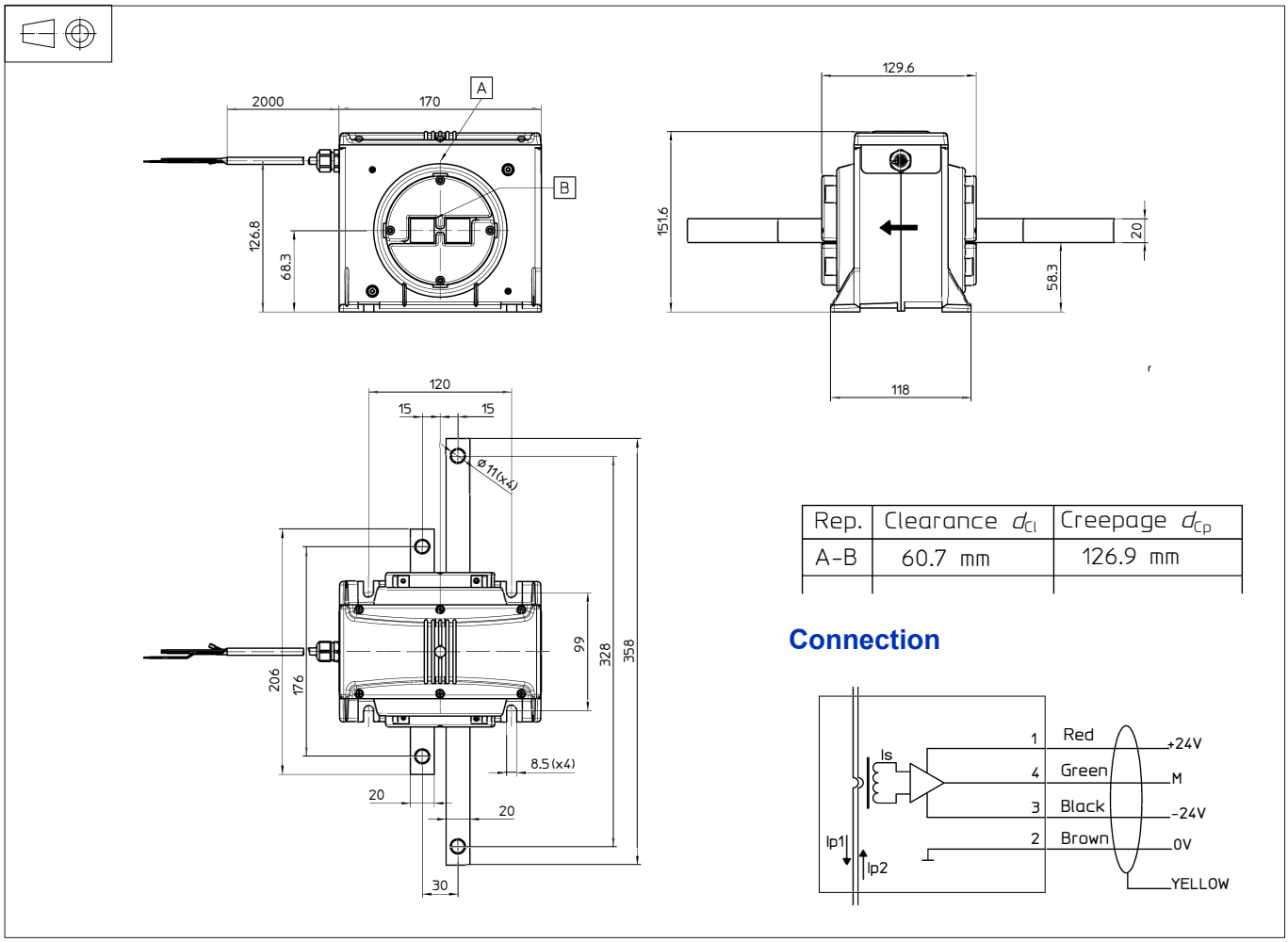
Dimensions CD 1000-T/SP7 (in mm)



Rep.	Clearance d_{Cl}	Creepage d_{Cp}
A-B	60.7 mm	126.9 mm

Connection

Mechanical characteristics

- General tolerance ±0.5 mm
- Transducer fastening using primary bars
- Connection of primary 4 holes ⌀ 11 mm
  4 M10 steel screws
  + wide washers
  Recommended fastening torque 17 N·m
- Connection of secondary Shielded cable

Remarks

- U_{out} is positive when I_{PR} 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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