Current Transducer CD 100-S/SP5

I_{PN} = 2 x 1000 A

I_{PRM} = 0 .. ± 2 A

For the detection of a differential current between two primary conductors carrying opposite currents, with galvanic isolation between the primary circuit and the secondary circuit.

0814

Electrical data

I_{PN}	Primary nominal current rms	2 x 1000	A
I_{PRM}	Primary residual current, measuring range	0 .. ± 2	A
V_{OUT}	Output voltage (Analog) @ $I_{PR\ max}$	± 5	V
V_C	Supply voltage (± 5 %)	± 15	V
I_C	Current consumption	60	mA
R_L	Load resistance	> 1	kΩ

Accuracy - Dynamic performance data

X_G	Overall accuracy @ T_A = - 40.. + 85°C	(2.0 A)	± 2.5	%
		(1.0 A)	± 4.0	%
		(0.06 A)	± 25.0	%
τ	Time constant @ 63 %	(± 20 %)	100	µs
BW	Frequency bandwidth (- 3 dB) @ I_{PR} = 2 A	(± 20 %)	DC .. 5	kHz

General data

T_A	Ambient operating temperature	- 40.. + 85	°C
T_S	Ambient storage temperature	- 40 .. + 100	°C
m	Mass	1	kg
	Standards	EN 50155: 1995	

Features

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

Special features

- I_{PN} = 2 x 1000 A
- T_A = - 40.. + 85°C.

Advantages

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

Applications

- Single or three phase inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Railway security system.

Application Domain

- Traction.

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Isolation characteristics

$\mathbf{V_d}$	Rms voltage for AC insulation test [1], 50 Hz, 1 min	6	kV
dCp	Creepage distance	58.1	mm
dCl	Clearance	44.4	mm
CTI	Comparative Tracking Index (group III)	225	

Note: [1] Between primary and secondary.

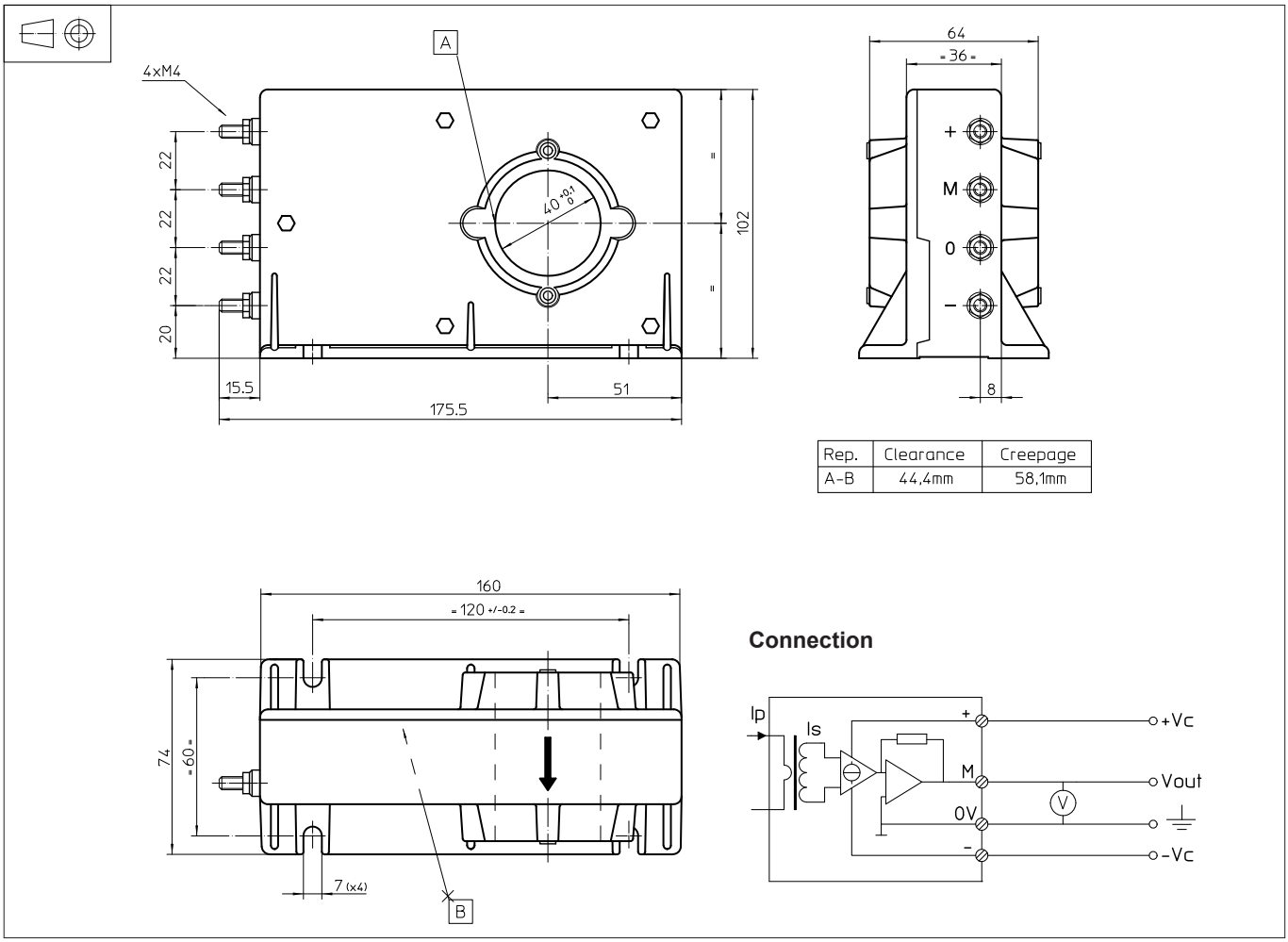
Safety

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 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.

Dimensions CD 100-S/SP5 (in mm)



Rep.	Clearance	Creepage
A-B	44,4mm	58,1mm

Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 4 slots Ø 7 mm
  4 M6 steel screws
  Recommanded fastening torque 4.7 Nm
- Primary through-hole Ø 40 mm
- Connection of secondary M4 threaded studs
  Recommanded fastening torque 1.2 Nm

Remarks

- $\mathbf{V}_{OUT}$ is positive when $\mathbf{I}_{PR}$ flows in the direction of the arrow.
- The two primary conductors should be positioned so that their centers are separated by 20 mm maximum, to insure the indicated accuracy.
- When the differential current is high (> 2 A), the magnetic measuring cores are saturated and the output signal is maintained at "+" or "-" by a memory. The sign corresponds normally to the direction of the differential current, except upon rapid current inversion.