

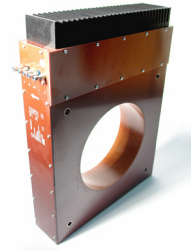
Current Transducer LT 10000-S

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic separation between the primary circuit and the secondary circuit.



RoHS

$$I_{PN} = 10000 \text{ A}$$



Electrical data

I_{PN}	Primary nominal rms current	10000	A
I_{PM}	Primary current, measuring range (1 s/min)	0 ... ±15000	A
R_M	Measuring resistance	$R_{M \min}$ $R_{M \max}$	
		with ±48 V @ ±10000 A _{max}	0 8 Ω
		@ ±12000 A _{max}	0 1 Ω
		with ±60 V @ ±10000 A _{max}	0 20 Ω
	@ ±15000 A _{max}	0 1.5 Ω	
I_{SN}	Secondary nominal rms current	1	A
K_N	Conversion ratio	1 : 10000	
U_C	Supply voltage (±5 %)	±48 ... 60	V
I_C	Current consumption	40 (@ ±60 V) + I_S	mA

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25 \text{ °C}$	±0.3	%
ϵ_L	Linearity error	< 0.1	%
		Typ	Max
I_O	Offset current @ $I_P = 0$, $T_A = 25 \text{ °C}$	±0.6	±1.5 mA
I_{OT}	Temperature variation of I_O -25 °C ... +70 °C	±0.6	±0.8 mA
t_T	Step response time to 90 % of I_{PN} ¹⁾	< 1	µs
BW	Frequency bandwidth (-1 dB)	DC ... 100	kHz

General data

T_A	Ambient operating temperature	-25 ... +70	°C
T_S	Ambient storage temperature	-40 ... +85	°C
R_S	Resistance of secondary winding @ $T_A = 70 \text{ °C}$	35	Ω
m	Mass	17	kg
	Standard	EN 50178: 1997	

Note: ¹⁾ For a $di/dt = 100 \text{ A}/\mu\text{s}$.

Feature

- Closed loop (compensated) current transducer using the Hall effect.

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

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Application domain

- Industrial.

Current Transducer LT 10000-S

Insulation coordination

U_d	Rms voltage for AC insulation test, 50 Hz, 1 min	10 ¹⁾	kV
		1 ²⁾	kV
		Min	
d_{Cp}	Creepage distance	100.8	mm
d_{Cl}	Clearance	81.45	mm
CTI	Comparative Tracking Index (group IIIb)	100	

Notes: ¹⁾ Between primary and secondary + shield

²⁾ Between secondary and shield.

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.



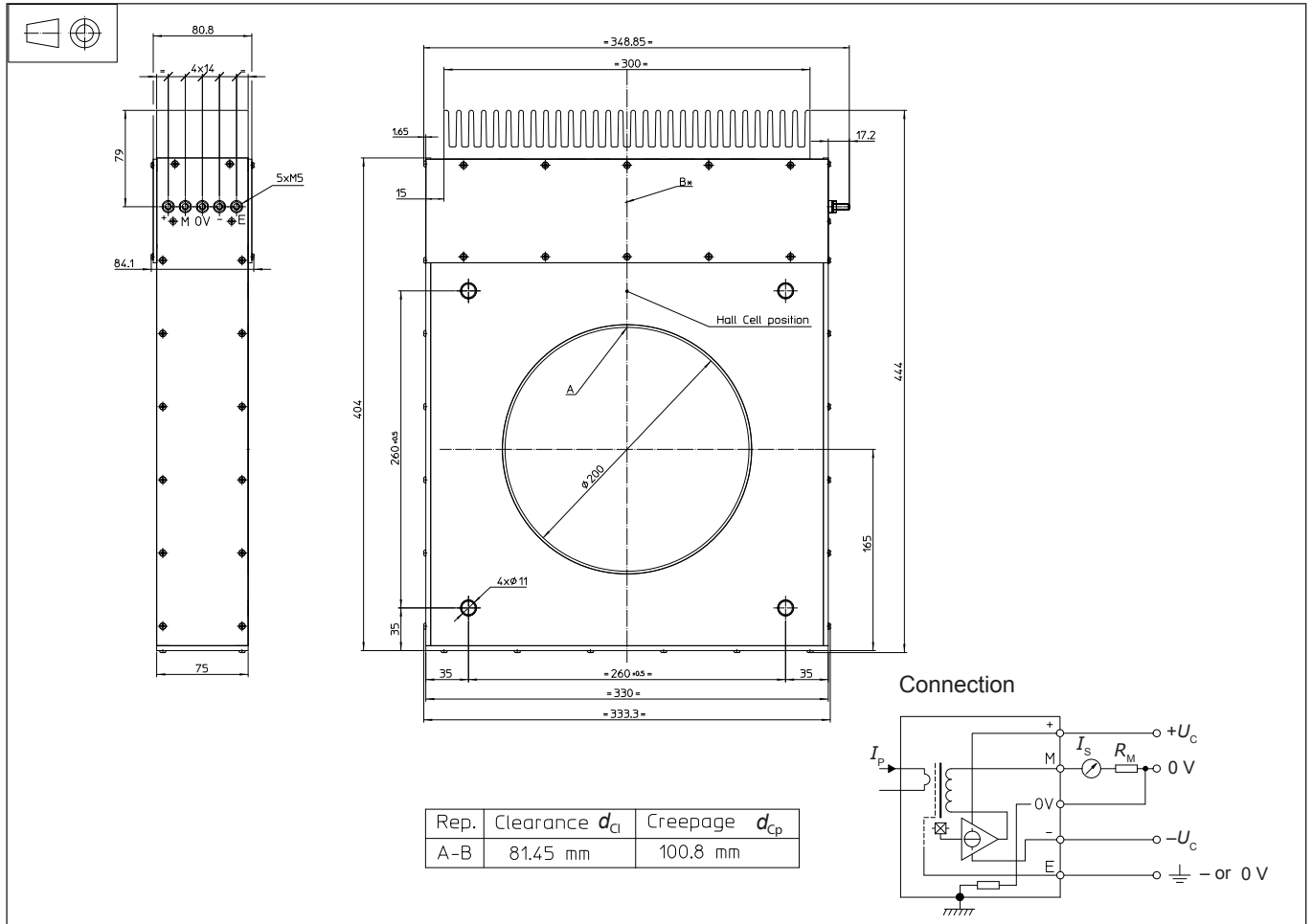
Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (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 LT 1000-S (in mm)



Mechanical characteristics

- General tolerance ± 1 mm
- Transducer fastening 4 holes $\phi 11$ mm
4 x M10 steel screws
- Recommended fastening torque 17 N·m
- Primary through-hole $\phi 200$ mm
- Connection of secondary M5 threaded studs
Recommended fastening torque 2.2 N·m

Remarks

- I_s 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: [Products/Product Documentation](#).
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.