Current Transducer LT 300-S/SP4

I_{PN} = 300 A

For the electronic measurement of currents : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

16300

Electrical data

I_{PN}	Primary nominal current rms		300		A
I_{PM}	Primary current, measuring range		0 .. ± 500		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ± 12 V	@ ± 300 A_{max}	0	30	Ω
		@ ± 500 A_{max}	0	5	Ω
	with ± 18 V	@ ± 300 A_{max}	20	70	Ω
		@ ± 500 A_{max}	20	25	Ω
I_{SN}	Secondary nominal current rms		150		mA
K_N	Conversion ratio		1 : 2000		
V_C	Supply voltage (± 5 %)		± 12 .. 18		V
I_C	Current consumption		28 (@ ±18V) + I_S		mA

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25°C		± 0.5		%
	@ I_{PN}, T_A = - 40°C		± 3		%
ε_L	Linearity error		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.3	mA
I_{OM}	Magnetic offset current @ I_P = 0 and specified R_M, after an overload of 3 x I_{PN}			± 0.2	mA
I_{OT}	Temperature variation of I_O	- 40°C .. - 25°C	± 0.5	± 1	mA
		- 25°C .. + 75°C	± 0.3	± 0.5	mA
t_r	Response time [1] to 90 % of I_{PN} step		< 1		µs
di/dt	di/dt accurately followed		> 50		A/µs
BW	Frequency bandwidth (- 1 dB)		DC .. 150		kHz

General data

T_A	Ambient operating temperature		- 40 .. + 75	°C
T_S	Ambient storage temperature		- 50 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 75°C		35	Ω
m	Mass		230	g
	Standards		EN 50155: 1995	

Note: [1] With a di/dt of 100 A/µs.

Features

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

Special features

- T_A = - 40°C .. + 75°C
- X_G = ± 3 % @ T_A = - 40°C
- Burn-in.

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 phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

Application Domain

- Traction.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without prior notice.

Voltage transducer LT 300-S/SP4

Isolation characteristics

V_d	Rms voltage for AC isolation test, 50 Hz, 1 min	6	kV
		Min	
dCp	Creepage distance	42.7	mm
dCl	Clearance distance	42.7	mm
CTI	Comparative Tracking Index (Group IIIa)	225	

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 built-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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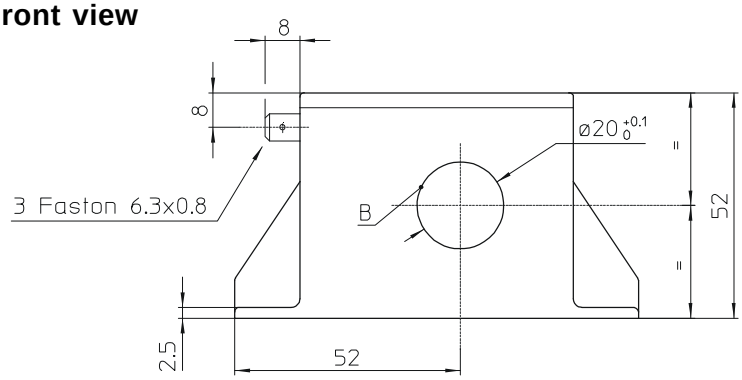
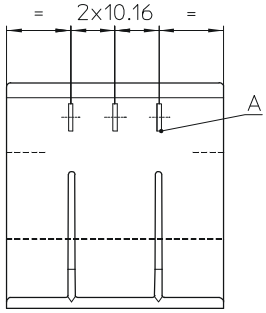
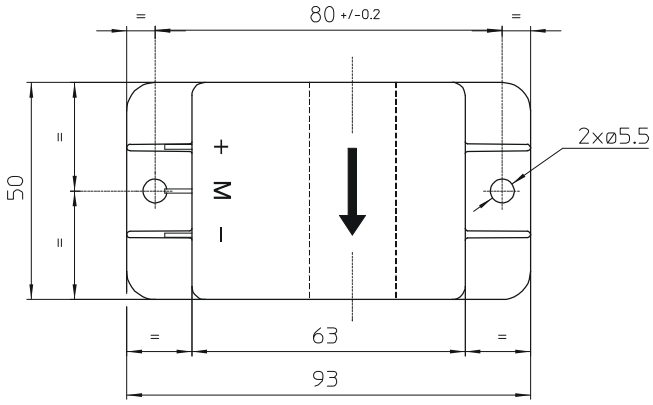
Dimensions LT 300-S/SP4 (in mm. 1 mm = 0.0394 inch)

Left view

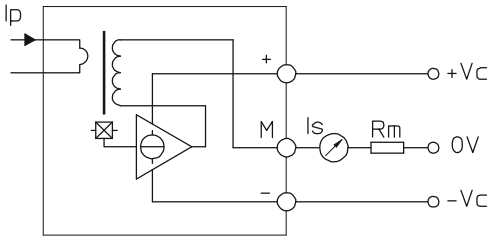
Front view







Connection



Rep.	DCp	DCl
A-B	42.7 mm	42.7 mm

Top view

Mechanical characteristics

• General tolerance	± 0.3 mm
• Transducer fastening	2 holes ∅ 5.5 mm 2 M5 steel screws
Recommended fastening torque	3.8 Nm or 2.80 Lb - Ft.
• Primary through-hole	∅ 20 mm
• Connection of secondary	3 Faston 6.3 x 0.8 mm

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.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.

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