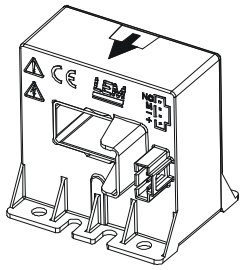
Current Transducer LAC 300-S

I_{PN} = 400 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).



Electrical data

I_{PN}	Primary nominal current rms		400	A
I_P	Primary current < 500 ms		500	A
I_{PM}	Primary current, measuring range		0 .. ± 650 @ T_A = 85°C	A
R_M	Measuring resistance		$R_{M\,mini}$ $R_{M\,maxi}$	
	with ± 15 V	@ ± 650 A_{maxi}	0 15	Ω
I_{SN}	Secondary nominal current rms		100	mA
K_N	Conversion ratio		1 : 4000	
V_C	Supply voltage (± 5 %)		± 15	V
I_C	Current consumption		25 + I_S	mA

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25°C		± 1		%
ε_L	Linearity error		< 0.1		%
			Typ	Maxi	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.15	mA
I_{OM}	Magnetic offset current @ I_P = 0, after an overload of 3 x I_{PN}			± 0.15	mA
I_{OT}	Temperature variation of I_O	- 40°C .. + 85°C	± 0.2	± 0.50	mA
t_r	Response time @ 90 % of I_{PN} step		< 1		µs
di/dt	di/dt accurately followed		> 50		A/µs
BW	Frequency bandwidth (- 3 dB)		DC .. 50		kHz

General data

T_A	Ambient operating temperature	- 40 .. + 85	°C
T_S	Ambient storage temperature	- 45 .. + 90	°C
R_S	Secondary coil resistance @ T_A = 85°C	67	Ω
m	Mass	137	g
	Standards	EN 50155: 2001	

Features

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

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.

Current Transducer LAC 300-S

Isolation characteristics

$\mathbf{V_d}$	Rms voltage for AC isolation test, 50 Hz, 1 min	5.5	kV
		Mini	
dCp	Creepage distance	21.2	mm
dCl	Clearance distance	11.2	mm
CTI	Comparative Tracking Index (Group I)	600	

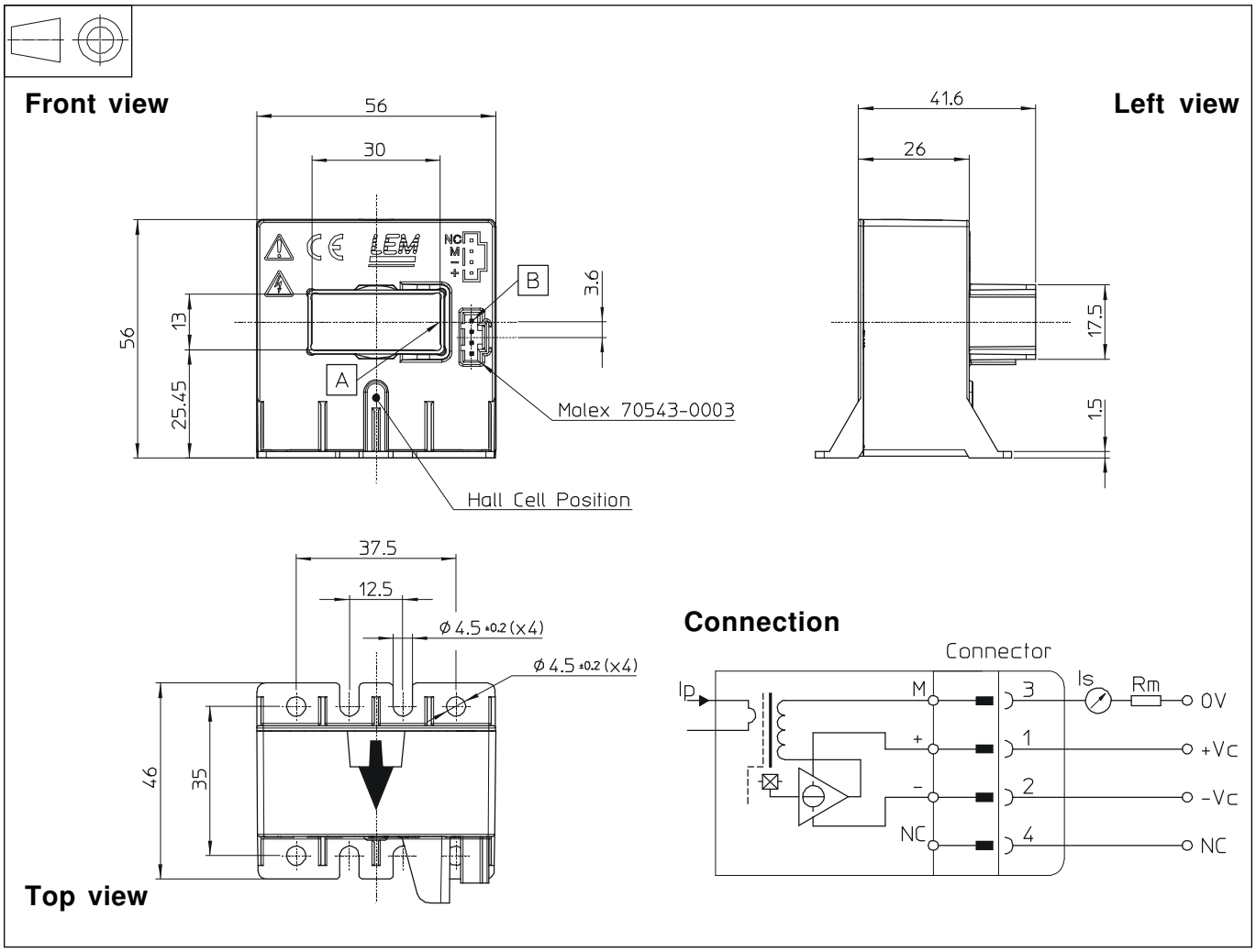
Safety

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following 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.

Dimensions LAC 300-S (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

• General tolerance	± 0.5 mm
• Transducer fastening	4 holes ∅ 4.5 mm
	4 M4 steel screws
Recommended fastening torque	2.90 Nm or 2.15 Lb - Ft.
Or	4 slots ∅ 4.5 mm
	4 M4 steel screws
Recommended fastening torque	2.90 Nm or 2.15 Lb - Ft.
• Primary through-hole	13 x 30 mm
• Connection of secondary	Molex serie 70543-0003

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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

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