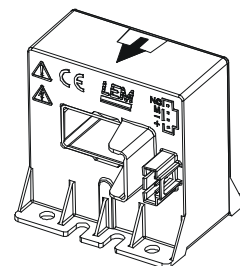


## Current Transducer LAC 300-S/SP1

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).



$$I_{PN} = 300 \text{ A}$$



### Electrical data

$I_{PN}$	Primary nominal current rms @ 70°C	300	A
$I_{PN}$	Primary nominal current rms @ 85°C	200	A
$I_{PM}$	Primary current, measuring range @ 70°C	0 .. ± 700	A
		@ $T_A = 85^\circ\text{C}$	
$R_M$	Measuring resistance	$R_{M \text{ mini}}$ $R_{M \text{ maxi}}$	
	with ± 15 V @ ± 700 A <sub>maxi</sub>	0 5	Ω
$I_{SN}$	Secondary nominal current rms	150	mA
$K_N$	Conversion ratio	1 : 2000	
$V_C$	Supply voltage (± 5 %)	± 15	V
$I_C$	Current consumption	25 + $I_S$	mA

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$	± 0.9	%
$\epsilon_L$	Linearity error	< 0.1	%
$I_O$	Offset current @ $I_p = 0$ , $T_A = 25^\circ\text{C}$	Typ ± 0.3	mA
$I_{OM}$	Magnetic offset current @ $I_p = 0$ , after an overload of 3 x $I_{PN}$	Maxi ± 0.3	mA
$I_{OT}$	Temperature variation of $I_O$ - 40°C .. + 85°C	± 0.2 ± 0.5	mA
$t_r$	Response time @ 90 % of $I_{PN}$ step	< 1	μs
$di/dt$	di/dt accurately followed	> 50	A/μs
<b>BW</b>	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 @ $T_A = 85^\circ\text{C}$	33	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.

### Special features

- $I_{PN} = 300 \text{ A @ } 70^\circ\text{C}$
- $I_P = 200 \text{ A @ } 85^\circ\text{C}$
- $I_{PM} = 0 .. \pm 700 \text{ A @ } 70^\circ\text{C}$
- $K_N = 1 : 2000$ .

### 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.

## Current Transducer LAC 300-S/SP1

### Isolation characteristics

<b>V<sub>d</sub></b>	Rms voltage for AC isolation test, 50 Hz, 1 min	5.5	kV
		Mini	
<b>dCp</b>	Creepage distance	21.2	mm
<b>dCl</b>	Clearance distance	11.2	mm
<b>CTI</b>	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).

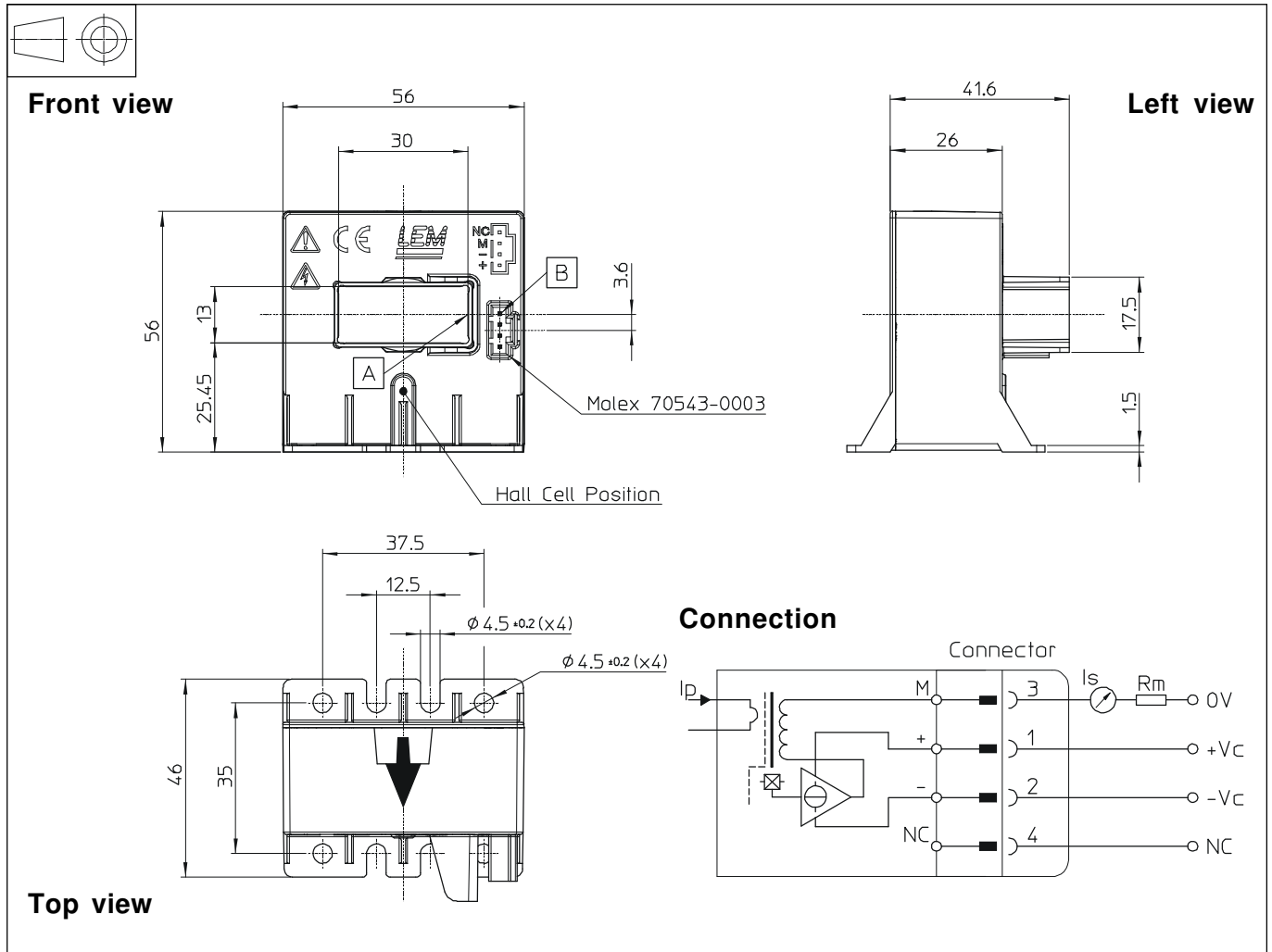
Ignoring this warning can lead to injury and/or cause serious damage.

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/SP1 (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Transducer fastening
  - 4 holes  $\phi 4.5$  mm
  - 4 M4 steel screws
  - Recommended fastening torque 2.90 Nm or 2.15 Lb - Ft.
  - Or
  - 4 slots  $\phi 4.5$  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 series 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.