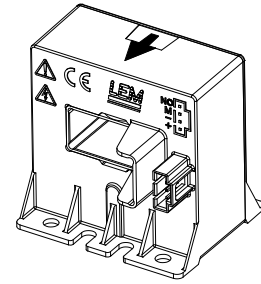


## Current Transducer LAC 300-S/SP3

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



$$I_{PN} = 400 \text{ A}$$



### Electrical data

$I_{PN}$	Primary nominal rms current	400	A
$I_P$	Primary nominal < 500 ms	500	A
$I_{PM}$	Primary current, measuring range @ 85 °C	0 .. ± 600	A
$R_M$	Measuring resistance @ $T_A = 85 \text{ °C}$ with ± 15 V @ ± 600 A <sub>max</sub>	$R_{M \min}$ $R_{M \max}$ 0 15	Ω
$I_{SN}$	Secondary nominal rms current	80	mA
$K_N$	Conversion ratio	1 : 5000	
$U_C$	Supply voltage (± 5 %)	± 15	V
$I_C$	Current consumption	25 + $I_S$	mA

### Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}$ , $T_A = 25 \text{ °C}$	± 1.1	%
$\epsilon_L$	Linearity error	< 0.1	%
$I_O$	Offset current @ $I_P = 0$ , $T_A = 25 \text{ °C}$	Typ   Max   ± 0.15	mA
$I_{OM}$	Magnetic offset current @ $I_P = 0$ and specified $R_M$ , 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
$t_r$	Step response time to 90 % of $I_{PN}$	< 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
$R_S$	Resistance of secondary winding @ $T_A = 85 \text{ °C}$	101	Ω
$m$	Mass	137	g
	Standards	EN 50155: 2001 UL 508: 2010	

### Features

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

### Special features

- $I_{PM} = 0 \dots \pm 600 \text{ A}$
- $K_N = 1 : 5000$ .

### 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 inverters
- Propulsion and braking choppers
- Propulsion converters
- Auxiliary converters
- Battery chargers.

### Application Domain

- Traction.

## Current Transducer LAC 300-S/SP3

### Insulation coordination

$U_d$	Rms voltage for AC insulation test, 50 Hz, 1 min	5.5 Min	kV
$d_{Cp}$	Creepage distance	21.2	mm
$d_{Cl}$	Clearance	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 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).

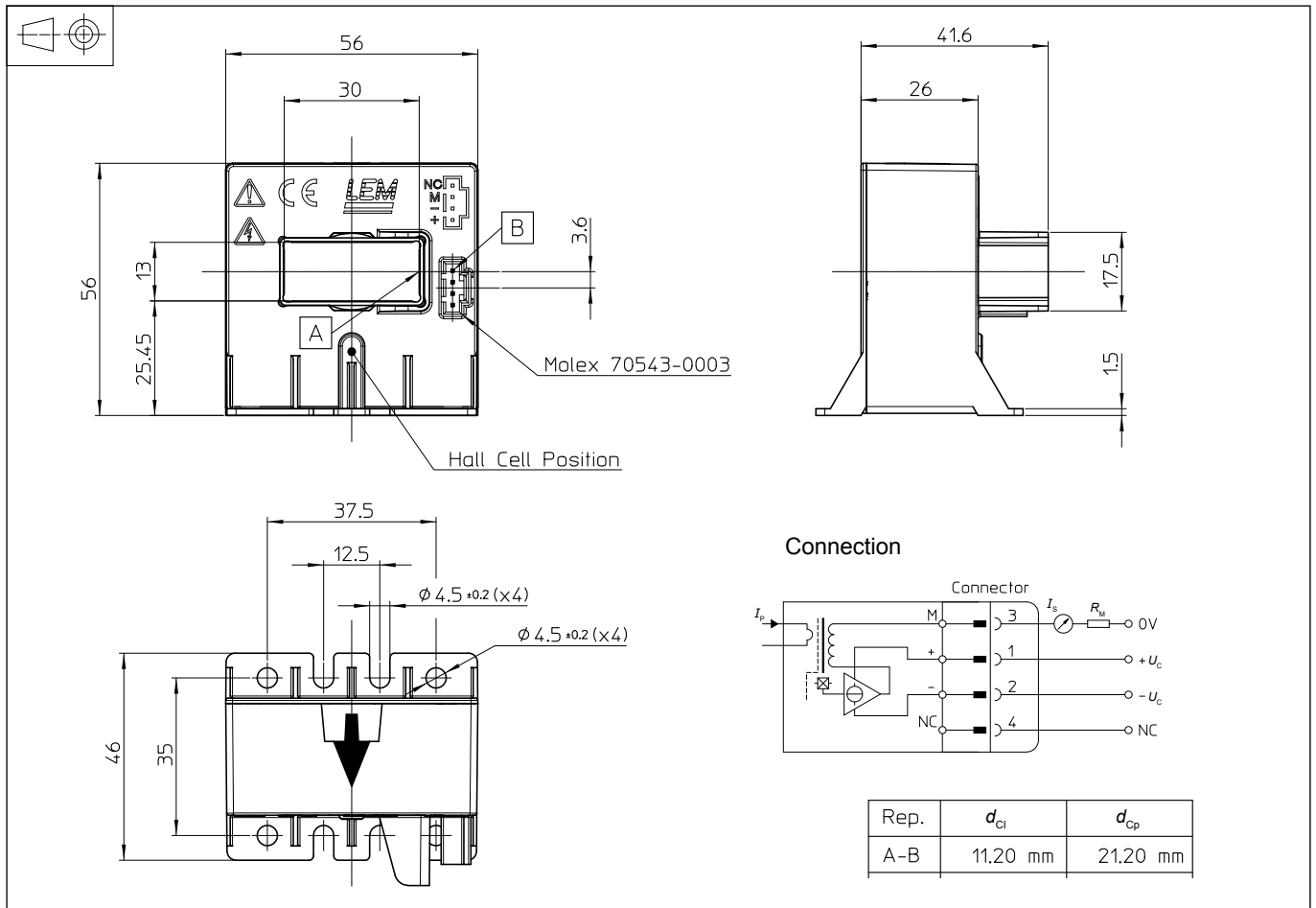
Ignoring this warning can lead to injury and/or cause serious damage.

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 LAC 300-S/SP3 (in mm)



### Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Transducer fastening
  - 4 holes  $\phi 4.5$  mm
  - 4 M4 steel screws
- Recommended fastening torque 2.9 N·m
- or
  - 4 slots  $\phi 4.5$  mm
  - 4 M4 steel screws
- Recommended fastening torque 2.9 N·m
- Primary through-hole 13 × 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.
- 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.