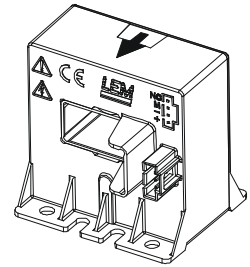


Current Transducer LAC 300-S/SP3

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).



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



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 .. ± 600	A
R_M	Measuring resistance with ± 15 V @ ± 600 A _{maxi}	R_{Mmini}	0
		R_{Mmaxi}	15
I_{SN}	Secondary nominal current rms	80	mA
K_N	Conversion ratio	1 : 5000	
V_C	Supply voltage (± 5 %)	± 15	V
I_C	Current consumption	25 + I_S	mA

Features

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

Special features

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

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 1.1	%
e_L	Linearity error	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	± 0.15
		Maxi	± 0.15
I_{OM}	Magnetic offset current @ $I_P = 0$, after an overload of $3 \times I_{PN}$	± 0.2	± 0.50
I_{OT}	Temperature variation of I_O - 40°C .. + 85°C		
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

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.

General data

T_A	Ambient operating temperature	- 40 .. + 85	°C
T_S	Ambient storage temperature	- 45 .. + 90	°C
R_S	Secondary coil resistance @ $T_A = 85^\circ\text{C}$	101	Ω
m	Mass	137	g
	Standards	EN 50155: 2001	

Applications

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

Application Domain

- Traction.

Current Transducer LAC 300-S/SP3

Isolation characteristics			
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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).

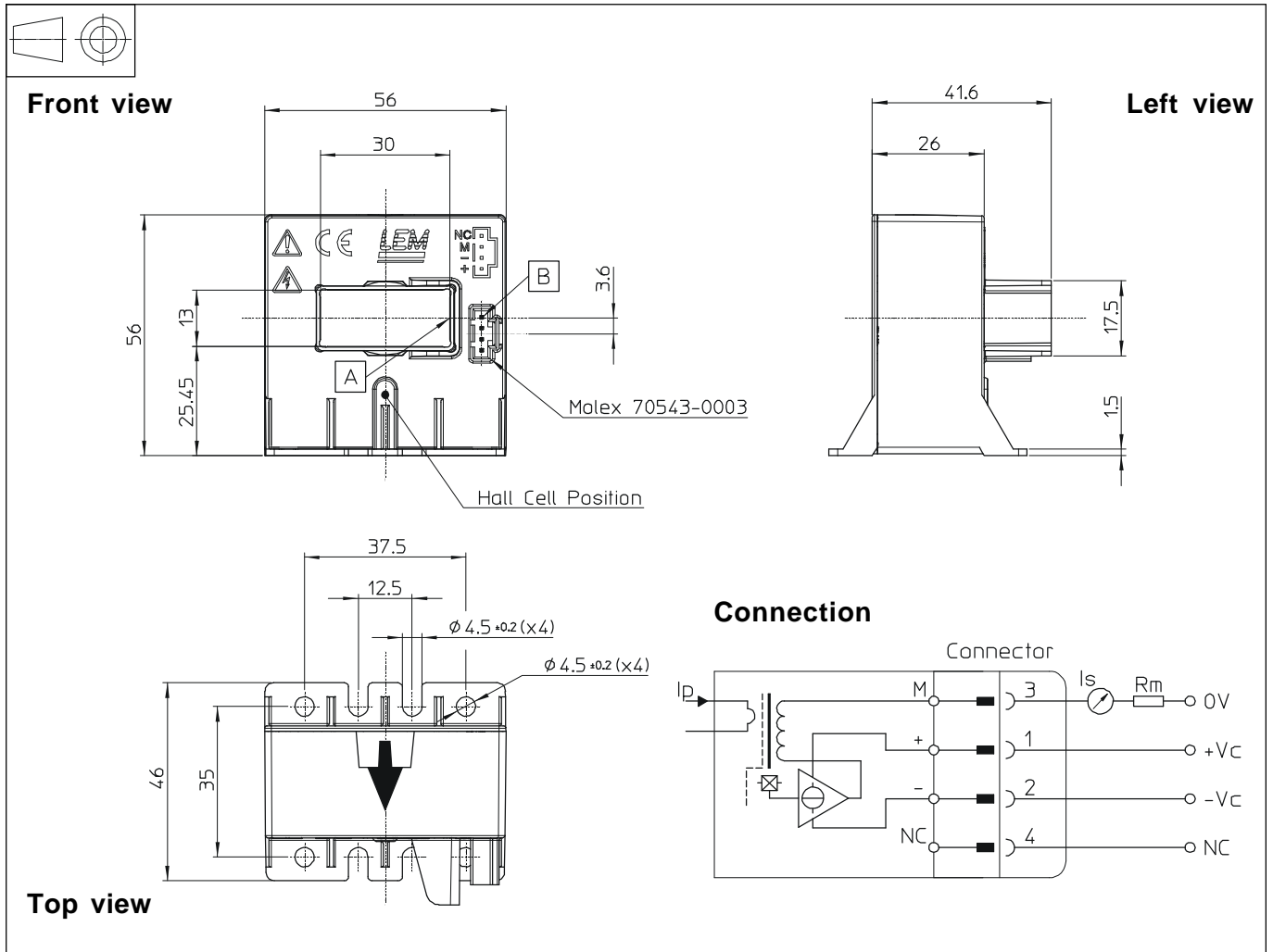
Ignoring this warning can lead to injury and/or cause serious damage.

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/SP3 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 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 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.