

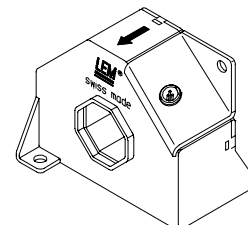
Current Transducer LA 305-S/SP22

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

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).



16348



Electrical data

I_{PN}	Primary nominal r.m.s. current	300	A			
I_P	Primary current, measuring range	0 .. ± 500	A			
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$		
		R_{Mmin}	R_{Mmax}	R_{Mmin}	R_{Mmax}	
		0	75	5	73	Ω
		0	31	5	29	Ω
	with $\pm 15 \text{ V}$	@ $\pm 300 \text{ A}_{max}$				
		@ $\pm 500 \text{ A}_{max}$				
I_{SN}	Secondary nominal r.m.s. current	120	mA			
K_N	Conversion ratio	1 : 2500				
V_C	Supply voltage ($\pm 5 \%$)	± 15	V			
I_C	Current consumption	$20 + I_S$	mA			
V_b	R.m.s. rated voltage ¹⁾ , safe separation	1750	V			
		basic isolation	3500	V		
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	2.5 ²⁾	kV			
		1 ³⁾	kV			

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.8	%
ϵ_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
		± 0.20	mA
I_{OM}	Residual current ⁴⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$	± 0.40	mA
I_{OT}	Thermal drift of I_O - $25^\circ\text{C} \dots + 85^\circ\text{C}$	± 0.12	mA
t_{ra}	Reaction time @ 10 % of I_{PN}	< 500	ns
t_r	Response time ⁵⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 100	A/ μs
f	Frequency bandwidth (- 3 dB)	DC .. 100	kHz

General data

T_A	Ambient operating temperature	- 25 .. + 85	$^\circ\text{C}$	
T_S	Ambient storage temperature	- 40 .. + 90	$^\circ\text{C}$	
R_S	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	35	Ω
		$T_A = 85^\circ\text{C}$	37	Ω
m	Mass	320	g	
	Standards	EN 50155		

- Notes :**
- ¹⁾ Pollution class 2. With a non insulated primary bar which fills the through-hole
 - ²⁾ Between primary and secondary + shields
 - ³⁾ Between secondary and internal shield + external shield
The internal shield is connected to external shield
 - ⁴⁾ The result of the coercive field of the magnetic circuit
 - ⁵⁾ With a di/dt of 100 A/ μs .

Features

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

Special features

- $V_C = \pm 15 (\pm 5 \%) \text{ V}$
- $T_A = - 25^\circ\text{C} \dots + 85^\circ\text{C}$
- Connection to secondary circuit on LEMO EGJ.0B.303.CNA
- Potted
- Internal and external shield
- Serigraphy with customer specification number
- Railway equipment.

Advantages

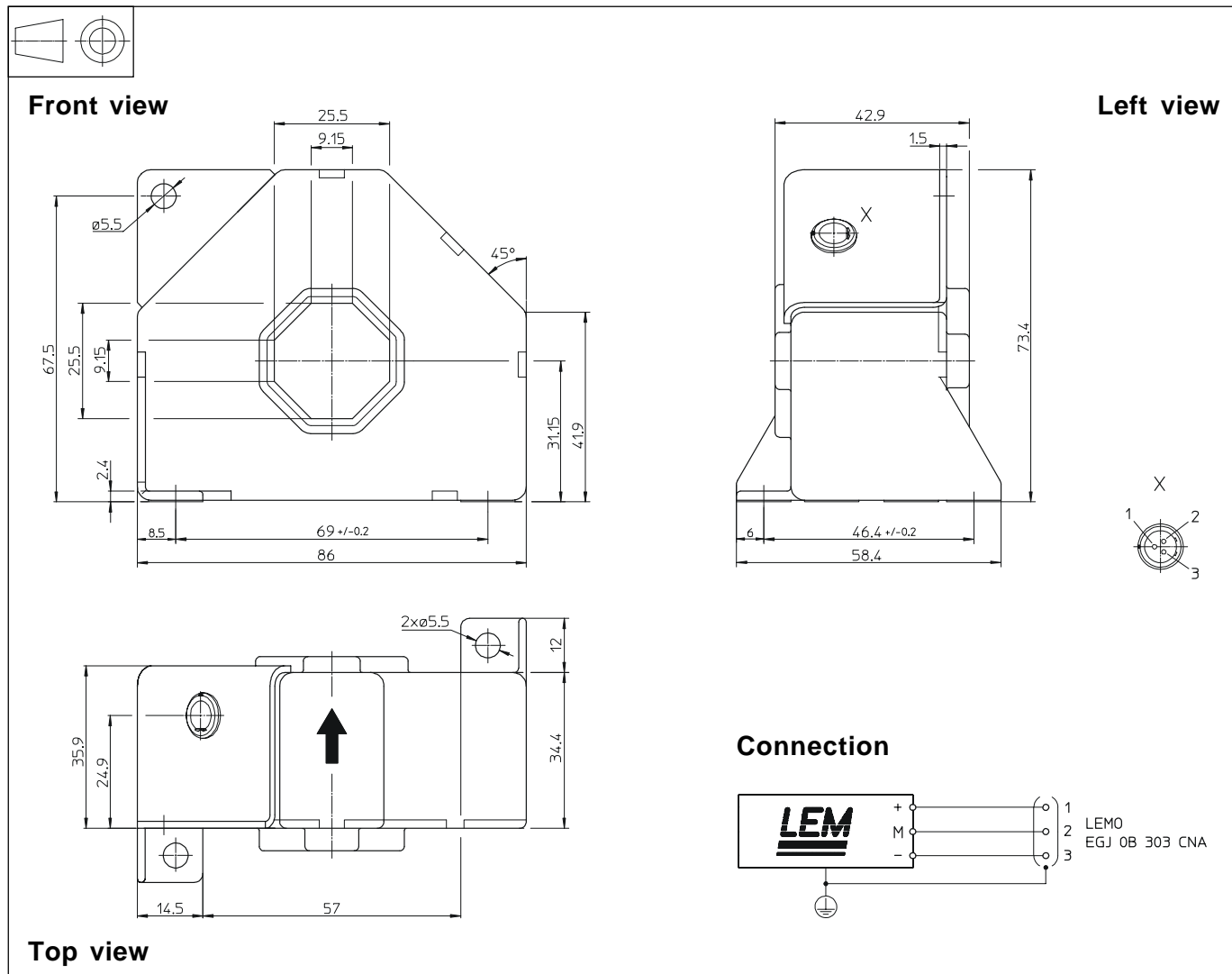
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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Dimensions LA 305-S/SP22 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening
 - 2 holes $\varnothing 5.5$ mm
 - 2 M5 steel screws
 - Fastening torque, max. 4 Nm or 2.95 Lb. - Ft.
- Primary through-hole 25.5 x 25.5 mm
- Connection of secondary LEMOEGJ.0B.303.CNA

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.