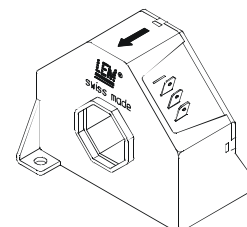


Current Transducer LA 305-S/SP8

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

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).



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 @	<table> <tr> <th colspan="2">$T_A = 70^\circ\text{C}$</th><th colspan="2">$T_A = 85^\circ\text{C}$</th></tr> <tr> <th>R_{Mmin}</th><th>R_{Mmax}</th><th>R_{Mmin}</th><th>R_{Mmax}</th></tr> <tr> <td colspan="2">with $\pm 12 \text{ V}$</td><td colspan="2">@ $\pm 300 \text{ A}_{max}$</td></tr> <tr> <td></td><td></td><td>0</td><td>47</td></tr> <tr> <td colspan="2"></td><td colspan="2">@ $\pm 500 \text{ A}_{max}$</td></tr> <tr> <td></td><td></td><td>0</td><td>14</td></tr> <tr> <td colspan="2">with $\pm 15 \text{ V}$</td><td colspan="2">@ $\pm 300 \text{ A}_{max}$</td></tr> <tr> <td></td><td></td><td>0</td><td>70</td></tr> <tr> <td colspan="2"></td><td colspan="2">@ $\pm 500 \text{ A}_{max}$</td></tr> <tr> <td></td><td></td><td>0</td><td>28</td></tr> </table>		$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$		R_{Mmin}	R_{Mmax}	R_{Mmin}	R_{Mmax}	with $\pm 12 \text{ V}$		@ $\pm 300 \text{ A}_{max}$				0	47			@ $\pm 500 \text{ A}_{max}$				0	14	with $\pm 15 \text{ V}$		@ $\pm 300 \text{ A}_{max}$				0	70			@ $\pm 500 \text{ A}_{max}$				0	28
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I_{SN}	Secondary nominal r.m.s. current	120	mA																																								
K_N	Conversion ratio	1 : 2500																																									
V_C	Supply voltage ($\pm 5 \%$)	$\pm 12 \dots 15$	V																																								
I_C	Current consumption	20 (@ $\pm 15 \text{ V}$) + 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	6	kV																																								

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.8	%
e_L	Linearity error	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
I_{OM}	Residual current ²⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$		± 0.20 mA
I_{OT}	Thermal drift of I_O - $40^\circ\text{C} \dots + 85^\circ\text{C}$	± 0.2	± 0.50 mA
t_{ra}	Reaction time @ 10 % of I_{PN}	< 500	ns
t_r	Response time ³⁾ @ 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	- 40 .. + 85	°C
T_S	Ambient storage temperature	- 50 .. + 90	°C
R_S	Secondary coil resistance @	<div><div>T_A = 70°C</div><div>T_A = 85°C</div></div> <div><div>35</div><div>37</div></div> <div><div>Ω</div><div>Ω</div></div>	
m	Mass	290	g
	Standards	EN 50155(95.11.01)	

Notes : ¹⁾ Pollution class 2. With a non insulated primary bar which fills the through-hole

²⁾ The result of the coercive field of the magnetic circuit

³⁾ 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.

Specials features

- $T_A = - 40^\circ\text{C} \dots + 85^\circ\text{C}$
- Connection to secondary circuit on 3 Faston 6.3 x 0.8 mm.
- Potted
- Railway equipment.

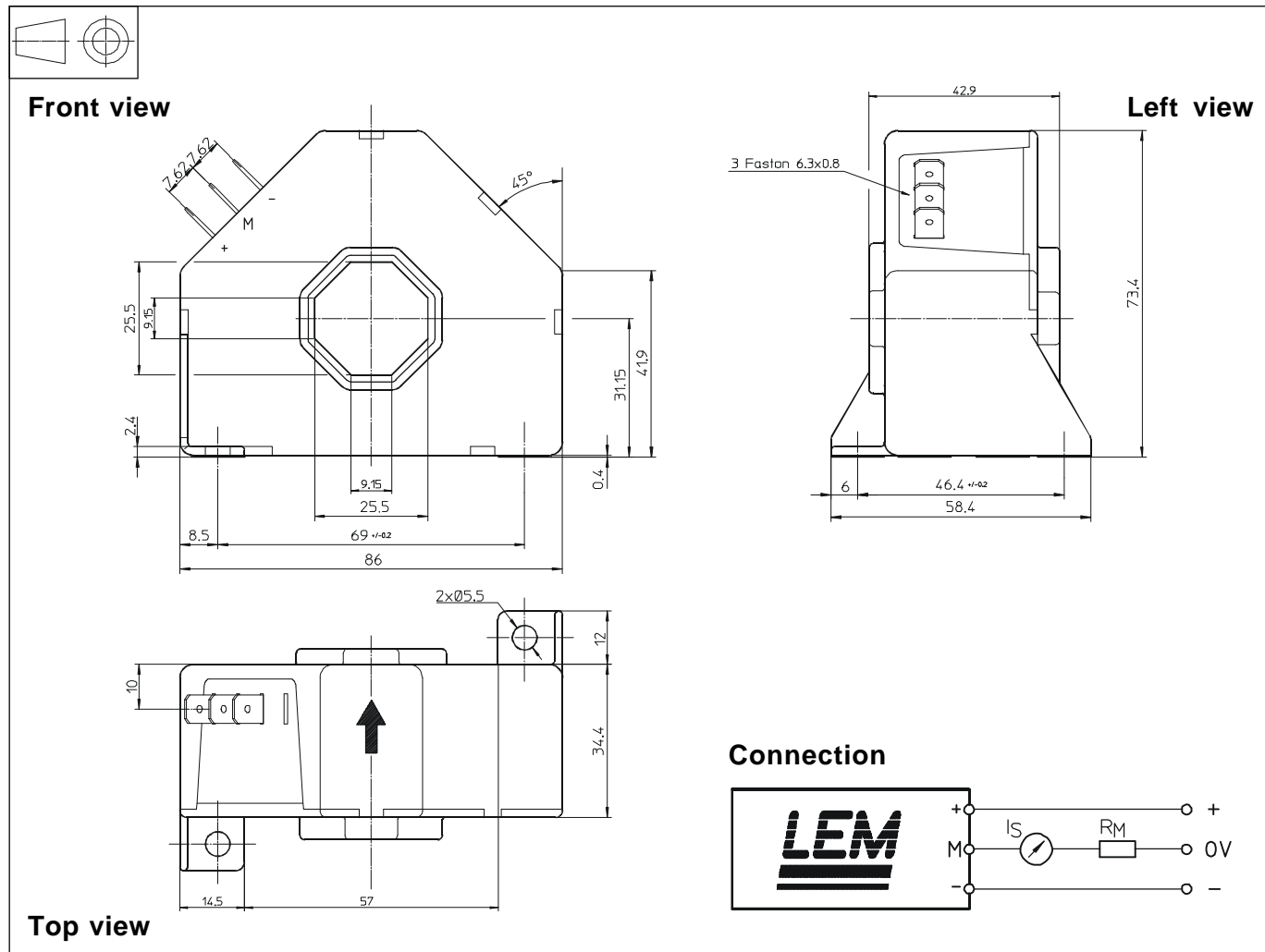
Advantages

- 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.

Dimensions LA 305-S/SP8 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 2 holes $\varnothing 5.5$ mm
- Fastening torque, max. 2 M5 steel screws
- Primary through-hole 4 Nm or 2.95 Lb. - Ft.
- Connection of secondary 25.5 x 25.5 mm
- Faston 6.3 x 0.8 mm

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.

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