Current Transducer LA 305-S/SP4

I_{PN} = 300 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).

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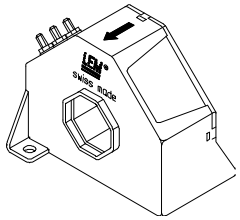

Electrical data

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°C		T_A = 85°C		
			$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
	with ± 12 V	@ ± 300 A $_{max}$	0	46	0	44	Ω
		@ ± 500 A $_{max}$	0	14	0	12	Ω
	with ± 15 V	@ ± 300 A $_{max}$	0	70	5	68	Ω
		@ ± 500 A $_{max}$	0	28	5	26	Ω
I_{SN}	Secondary nominal r.m.s. current			120			mA
K_N	Conversion ratio			1 : 2500			
V_C	Supply voltage (± 5 %)			± 12 .. 15			V
I_C	Current consumption			20 (@ ±15 V) + I_S			mA
V_b	R.m.s. rated voltage [1], safe separation			1750			V
	basic isolation			3500			V

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C		0.8		%
ε_L	Linearity		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.20	mA
I_{OM}	Residual current [2] @ I_P = 0, after an overload of 3 x I_{PN}			± 0.40	mA
I_{OT}	Thermal drift of I_O	- 25°C .. + 85°C	± 0.12	± 0.40	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		- 25 .. + 85	°C
T_S	Ambient storage temperature		- 40 .. + 90	°C
R_S	Secondary coil resistance @	T_A = 70°C	35	Ω
		T_A = 85°C	37	Ω
m	Mass		200	g
	Standards		EN 50155	

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.

Special feature

- T_A = - 25°C .. + 85°C
- Connection secondary on 3 M4 threaded studs
- 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.

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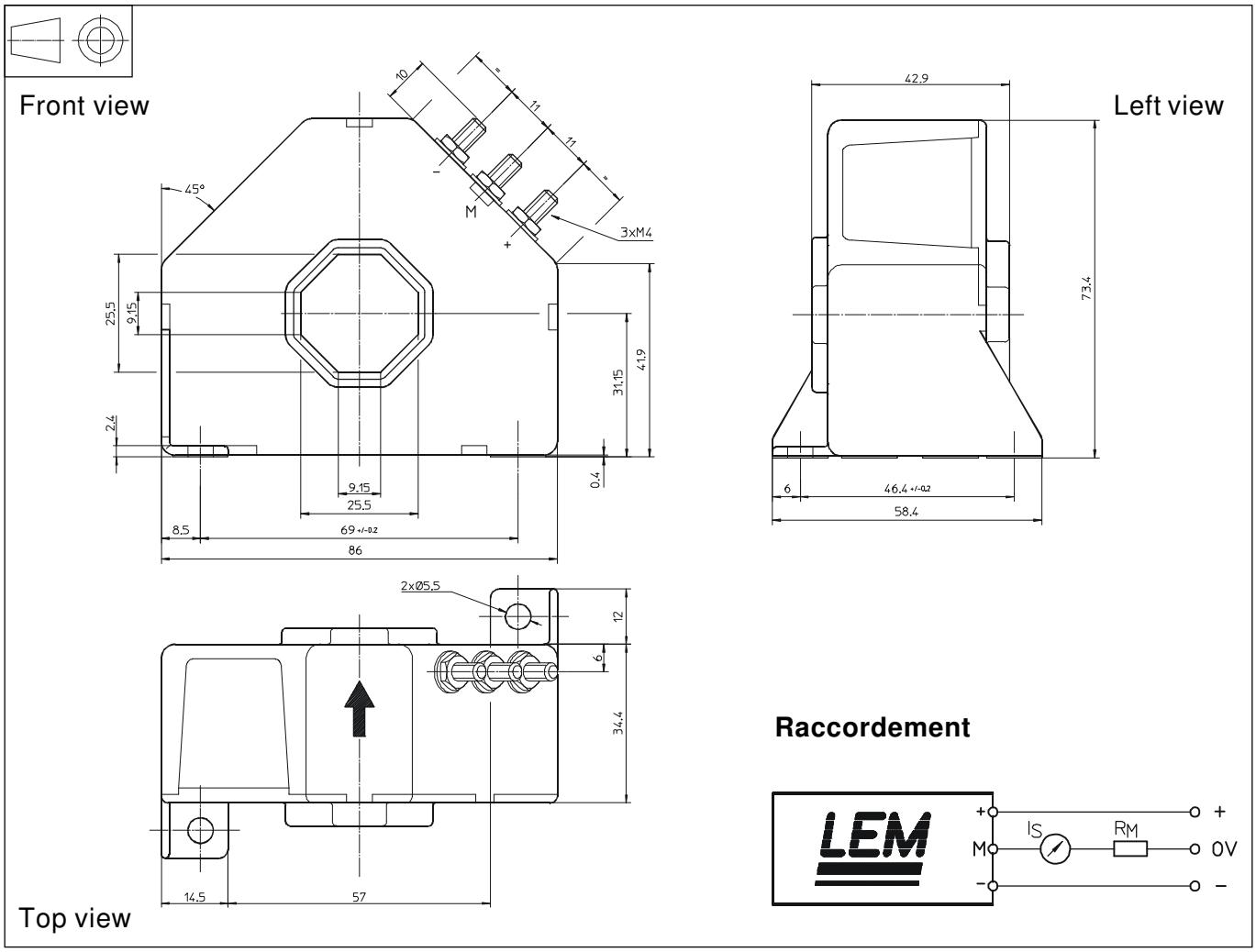
Dimensions LA 305-S/SP4 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

• General tolerance	± 0.5 mm
• Transducer fastening	2 holes ∅ 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	M4 threaded studs
Fastening torque	1.2 Nm or .88 Lb. - Ft.

Remarks

- $\mathbf{I}_S$ is positive when $\mathbf{I}_P$ 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.