Current Transducer LA 305-S/SP6
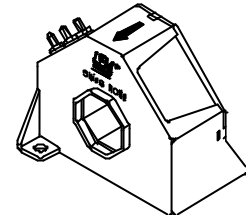
I_{PN} = 300 A

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).

Electrical data

I_{PN}	Primary nominal r.m.s. current			300		A
I_P	Primary current, measuring range			0 .. ± 800		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 ± 15 V	@ ± 300 A $_{max}$	0	91	0	86	Ω
		@ ± 500 A $_{max}$	0	25	0	20	Ω
	with ± 24 V	@ ± 300 A $_{max}$	15	200	20	195	Ω
		@ ± 800 A $_{max}$	15	30	20	25	Ω

I_{SN}	Secondary nominal r.m.s. current	75	m A
K_N	Conversion ratio	1 : 4000	
V_C	Supply voltage (± 5 %)	± 15 .. 24	V
I_C	Current consumption	20 (@ ± 15 V) + I_S	m A
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	%
e_L	Linearity			< 0.1	%
			Typ	Max	
I_O	Offset current @ $I_P = 0$, $T_A = 25°C$			± 0.15	m A
I_{OM}	Residual current[2] @ $I_P = 0$, after an overload of 3 x I_{PN}			± 0.25	m A
I_{OT}	Thermal drift of I_O	- 25°C .. + 85°C	± 0.08	± 0.25	m A
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 @	$T_A = 70°C$	80	Ω
		$T_A = 85°C$	85	Ω
m	Mass		260	g
	Standards [4]		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
[4] A list of corresponding tests is available.

Features

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

Special features

- I_P = 0 .. ± 800 A
- K_N = 1 : 4000
- V_C = ± 15 .. 24 (± 5 %) V
- Connection to secondary circuit 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.

021213/4

Dimensions LA 305-S/SP6 (in mm. 1 mm = 0.0394 inch)

Front view

Left view

Top view

Raccordement
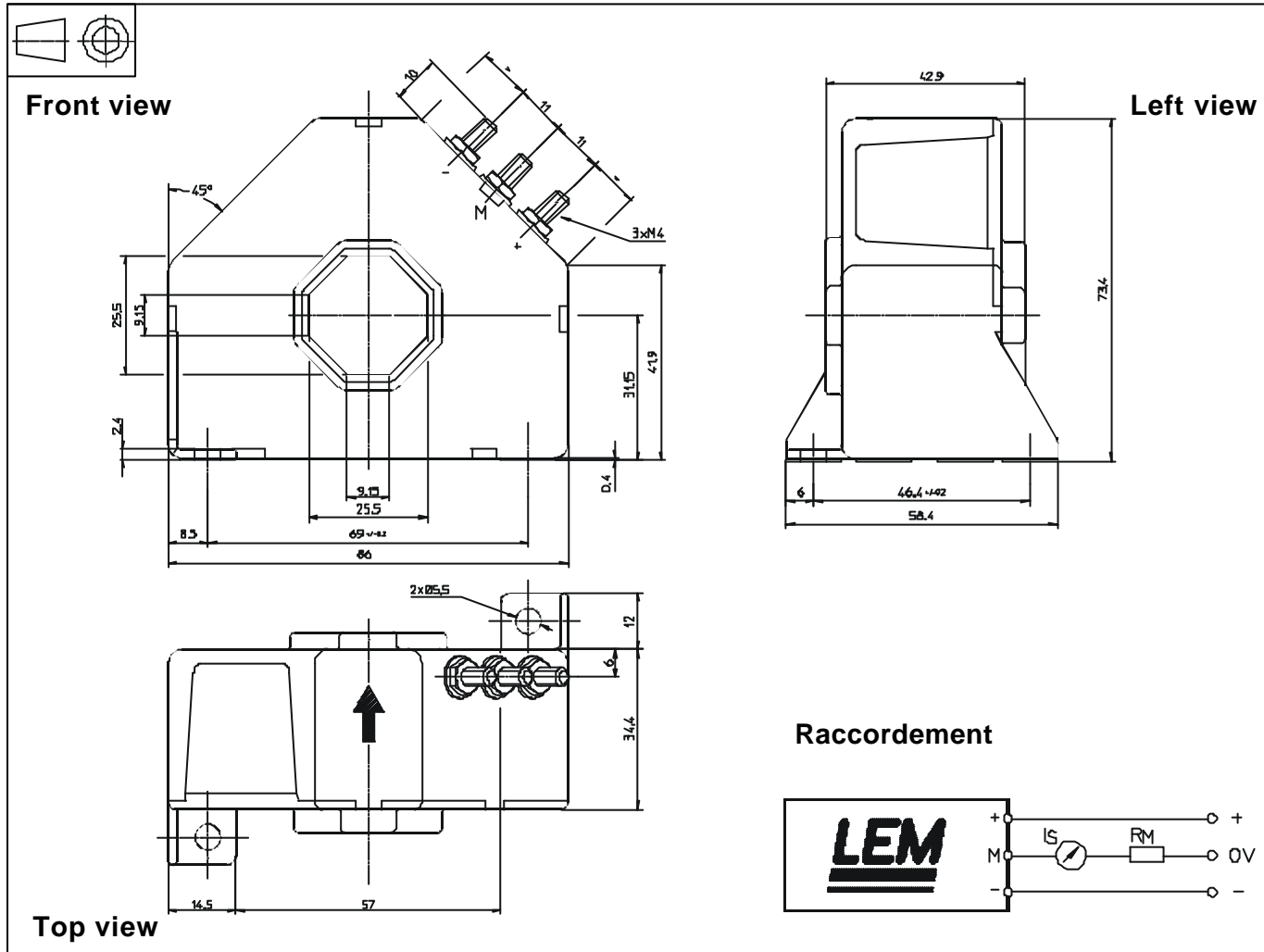
Mechanical characteristics

- 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 to secondary   M4 threaded studs
  Fastening torque   1.2 Nm or .88 Lb - Ft

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.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.