Current Transducer LA 255-S/SP7

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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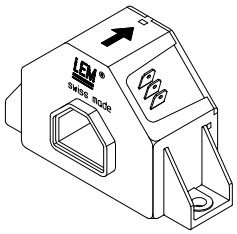

Electrical data

I_{PN}	Primary nominal r.m.s. current			300	A
I_P	Primary current, measuring range			0 .. ± 500	A
$\hat{I}_{P\,max}$	Measuring overload [1]			600	A
R_M	Measuring resistance @			T_A = 75°C	
				$R_{M\,min}$ | $R_{M\,max}$	
	with ± 12 V	@ ± 300 A_{max}		0 | 33	Ω
		@ ± 500 A_{max}		0 | 5	Ω
	with ± 15 V	@ ± 300 A_{max}		5 | 50	Ω
		@ ± 500 A_{max}		5 | 15	Ω
	with ± 18 V	@ ± 300 A_{max}		20 | 66	Ω
		@ ± 500 A_{max}		20 | 25	Ω
I_{SN}	Secondary nominal r.m.s. current			150	mA
K_N	Conversion ratio			1 : 2000	
V_C	Supply voltage (± 5 %)			± 12 .. 18	V
I_C	Current consumption			20 (@ ± 15 V) + I_S	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn			6	kV
V_b	R.m.s. rated voltage [2], safe separation			1625	V
	basic isolation			3250	V

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25°C			± 0.7	%
ε_L	Linearity error			< 0.1	%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.15	mA
I_{OM}	Residual current [3] @ I_P = 0, after an overload of 3 x I_{PN}			± 0.50	mA
I_{OT}	Thermal drift of I_O	- 25°C .. + 75°C	± 0.30	± 0.50	mA
		- 40°C .. - 25°C	± 0.40	± 1.00	mA
t_{ra}	Reaction time @ 10 % of $I_{P\,max}$			< 500	ns
t_r	Response time [4] @ 90 % of $I_{P\,max}$			< 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 .. + 75	°C
T_S	Ambient storage temperature	- 50 .. + 90	°C
R_S	Secondary coil resistance @ T_A = 75°C	37	Ω
m	Mass	230	g
	Standards	EN 50155 : 1995	

Notes :
[1] 3 mn/hour @ V_C = ± 15 V, R_M = 5 Ω
[2] Pollution class 2. With a non insulated primary bar which fills the through-hole
[3] The result of the coercive field of the magnetic circuit
[4] 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 features

- I_{PN} = 300 A
- T_A = - 40 .. + 75°C
- Burn-in
- 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.

Application domain

- Traction.

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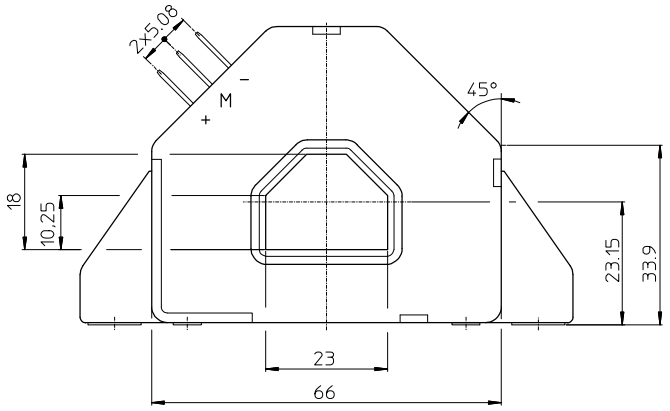
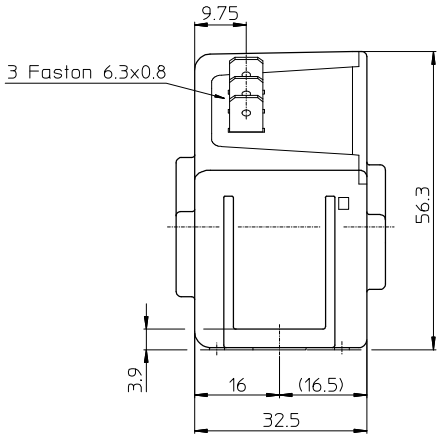
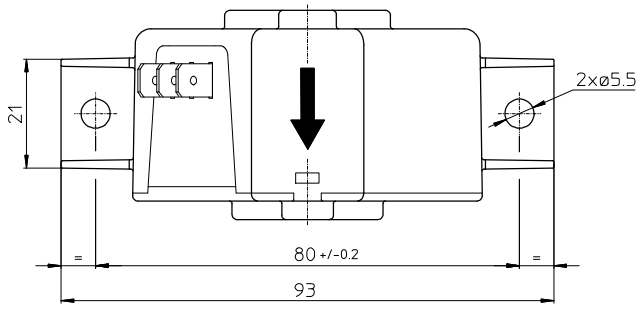
Dimensions LA 255-S/SP7 (in mm. 1 mm = 0.0394 inch)

Front view



Left view

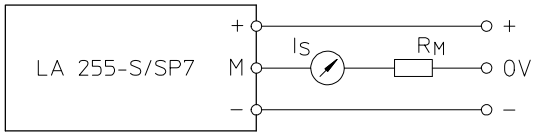




Secondary terminals

Terminal + : supply voltage + 12 .. 18 V
Terminal M : measure
Terminal - : supply voltage - 12 .. 18 V

Connection



Top view

Mechanical characteristics

• General tolerance	± 0.5 mm
• Fastening	2 holes ∅ 5.5 mm
• Primary through-hole	23 x 18 mm
• Connection of secondary	Faston 6.3 x 0.8 mm

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.