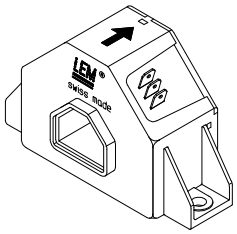
Current Transducer LA 255-S

I_{PN} = 250 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			250			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 = 70°C		T_A = 85°C		
			$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
	with ± 12 V	@ ± 250 A_{max}	0	49	0	47	Ω
		@ ± 500 A_{max}	0	7	0	5	Ω
	with ± 15 V	@ ± 250 A_{max}	5	70	5	68	Ω
		@ ± 500 A_{max}	5	17	5	15	Ω
	with ± 18 V	@ ± 250 A_{max}	25	93	25	91	Ω
		@ ± 500 A_{max}	25	29	25	27	Ω
I_{SN}	Secondary nominal r.m.s. current			125			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_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		± 0.8		%
ε_L	Linearity		< 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	- 10°C .. + 85°C	± 0.15	± 0.30	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		- 10 .. + 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		110	g
	Standards [5]		EN 50178	

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
[5] 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.

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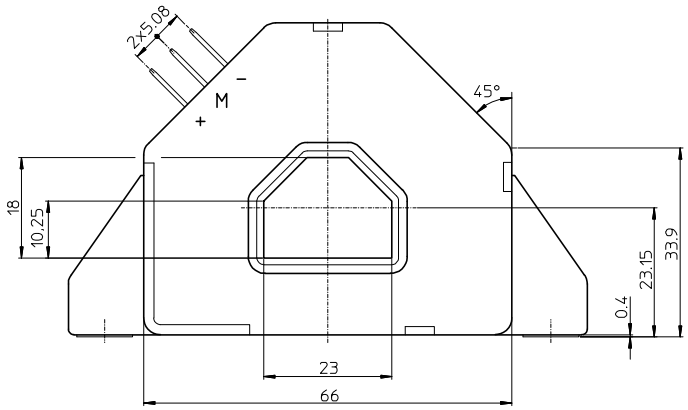
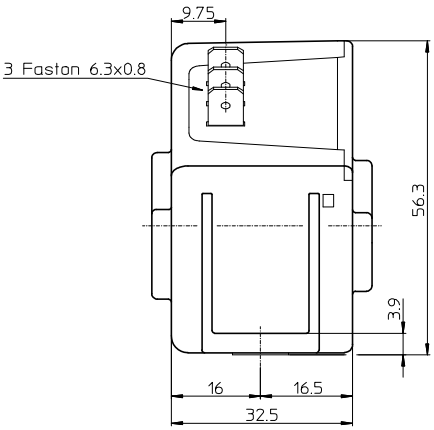
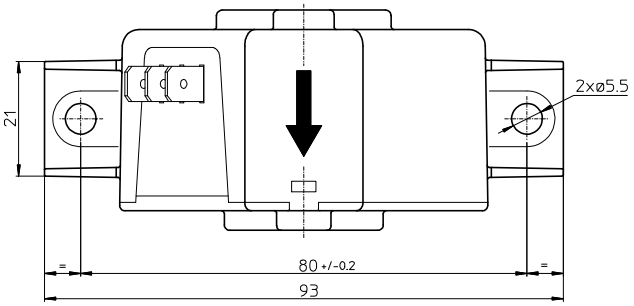
Dimensions LA 255-S (in mm. 1 mm = 0.0394 inch)

Front view



Left view



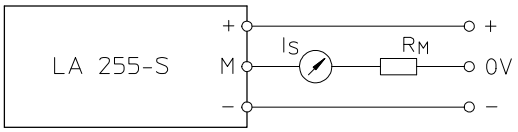


Top view

Secondary terminals

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

Connection



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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.