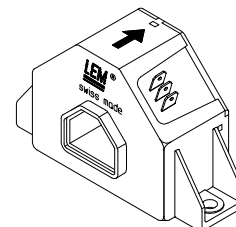


Current Transducer LA 255-S

$$I_{PN} = 250 \text{ A}$$

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	250	A																																												
I_P	Primary current, measuring range	0 .. ± 500	A																																												
$\hat{I}_{P \max}$	Measuring overload ¹⁾	600	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>$R_{M \min}$</th><th>$R_{M \max}$</th><th>$R_{M \min}$</th><th>$R_{M \max}$</th></tr> <tr> <td colspan="4">with $\pm 12 \text{ V}$</td></tr> <tr> <td></td><td>@ $\pm 250 \text{ A}_{\max}$</td><td>0</td><td>49</td></tr> <tr> <td></td><td>@ $\pm 500 \text{ A}_{\max}$</td><td>0</td><td>7</td></tr> <tr> <td colspan="4">with $\pm 15 \text{ V}$</td></tr> <tr> <td></td><td>@ $\pm 250 \text{ A}_{\max}$</td><td>5</td><td>70</td></tr> <tr> <td></td><td>@ $\pm 500 \text{ A}_{\max}$</td><td>5</td><td>17</td></tr> <tr> <td colspan="4">with $\pm 18 \text{ V}$</td></tr> <tr> <td></td><td>@ $\pm 250 \text{ A}_{\max}$</td><td>25</td><td>93</td></tr> <tr> <td></td><td>@ $\pm 500 \text{ A}_{\max}$</td><td>25</td><td>29</td></tr> </table>		$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$		$R_{M \min}$	$R_{M \max}$	$R_{M \min}$	$R_{M \max}$	with $\pm 12 \text{ V}$					@ $\pm 250 \text{ A}_{\max}$	0	49		@ $\pm 500 \text{ A}_{\max}$	0	7	with $\pm 15 \text{ V}$					@ $\pm 250 \text{ A}_{\max}$	5	70		@ $\pm 500 \text{ A}_{\max}$	5	17	with $\pm 18 \text{ V}$					@ $\pm 250 \text{ A}_{\max}$	25	93		@ $\pm 500 \text{ A}_{\max}$	25	29
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I_{SN}	Secondary nominal r.m.s. current	125	mA																																												
K_N	Conversion ratio	1 : 2000																																													
V_C	Supply voltage ($\pm 5 \%$)	$\pm 12 \dots 18$	V																																												
I_C	Current consumption	$20 (@ \pm 15 \text{ V}) + I_S$	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} , $T_A = 25^\circ\text{C}$	± 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 ³⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$		± 0.15 mA
I_{OT}	Thermal drift of I_O - $10^\circ\text{C} \dots 85^\circ\text{C}$	± 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 @	<table><tr><td>T_A = 70°C</td><td>35</td><td>Ω</td></tr><tr><td>T_A = 85°C</td><td>37</td><td>Ω</td></tr></table>	T_A = 70°C	35	Ω	T_A = 85°C	37	Ω	
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 @ $V_C = \pm 15 \text{ V}$, $R_M = 5 \Omega$

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.

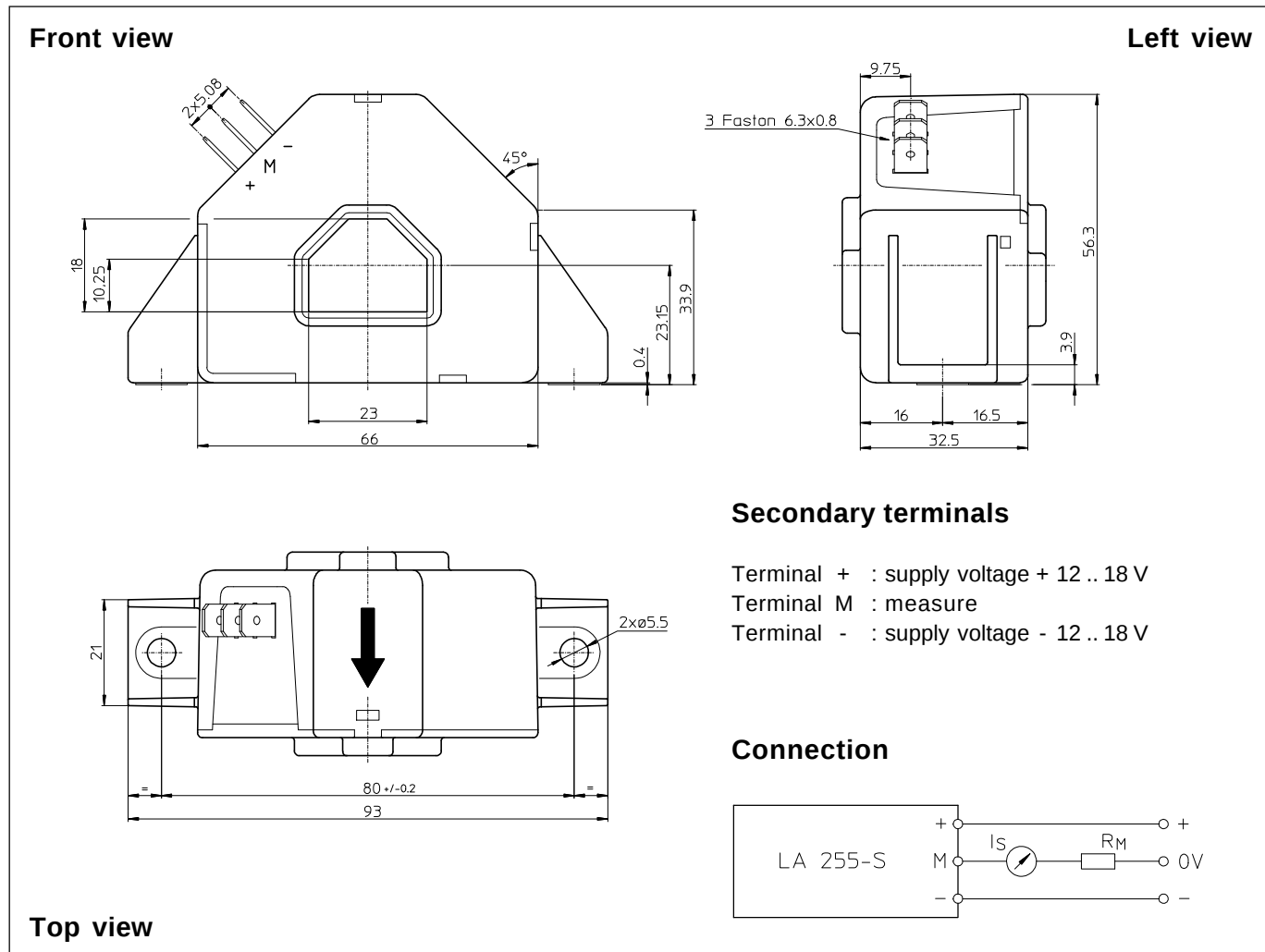
Advantages

- 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.

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



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening 2 holes $\varnothing 5.5$ mm
- Primary through-hole 23 x 18 mm
- Connection of secondary 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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.

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