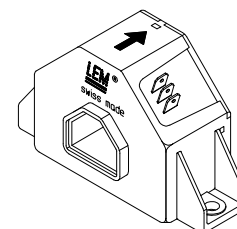


Current Transducer LA 255-S/SP7

$I_{PN} = 300 \text{ A}$

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	300	A
I_P	Primary current, measuring range	0 .. ± 500	A
$\hat{I}_{P \max}$	Measuring overload ¹⁾	600	A
R_M	Measuring resistance @ $T_A = 75^\circ\text{C}$		
		$R_{M \min}$ $R_{M \max}$	
	with $\pm 12 \text{ V}$	@ $\pm 300 \text{ A}_{\max}$	0 33 Ω
		@ $\pm 500 \text{ A}_{\max}$	0 5 Ω
	with $\pm 15 \text{ V}$	@ $\pm 300 \text{ A}_{\max}$	5 50 Ω
		@ $\pm 500 \text{ A}_{\max}$	5 15 Ω
	with $\pm 18 \text{ V}$	@ $\pm 300 \text{ A}_{\max}$	20 66 Ω
		@ $\pm 500 \text{ A}_{\max}$	20 25 Ω
I_{SN}	Secondary nominal r.m.s. current	150	mA
K_N	Conversion ratio	1 : 2000	
V_C	Supply voltage ($\pm 5 \%$)	$\pm 12 \dots 18$	V
I_C	Current consumption	20 (@ $\pm 15 \text{ V}$) + 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 basic isolation	1625	V
		3250	V

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.7	%
e_L	Linearity	< 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		± 0.50 mA
	- $25^\circ\text{C} \dots + 75^\circ\text{C}$	± 0.30	± 0.50 mA
	- $40^\circ\text{C} \dots - 25^\circ\text{C}$	± 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	$^\circ\text{C}$
T_S	Ambient storage temperature	- 50 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 75^\circ\text{C}$	37	Ω
m	Mass	230	g
	Standards ⁵⁾	EN 50155	

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.

Special features

- $I_{PN} = 300 \text{ A}$
- $T_A = - 40 \dots + 75^\circ\text{C}$
- Electronics without electrolytic capacitor
- Burn-in
- Railway equipment.

Advantages

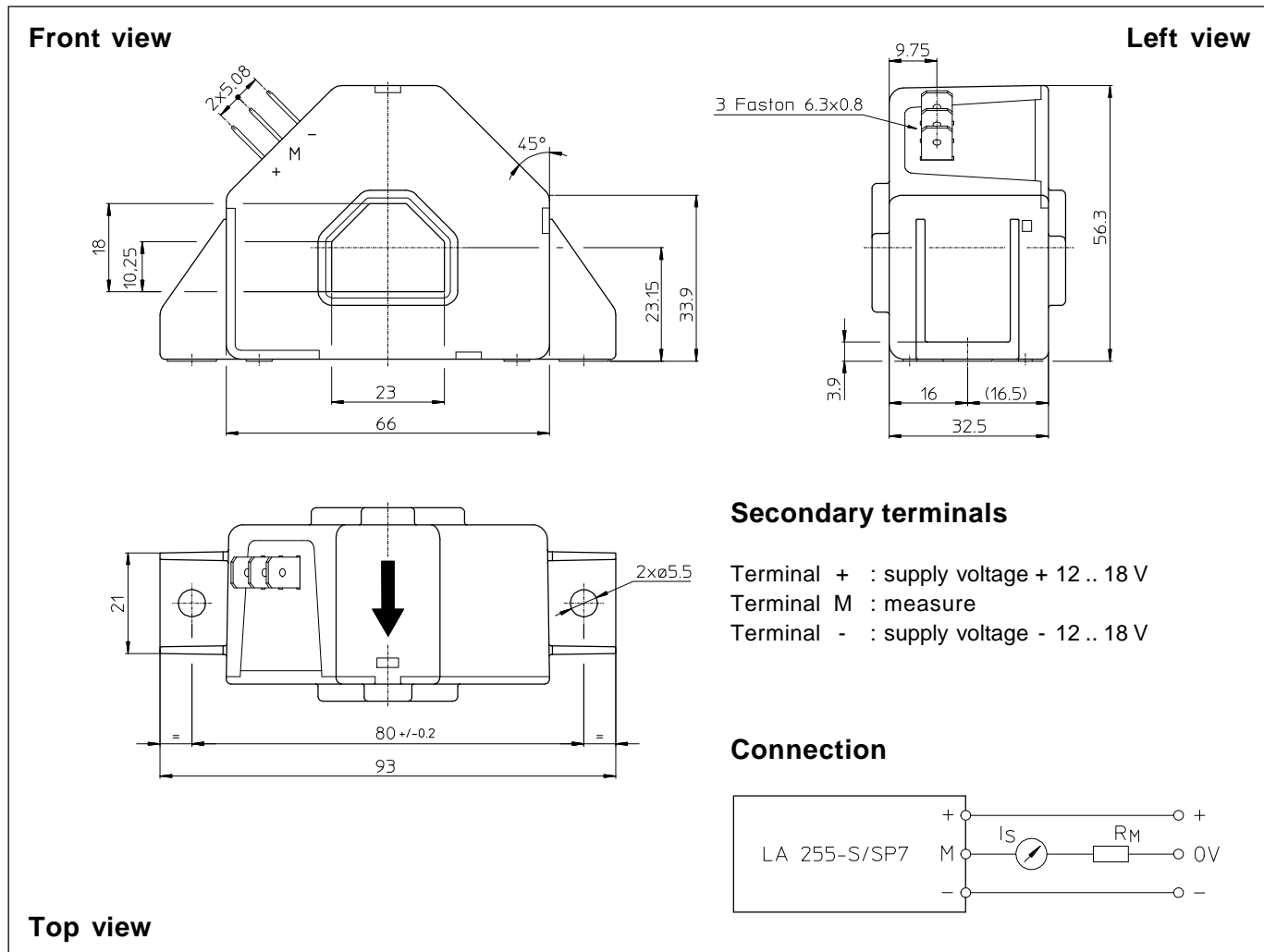
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

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.

980820/0

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



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening 2 holes $\phi 5.5$ 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.