

Current Transducer LF 306-S/SP1

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

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 .. ± 350	A
R_M	Measuring resistance	R_{Mmin} R_{Mmax}	
	with $\pm 15 \text{ V}$	@ $\pm 250 \text{ A}_{max}$	10 45 Ω
		@ $\pm 350 \text{ A}_{max}$	10 14 Ω
I_{SN}	Secondary nominal r.m.s. current	125	mA
K_N	Conversion ratio	1 : 2000	
V_C	Supply voltage ($\pm 5\%$)	± 15	V
I_C	Current consumption	$20 + I_S$	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.4	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max
			± 0.20 mA
			± 0.08 mA
I_{OM}	Residual current ¹⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$	± 0.35	± 0.77 mA
I_{OT}	Thermal drift of I_O - $40^\circ\text{C} \dots + 85^\circ\text{C}$		
t_{ra}	Reaction time @ 10 % of I_{Pmax}	< 500	ns
t_r	Response time ²⁾ @ 90 % of I_{Pmax}	< 1	μs
di/dt	di/dt accurately followed	> 100	A/ μs
f	Frequency bandwidth (-1dB)	DC .. 100	kHz

General data

T_A	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 45 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	58	Ω
m	Mass	65	g
	Standards	EN 50155	

Features

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

Special features

- $I_{PN} = 250 \text{ A}$
- $I_P = 0 \dots \pm 350 \text{ A}$
- $V_C = \pm 15 (\pm 5\%) \text{ V}$
- $T_A = - 40^\circ\text{C} \dots + 85^\circ\text{C}$
- Connection to secondary circuit on ACOBOND cable.

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.

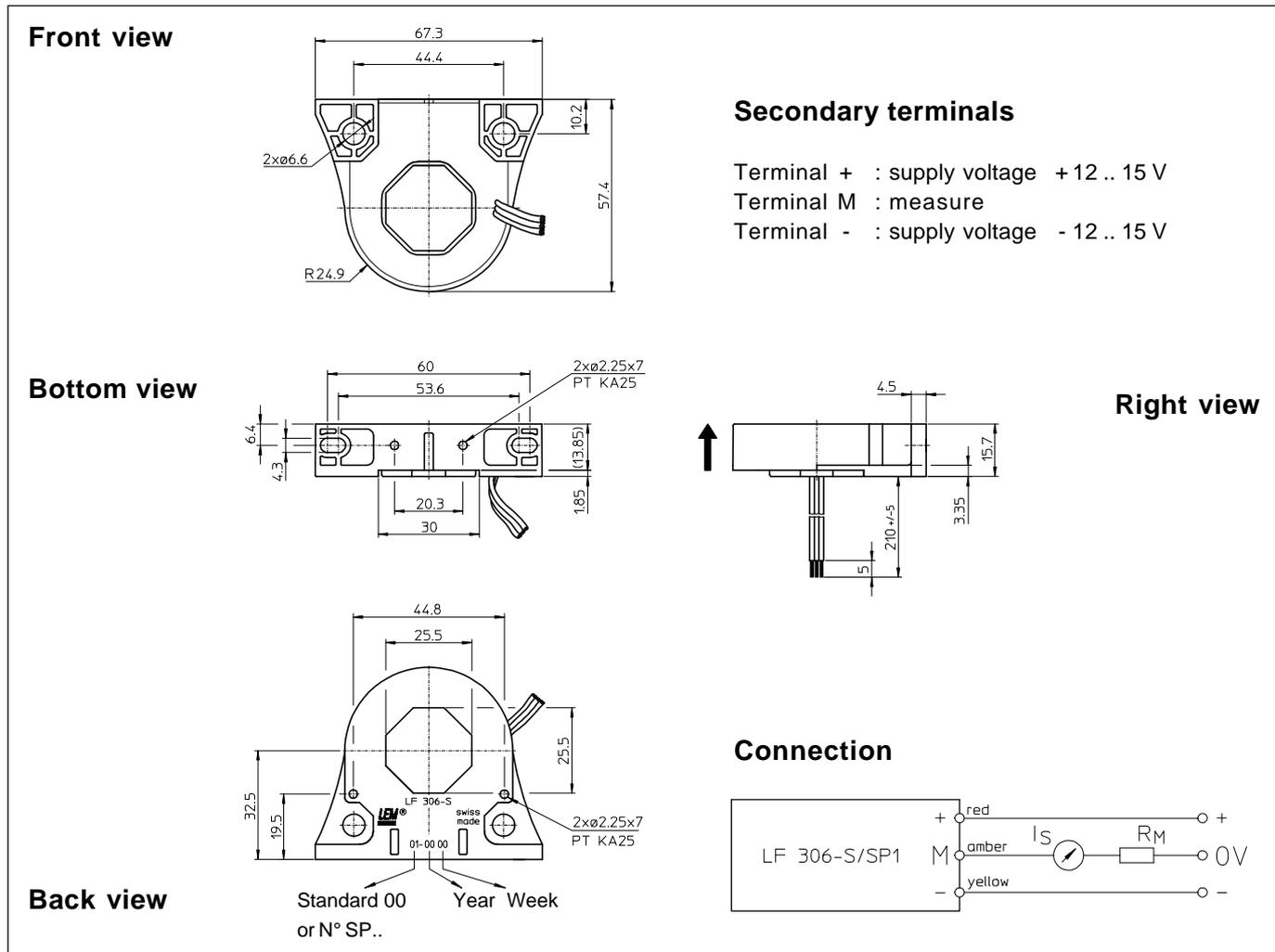
Applications

- 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.

Notes : ¹⁾ The result of the coercive field of the magnetic circuit

²⁾ With a di/dt of 100 A/ μs .

Dimensions LF 306-S/SP1 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
 - Fastening
 - 2 holes $\varnothing 6.6$ mm
 - 2 holes $\varnothing 4.3$ mm
 - 4 x PT KA25 screws
 - 25.5 x 25.5 mm
 - ACOBOND cable
- or
- Primary through-hole
 - Connection of secondary

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.



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