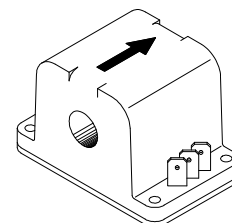


# Current Transducer LT 100-S/SP30

$$I_{PN} = 100 \text{ A}$$

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	100	A			
$I_P$	Primary current, measuring range	0 .. $\pm 200$	A			
$R_M$	Measuring resistance	$R_{Mmin}$	$R_{Mmax}$			
				with $\pm 12 \text{ V}$	@ $\pm 100 \text{ A}_{max}$	0
			@ $\pm 200 \text{ A}_{max}$	0	25	$\Omega$
		with $\pm 18 \text{ V}$	@ $\pm 100 \text{ A}_{max}$	30	135	$\Omega$
	@ $\pm 200 \text{ A}_{max}$	30	55	$\Omega$		
$I_{SN}$	Secondary nominal r.m.s. current	100	mA			
$K_N$	Conversion ratio	1 : 1000				
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 12 \dots 18$	V			
$I_C$	Current consumption	28 (@ $\pm 18 \text{ V}$ ) + $I_S$	mA			
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	5	kV			

## Features

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

## Special features

- $T_A = -40^\circ\text{C} \dots +70^\circ\text{C}$
- Potted.

## 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.

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$\pm 0.5$	%		
$\epsilon_L$	Linearity error	$< 0.1$	%		
$I_o$	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max		
			$\pm 0.4$	mA	
$I_{OT}$	Thermal drift of $I_o$	- $25^\circ\text{C} \dots +70^\circ\text{C}$	$\pm 0.3$	$\pm 0.6$	mA
		- $40^\circ\text{C} \dots -25^\circ\text{C}$	$\pm 0.4$	$\pm 1.0$	mA
$t_r$	Response time <sup>1)</sup> @ 90 % of $I_{PN}$	$< 1$	$\mu\text{s}$		
$di/dt$	di/dt accurately followed	$> 50$	A/ $\mu\text{s}$		
$f$	Frequency bandwidth (-1 dB)	DC .. 150	kHz		

## Applications

- Single or three phases inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

## General data

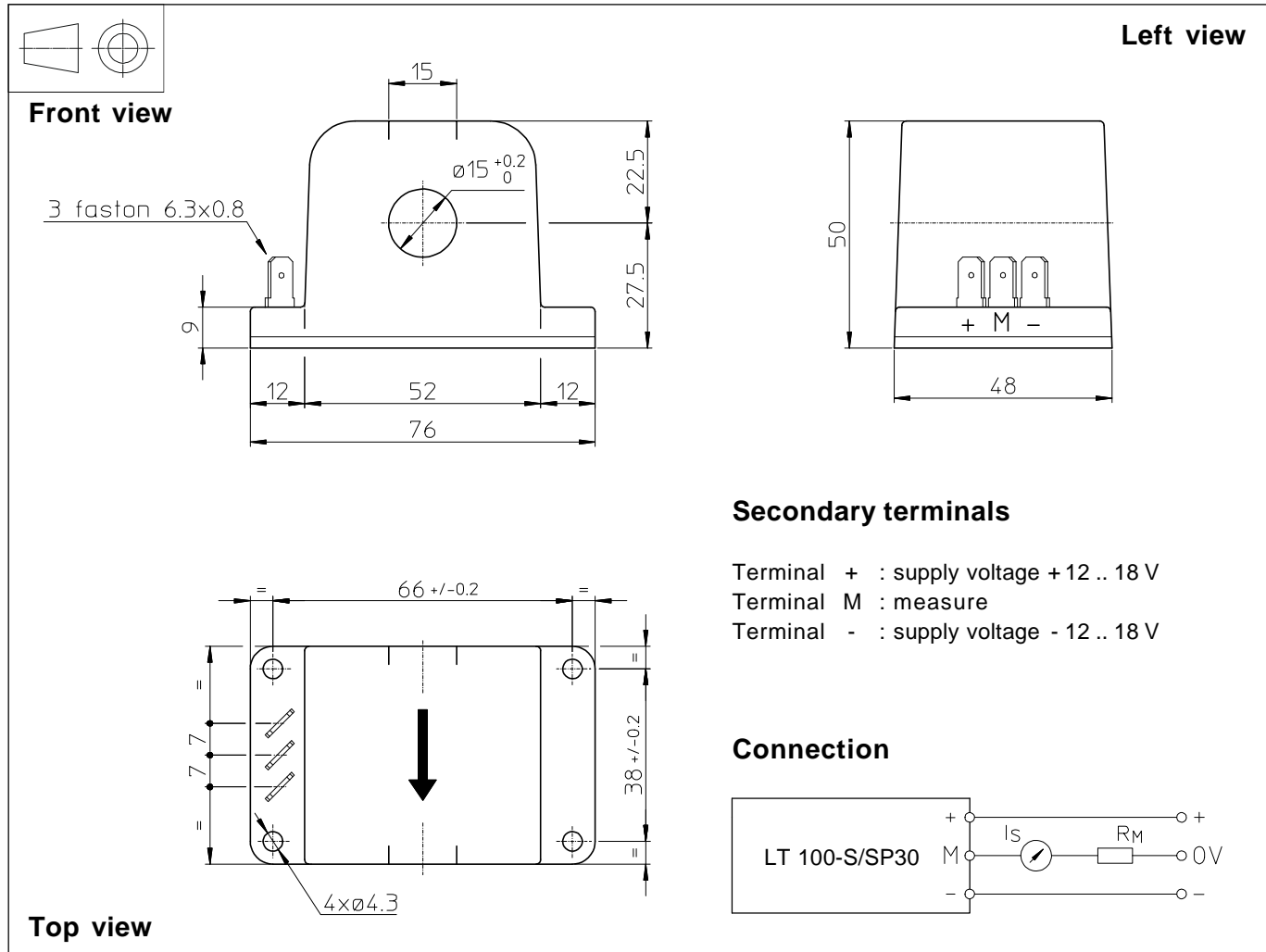
$T_A$	Ambient operating temperature	-40 .. +70	$^\circ\text{C}$
$T_S$	Ambient storage temperature	-50 .. +85	$^\circ\text{C}$
$R_S$	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	25	$\Omega$
$m$	Mass	184	g
	Standards	EN 50155	

## Application domain

- Traction.

Note : <sup>1)</sup> With a di/dt of 100 A/ $\mu\text{s}$ .

## Dimensions LT 100-S/SP30 (in mm. 1 mm = 0.0394 inch)



## Mechanical characteristics

- General tolerance  $\pm 0.5$  mm
- Transducer fastening
  - 4 holes  $\varnothing 4.3$  mm
  - 4 M4 steel screws
  - Recommended fastening torque 3.2 Nm or 2.36 Lb.-Ft.
- Connection of primary  $\varnothing 15$  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.

## Safety



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a built-in device, whose conducting parts must be inaccessible after installation.

A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

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