

# Current Transducer LTC 600-SF

$$I_{PN} = 500 \text{ A}$$

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	500	A
$I_P$	Primary current, measuring range @ 24 V	0 .. $\pm 1500$	A
$I_{Pmax}$	Max overload not measurable	10 / 10	kA/ms
$R_M$	Measuring resistance	$R_{Mmin}$ $R_{Mmax}$	
	with $\pm 15 \text{ V}$	@ $\pm 500 \text{ A}_{max}$	0   70 $\Omega$
		@ $\pm 1200 \text{ A}_{max}$	0   5 $\Omega$
	with $\pm 24 \text{ V}$	@ $\pm 500 \text{ A}_{max}$	0   150 $\Omega$
	@ $\pm 1500 \text{ A}_{max}$	0   20 $\Omega$	
$I_{SN}$	Secondary nominal r.m.s. current	100	mA
$K_N$	Conversion ratio	1 : 5000	
$V_C$	Supply voltage ( $\pm 5 \%$ )	$\pm 15 \dots 24$	V
$I_C$	Current consumption	$< 30(@\pm 24V) + I_s$	mA
$V_d$	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	13.4 <sup>1)</sup>	kV
		1.5 <sup>2)</sup>	kV
$V_e$	R.m.s. voltage for partial discharge extinction	$> 2.8$ <sup>3)</sup>	kV

www.DataSheet4U.com

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	$< \pm 0.7$	%
		@ $I_{PN}, T_A = -40^\circ\text{C} \dots +85^\circ\text{C}$	$< \pm 1.6$
$e_L$	Linearity	$< 0.1$	%
		Max	
$I_O$	Offset current @ $I_p = 0, T_A = 25^\circ\text{C}$	$\pm 0.5$	mA
$I_{OT}$	Thermal drift of $I_O$ - $40^\circ\text{C} \dots +85^\circ\text{C}$	$\pm 1$	mA
$t_r$	Response time <sup>4)</sup> @ 90 % of $I_{PN}$	$< 1$	$\mu\text{s}$
$di/dt$	di/dt accurately followed	$> 100$	A/ $\mu\text{s}$
$f$	Frequency bandwidth (- 1 dB)	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 @ $T_A = 85^\circ\text{C}$	44	$\Omega$
$m$	Mass	780	g
	Standards	EN50155(01.12.20)	

- Notes : <sup>1)</sup> Between primary and secondary + shield  
<sup>2)</sup> Between secondary and shield  
<sup>3)</sup> Test carried out with a busbar  $\varnothing 40 \text{ mm}$  centred in the through-hole  
<sup>4)</sup> With a di/dt of 100 A/ $\mu\text{s}$ .

## Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0
- Transducer delivered with feet
- Railway equipment.

## Advantages

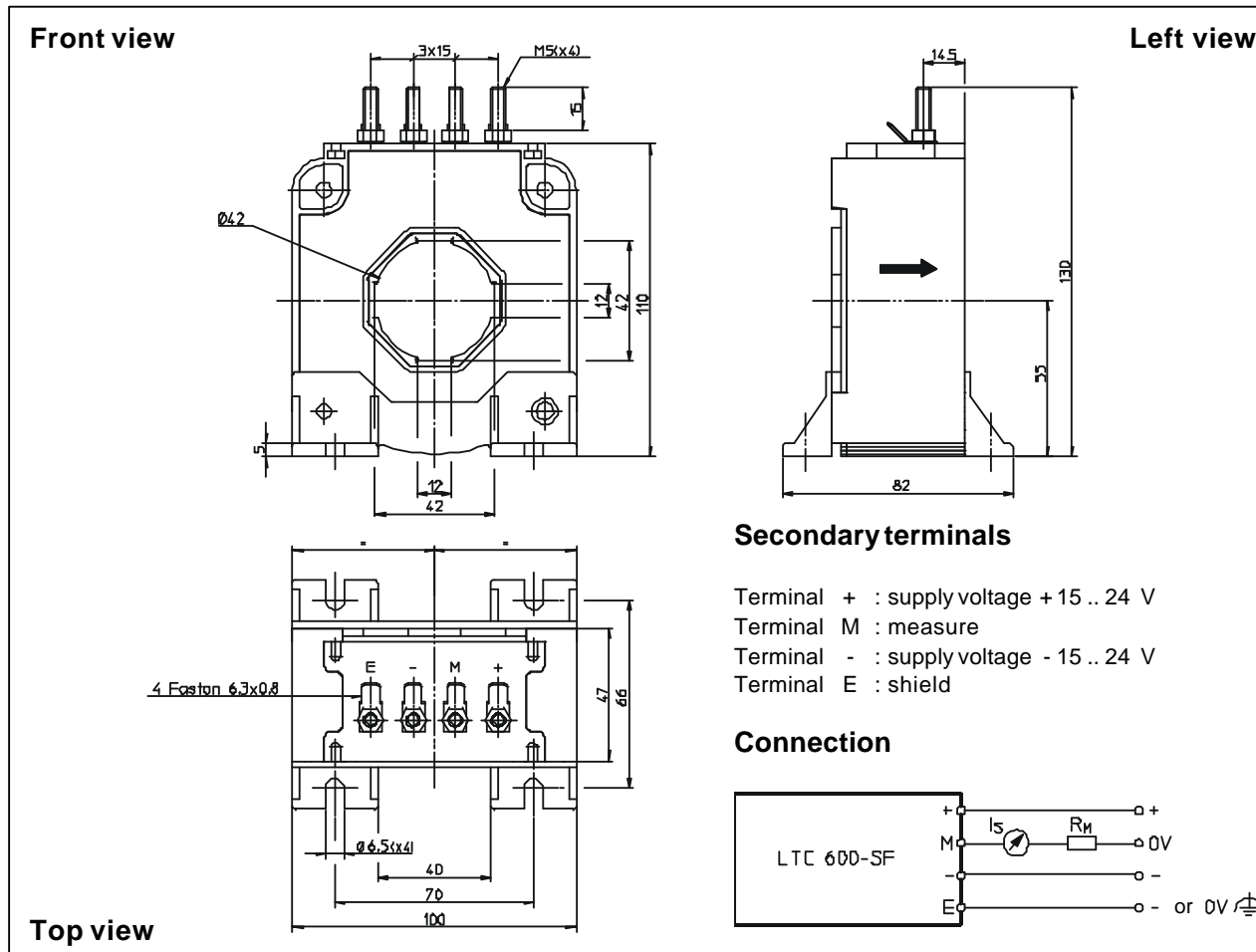
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

## 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.

030528/0

## Dimensions LTC 600-SF (in mm. 1 mm = 0.0394 inch)



### Mechanical characteristics

- General tolerance  $\pm 1$  mm
- Fixing the transducer
  - 4 slots  $\varnothing 6.5$  mm
  - 4 screws M6
- Fastening torque max 5 Nm
- Primary through-hole  $\varnothing 42$  mm
- Connection of secondary
  - M5 threaded studs
  - Fastening torque max 2.2 Nm or 1.62 Lb.-Ft.
  - 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.

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without previous notice.