

# 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 .. ± 1500	A
$\dot{I}_P$	Max overload not measurable	10 / 10	kA/ms
$R_M$	Measuring resistance	$R_{M \min}$	$R_{M \max}$
	with ± 15 V	@ ± 500 A <sub>max</sub>	0 70 Ω
		@ ± 1200 A <sub>max</sub>	0 5 Ω
	with ± 24 V	@ ± 500 A <sub>max</sub>	0 150 Ω
	@ ± 1500 A <sub>max</sub>	0 20 Ω	
$I_{SN}$	Secondary nominal r.m.s. current	100	mA
$K_N$	Conversion ratio	1 : 5000	
$V_C$	Supply voltage (± 5 %)	± 15 .. 24	V
$I_C$	Current consumption	< 30 (@±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

## 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.

## Accuracy - Dynamic performance data

$X_G$	Overall accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ @ $I_{PN}$ , $T_A = -40^\circ\text{C} \dots +85^\circ\text{C}$	< ± 0.7	%
		< ± 1.6	%
$e_L$	Linearity	< 0.1	%
		Max	
$I_O$	Offset current @ $I_P = 0$ , $T_A = 25^\circ\text{C}$	± 0.5	mA
$I_{OT}$	Thermal drift of $I_O$ - 40°C .. + 85°C	± 1	mA
$t_r$	Response time <sup>4)</sup> @ 90 % of $I_{PN}$	< 1	µs
$di/dt$	di/dt accurately followed	> 100	A/µs
$f$	Frequency bandwidth (- 1 dB)	DC .. 100	kHz

## General data

$T_A$	Ambient operating temperature	- 40 .. + 85	°C
$T_S$	Ambient storage temperature	- 45 .. + 90	°C
$R_S$	Secondary coil resistance @ $T_A = 85^\circ\text{C}$	44	Ω
$m$	Mass	780	g
	Standards	EN50155(01.12.20)	

Notes : <sup>1)</sup> Between primary and secondary + shield

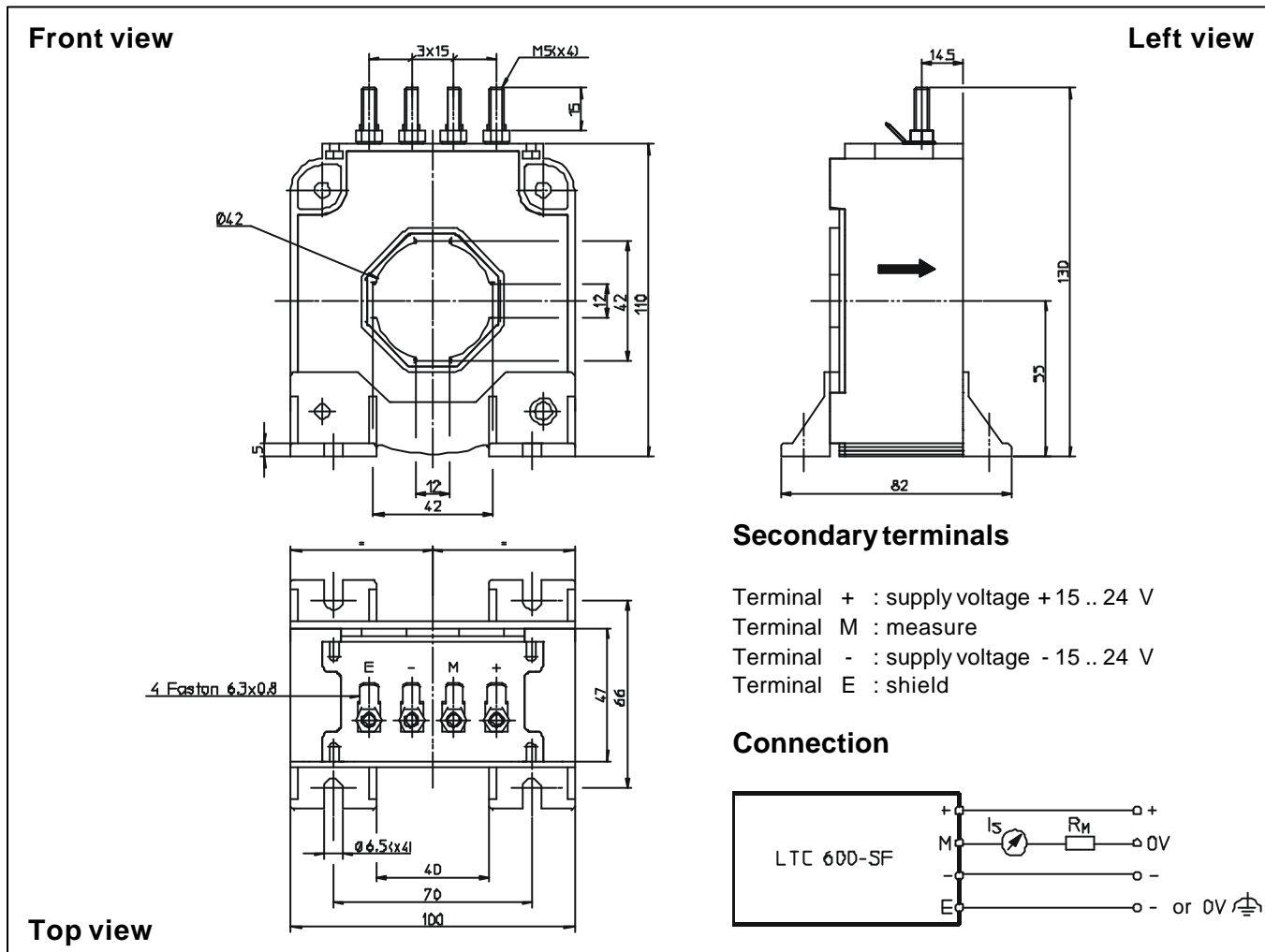
<sup>2)</sup> Between secondary and shield

<sup>3)</sup> Test carried out with a busbar Ø 40 mm centred in the through-hole

<sup>4)</sup> With a di/dt of 100 A/µs.

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## 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.