

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 _{max}	0 70 Ω
		@ ± 1200 A _{max}	0 5 Ω
	with ± 24 V	@ ± 500 A _{max}	0 150 Ω
	@ ± 1500 A _{max}	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 ¹⁾	kV
		1.5 ²⁾	kV
V_e	R.m.s. voltage for partial discharge extinction	> 2.8 ³⁾	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} , $T_A = -40^\circ\text{C} .. +85^\circ\text{C}$	< ± 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 ⁴⁾ @ 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 : ¹⁾ Between primary and secondary + shield

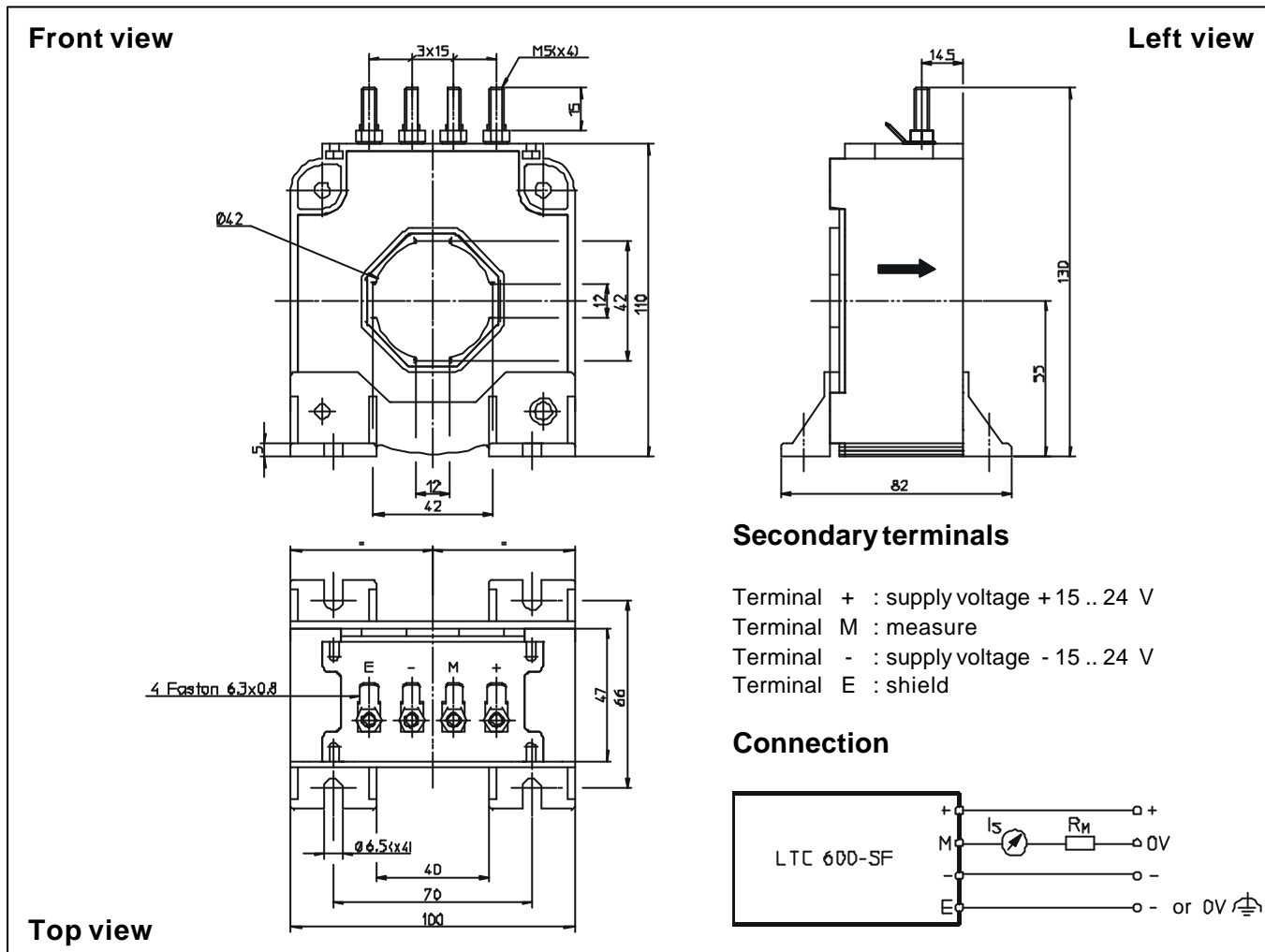
²⁾ Between secondary and shield

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

⁴⁾ 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 ± 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.