Current Transducer LTC 1000-SF

I_{PN} = 1000 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		1000		A
I_P	Primary current, measuring range @ 24 V		0 .. ± 2400 [1]		A
$\hat{I}_P$	Max overload not measurable		10 / 10		kA/ms
R_M	Measuring resistance		$R_{M\ min}$	$R_{M\ max}$	
	with ± 15 V	@ ± 1000 A_{max}	0	15	Ω
		@ ± 1200 A_{max}	0	7	Ω
	with ± 24 V	@ ± 1000 A_{max}	0	50	Ω
		@ ± 2000 A_{max}	0	7	Ω
I_{SN}	Secondary nominal r.m.s. current		200		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 [2]		kV
			1.5 [3]		kV
V_e	R.m.s. voltage for partial discharge extinction		> 2.8 [4]		kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C		< ± 0.4	%
	@ I_{PN} , T_A = - 40°C .. + 85°C		< ± 1	%
e_L	Linearity		< 0.1	%
			Max	
I_O	Offset current @ I_P = 0, T_A = 25°C		± 0.5	mA
I_{OT}	Thermal drift of I_O	- 40°C .. + 85°C	± 1	mA
t_r	Response time [5] @ 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°C	44	Ω
m	Mass	780	g
	Standards	EN 50155 (01.12.20)	

Notes : [1] With a di/dt of > 5 A/µs
[2] Between primary and secondary + shield
[3] Between secondary and shield
[4] Test carried out with a busbar ∅ 40 mm centred in the through-hole
[5] With a di/dt of 100 A/µs.

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.

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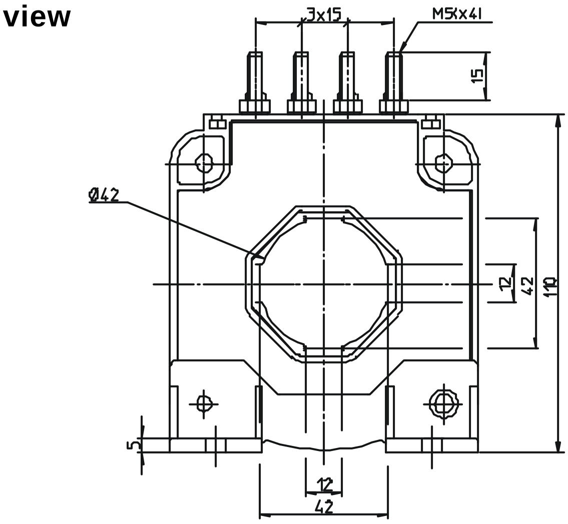
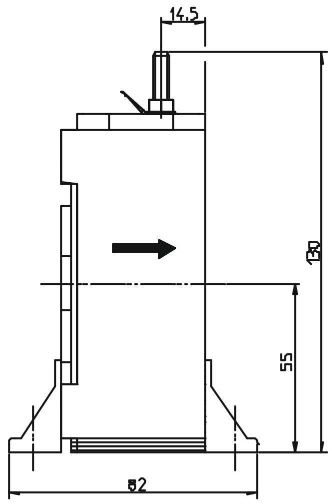
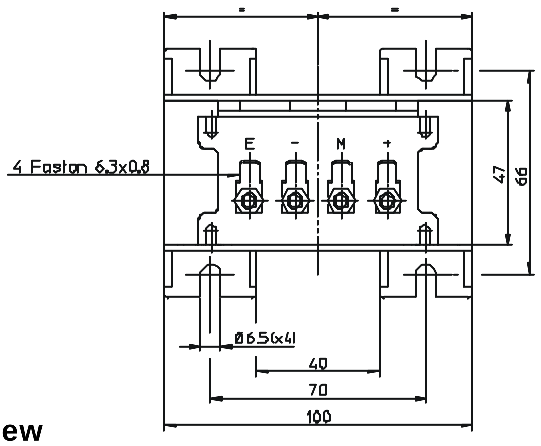
Dimensions LTC 1000-SF (in mm. 1 mm = 0.0394 inch)

Front view



Left view



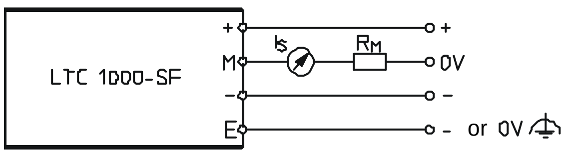


Top view

Secondary terminals

Terminal + : supply voltage + 15 .. 24 V
Terminal M : measure
Terminal - : supply voltage - 15 .. 24 V
Terminal E : shield

Connection



Mechanical characteristics

- General tolerance ± 1 mm
- Fixing the transducer 4 slots ∅ 6.5 mm
  4 screws M6
  Fastening torque max 5 Nm
- Primary through-hole ∅ 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

- $\mathbf{I}_S$ is positive when $\mathbf{I}_P$ 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.