Current Transducer LT 1005-T/SP14

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 .. ± 2000		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ± 15 V	@ ± 1000 A_{max}	0	27	Ω
		@ ± 1500 A_{max}	0	9	Ω
	with ± 24 V	@ ± 1000 A_{max}	5	60	Ω
		@ ± 2000 A_{max}	5	15	Ω
I_{SN}	Secondary nominal r.m.s. current		250		mA
K_N	Conversion ratio		1 : 4000		
V_C	Supply voltage (± 5 %)		± 15 .. 24		V
I_C	Current consumption		30 (@ ± 24 V) + I_S		mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn		12		kV

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN}, T_A = 25 °C		± 0.4		%
ε_L	Linearity		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25 °C			± 0.50	mA
I_{OT}	Thermal drift of I_O	- 35 °C .. + 75 °C	± 0.25	± 0.70	mA
t_r	Response time [1] @ 90 % of I_{PN}		< 1		µs
di/dt	di/dt accurately followed		> 50		A/µs
f	Frequency bandwidth (- 1 dB)		DC .. 150		kHz

General data

T_A	Ambient operating temperature		- 35 .. + 75	°C
T_S	Ambient storage temperature		- 45 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 75 °C		26	Ω
m	Mass		1.2	kg
	Standards		EN 50155	

Note: [1] 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.

Special features

- K_N = 1 : 4000
- V_d = 12 kV
- T_A = - 35 °C .. + 75 °C
- Electronics according to customer specifications
- Potted
- Connection to secondary circuit on UNC 8 threaded studs
- 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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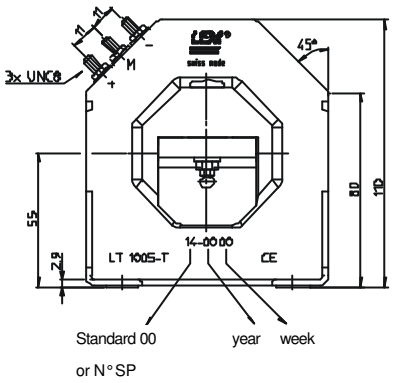
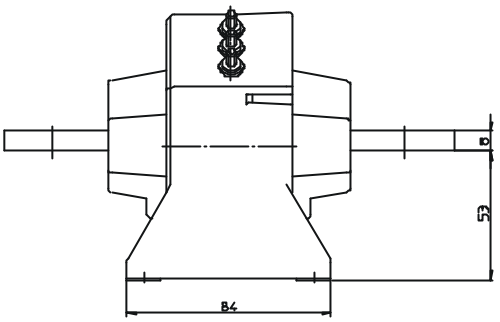
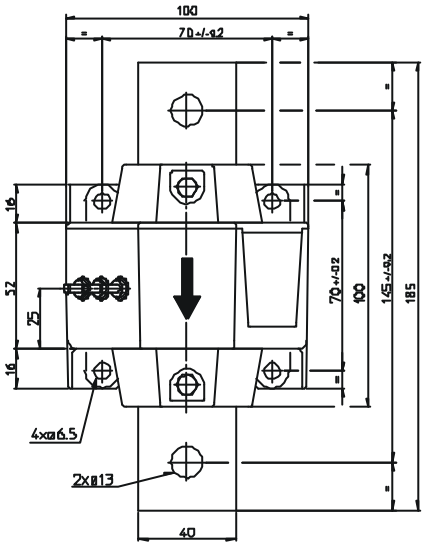
Dimensions LT 1005-T/SP14 (in mm. 1 mm = 0.0394 inch)

Front view



Left view



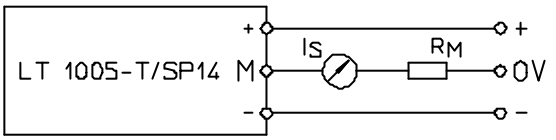


Top view

Secondary terminals

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

Connection



Mechanical characteristics

• General tolerance	± 0.5 mm
• Fastening	4 holes ∅ 6.5 mm or by the primary bar
• Connection of primary	2 holes ∅ 13 mm
• Connection of secondary	UNC 8 threaded studs

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.