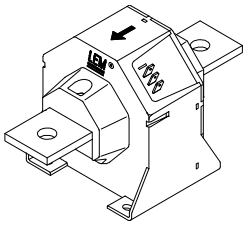
Current Transducer LT 505-T

I_{PN} = 500 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				0 .. ± 1200			A
R_M	Measuring resistance @			T_A = 70°C		T_A = 85°C		
				$R_{M\,min}$	$R_{M\,max}$	$R_{M\,min}$	$R_{M\,max}$	
	with ± 15 V	@ ± 500	A_{max}	0	65	0	60	Ω
		@ ± 800	A_{max}	0	15	0	12	Ω
	with ± 24 V	@ ± 500	A_{max}	0	145	15	140	Ω
		@ ± 1200	A_{max}	0	22	15	18	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 (@ ± 24 V) + I_S			mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn				6			kV
V_b	R.m.s. rated voltage [1], safe separation				1750			V
	basic isolation				3500			V

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C			± 0.6		%
ε_L	Linearity			< 0.1		%
				Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C				± 0.4	mA
I_{OT}	Thermal drift of I_O	- 10°C .. + 85°C		± 0.3	± 0.5	mA
t_r	Response time [2] @ 90 % of $I_{P\,max}$			< 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		- 10 .. + 85		°C
T_S	Ambient storage temperature		- 25 .. + 100		°C
R_S	Secondary coil resistance @	T_A = 70°C	65		Ω
		T_A = 85°C	69		Ω
m	Mass		850		g
	Standards [3]		EN 50178		

Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0.

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.

Notes : [1] Pollution class 2. With a non insulated primary bar which fills the through-hole
[2] With a di/dt of 100 A/µs
[3] A list of corresponding tests is available

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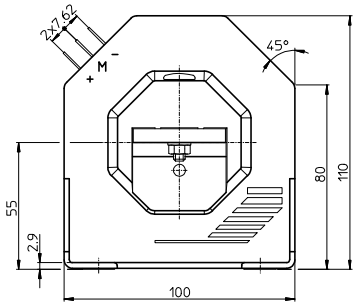
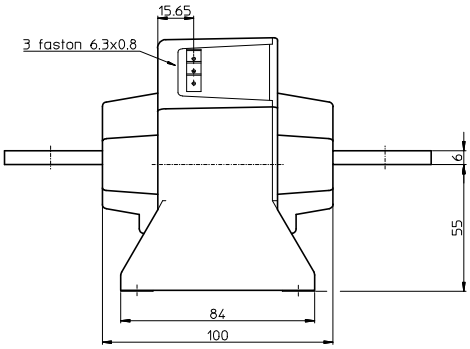
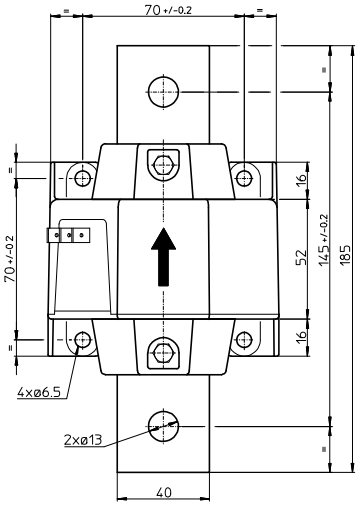
Dimensions LT 505-T (in mm. 1 mm = 0.0394 inch)

Front view



Left view



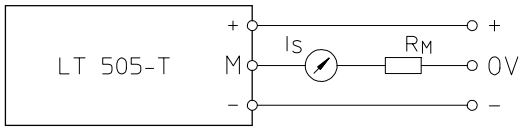


Top view

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	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.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.