Current Transducer LT 505-S/SP5

I_{PN} = 720 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).

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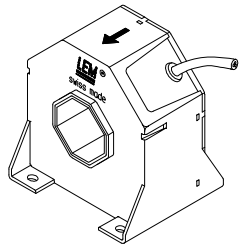


Electrical data

I_{PN}	Primary nominal r.m.s. current		720		A
I_P	Primary current, measuring range		0 .. ± 1400		A
R_M	Measuring resistance		$R_{M\,min}$	$R_{M\,max}$	
	with ± 24 V	@ ± 720 A_{max}	10	90	Ω
		@ ±1400 A_{max}	10	23	Ω
I_{SN}	Secondary nominal r.m.s. current		144		mA
K_N	Conversion ratio		1 : 5000		
V_C	Supply voltage (± 5 %)		± 24		V
I_C	Current consumption		30 + 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], basic isolation		3500		V

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C		± 0.5		%
ε_L	Linearity error		< 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	- 25°C .. + 70°C	± 0.2	± 0.5	mA
		- 40°C .. + 80°C		± 1.0	mA
t_r	Response time [2] @ 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	- 40 .. + 80	°C
T_S	Ambient storage temperature	- 50 .. + 85	°C
R_S	Secondary coil resistance @ T_A = 80°C	52	Ω
m	Mass	600	g
	Standards	EN 50155 : 1995	

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.

Features

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

Special features

- I_{PN} = 720 A
- I_P = 0 .. ± 1400 A
- V_C = ± 24 (± 5 %) V
- T_A = - 40°C .. + 80°C
- Connection to secondary circuit on cable-Thermoflex SIR/XY 3 x 0.5 mm^2
- Railway equipment.

Advantages

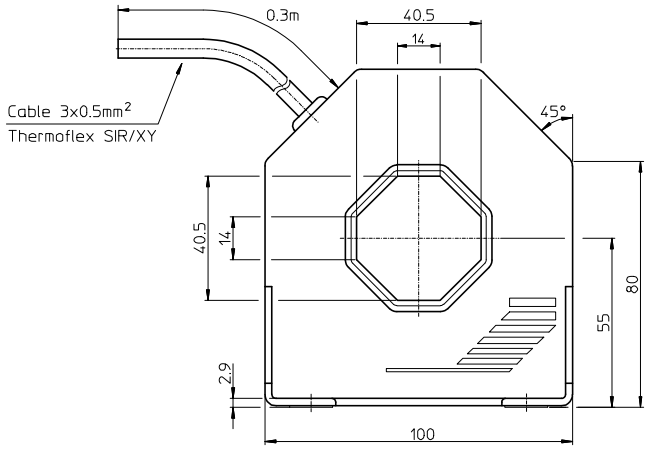
- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Applications

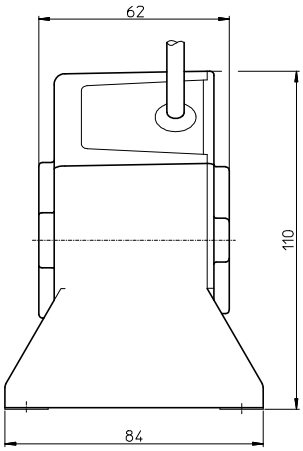
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

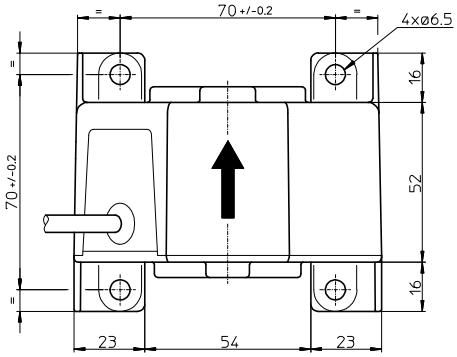
Dimensions LT 505-S/SP5 (in mm. 1 mm = 0.0394 inch)

Front view



Left view



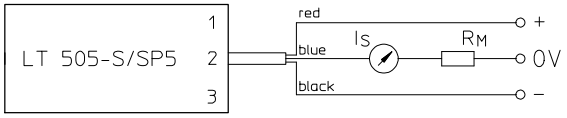


Top view

Secondary terminals

Wire red : supply voltage + 24 V
Wire blue : measure
Wire black : supply voltage - 24 V

Connection



Mechanical characteristics

• General tolerance	± 0.5 mm
• Fastening	4 holes ∅ 6.5 mm
• Primary through-hole	40.5 x 40.5 mm
• Connection of secondary	cable-Thermoflex SIR/XY 3 x 0.5 mm²

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.