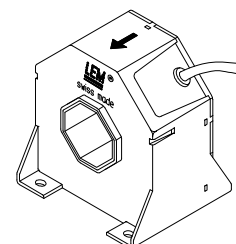


Current Transducer LT 505-S/SP5

$I_{PN} = 720 \text{ A}$

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	720	A			
I_p	Primary current, measuring range	0 .. ± 1400	A			
R_M	Measuring resistance	$R_{M \min}$ $R_{M \max}$				
			with $\pm 24 \text{ V}$	@ $\pm 720 \text{ A}_{\max}$	10 90	Ω
				@ $\pm 1400 \text{ A}_{\max}$	10 23	Ω
I_{SN}	Secondary nominal r.m.s. current	144	mA			
K_N	Conversion ratio	1 : 5000				
V_C	Supply voltage ($\pm 5 \%$)	± 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 @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.5	%			
e_L	Linearity error	< 0.1	%			
I_O	Offset current @ $I_p = 0, T_A = 25^\circ\text{C}$	Typ	Max			
			± 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	$^\circ\text{C}$
T_S	Ambient storage temperature	- 50 .. + 85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 80^\circ\text{C}$	52	Ω
m	Mass	600	g
	Standards	EN 50155 : 1995	

Features

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

Special features

- $I_{PN} = 720 \text{ A}$
- $I_p = 0 .. \pm 1400 \text{ A}$
- $V_C = \pm 24 (\pm 5 \%) \text{ V}$
- $T_A = - 40^\circ\text{C} .. + 80^\circ\text{C}$
- Connection to secondary circuit on cable-Thermoflex SIR/XY 3x0.5 mm²
- 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.

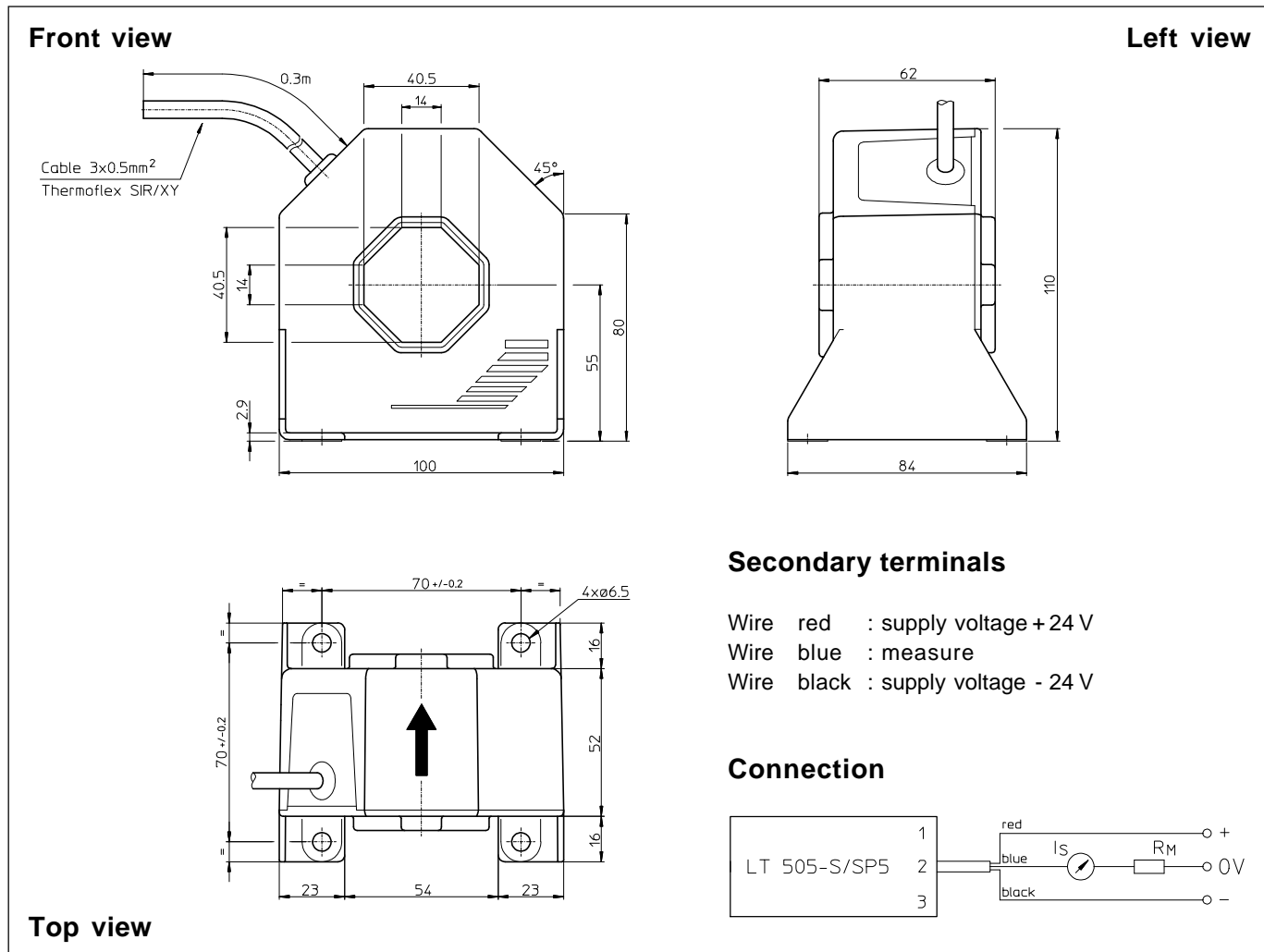
Applications

- 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.

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 .

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



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

- 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.