

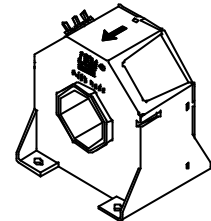
Current Transducer LT 505-S/SP4

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

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).



16130



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 $\pm 15 \text{ V}$	@ $\pm 720 \text{ A}_{\max}$
		@ $\pm 1150 \text{ A}_{\max}^{1)}$	0	5	Ω
	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 ($\pm 5 \%$)	$\pm 15 \dots 24$	V		
I_C	Current consumption	$30 (@ \pm 24 \text{ V}) + I_S$	mA		
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6	kV		
V_b	R.m.s. rated voltage ²⁾ , safe separation	basic isolation	1750	V	
			3500	V	

Features

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

Special features

- $I_{PN} = 720 \text{ A}$
- $I_P = 0 \dots \pm 1400 \text{ A}$
- $T_A = -40^\circ\text{C} \dots +80^\circ\text{C}$
- Railway equipment
- Connection to secondary circuit on M4 threaded studs.

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.

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	- $25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.2	± 0.3	mA	
			- $40^\circ\text{C} \dots +80^\circ\text{C}$		± 0.8	mA
t_r	Response time ³⁾ @ 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

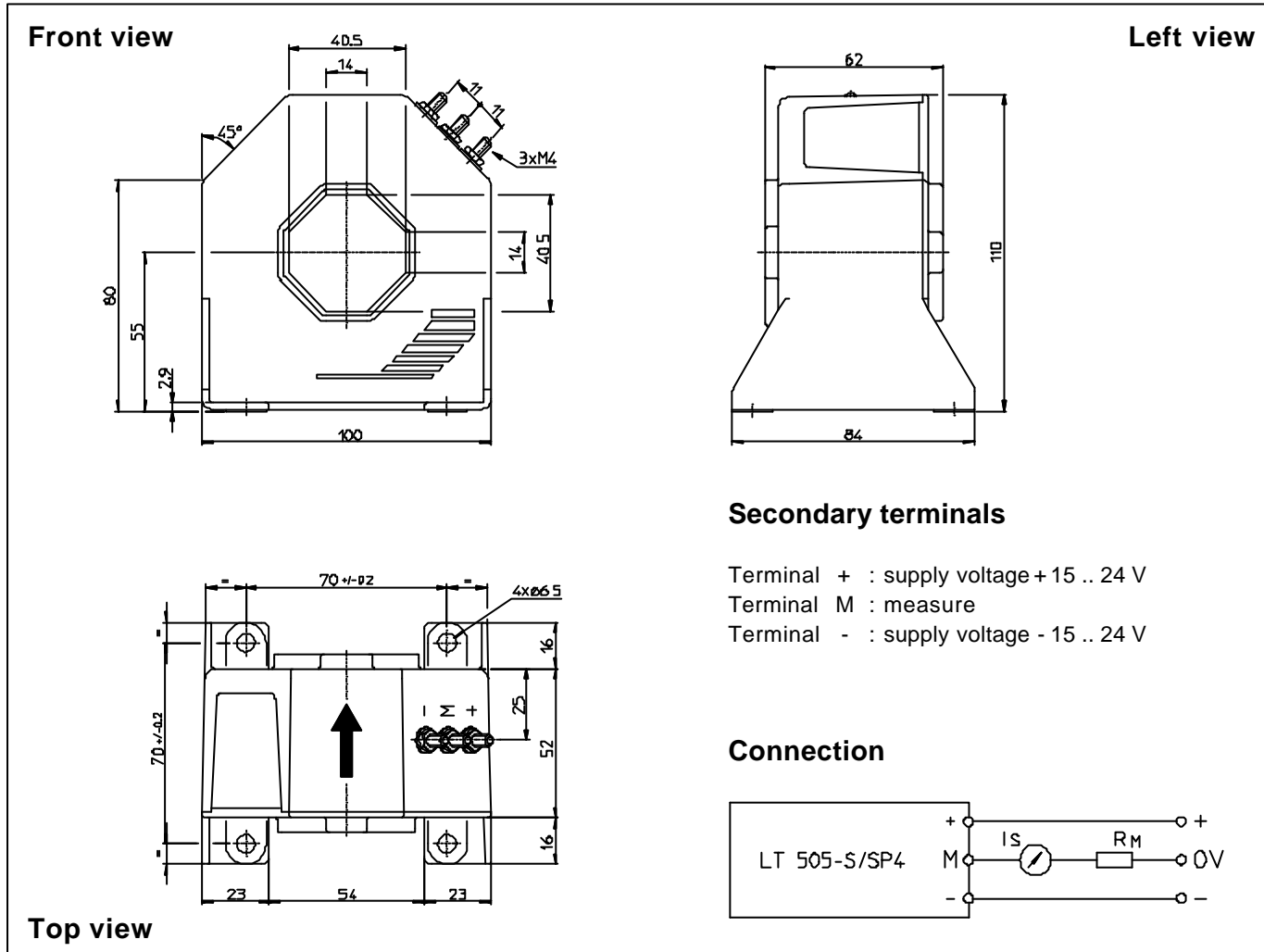
T_A	Ambient operating temperature	- 40 .. + 80	$^\circ\text{C}$
T_S	Ambient storage temperature	- 50 .. + 85	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 80^\circ\text{C}$	52	Ω
m	Mass	600	g
	Standards	EN 50155	

Notes : ¹⁾ Maximum measurable current @ $V_C = \pm 15 \text{ V}$ ($\pm 5 \%$), $R_M = 5 \Omega$

²⁾ Pollution class 2. With a non insulated primary bar which fills the through-hole

³⁾ With a di/dt of 100 A/ μs .

Dimensions LT 505-S/SP4 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- | | |
|---------------------------|------------------------------|
| • General tolerance | ± 0.5 mm |
| • Fastening | 4 holes $\varnothing 6.5$ mm |
| • Primary through-hole | 40.5 x 40.5 mm |
| • Connection of secondary | M4 threaded studs |
| Fastening torque | 1.2 Nm or .88 Lb - Ft |

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.