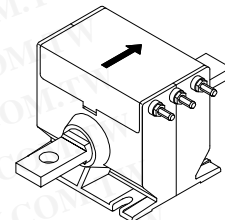


Current Transducer LT 500-T/SP53

$I_{PN} = 500 \text{ A}$

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	500	A			
I_P	Primary current, measuring range	0 .. ± 1000	A			
R_M	Measuring resistance	R_{Mmin}	R_{Mmax}			
				with $\pm 15 \text{ V}$	@ $\pm 500 \text{ A}_{max}$	0
		@ $\pm 700 \text{ A}_{max}$	0	5	Ω	
		with $\pm 24 \text{ V}$	@ $\pm 500 \text{ A}_{max}$	20	125	Ω
@ $\pm 1000 \text{ A}_{max}$	20	20	Ω			
I_{SN}	Secondary nominal r.m.s. current	100	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	12	kV			

Features

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

Special features

- $V_d = 12 \text{ kV}$
- $T_A = -40^\circ\text{C} \dots +85^\circ\text{C}$
- Potted
- Railway equipment.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.3	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ	Max
			± 0.2 mA
I_{OT}	Thermal drift of I_O - $40^\circ\text{C} \dots +85^\circ\text{C}$	± 0.3	± 0.5 mA
t_r	Response time ¹⁾ @ 90 % of I_{Pmax}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth (-1 dB)	DC .. 150	kHz

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.

General data

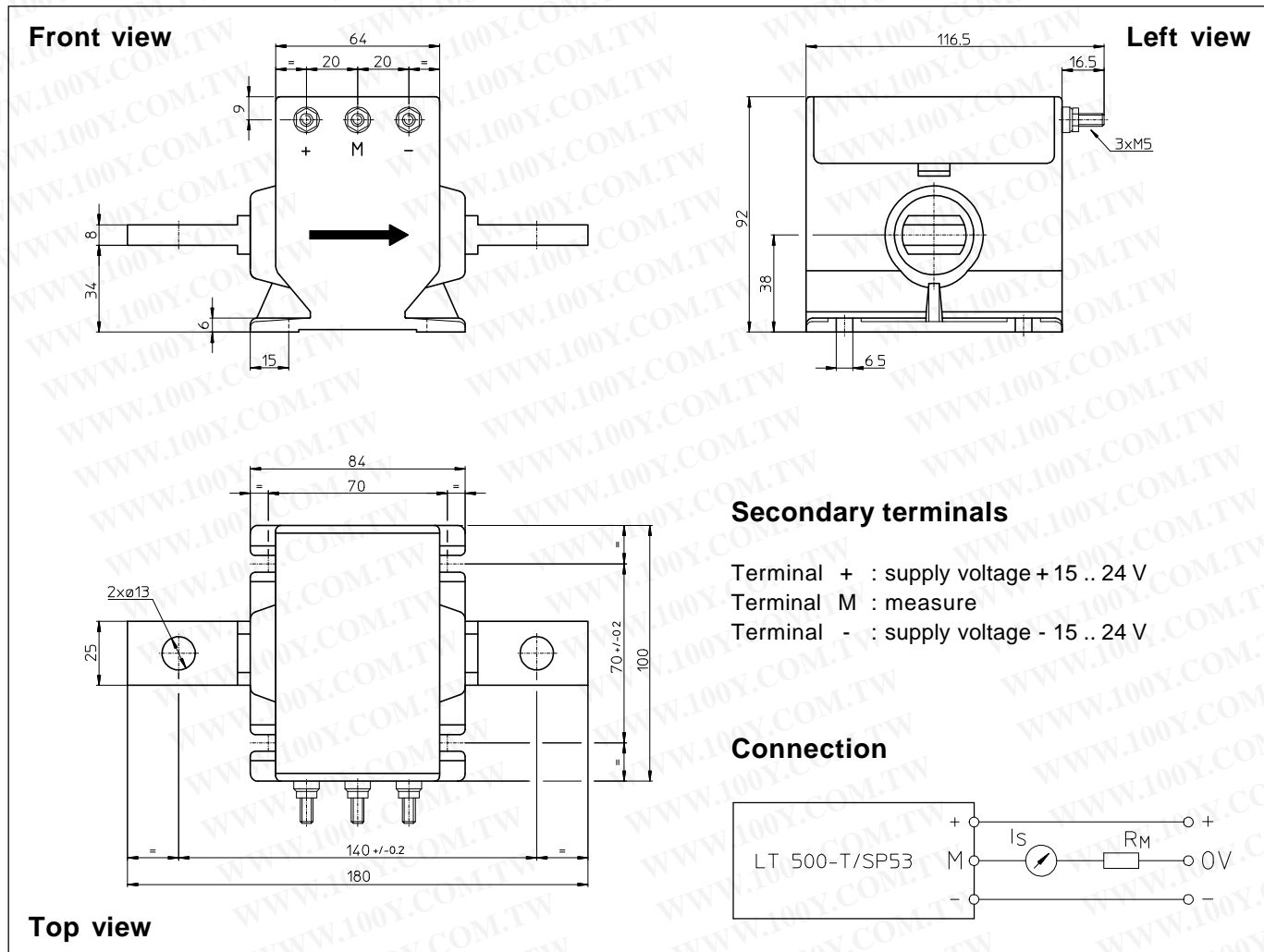
T_A	Ambient operating temperature	-40 .. +85	$^\circ\text{C}$
T_S	Ambient storage temperature	-50 .. +100	$^\circ\text{C}$
R_S	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	80 Ω
		$T_A = 85^\circ\text{C}$	85 Ω
m	Mass Standards ²⁾		1.2 kg
			EN 50155

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⁾ With a di/dt of 100 A/ μs
²⁾ A list of corresponding tests is available

Dimensions LT 500-T/SP53 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Fastening 4 holes $\varnothing 6.5$ mm or by the primary bar
- Connection of primary 2 holes $\varnothing 13$ mm
- Connection of secondary M5 threaded studs
- Fastening torque 2.2 Nm or 1.62 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.