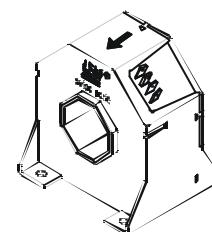


Current Transducer LT 1005-S/SP1

$$I_{PN} = 1000 \text{ A}$$

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	1000	A
I_P	Primary current, measuring range	0 .. ± 2000	A
R_M	Measuring resistance	$R_{M \min}$ $R_{M \max}$	
	with $\pm 24 \text{ V}$	@ $\pm 1000 \text{ A}_{\max}$	0 65 Ω
		@ $\pm 2000 \text{ A}_{\max}$	0 10 Ω
I_{SN}	Secondary nominal r.m.s. current	200	mA
K_N	Conversion ratio	1 : 5000	
V_C	Supply voltage ($\pm 10 \%$)	± 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 ¹⁾	kV
		1 ²⁾	kV
V_b	R.m.s. rated voltage ³⁾ , safe separation	1750	V
	basic isolation	3500	V

Features

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

Special features

- $V_C = \pm 24 (\pm 10 \%) \text{ V}$
- $T_A = -25^\circ\text{C} \dots +70^\circ\text{C}$
- Shield between primary and secondary
- Potted
- Railway equipment.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ $I_{PN}, T_A = 25^\circ\text{C}$	± 0.4	%
e_L	Linearity	< 0.1	%
I_O	Offset current @ $I_P = 0, T_A = 25^\circ\text{C}$	Typ Max	
I_{OT}	Thermal drift of I_O $-25^\circ\text{C} \dots +70^\circ\text{C}$	± 0.2 ± 0.4	mA
t_r	Response time ⁴⁾ @ 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	$-25 \dots +70$	$^\circ\text{C}$
T_S	Ambient storage temperature	$-40 \dots +85$	$^\circ\text{C}$
R_S	Secondary coil resistance @ $T_A = 70^\circ\text{C}$	43	Ω
m	Mass	600	g
	Standards	EN 50155	

Notes : ¹⁾ Between primary and secondary + shield

²⁾ Between secondary and shield

³⁾ Pollution class 2. With a non insulated primary bar which fills the through-hole.

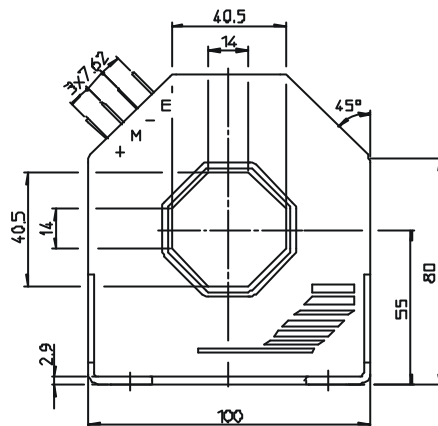
⁴⁾ With a di/dt of 100 A/ μs .

Applications

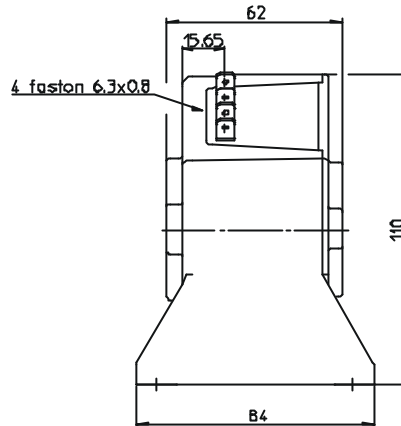
- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Dimensions LT 1005-S/SP1 (in mm. 1 mm = 0.0394 inch)

Front view



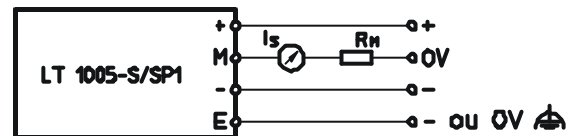
Left view



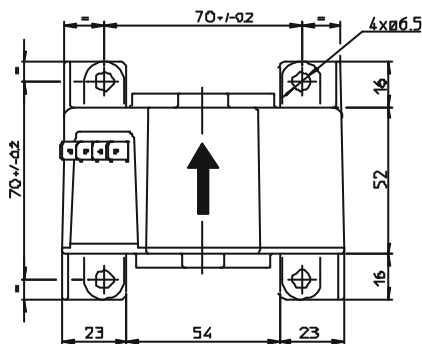
Secondary terminals

Terminal + : supply voltage + 24 V
 Terminal M : measure
 Terminal - : supply voltage - 24 V
 Terminal E : shield

Connection



Top view



Mechanical characteristics

- General tolerance: ± 0.5 mm
- Fastening: 4 holes $\varnothing 6.5$ mm
- Primary through-hole: 40.5×40.5 mm
- Connection of secondary: Faston 6.3×0.8 mm

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.

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