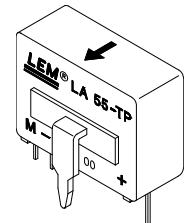


Current Transducer LA 55-TP

$$I_{PN} = 50 \text{ A}$$

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	50	A				
I_P	Primary current, measuring range	0 .. ± 70	A				
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$			
		R_{Mmin}	R_{Mmax}	R_{Mmin}	R_{Mmax}		
		with $\pm 12 \text{ V}$	@ $\pm 50 \text{ A}_{max}$	10	100	60	95 Ω
			@ $\pm 70 \text{ A}_{max}$	10	50	60 ¹⁾	60 ¹⁾ Ω
	with $\pm 15 \text{ V}$	@ $\pm 50 \text{ A}_{max}$	50	160	135	155 Ω	
		@ $\pm 70 \text{ A}_{max}$	50	90	135 ²⁾	135 ²⁾ Ω	
I_{SN}	Secondary nominal r.m.s. current	50	mA				
K_N	Conversion ratio	1 : 1000					
V_C	Supply voltage ($\pm 5 \%$)	$\pm 12 \dots 15$	V				
I_C	Current consumption	10 (@ $\pm 15 \text{ V}$) + I_S	mA				
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	2	kV				
V_b	R.m.s. rated voltage	60	V				

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	@ $\pm 15 \text{ V}$ ($\pm 5 \%$)	± 0.65	%
		@ $\pm 12 \dots 15 \text{ V}$ ($\pm 5 \%$)	± 0.90	%
e_L	Linearity		< 0.15	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max	
			± 0.2	mA
I_{OM}	Residual current ³⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$		± 0.3	mA
I_{OT}	Thermal drift of I_O	0°C .. + 70°C	± 0.1	± 0.5 mA
		- 25°C .. + 85°C	± 0.1	± 0.6 mA
t_{ra}	Reaction time @ 10 % of I_{Pmax}	< 500		ns
t_r	Response time ⁴⁾ @ 90 % of I_{Pmax}	< 1		μs
di/dt	di/dt accurately followed	> 200		A/ μs
f	Frequency bandwidth (- 1 dB)	DC .. 200		kHz

General data

T_A	Ambient operating temperature	- 25 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	80 Ω
		$T_A = 85^\circ\text{C}$	85 Ω
m	Mass Standards ⁵⁾		24 g
			EN 50178

Features

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

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⁾ Measuring range limited to $\pm 60 \text{ A}_{max}$
²⁾ Measuring range limited to $\pm 55 \text{ A}_{max}$
³⁾ Result of the coercive field of the magnetic circuit
⁴⁾ With a di/dt of 100 A/ μs
⁵⁾ A list of corresponding tests is available

