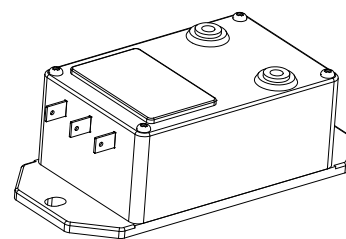


Current Transducer LV 100/SP72

For the electronic measurement of current: DC, AC, pulsed..., with galvanic separation between the primary circuit and the secondary circuit.



$$I_{PN} = 10 \text{ mA}$$



Electrical data

I_{PN}	Primary nominal RMS current	10	mA
I_{PM}	Primary current, measuring range	0 ... ± 20	mA
R_M	Measuring resistance	$R_{M \min}$ $R_{M \max}$	
	with $\pm 12 \text{ V}$	@ $\pm 10 \text{ mA}_{\max}$	0 80 Ω
		@ $\pm 20 \text{ mA}_{\max}$	0 30 Ω
	with $\pm 18 \text{ V}$	@ $\pm 10 \text{ mA}_{\max}$	30 140 Ω
		@ $\pm 20 \text{ mA}_{\max}$	30 60 Ω
I_{SN}	Secondary nominal RMS current	100	mA
N_p/N_s	Turns ratio	10000 : 1000	
S	Sensitivity	10	mA/mA
U_C	Supply voltage ($\pm 5 \%$)	$\pm 12 \dots 18$	V
I_C	Current consumption	25 (@ $\pm 12 \text{ V}$) + I_S	mA

Accuracy - Dynamic performance data

ϵ_{tot}	Total error @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.7	%
ϵ_L	Linearity error	< 0.1	%
		Typ	Max
I_O	Offset current @ $U_p = 0$, $T_A = 25^\circ\text{C}$	± 0.5	mA
I_{OT}	Temperature variation of I_O -25 $^\circ\text{C}$... +70 $^\circ\text{C}$	± 0.6 ± 1	mA
t_{D90}	Delay time to 90 % of the final output value for U_{PN} step ¹⁾	< 100	μs

General data

T_A	Ambient operating temperature	-25 ... +70	$^\circ\text{C}$
$T_{A \text{st}}$	Ambient storage temperature	-40 ... +85	$^\circ\text{C}$
R_p	Resistance of primary winding @ $T_A = 70^\circ\text{C}$	1900	Ω
R_s	Resistance of secondary winding @ $T_A = 70^\circ\text{C}$	20	Ω
m	Mass	380	g
	Standard ²⁾	EN 50155: 2017	

Notes: ¹⁾ $R_1 = 100 \text{ k}\Omega$ (L/R constant, produced by the resistance and inductance of the primary circuit)

²⁾ Additional information available on request.

Features

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

Principle of use

- For voltage measurements, a current proportional to the measured voltage must be collected through an external resistor R_1 which is selected by the user and installed in series with the primary circuit of the transducer.

Special features

- $U_C = \pm 12 \dots 18 (\pm 5 \%) \text{ V}$
- $U_d = 9 \text{ kV}$
- Connection to primary circuit by M4 screw terminals
- Primary reserved current
- Accessible electronic circuit
- Partially potted.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized delay time
- Wide frequency bandwidth
- High immunity to external interference.

Applications

- Single or three phase inverters
- Propulsion and braking choppers
- Propulsion converters
- Auxiliary converters
- Battery chargers.

Application domain

- Railway (fixed installations and onboard).

Current Transducer LV 100/SP72

Insulation coordination

U_d RMS voltage for AC insulation test, 50 Hz, 1 min 9 kV

Safety

This transducer must be used in limited-energy secondary circuits according to IEC 61010-1.



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (e.g. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a build-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

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