

Current Transducer HY 5 .. 25-P

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



Electrical data

Primary nominal rms current I _{PN} (A)		Primary current neasuring range $I_{_{\rm PM}}\left(A ight)$	Primary conductor (mm)	Туре	Ro dat	HS sin te code	ce
5		±15	ø 0.7	HY 5-I	P	45260	
10		±30	ø 1.1	HY 10	-P	45286	
12.5		±37.5	ø 1.4	HY 12	-P	45264	
15		±45	ø 1.4	HY 15	-P	45276	
20		±60	2 × ø 1.2 1)	HY 20	-P	46097	
25		±75	2 × ø 1.4 1)	HY 25	-P	45269	
V _{out} O	output voltag	ge (Analog) @ + $I_{_{\mathrm{P}}}$	$_{\rm N}, R_{\rm L} = 10 {\rm k}\Omega, T_{\rm A}$	= 25° C	±4		V
Î _D O	Overload capability (1 ms)				$50 \times I_{\rm pn}$		
R _{is} In	Insulation resistance @ 500 V DC				> 1000		MΩ
	Rms voltage for AC insulation test, 50 Hz, 1 min						kV
R _i Lo	Load resistance						kΩ
Rated insulation rms voltage					500 ²⁾		V
R _{out} O	Output internal resistance				100		Ω
U _c S	Supply voltage (±5 %) 3)					5	V
I _c C	urrent con	sumption			±10		mA

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_{\text{A}} = 25^{\circ}$ C (excludin	< ±1	%		
ε,	Linearity error ⁴⁾ (0 $\pm I_{PN}$)	< ±1	% of $I_{_{\mathrm{DN}}}$		
TCV	Temperature coefficient of V_{OF}		typical	±1.5	mV/K
0L	<u>UL</u>		max	±3	mV/K
TCV _{out}	Temperature coefficient of V_{out} (% of r	eading)		< ±0.1	%/K
V _{OF}	Electrical offset voltage @ $T_A = 25 ^{\circ}C$			< ±40	mV
V _{OH}	Hysteresis offset voltage @ $I_{\rm P}$ = 0,				
011	after an excursion of $1 \times I_{PN}$			< ±15	mV
t _r	Step response time to 90 % of $I_{\rm PN}$	HY 25-	Р	< 5	μs
		others		< 3	μs
di/dt	di/dt accurately followed			> 50	A/µs
BW	Frequency bandwidth (-3 dB) 5)			DC 50	kHz
Gei	neral data				
T,	Ambient operating temperature			-10 +80	°C
T _s	Ambient storage temperature			-25 +85	°C
m	Mass			< 14	g

Notes: ¹⁾ Conductor terminals are soldered together ²⁾ Pollution class 2. overvoltage category III

³⁾ Operating at $\pm 12 \text{ V} \le U_c < \pm 15 \text{ V}$ will reduce measuring range

⁴⁾ Linearity data exclude the electrical offset

⁵⁾ Please refer to derating curves in the technical file to avoid excessive core heating at high frequency

⁶⁾ Please consult characterisation report for more technical details and application advice.

74.73.08.000.0, 74.73.13.000.0, 74.73.14.000.0, 74.73.15.000.0, 74.73.17.000.0, 74.73.19.000.0



Standard 6)

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without prior notice

EN 50178: 1997



Features

- Hall effect measuring principle
- Insulation voltage 2500 V~
- Compact design for PCB mounting
- Low power consumption
- Extended measuring range (3 × I_{PN})
- Insulating plastic case recognized according to UL 94-V0.

Advantages

- Easy mounting
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

Applications

- Static converters for DC motor drives
- Switched Mode Power Supplies (SMPS)
- AC variable speed drives
- Uninterruptible Power Supplies (UPS)
- Battery supplied application
- General purpose inverters.

Application domain

Industrial.



Dimensions HY 5 .. 25-P (in mm)



Safety

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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 (eg. primary connections, 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.