

## **Current Transducers HY 5 to 25-P/SP1**

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) with unipolar power supply.





Electrica	al data				
Primary nomina	-	Primary		Туре	
r.m.s. current	measuring range	conductor			
<b>Ι</b> <sub>PN</sub> (A)	I <sub>P</sub> (A)	(mm)			
5	± 15	Ø 0.7		HY 05-P	/SP1
10	± 30	Ø 1.1		HY 10-P	/SP1
12.5	± 37.5	Ø 1.4		HY 12-P	/SP1
15	± 45	Ø 1.4		HY 15-P/SP1	
20	± 60	2 x Ø 1.2 1)		HY 20-P/SP1	
25	± 75	2 x Ø 1.4 ¹)		HY 25-P/SP1	
<b>v</b> <sub>c</sub>	Supply voltage (± 5 %)		single	+ 5	V DC
I <sub>c</sub>	Current consumption			10	mΑ
Î	Overload capability (1 ms)			50 x <b>I</b> <sub>PN</sub>	
$\mathbf{V}_{d}$	R.m.s. voltage for AC isola	tion test, 50/60Hz,	1 mn	2.5	kV
<b>V</b> <sub>b</sub>	R.m.s. rated voltage, safe separation		$500^{2)}$	V	
R	Isolation resistance @ 500 VDC			> 1000	$M\Omega$
V <sub>OUT</sub>	Output voltage $@ + I_{PN}, R_{L}$			2.5	V
	Output voltage @ $-I_{PN}$ , $R_{L}$	= 10 k $\Omega$ , $T_A = 25^{\circ}C$		1.5	V
$\mathbf{R}_{OUT}$	Output internal resistance			100	Ω
$R_{_{L}}$	Load resistance			> 1	kΩ
Accurac	cy - Dynamic perform	ance data			
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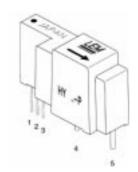
Accı	ıracy - Dynamic performance data					
X	Accuracy @ $I_{PN}$ , $T_A = 25$ °C (without offse	t)	< ± 2	%		
$\mathbf{\epsilon}_{\scriptscriptstyle oldsymbol{\scriptscriptstyle L}}$	Linearity 3 (0 $\pm I_{PN}$ )		< ± 1 '	% of I <sub>DN</sub>		
<b>V</b> OE	Electrical offset voltage, $T_{\Delta} = 25^{\circ}C$		$< + 2V \pm$	25 mV		
<b>V</b> <sub>OH</sub>	Hysteresis offset voltage @ Ip = 0					
0.1	after an excursion of 1 x I <sub>PN</sub>		< ± 10	mV		
$V_{\rm OT}$	Thermal drift of <b>V</b> <sub>OF</sub>	typ	± 1.5	mV/K		
0.	32	max	± 3	mV/K		
TC <b>E</b> <sub>G</sub>	Thermal drift of the gain (% of reading)		$< \pm 0.1$	%/K		
t,	Response time @ 90% of $I_p$		< 5	μs		
di/dt	di/dt accurately followed		> 50	A/µs		
f	Frequency bandwidth 4) (- 3 dB)		DC 50	kHz		
General data						

General data						
$T_{_{\rm A}}$	Ambient operating temperature	- 10 + 80 °	°C			
$T_s$	Ambient storage temperature	- 25 + 85	°C			
m	Mass	< 14	g			
	Standards 5)	EN 50178				

Notes: 1) Conductor terminals are soldered together.

- <sup>2)</sup> Pollution class 2, overvoltage category III.
- 3) Linearity data exclude the electrical offset.
- <sup>4)</sup> Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.
- 5) Please consult characterisation report for more technical details and application advice.

 $I_{PN} = 5...25 A$ 



## **Features**

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500 V~
- Compact design for PCB mounting
- Low power consumption
- Extended measuring range (3 x I<sub>PN</sub>)
- Insulated 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 against external interference.

## **Applications**

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

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