

Current Transducers HY 5 to 25-P

For the electronic measurement of currents : DC, AC, pulsed, mixed, with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

$$I_{PN} = 5 \dots 25 \text{ A}$$



Electrical data

Primary nominal r.m.s. current I_{PN} (A)	Primary current measuring range I_P (A)	Primary conductor conductor (mm)	Type
5	± 15	$\varnothing 0.7$	HY 5-P
10	± 30	$\varnothing 1.1$	HY 10-P
12.5	± 37.5	$\varnothing 1.4$	HY 12-P
15	± 45	$\varnothing 1.4$	HY 15-P
20	± 60	$2 \times \varnothing 1.2$ ¹⁾	HY 20-P
25	± 75	$2 \times \varnothing 1.4$ ¹⁾	HY 25-P

V_C	Supply voltage ($\pm 5\%$)	± 15	V
I_C	Current consumption	± 10	mA
\hat{I}_P	Overload capability (1 ms)	$50 \times I_{PN}$	
V_d	R.m.s. voltage for AC isolation test, 50/60Hz, 1 mn	2.5	kV
V_b	R.m.s. rated voltage, safe separation	500 ²⁾	V
R_{IS}	Isolation resistance @ 500 VDC	> 1000	M Ω
V_{OUT}	Output voltage @ $\pm I_{PN}$, $R_L = 10 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$	± 4	V
R_{OUT}	Output internal resistance	100	Ω
R_L	Load resistance	> 1	k Ω

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (without offset)	$< \pm 1$	%
ϵ_L	Linearity ³⁾ ($0 \dots \pm I_{PN}$)	$< \pm 1$	% of I_{PN}
V_{OE}	Electrical offset voltage, $T_A = 25^\circ\text{C}$	$< \pm 40$	mV
V_{OH}	Hysteresis offset voltage @ $I_P = 0$; after an excursion of $1 \times I_{PN}$	$< \pm 15$	mV
V_{OT}	Thermal drift of V_{OE}	typ. ± 1.5 max. ± 3	mV/K mV/K
TCE_G	Thermal drift of the gain (% of reading)	$< \pm 0.1$	%/K
t_r	Response time @ 90% of I_P	< 3	μs
di/dt	di/dt accurately followed	> 50	A/ μs
f	Frequency bandwidth ⁴⁾ (-3 dB)	DC .. 50	kHz

General data

T_A	Ambient operating temperature	-10 .. +80	$^\circ\text{C}$
T_S	Ambient storage temperature	-25 .. +85	$^\circ\text{C}$
m	Mass	< 14	g
	Standards ⁵⁾	EN 50178	

Notes : ¹⁾ Conductor terminals are soldered together.

²⁾ Pollution class 2, overvoltage category III.

³⁾ Linearity data exclude the electrical offset.

⁴⁾ 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.

Features

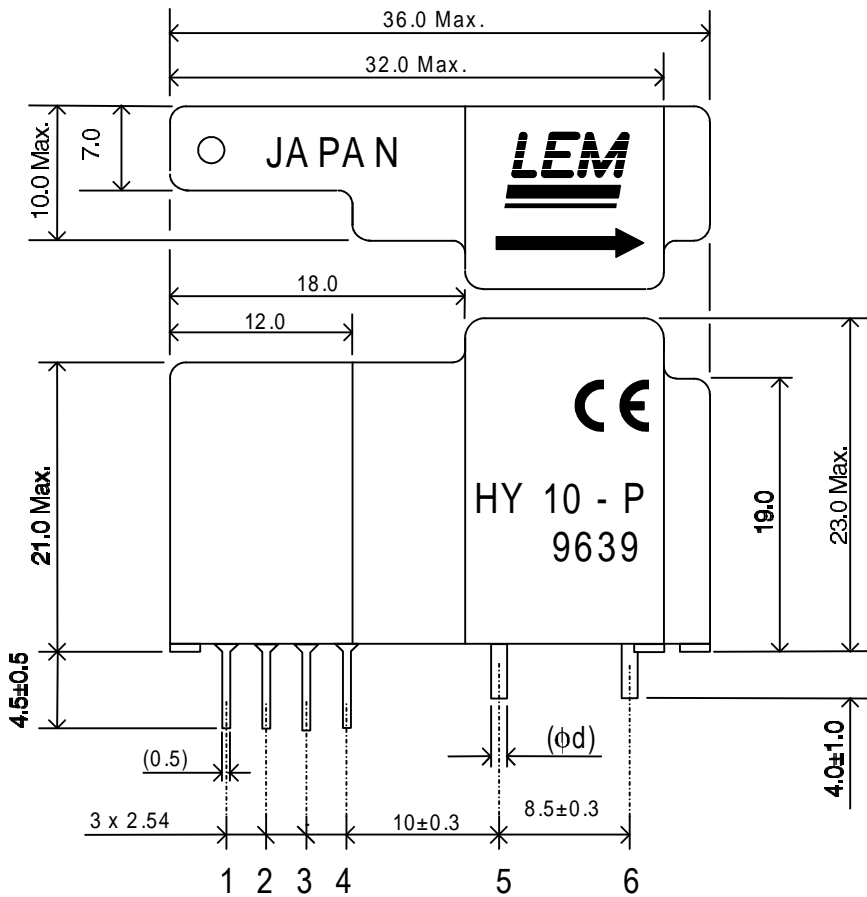
- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500 V~
- Compact design for PCB mounting
- Low power consumption
- Extended measuring range ($3 \times I_{PN}$)
- Insulated plastic case recognized according to UL 94-V0.

Advantages

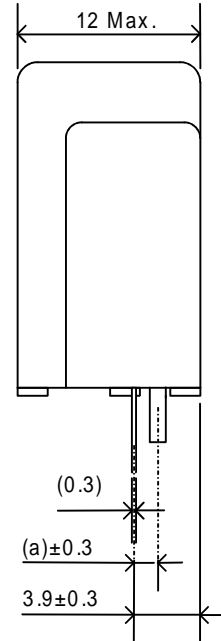
- Easy mounting
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

Applications

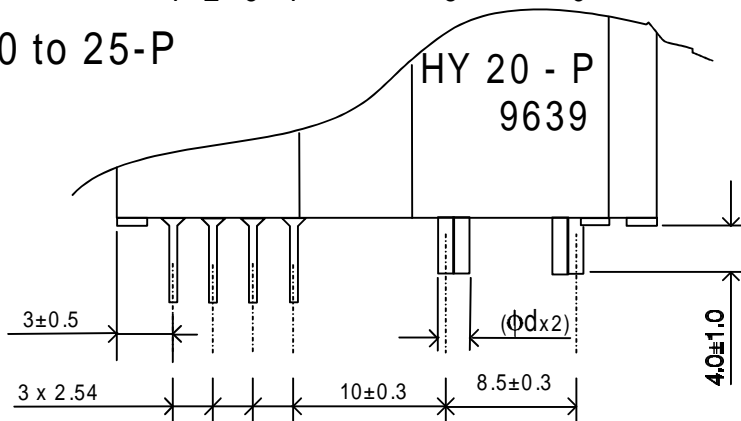
- General purpose inverters
- AC variable speed drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS).



HY 5 to 15-P



HY 20 to 25-P



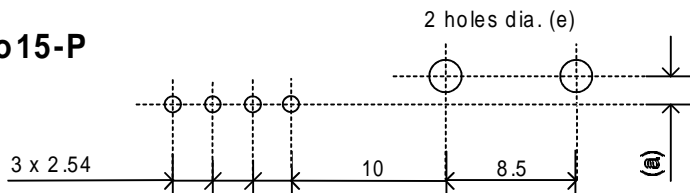
PIN ARRANGEMENT

- 1 +15V
- 2 -15V
- 3 OUTPUT
- 4 0V

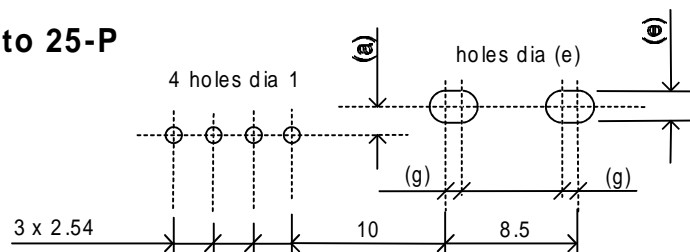
- 5 PRIMARY IN
- 6 PRIMARY OUT

PCB MOUNTING DIMENSIONS (in mm ±0.1, hole -0, +0.2)

HY 5 to 15-P



HY 20 to 25-P



Type	a mm	d mm	e mm	g mm
HY 05-P	1.1	0.7	1.2	--
HY 10-P	1.4	1.1	1.6	--
HY 12-P	1.5	1.4	2.0	--
HY 15-P	1.5	1.4	2.0	--
HY 20-P	1.4	1.2	1.8	1.4
HY 25-P	1.5	1.4	2.0	1.6