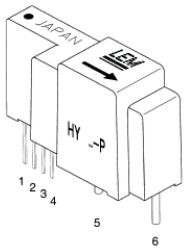
Current Transducers HY 5 to 25-P

I_{PN} = 5 .. 25 A

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).



Electrical data

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

V_C	Supply voltage (± 5 %) [6]	±12 .. ±15	V
I_C	Current consumption	±10	mA
$\hat{I}_P$	Overload capability (1 ms)	50 x 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	MΩ
V_{OUT}	Output voltage @ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C	±4	V
R_{OUT}	Output internal resistance	100	Ω
R_L	Load resistance	> 1	kΩ

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (without offset)		< ±1	%
ε_L	Linearity [3] (0 .. ± I_{PN})		< ±1	% of I_{PN}
V_{OE}	Electrical offset voltage, T_A = 25°C		< ±40	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0; after an excursion of 1 x I_{PN}		< ±15	mV
V_{OT}	Thermal drift of V_{OE}	typ.	±1.5	mV/K
		max.	± 3	mV/K
TCE_G	Thermal drift of the gain (% of reading)		< ±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	°C
T_S	Ambient storage temperature	-25 .. +85	°C
m	Mass	< 14	g
	Standards [5]	EN 50178	

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_{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.

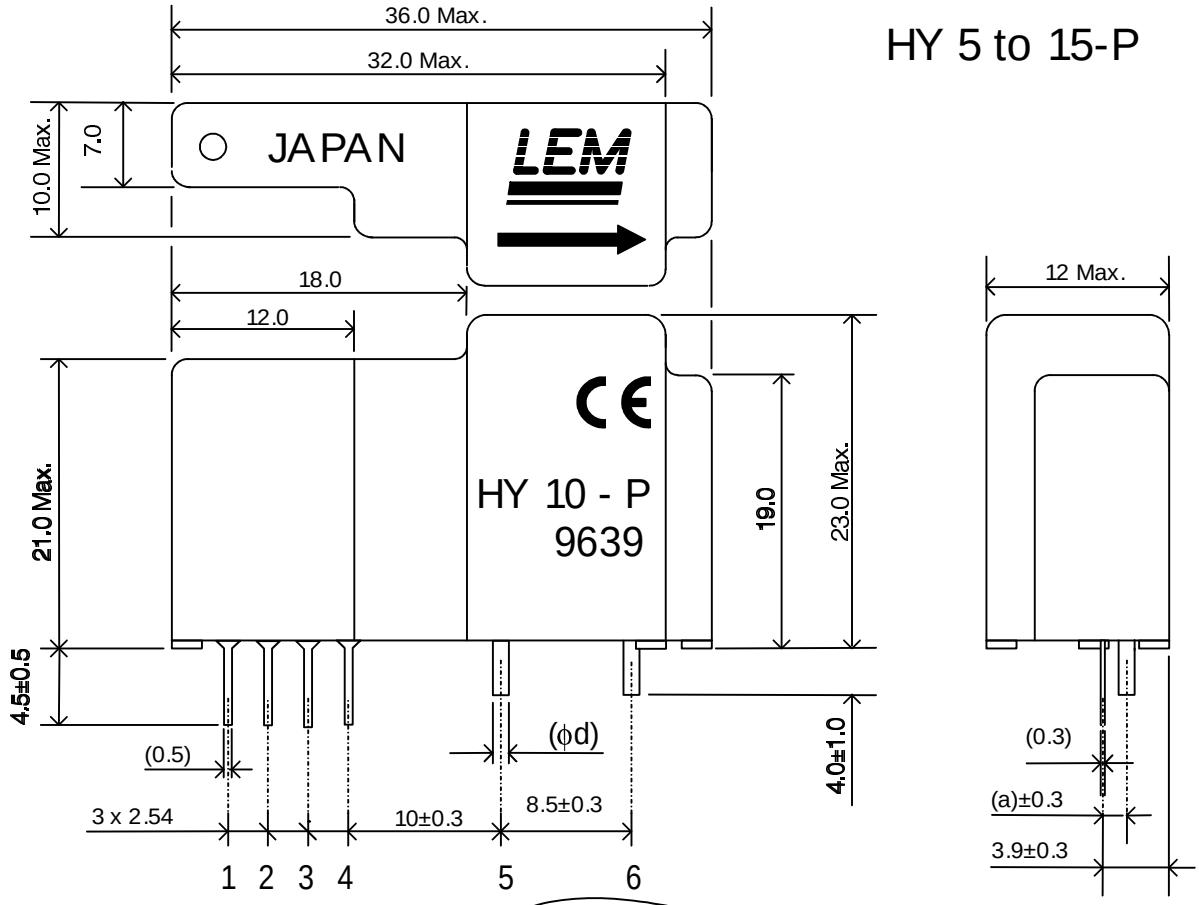
Applications

- 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).

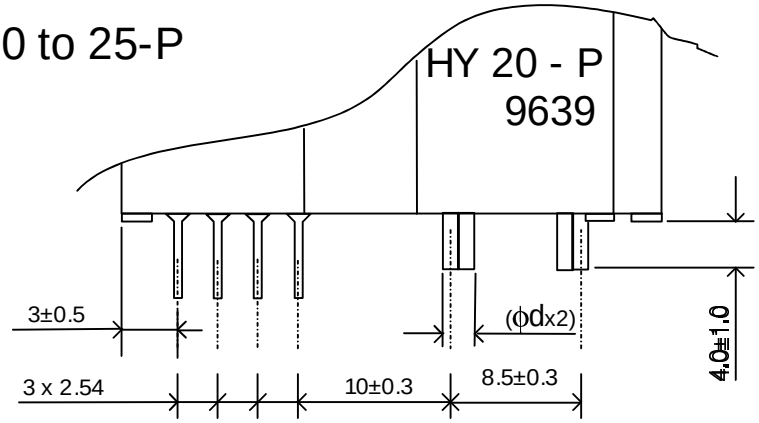
Notes :
1) Conductor terminals are soldered together.
2) Pollution class 2, overvoltage category III.
3) Linearity data exclude the electrical offset.
4) Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.
5) Please consult characterisation report for more technical details and application advice.
6) Operating at ±12V ≤ Vc < ±15V will reduce measuring range.

030402/4

HY 5 to 15-P



HY 20 to 25-P



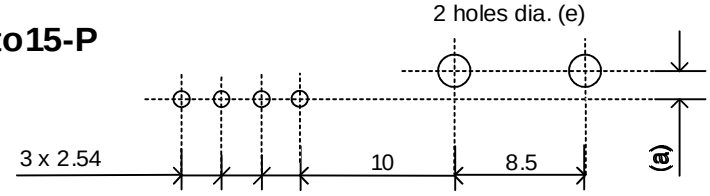
PIN ARRANGEMENT

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

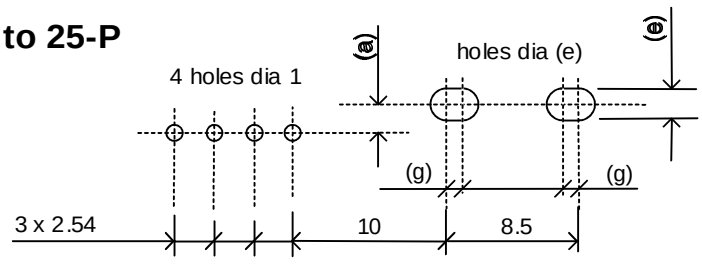
5 PRIMARY IN
6 PRIMARY OUT

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

HY 5 to15-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