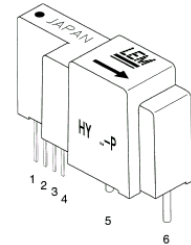


## Current Transducers HY 5 to 25-P

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 diameter (mm)	Type
5	$\pm 15$	$\varnothing 0.7$	HY 5-P
10	$\pm 30$	$\varnothing 1.1$	HY 10-P
12.5	$\pm 37.5$	$\varnothing 1.4$	HY 12-P
15	$\pm 45$	$\varnothing 1.4$	HY 15-P
20	$\pm 60$	$2 \times \varnothing 1.2$ <sup>1)</sup>	HY 20-P
25	$\pm 75$	$2 \times \varnothing 1.4$ <sup>1)</sup>	HY 25-P

$V_C$	Supply voltage ( $\pm 5\%$ ) <sup>6)</sup>	$\pm 12 \dots \pm 15$	V
$I_C$	Current consumption	$\pm 10$	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	$500$ <sup>2)</sup>	V
$R_{IS}$	Isolation resistance @ 500 VDC	$> 1000$	M $\Omega$
$V_{OUT}$	Output voltage @ $\pm I_{PN}$ , $R_L = 10 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$	$\pm 4$	V
$R_{OUT}$	Output internal resistance	100	$\Omega$
$R_L$	Load resistance	$> 1$	k $\Omega$

### Accuracy - Dynamic performance data

$X$	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (without offset)	$< \pm 1$	%
$e_L$	Linearity <sup>3)</sup> ( $0 \dots \pm I_{PN}$ )	$< \pm 1$	% 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. $\pm 1.5$ max. $\pm 3$	mV/K mV/K
$TCE_G$	Thermal drift of the gain (% of reading)	$< \pm 0.1$	%/K
$t_r$	Response time @ 90% of $I_P$	$< 3$	$\mu\text{s}$
$di/dt$	$di/dt$ accurately followed	$> 50$	A/ $\mu\text{s}$
$f$	Frequency bandwidth <sup>4)</sup> (-3 dB)	DC .. 50	kHz

### General data

$T_A$	Ambient operating temperature	$-10 \dots +80$	$^\circ\text{C}$
$T_S$	Ambient storage temperature	$-25 \dots +85$	$^\circ\text{C}$
$m$	Mass	$< 14$	g
	Standards <sup>5)</sup>	EN50178	

- 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  $\pm 12\text{V} \leq V_C < \pm 15\text{V}$  will reduce measuring range.

### 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.

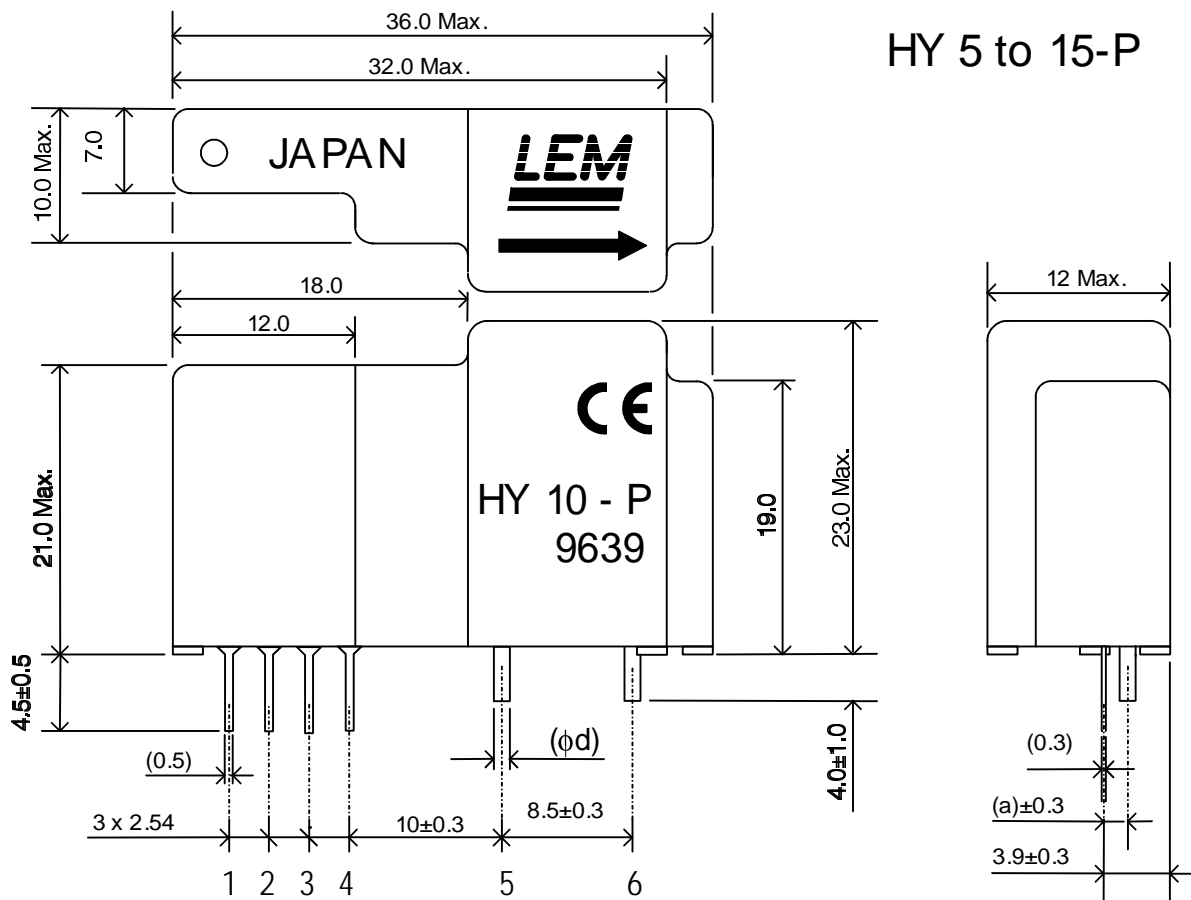
### Advantages

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

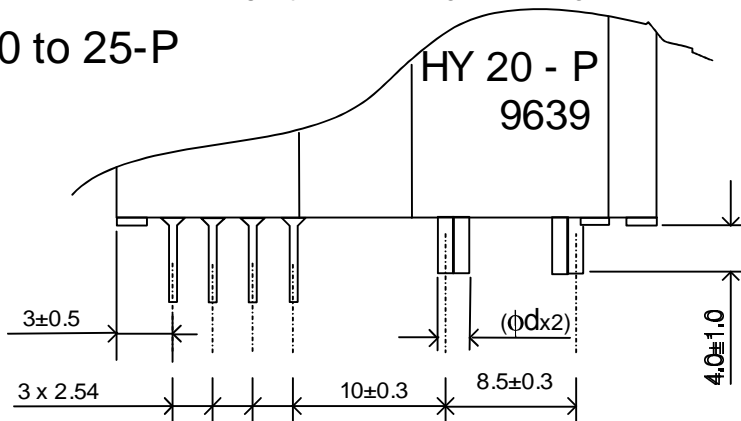
### Applications

- 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

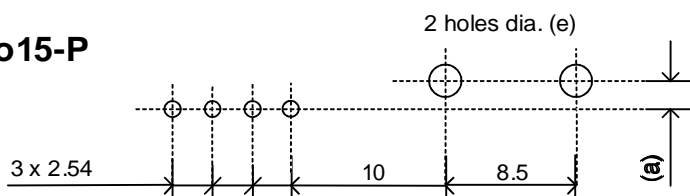


### PIN ARRANGEMENT

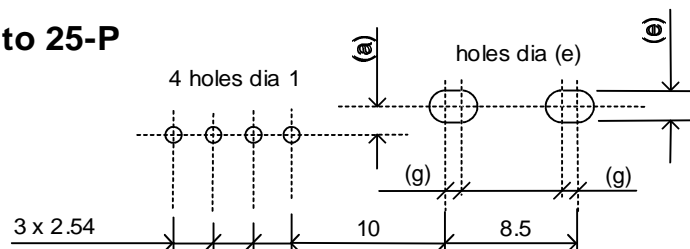
- 1 +15V
- 2 -15V
- 3 OUTPUT
- 4 0V
- 5 PRIMARY IN
- 6 PRIMARY OUT

### 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