

Current Transducer HX 05...10-NP

$$I_{PN} = 5 \dots 10 \text{ A}$$

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 Diameter x Turns (mm)	Type	
	Series	Parallel		Series	Parallel
± 5	± 10	± 15	± 30	0.8 d x (6T+6T)	HX 05-NP
± 10	± 20	± 30	± 60	1.0 d x (3T+3T)	HX 10-NP
V_{OUT}	Output voltage @ $\pm I_{PN}$, $R_L = 10 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$			± 4	V
R_{OUT}	Output impedance			< 50	Ω
R_L	Load resistance			≥ 10	k Ω
V_C	Supply voltage ($\pm 5\%$) ¹⁾			± 15	V
I_C	Current consumption			$< \pm 20$	mA
V_d	R.m.s. voltage for AC isolation test, 50/60Hz, 1 mm			Primary to secondary	> 3 kV
				Primary 1 to primary 2	> 1 kV
V_e	R.m.s. voltage for partial discharge extinction at 10pC			≥ 1	kV
	Impulse withstand voltage, 1.2/50 μ s			≥ 6	kV

Features

- Galvanic isolation between primary and secondary circuit
- Hall effect measuring principle
- 2 isolated primary windings
- Isolation voltage 3000V
- Low power consumption
- Extended measuring range ($3 \times I_{PN}$)
- Power supply from $\pm 12\text{V}$ to $\pm 15\text{V}$
- Material according to UL94-V0

Advantages

- Low insection losses
- Easy to mount with automatic handling system
- Small size and space saving
- High immunity to external interference.

Applications

- Switched Mode Power Supplies (SMPS)
- AC variable speed drives
- Uninterruptible Power Supplies (UPS)
- Electrical appliances
- Battery supplied applications
- DC motor drives

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (without offset)	$< \pm 1$	% of I_{PN}
e_L	Linearity ($0 \dots \pm I_{PN}$)	$< \pm 1$	% 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 $3 \times I_{PN}$	$< \pm 15$	mV
V_{OT}	Thermal drift of V_{OE}	max. ± 1.5	mV/K
TCE_G	Thermal drift of the gain (% of reading)	± 0.1	%/K
t_r	Response time @ 90% of I_p	≤ 3	μ s
f	Frequency bandwidth (-3 dB) ²⁾	50	kHz

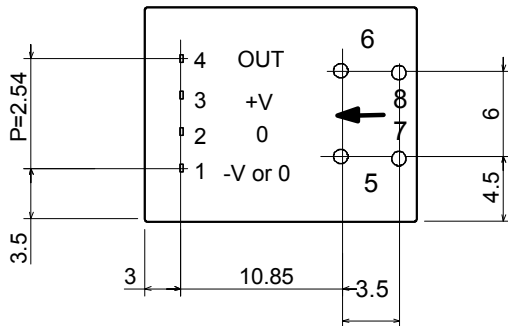
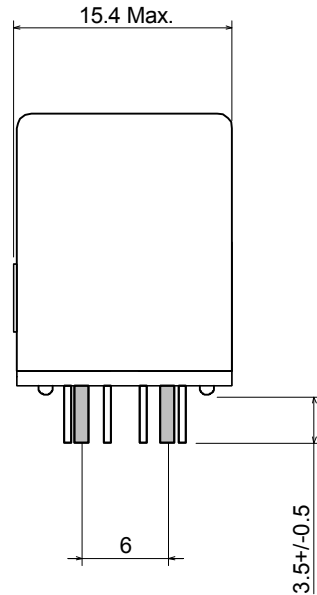
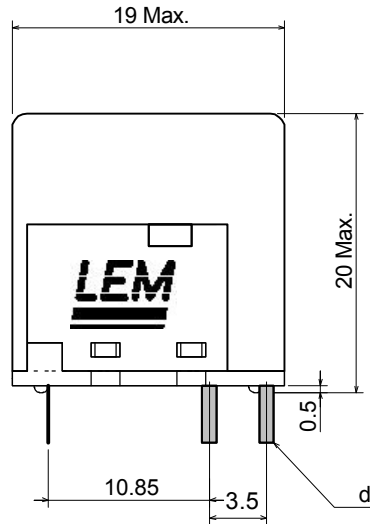
General data

T_A	Ambient operating temperature	- 25 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 25 .. + 85	$^\circ\text{C}$
m	Mass	8	g
	Min. internal creepage distance/clearance	≥ 5.5	mm
	Isolation material group	I	
	Standards	EN50178	

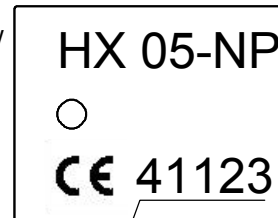
Notes :¹⁾ Also operate at $\pm 12\text{V}$ power supplies, measuring range reduced to $\pm 2.5 \times I_{PN}$

²⁾ Small signal only to avoid excessive heating of the magnetic core

HX 05...10-NP (in mm)



Top view



Lot No.

Terminal Pin Identification

- 1..... -15V
- 2..... 0V
- 3..... +15V
- 4..... Output
- 5..... Primary 1 input Current(-)
- 7..... Primary 1 input Current(+)
- 6..... Primary 2 input Current(-)
- 8..... Primary 2 input Current(+)

Primary conductor diameter

HX	05-NP	10-NP
d	0.8	1.0

Secondary pins dimension
0.5 x 0.25