

# 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				
$\pm 5$	$\pm 10$	$\pm 15$	$\pm 30$	0.7d x (6T+6T)	<b>HX 05-NP</b>	
$\pm 10$	$\pm 20$	$\pm 30$	$\pm 60$	1.0d x (3T+3T)	<b>HX 10-NP</b>	
$V_{OUT}$	Output voltage @ $\pm I_{PN}$ , $R_L = 10 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$			$\pm 4$	V	
$R_{OUT}$	Output impedance			$< 50$	$\Omega$	
$R_L$	Load resistance			$\geq 10$	k $\Omega$	
$V_C$	Supply voltage ( $\pm 5\%$ ) <sup>1)</sup>			$\pm 15$	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			$\geq 1$	kV	
	Impulse withstand voltage, 1.2/50 $\mu$ s			$\geq 6$	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 insertion 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. $\pm 1.5$	mV/K
$TCE_G$	Thermal drift of the gain (% of reading)	$\pm 0.1$	%/K
$t_r$	Response time @ 90% of $I_p$	$\leq 3$	$\mu$ s
$f$	Frequency bandwidth (-3 dB) <sup>2)</sup>	50	kHz

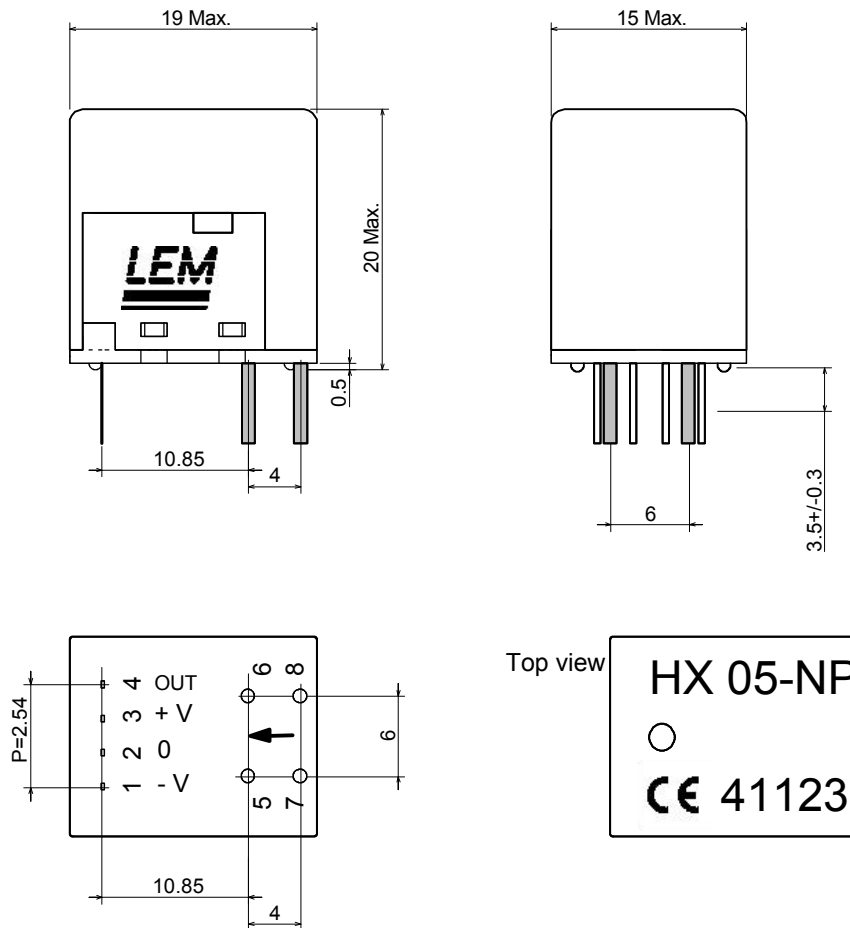
## General data

$T_A$	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	$\geq 5.5$	mm
	Isolation material group	I	
	Standards	EN50178	

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

<sup>2)</sup> Small signal only to avoid excessive heating of the magnetic core

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



### 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(+)