

# Current Transducer HX 03 .. 50-P/SP2

$$I_{PN} = 3 \dots 50 \text{ A}$$

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) <sup>1)</sup>	Primary Conductor Diameter x Turns (mm)	Type
3	± 9	0.6d x 20T	<b>HX 03-P/SP2</b>
5	± 15	0.8d x 12T	<b>HX 05-P/SP2</b>
10	± 30	1.1d x 6T	<b>HX 10-P/SP2</b>
15	± 45	1.4d x 4T	<b>HX 15-P/SP2</b>
20	± 60	1.6d x 3T	<b>HX 20-P/SP2</b>
25	± 75	1.6d x 2T	<b>HX 25-P/SP2</b>
50	± 150	1.2 x 6.3 x 1T	<b>HX 50-P/SP2</b>

$V_{OUT}$	Output voltage @ ± $I_{PN}$ , $R_L = 2 \text{ k}\Omega$ , $T_A = 25^\circ\text{C}$	$V_{OE} \pm 0.625$	V
$R_{OUT}$	Output impedance	< 50	$\Omega$
$R_L$	Load resistance	≥ 2	k $\Omega$
$V_C$	Supply voltage (± 5 %)	+12 .. +15	V
$I_C$	Current consumption	< 15	mA
$V_d$	R.m.s. voltage for AC isolation test, 50/60Hz, 1 mn > 3		kV
$V_e$	R.m.s. voltage for partial discharge extinction at 10pC	≥ 1	kV
	Impulse withstand voltage, 1.2/50 $\mu$ s	≥ 6	kV

## Accuracy-Dynamic performance data

$X$	Accuracy @ $I_{PN}$ , $T_A = 25^\circ\text{C}$ (without offset)	< ± 1	% of $I_{PN}$
$\epsilon_L$	Linearity (0 .. ± $I_{PN}$ )	< ± 1	% of $I_{PN}$
$V_{OE}$	Electrical offset voltage, $T_A = 25^\circ\text{C}$	+2.5V±50	mV
$V_{OH}$	Hysteresis offset voltage @ $I_p = 0$ ; after an excursion of $3 \times I_{PN}$	< ± 10	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	$\mu$ 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	≥ 5.5	mm
	Isolation material group	I	
	Standards	EN50178	

Notes : <sup>1)</sup> With  $R_L = 2\text{k}\Omega$

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

## Features

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

## Advantages

- Low insertion losses
- Easy to mount with automatic handling system
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

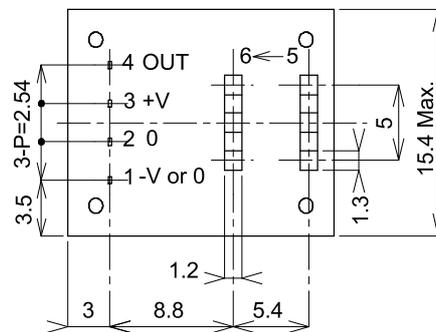
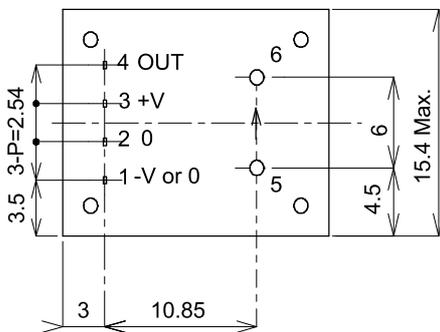
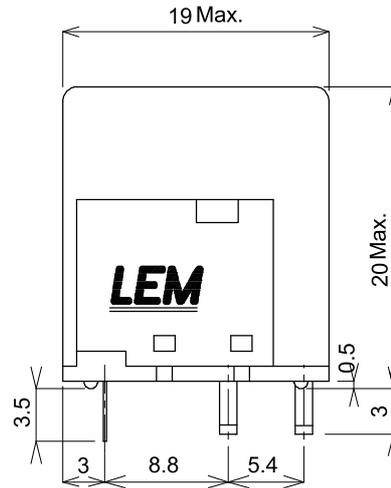
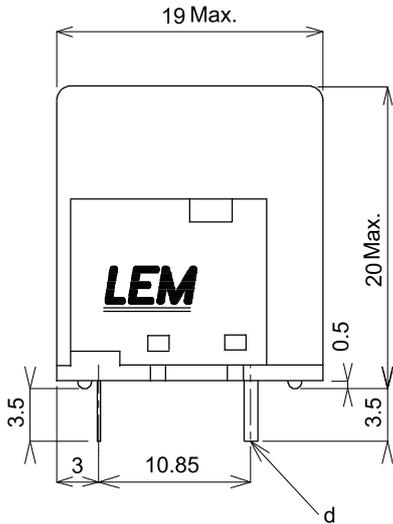
## Applications

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

# HX 03 .. 50-P/SP2 (in mm)

## HX 03...25-P/SP2

## HX 50-P/SP2



Top view



Lot No.

### Terminal Pin Identification

- 1.....0V
- 2.....0V
- 3.....+12V to +15V
- 4.....Output

- 5.....Primary input Current(+)
- 6.....Primary input Current(-)

### Primary conductor diameter dimension

HX	03-P/ SP2	05-P/ SP2	10-P/ SP2	15-P/ SP2	20-P/ SP2	25-P/ SP2	50-P/ SP2
d	0.6	0.8	1.1	1.4	1.6	1.6	1.2x6.3

### Secondary pins dimension

0.5x0.25