

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

V_{OUT}	Output voltage @ $\pm I_{PN}$, $R_L = 2 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$	$V_{OE} \pm 0.625$	V
R_{OUT}	Output impedance	< 50	Ω
R_L	Load resistance	≥ 2	k Ω
V_C	Supply voltage ($\pm 5\%$)	+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 μ s	≥ 6	kV

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (without offset)	< ± 1	% of I_{PN}
e_L	Linearity ($0 \dots \pm I_{PN}$)	< ± 1	% of I_{PN}
V_{OE}	Electrical offset voltage, $T_A = 25^\circ\text{C}$	+2.5V \pm 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	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⁾ With $R_L = 2\text{k}\Omega$

²⁾ 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.

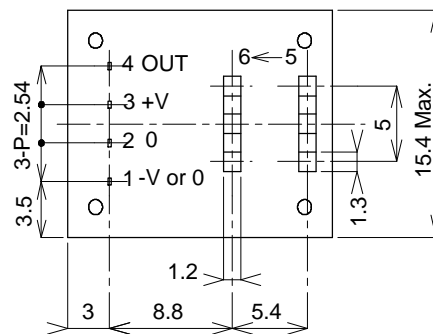
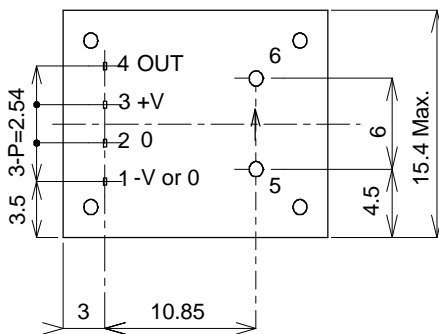
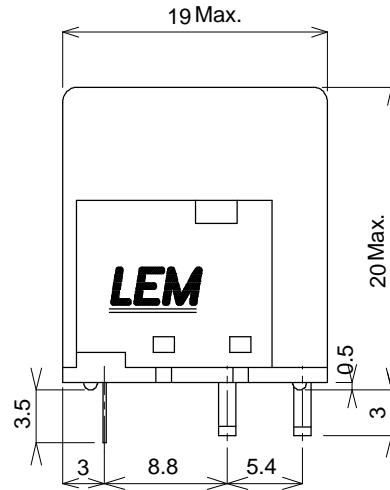
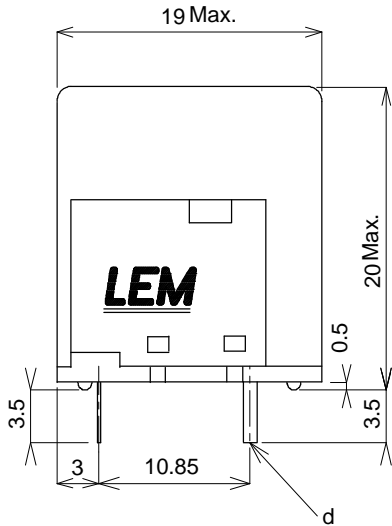
Applications

- 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