

Current Transducer HX 03 .. 50-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).



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



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
3	± 9	0.6d x 20T	HX 03-P
5	± 15	0.8d x 12T	HX 05-P
10	± 30	1.1d x 6T	HX 10-P
15	± 45	1.4d x 4T	HX 15-P
20	± 60	1.6d x 3T	HX 20-P
25	± 75	1.6d x 2T	HX 25-P
50	± 150	1.2 x 6.3 x 1T	HX 50-P

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	$\text{k}\Omega$
V_C	Supply voltage ($\pm 5\%$) ¹⁾	± 15	V
I_C	Current consumption	$< \pm 15$	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 μs	≥ 6	kV

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
T_{ceG}	Thermal drift of the gain (% of reading)	± 0.1	%/K
t_r	Response time @ 90% of I_P	≤ 3	μs
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 cores

Features

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

Advantages

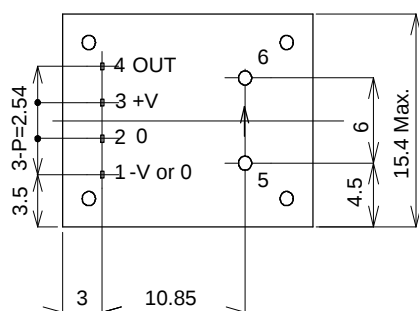
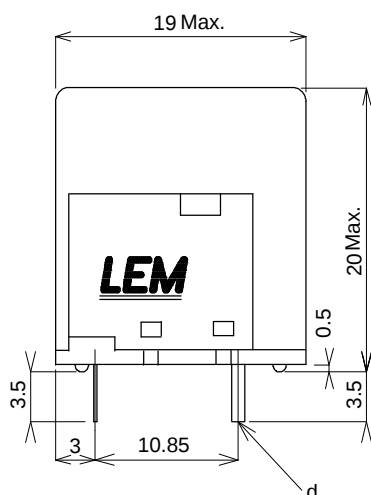
- Low insertion losses
- Easy to mount with automatic handling system
- Small size and space saving
- Only one design for wide current ratings range
- High immunity to external interference.

Applications

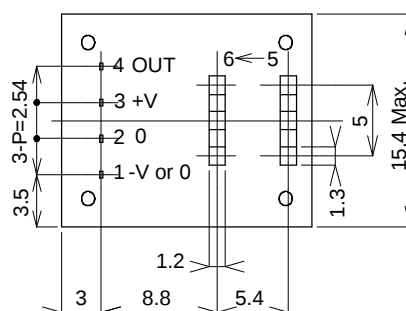
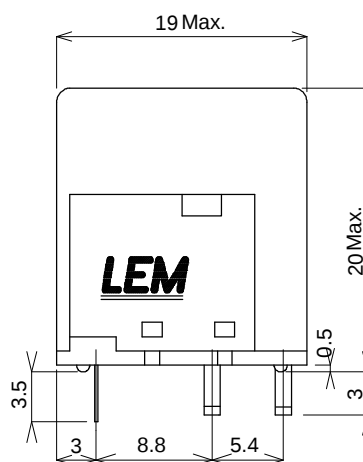
- Switched Mode Power Supplies (SMPS)
- AC variable speed drives
- Uninterruptible Power Supplies (UPS)
- Electrical appliances
- Battery supplied applications
- DC motor drives

HX 03 .. 50-P (in mm)

HX 03...25-P



HX 50-P



Top view

HX 05-P

€ 41123

Lot No.

Terminal Pin Identification

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

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

Primary conductor diameter / dimension

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

Secondary pins dimension

0.5x0.25