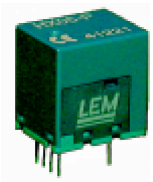
Current Transducer HX 02..06-P

I_{PN} = 2 .. 6 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
2	±6	0.5d x 30T	**HX 02-P**
3	±9	0.6d x 20T	**HX 03-P**
4	±12	0.7d x 15T	**HX 04-P**
6	±18	1.0d x 10T	**HX 06-P**

V_{OUT}	Output voltage @ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C	± 4	V
R_{OUT}	Output impedance	< 50	Ω
R_L	Load resistance	≥ 10	kΩ
V_C	Supply voltage (± 5 %)[1]	± 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, 1.2/50µs	≥ 6	kV

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (without offset)	< ± 1	% of I_{PN}
ε_L	Linearity error (0 .. ± I_{PN})	< ± 1	% of I_{PN}
V_{OE}	Electrical offset voltage, T_A = 25°C	< ± 40	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0; after an excursion of 3 x I_{PN}	< ± 15	mV
V_{OT}	Thermal drift of V_{OE}	max. ± 1.5	mV/K
$TC\varepsilon_G$	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	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
m	Mass	8	g
	Min. internal creepage distance/clearance	≥ 5.5	mm
	Isolation material group	I	
	Standards	EN50178	

Features

- Galvanic isolation between primary and secondary circuit
- Hall effect measuring principle
- Isolation voltage 3000V
- Low power consumption
- Extended measuring range (3x I_{PN})
- Power 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

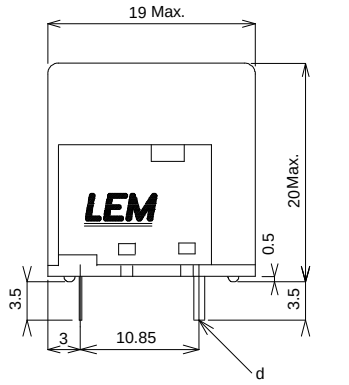
Application Domain

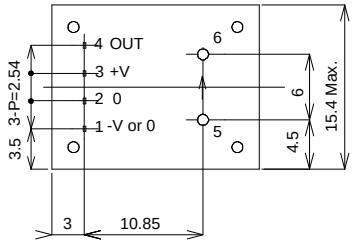
- Industrial

Notes : [1] Also operate at ±12V power supplies, measuring range reduced to ±2.5x I_{PN}
[2] Small signal only to avoid excessive heating of the magnetic cores

Dimensions HX 02..06-P (in mm. 1 mm = 0.0394 inch)

HX 02..06-P





Terminal Pin Identification

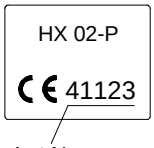
1 ..... -15 V
2 ..... 0 V
3 ..... +15 V
4 ..... Output
5 ..... Primary input Current (+)
6 ..... Primary input Current (-)

Primary conductor diameter

HX	02-P	03-P	04-P	06-P
d	0.5	0.6	0.7	1.0

Secondary pins dimension
0.5 x 0.25

Top view



Safety

This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.

Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.
A protective housing or additional shield could be used.
Main supply must be able to be disconnected.