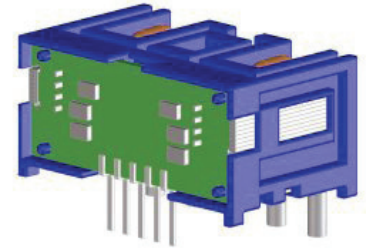


Current Transducer HXD 03..25-P

For the electronic measurement of currents: DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



$$I_{PN} = 3 \dots 25 \text{ A}$$



Electrical data

Primary nominal current rms I_{PN} (A)	Primary current measuring range I_{PM} (A)	Primary conductor diameter (mm)	Type
3	± 9	0.6	HXD 03-P
5	± 15	0.8	HXD 05-P
10	± 30	1.1	HXD 10-P
15	± 45	1.4	HXD 15-P
20	± 60	1.6	HXD 20-P
25	± 75	1.6	HXD 25-P

V_{OUT}	Output voltage (Analog) @ $\pm I_{PN}$, $R_L = 10 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$, $V_C = \pm 15 \text{ V}$	± 4	V
R_L	Load resistance	≥ 10	k Ω
V_C	Supply voltage ($\pm 5\%$) ²⁾	± 15	V
I_C	Current consumption	$< \pm 30$	mA

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (excluding offset)	$< \pm 1.5$	% of I_{PN}
ϵ_L	Linearity error ($0 \dots \pm I_{PN}$)	$< \pm 1$	% of I_{PN}
V_{OE}	Electrical offset voltage @ $T_A = 25^\circ\text{C}$	$< \pm 60$	mV
V_{OH}	Hysteresis offset voltage @ $I_P = 0$, after an excursion of $1 \times I_{PN}$ $3 \times I_{PN}$	$< \pm 30$ $< \pm 90$	mV mV
TCV_{OE}	Temperature coefficient of V_{OE}	$< \pm 2$	mV/K
TCV_{OUT}	Temperature coefficient of V_{OUT} (% of reading)	± 0.1	%/K
t_r	Response time to 90 % of I_{PN} step	≤ 5	μs
BW	Frequency bandwidth ($\pm 3 \text{ dB}$, small signal) ¹⁾	DC .. 50	kHz

General data

T_A	Ambient operating temperature	- 40 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 85	$^\circ\text{C}$
m	Mass	app. 7	g
	UL94 Classification	V0	
	Standard	EN 50178: 1997	

Notes:¹⁾Small signal only to avoid excessive heating of the magnetic cores.

²⁾Operating at $\pm 12\text{V} < V_C < \pm 15\text{V}$ will reduce the measuring range.

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit.
- Isolation voltage 4300 V
- Low power consumption
- Extended measuring range ($3 \times I_{PN}$)
- Isolated plastic case recognized according to UL 94-V0.

Advantages

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

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Application domain

- Industrial.

Current Transducer HXD 03..25-P

Isolation characteristics

V_d	Rms voltage for AC isolation test, 50 Hz, 1 min	4.3	kV
V_w	Impulse withstand voltage 1.2/50 μ s	7.8	kV
V_e	Partial discharge extinction voltage rms @ 10 pC	> 1000	Vrms
		Min	
dCp	Creepage distance	> 8	mm
dCI	Clearance distance	> 8	mm
CTI	Comparative Tracking Index (group I)	> 600	V

Applications examples

According to EN 50178 and IEC 61010-1 standards and following conditions:

- Over voltage category OV 3
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
dCp, dCI, V_w	Rated isolation voltage	Nominal voltage
Single isolation	1000 V	1000 V
Reinforced isolation	600 V	300 V

Safety



This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the 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).

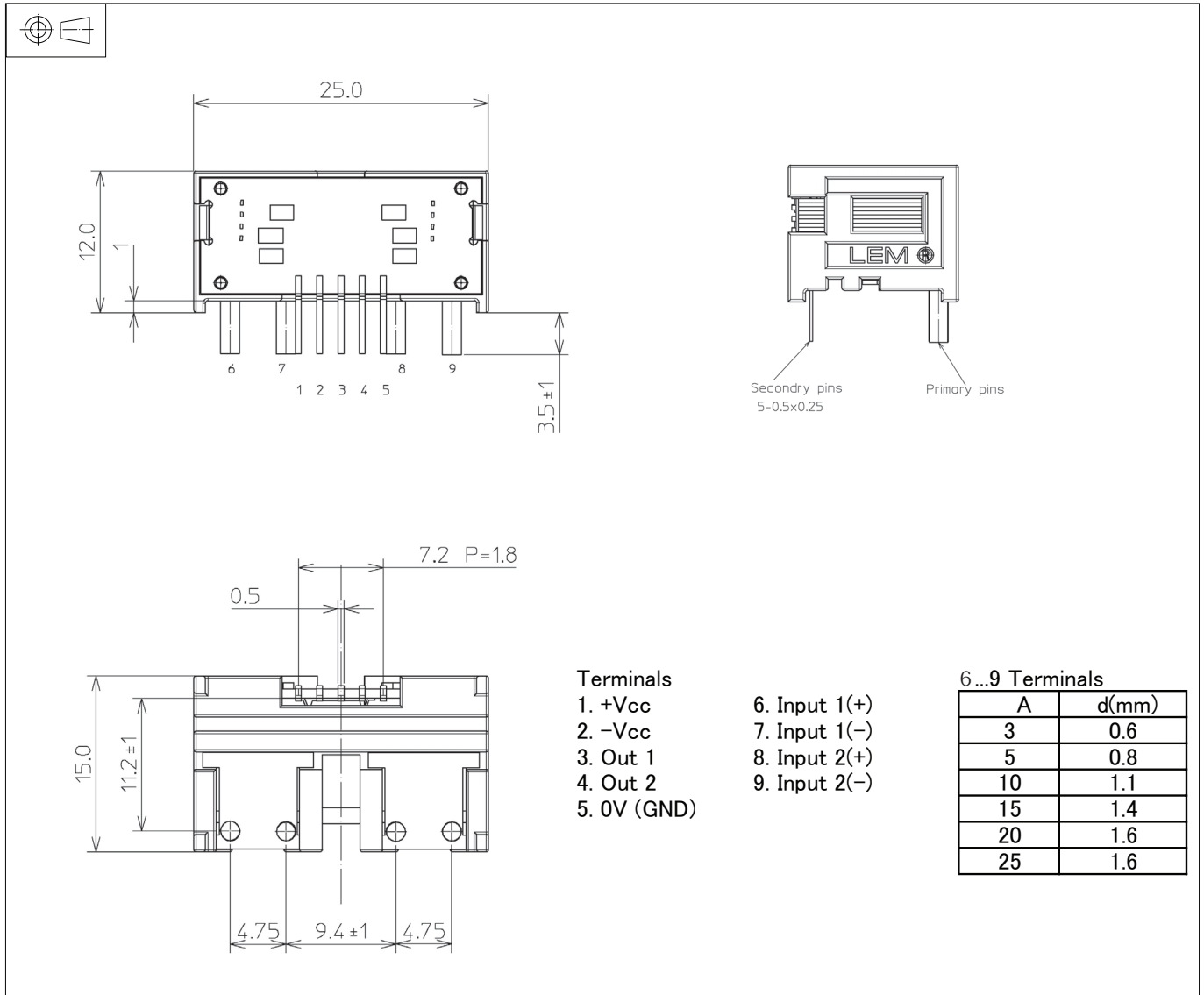
Ignoring this warning can lead to injury and/or cause serious damage.

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.

Dimensions HXD 03..25-P (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm (Unless otherwise specified.)