Current Transducer HAS 75 .. 340-S

I_{PN} = 75 .. 340 A

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

Electrical data

Type	Primary nominal current rms I_{PN} (A)	Primary current, measuring range I_{PM} (A)	RoHS since date code
HAS 75-S	75	± 225	45294
HAS 150-S	150	± 450	45293
HAS 220-S	220	± 660	76349
HAS 260-S	260	± 780	77159
HAS 340-S	340	± 900	77359

V_C	Supply voltage (± 5 %) [1]	± 15	V
I_C	Current consumption	± 15	mA
V_{OUT}	Output voltage (Analog) @ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C	± 4 V ± 40	mV
R_{OUT}	Output internal resistance approx	100	Ω
R_L	Load resistance [2]	> 1	kΩ
R_{IS}	Isolation resistance @ 500 VDC	> 1000	MΩ

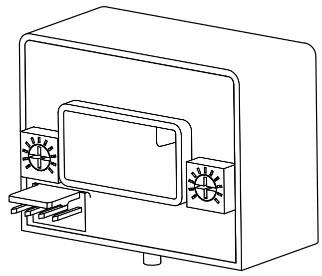
Accuracy - Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (excluding offset)	< ± 1	% of I_{PN}
ε_L	Linearity error [3] (0 .. ± I_{PN})	< ± 1	% of I_{PN}
V_{OE}	Electrical offset voltage, T_A = 25°C	< ± 20	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0, after an excursion of 1 x I_{PN}	< ± 20	mV
TCV_{OE}	Temperature coefficient of V_{OE}	< ± 1	mV/K
TCV_{OUT}	Temperature coefficient of V_{OUT} (% of reading)	< ± 0.1	%/K
t_r	Response time to 90 % of I_{PN} step	< 3	µs
di/dt	di/dt accurately followed	> 50	A/µs
BW	Frequency bandwidth [4] (- 3 dB)	DC .. 50	kHz

General data

T_A	Ambient operating temperature	- 10 .. + 80	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
m	Mass	60	g
	Standard	EN 50178: 1997	

Notes: [1] Operating at ± 12 V ≤ V_C < ± 15 V will reduce the measuring range
[2] If the customer uses 1 kΩ of the load resistor, the primary current has to be limited as the nominal. To measure the full defined measuring range, the load resistor should be at minimum 10 kΩ
[3] Linearity data exclude the electrical offset
[4] Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.



Features

- Hall effect measuring principle
- Extended measuring range (3 x I_{PN})
- Isolated plastic case made of polycarbonate PBT recognized according to UL 94-V0.

Advantages

- Easy mounting
- Small size and space saving
- Low power consumption
- Only one design for wide current ratings range
- High immunity to external interference.

Applications

- AC variable speed 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.

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Isolation characteristics

V_d	Rms voltage for AC insulation test, 50 Hz, 1 min	3.6	kV
$\hat{V}_w$	Impulse withstand voltage 1.2/50 µs	> 6.6 Min	kV
dCp	Creepage distance	7.08	mm
dCI	Clearance	6.23	mm
CTI	Comparative Tracking Index (group IIIa)	275	

Applications examples

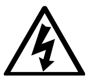
According to EN 50178 and IEC 61010-1 standards and following conditions:

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

	EN 50178	**IEC 61010-1**
dCp, **dCI**, $\hat{V}_w$	Rated insulation voltage	Nominal voltage
Basic insulation	600 V	600 V
Reinforced insulation	300 V	300 V

Safety

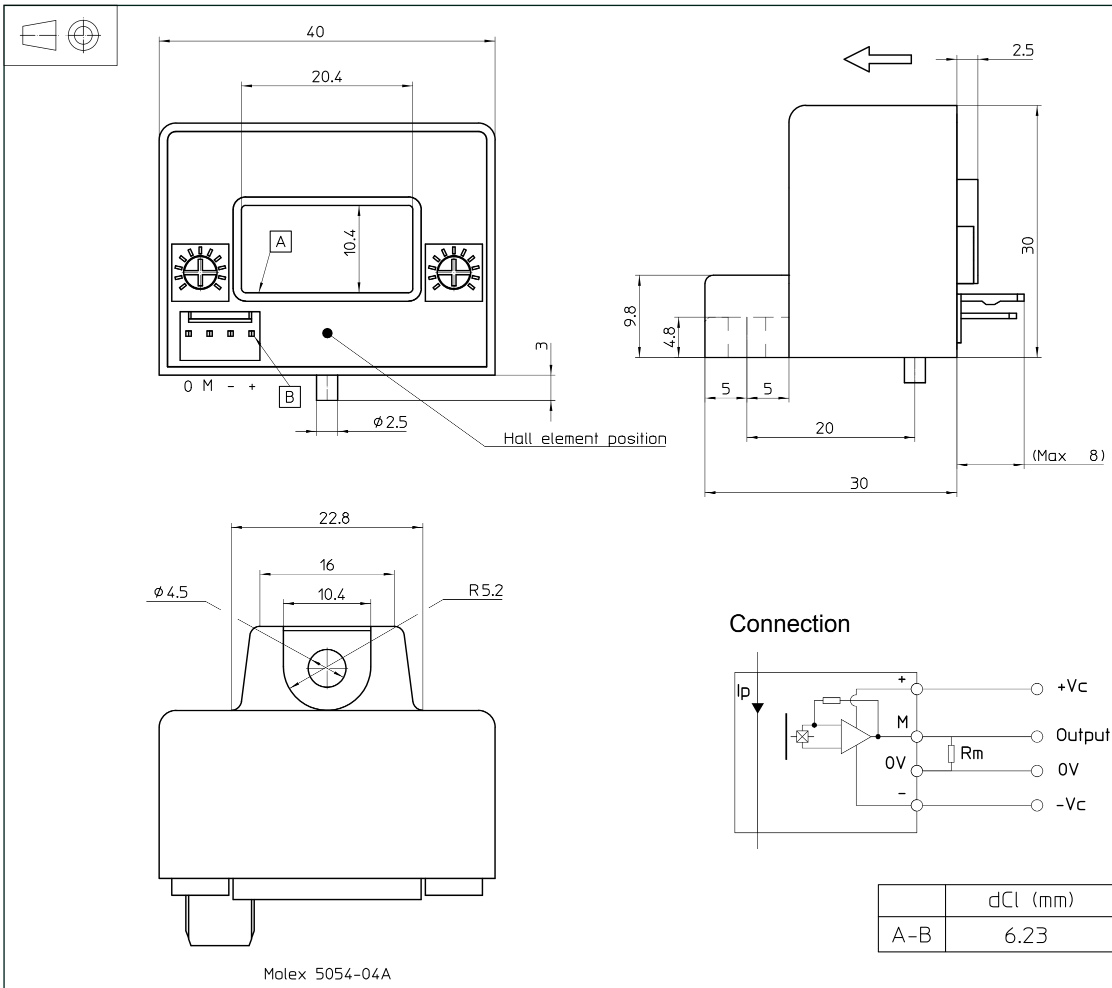
This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



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 build-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 HAS 75 .. 340-S (in mm)



	dCl (mm)	dCp (mm)
A-B	6.23	7.08

Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 1 hole Ø 4.5 mm
  1 M4 steel screw
  Recommended fastening torque 0.75 Nm (± 10 %)
- Connection of secondary Molex 5045-04A

Remarks

- V_{OUT} is positive when I_P flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.
- This is a standard model. For different versions (supply voltages, turns ratios, unidirectional measurements...), please contact us.