Current Transducers HAC 100..800-S

I_{PN} = 100 .. 800 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 current rms I_{PN} (A)	Primary current measuring range I_{PM} (A)	Type	RoHS since date code
100	± 300	**HAC 100-S**	46256
200	± 600	**HAC 200-S**	46220
300	± 900	**HAC 300-S**	planned
400	± 1200	**HAC 400-S**	46242
500	± 1500	**HAC 500-S**	47143
600	± 1800	**HAC 600-S**	46186
800	± 1800	**HAC 800-S**	46219

V_C	Supply voltage (± 5 %)		± 15	V
I_C	Current consumption	HAC 100..300-S	< ± 18	mA
		HAC 400..800-S	< ± 25	mA
R_{IS}	Isolation resistance @ 500 VDC		> 1000	MΩ
V_{OUT}	Output voltage (Analog) @ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C		± 4	V
R_{OUT}	Output internal resistance		100	Ω
R_L	Load resistance		> 10	kΩ

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN}, T_A = 25°C (excluding 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	< ± 30	mV
V_{OH}	Hysteresis offset voltage @ I_P = 0; after an excursion of 1 x I_{PN}	< ± 35	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	< 7	µs
BW	Frequency bandwidth (- 3 dB)[1)]	DC .. 50	kHz

General data

T_A	Ambient operating temperature	- 10 .. + 80	°C
T_S	Ambient storage temperature	- 15 .. + 85	°C
m	Mass	70	g

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2500 V
- Low power consumption
- Extended measuring range (3 x I_{PN})

Advantages

- Easy mounting
- Small size and space saving
- 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

Note :

[1)] Derating is needed to avoid excessive core heating at high frequency.

Current transducer HAC 100..800-S

Isolation characteristics

V_d	Rms voltage for AC isolation test, 50 Hz, 1 min	2.5 [2]	kV
dCp	Creepage distance	> 5.5	mm
dCl	Clearance distance	> 5.5	mm
CTI	Comparative Tracking Index (Group IIIa)	> 220	

Application examples

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

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

	EN 50178	CEI 61010-1
dCp, dCl, $\hat{V}_w$	Rated isolation voltage	Nominal voltage
Single isolation	500 V	Cat III 500 V rms
Reinforced isolation	150 V	Cat III 250 V rms

Note :
[2] Between primary and secondary

Safety

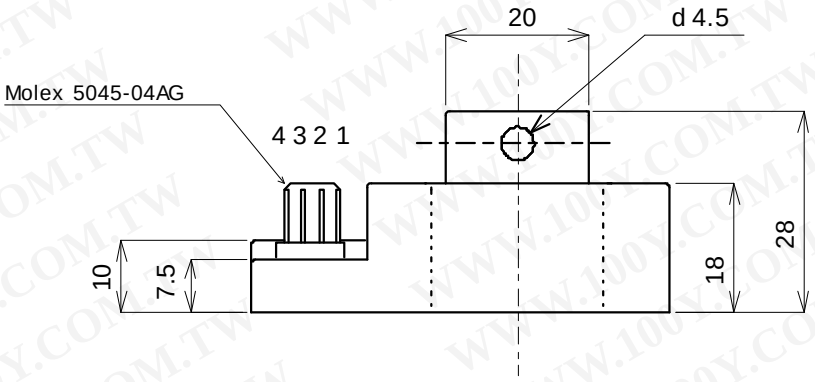
This transducer must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacturer's operating instructions.

Caution! Risk of electrical shock

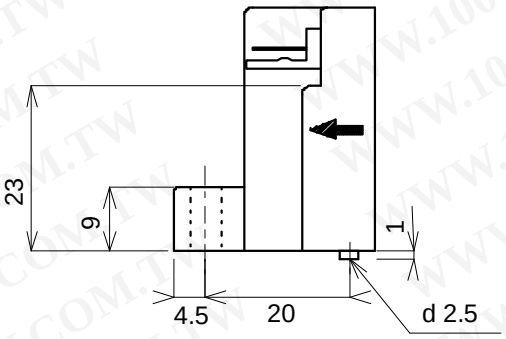
When operating the transducer, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This transducer is a built-in device, whose conducting parts must be inaccessible after installation.
A protective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

Dimensions HAC 100..800-S (in mm. 1 mm = 0.0394 inch)

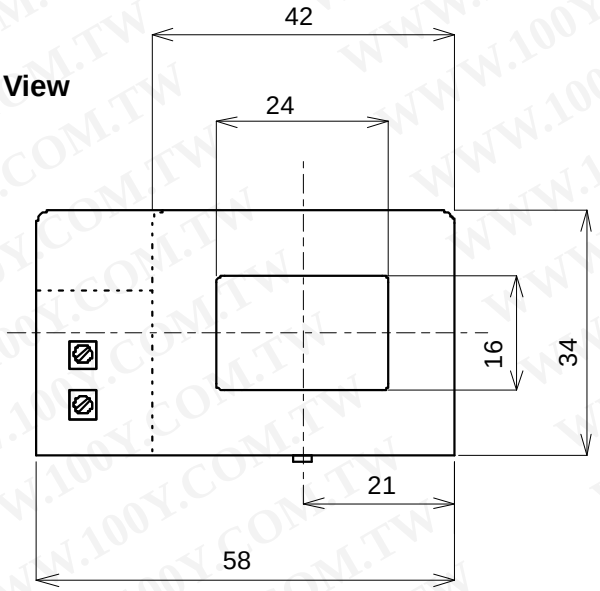
Top View



Left View



Front View



Terminal Identification
1.....+Vcc
2.....-Vcc
3.....Output
4.....0V

Mechanical characteristics

- General tolerance ± 0.5 mm