

Current Transducer HAW 03 .. 20-P

$$I_{PN} = 3 \dots 20 \text{ A}$$

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).

Preliminary



Electrical data

Primary nominal r.m.s. current I_{PN} (A)	Primary current measuring range I_p (A)	Primary Conductor Diameter (mm)	Type
3	± 7.5	0.8	HAW 03-P
5	± 13	0.9	HAW 05-P
10	± 25	1.1	HAW 10-P
15	± 38	1.4	HAW 15-P
20	± 50	1.6	HAW 20-P

V_C	Supply voltage ($\pm 5\%$)	± 15	V
I_C	Current consumption	$< \pm 18$	mA
V_d	R.m.s. voltage for AC isolation test, 50/60Hz, 1 mn	2.0	kV
R_{IS}	Isolation resistance @ 500 VDC	> 500	M Ω
V_{OUT}	Output voltage @ $\pm I_{PN}$, $R_L = 10 \text{ k}\Omega$, $T_A = 25^\circ\text{C}$	± 4	V
R_{OUT}	Output internal resistance	100	Ω
R_L	Load resistance	> 10	k Ω

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 2000 V
- Low power consumption
- Extended measuring range ($2.5 \times I_{PN}$)

Advantages

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

Applications

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

Accuracy-Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$ (without offset)	$< \pm 1$	% of I_{PN}
ϵ_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 $1 \times I_{PN}$	$< \pm 20$	mV
V_{OT}	Thermal drift of V_{OE} max.	± 1.5	mV/K
TCE_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) ¹⁾	DC .. 50	kHz

General data

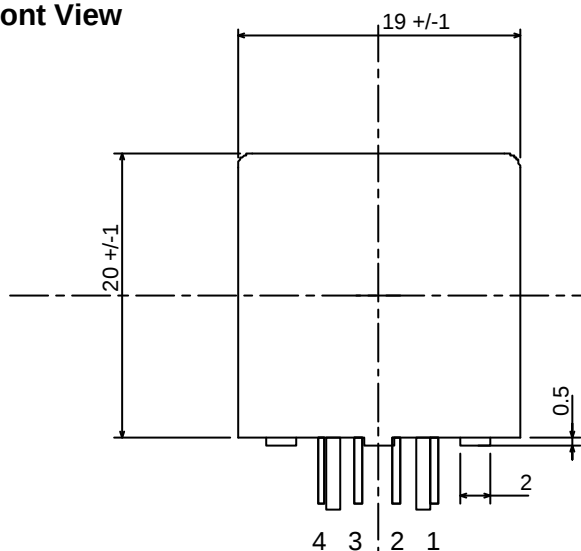
T_A	Ambient operating temperature	$-10 \dots +75$	$^\circ\text{C}$
T_S	Ambient storage temperature	$-15 \dots +85$	$^\circ\text{C}$
m	Mass	12	g

Notes : EN 50178 approval pending

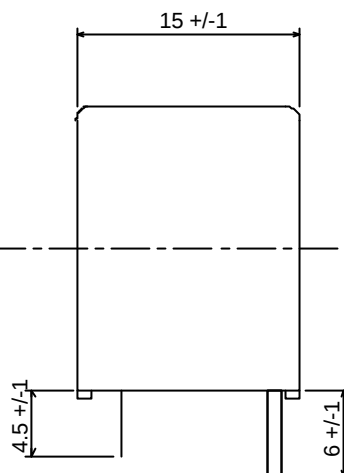
¹⁾ Derating is needed to avoid excessive core heating at high frequency.

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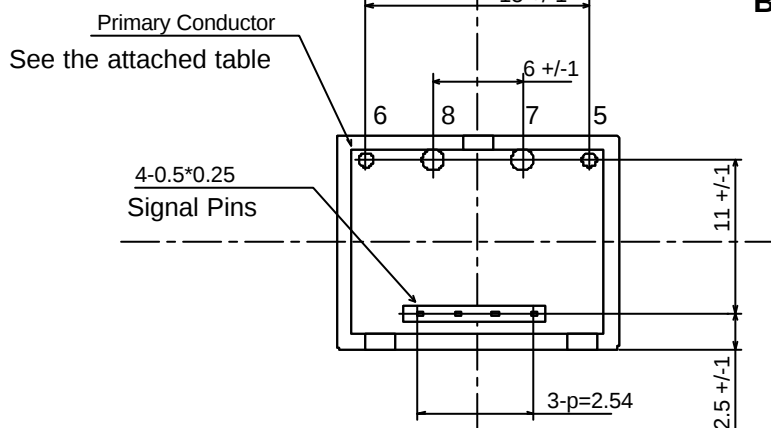
Front View



Right View



Bottom View



Terminal Pin Identification

Primary Conductor

Part No.	Pin No.	Diameter
HAW 03-P	5-6	0.8 d
HAW 05-P	5-6	0.9 d
HAW 10-P	7-8	1.1 d
HAW 15-P	7-8	1.4 d
HAW 20-P	7-8	1.6 d

Signal Pins

1	-Vcc
2	0V
3	+Vcc
4	Output

Direction of Current Flow

5 (+) → 6 (-)
7 (+) → 8 (-)

UNIT : mm