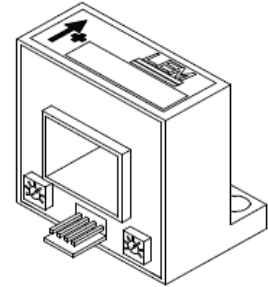


Current Transducer HAL 50..600-S

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

$I_{PN} = 50 \dots 600 \text{ A}$



Electrical data

Primary nominal current rms I_{PN} (A)	Primary current measuring range ⁴⁾ I_{PM} (A)	Type	RoHS since date code
50	± 150	HAL 50-S	46180
100	± 300	HAL 100-S	46065
200	± 600	HAL 200-S	46090
300	± 900	HAL 300-S	46142
400	± 1000	HAL 400-S	46114
500	± 1000	HAL 500-S	46306
600	± 1000	HAL 600-S	46059

I_P	Overload Capability (Ampere Turns)	30,000	A
V_{OUT}	Output voltage (Analog) @ ± I_{PN}	± 4	V
R_L	Load resistance @ $T_A = 0 \dots + 70^\circ\text{C}$	> 1	kΩ
	@ $T_A = - 25 \dots + 85^\circ\text{C}$	> 3	kΩ
V_C	Supply voltage (± 5 %)	± 15	V
I_C	Current consumption	< ± 25	mA
V_b	Rated isolation voltage rms ¹⁾	500	V
V_d	Rms voltage for AC isolation test, 50 Hz, 1 min	3	kV
R_{is}	Isolation resistance @ 500 V_{DC}	> 500	MΩ

Accuracy - Dynamic performance data

X	Accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$, ± 15 V	< ± 1	%
ϵ_L	Linearity error ²⁾	< ± 0.5	% of I_{PN}
V_{OE}	Electrical offset voltage @ $T_A = 25^\circ\text{C}$	HAL 50-S < ± 20 HAL 100..600-S < ± 10	mV
V_{OM}	Magnetic offset voltage @ $I_P = 0$, after an overload of 3 x I_{PN}	HAL 50-S < ± 30 HAL 100..200-S < ± 20 HAL 300..600-S < ± 10	mV
TCV_{OE}	Temperature coefficient of V_{OE}	HAL 50-S < ± 2.0 HAL 100..600-S < ± 1.0	mV/K
TCV_{OUT}	Temperature coefficient of V_{OUT} (% of reading)	≤ ± 0.05	%/K
t_r	Response time to 90% of I_{PN} step	≤ 3	μs
BW	Frequency bandwidth (- 3 dB) ³⁾	DC .. 50	kHz

General data

T_A	Ambient operating temperature	- 25 .. + 85	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
m	Mass	app. 75	g
	Standard ⁴⁾	Safety EMC	EN 50178 : 1994 EN50082-2: 1992 EN50081-1: 1992
	Deviation in output when tested to EN 61000-4-6	< 20	% of I_{PN}
	Deviation in output when tested to EN 61000-4-3	< 20	% of I_{PN}

Notes : ¹⁾ Overvoltage Category III, Pollution Degree 2

²⁾ Excludes the electrical offset

³⁾ Derating is needed to avoid excessive core heating at high frequency.

⁴⁾ Please consult characterisation report for more technical details and application advice.

Features

- Hall effect measuring principle
- Galvanic isolation between primary and secondary circuit
- Isolation voltage 3000V
- Low power consumption
- Extended measuring range(3 x I_{PN})
- Isolated plastic case recognized according to UL 94-V0

Advantages

- 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
- DC motor drives
- Battery supplied applications
- Uninterruptable Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

Application domain

- Industrial

