

Premo presents HCT-LAH series AC/DC current transducer, a new design based on the Hall Effect principle. HCT-LAH series has good stability in high currents and a highly insulated primary and secondary.



Features

- Closed loop Hall Effect sensor.
- Bipolar power supply.
- High accuracy.
- High linearity.
- Isolated plastic case recognized according to UL94-V0.
- EN60947-1:2004, EN60950-1:2001, EN-50178:1998 compliant.

1. Electrical parameters

	Symbol	Min	Typ	Max	Unit
Nominal current HCT-25LAH HCT-50LAH HCT-100LAH	I_{PN}		25 50 100		A A A
Measuring range HCT-25LAH HCT-50LAH HCT-100LAH	I_P	-100 -150 -280		100 150 280	A A A
Rated output HCT-LAH series HCT-100LAH only	I_S		25 50		mA mA
Supply voltage ($\pm 5\%$)	V_{CC}	± 12		± 15	V
Number of turns HCT-25LAH HCT-50LAH, HCT-100LAH	N		1000 2000		
Current consumption (at $I_{PN} = 0$ A)	I_{CC}	20			mA
Secondary coil resistance HCT-25LAH HCT-50LAH HCT-100LAH	R_C		35 75 50		Ω Ω Ω

2. Performance parameters

	Symbol	Min	Typ	Max	Unit
Accuracy (measured at I_{PN})		± 0.5			%
Linearity (measured at full scale)	ϵ_{LLR}			0.1	%
Offset current	I_{OS}			± 0.2	mA
Offset current drift (starting at $-40\text{ }^{\circ}\text{C}$)	KI_{OS}			± 0.5	mV/ $^{\circ}\text{C}$
Magnetic offset voltage	V_{OM}			± 20	mV
Response time	T_R			1	μs
di/dt HCT-25LAH HCT-50LAH, HCT-100LAH		100 200			A/ μs A/ μs
Bandwidth (-3 dB)	F_C	0		200	kHz

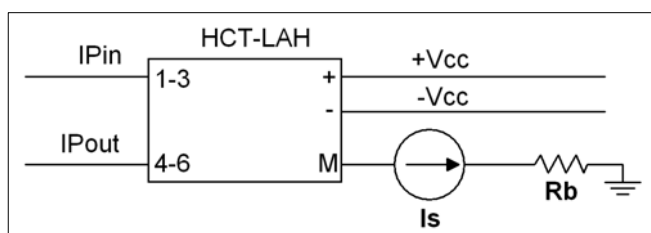
3. Isolation parameters

	Symbol	Min	Typ	Max	Unit
Galvanic isolation (50 Hz, 1 min)	V_I		5		kV

4. General parameters

	Symbol	Min	Typ	Max	Unit
Operating temperature	T_A	-40		85	$^{\circ}\text{C}$
Storage temperature	T_S	-40		125	$^{\circ}\text{C}$
Mass	m		15		g

5. Electrical connection



Recommended connection schematic



AC/DC Current transducers HCT-LAH series

Email: info@grupopremo.com
Web: <http://www.grupopremo.com>

Connection configuration

	Units	Turns		
		1	2 ¹⁾	3 ¹⁾
I_{PN} HCT-25LAH HCT-50LAH HCT-100LAH	A	25 50 100	12 N/A N/A	8 N/A N/A
I_s HCT-25LAH HCT-50LAH HCT-100LAH	mA	25 25 50	24 N/A N/A	24 N/A N/A
Primary winding impedance HCT-25LAH HCT-50LAH HCT-100LAH	mΩ	0.15 0.08 0.08	0.75 N/A N/A	1.45 N/A N/A
Primary winding inductance HCT-25LAH HCT-50LAH HCT-100LAH	μH	0.01 0.007 0.007	0.05 N/A N/A	0.12 N/A N/A
Connection points				

¹⁾This only applies to HCT-25LAH model

Burden resistor

Code	Conditions	Value			Units
		Min	Typ	Max	
HCT-25LAH	$\pm 12 \text{ V @ } I_{PN} (A_{RMS})$	75		300	Ω
	$\pm 12 \text{ V @ } I_{PN} (A)$	100		420	
	$\pm 15 \text{ V @ } I_{PN} (A_{RMS})$	82		385	
	$\pm 15 \text{ V @ } I_{PN} (A)$	120		535	
HCT-50LAH	$\pm 12 \text{ V @ } I_{PN} (A_{RMS})$	75		250	Ω
	$\pm 12 \text{ V @ } I_{PN} (A)$	100		360	
	$\pm 15 \text{ V @ } I_{PN} (A_{RMS})$	82		350	
	$\pm 15 \text{ V @ } I_{PN} (A)$	120		500	
HCT-100LAH	$\pm 12 \text{ V @ } I_{PN} (A_{RMS})$	35		120	Ω
	$\pm 12 \text{ V @ } I_{PN} (A)$	50		180	
	$\pm 15 \text{ V @ } I_{PN} (A_{RMS})$	42		160	
	$\pm 15 \text{ V @ } I_{PN} (A)$	60		220	

7. Marking



Marking notes

1. Component is marked on the top side.
2. Arrow indicates direction of positive currents.
3. xx indicates the corresponding HCT-LAH model.