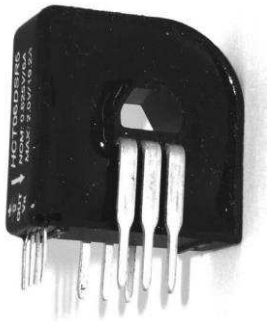
Premo presents HCT-DSR5 series DC/AC current transducer, as a new current transducer developed by applying magnetic modulation principle, has good stability of low current and highly insulated primary and secondary, and can be used for measuring signal systems and circuit detection.



Features

- Close loop Hall Effect sensor.
- Unipolar power supply.
- Isolated plastic case recognized according to UL94-V0.
- EN50178:1998 compliant (PD2, CTI III).
- UL certified.

Electrical parameters

	Symbol	Min	Typ	Max	Unit
Nominal current	Ipn				
HCT-06DSR5			6		A
HCT-15DSR5			15		A
HCT-25DSR5			25		A
HCT-50DSR5			50		A
Measuring range	Ip				
HCT-06DSR5		-19.2		19.2	A
HCT-15DSR5		-48		48	A
HCT-25DSR5		-80		80	A
HCT-50DSR5		-150		150	A
Reference voltage	V_{REF}			2.5	V
Rated output	V	-0.625		0.625	V
Supply voltage (±5 %)	Vcc		5		V
Internal resistor (±0.1 %)	R_{IN}				
HCT-06DSR5			100		Ω
HCT-15DSR5			100		Ω
HCT-25DSR5			50		Ω
HCT-50DSR5			25		Ω
Number of turns (±1)	N				
HCT-06DSR5			960		
HCT-15DSR5			1200		
HCT-25DSR5			2000		
HCT-50DSR5			2000		

Performance parameters

	Symbol	Min	Typ	Max	Unit
Accuracy (measured at full scale)		±0.5			%
Linearity (measured at full scale)	ε_{LLR}			0.1	%
Offset voltage drift (starting at -40 °C)	KV_{OS}			±0.5	mV/°C
Response time	T_R			500	ns
di/dt		50			A/µs
Bandwith (-1 dB)	F_C	0		200	kHz

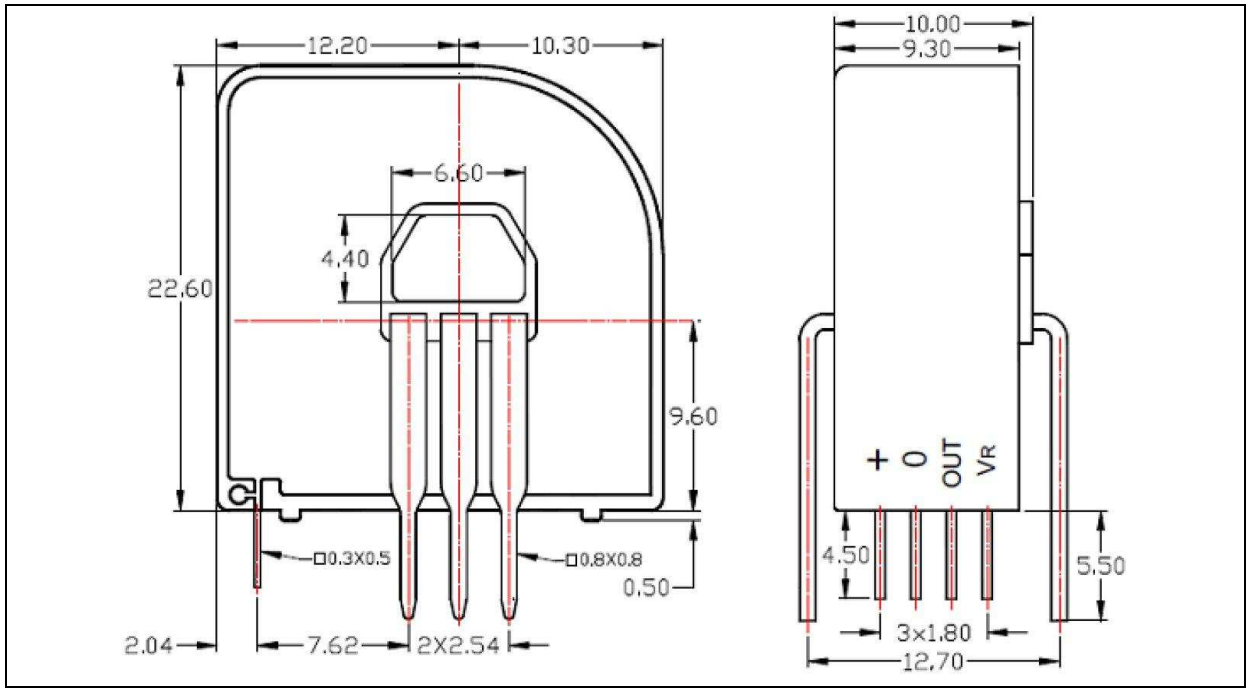
Isolation parameters

	Symbol	Min	Typ	Max	Unit
Galvanic isolation (50 Hz, 1 min)	V_I		2.5		kV
Impulse withstand voltage 1.2/50µs	V_W	8			kV
Creepage distance	dCp	15.35			mm
Clearance distance	dCl	6.2			mm

General parameters

	Symbol	Min	Typ	Max	Unit
Operating temperature	T_A	-40		85	°C
Storage temperature	T_S	-40		125	°C

Dimensions



Pin description

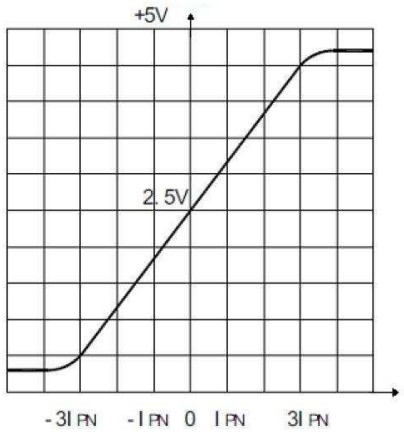
Pin	Value
+	+Vcc
0	Ground
OUT	Output
V_R	Reference voltage (output only)

Mechanical notes

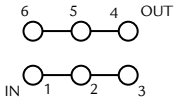
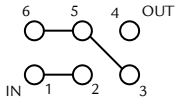
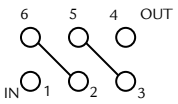
1. All dimensions are in mm.
2. General tolerance: 0.5 mm.
3. All dimensions and mechanical fixations are subjected to change upon customer needs or PREMO transducer development.

Electrical performances

Vout vs Ip

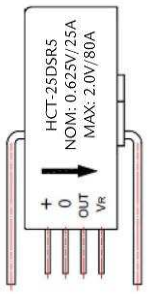


Configuration options

		Turns		
	Units	1	2	3
Ipn HCT-06DSR5 HCT-15DSR5 HCT-25DSR5 HCT-50DSR5	A	 6 15 25 50	 3 7.5 12.5 25	 2 5 8.3 16.6
Vo	V	2.5 ± 0.625		
Primary winding impedance	mΩ	0.18	0.81	1.62
Primary winding inductance	mH	0.013	0.05	0.12
Connection points				

Marking

(HCT-25DSR5 marking example)



Marking notes
1. Component is marked in the lateral side.
2. Arrow indicates direction of positive currents.