DATA SHEET
Hall Effect Current Sensor

PN : HCS-ES5A | **IPN = 25A - 50A - 75A**

Features

- Closed loop
- High accuracy
- Supply voltage : +5V DC
- Voltage output
- Small PCB mounting
- Can be customized

Good linearity
Low power consumption
Good over-current capability

Applications

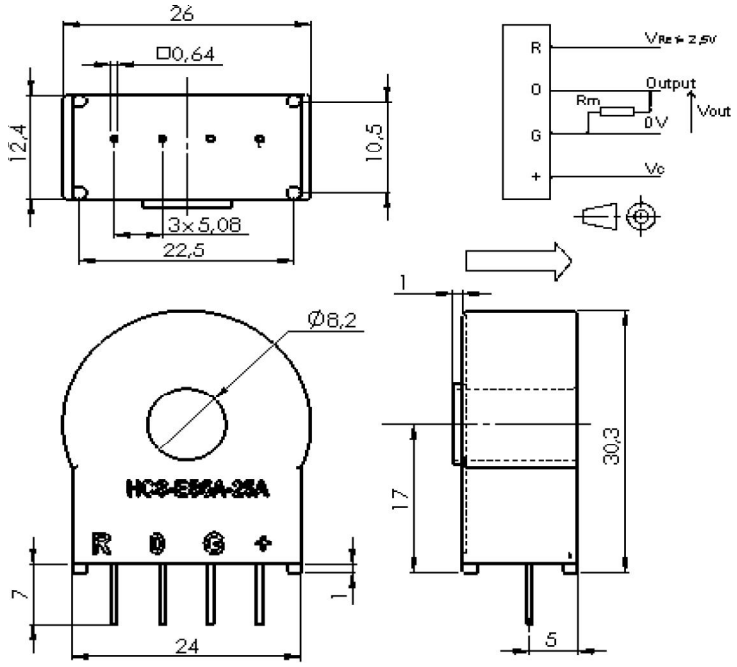
Frequency drive control home appliances
Solar power management system
Inverter applications
Uninterruptible power supplies (UPS)
Current monitoring

ELECTRICAL DATA

HCS-ES5A-...	25A	50A	75A
Nominal rms current I_{PN} (A)	25	50	75
Sensed current range I_{PM} (A)	±80	±120	±200
Measuring resistance R_M (Ω)	$50^{\pm 0,1\%}$ 25 PPM	$25^{\pm 0,1\%}$ 25 PPM	$16,5^{\pm 0,1\%}$ 25 PPM
Secondary coil turns (T_S)	$2000^{\pm 2}$	$2000^{\pm 2}$	$2000^{\pm 2}$
Rated output voltage (V)	V_{OE} ± 0,625		
Supply voltage V_C (Vdc)	$+5^{\pm 5\%}$		
Static current consumption I_C(mA)	≤ 10		

ACCURACY DYNAMIC PERFORMANCE			GENERAL & ISOLATION CHARACTERISTICS		
Accuracy X_G @ I_{PN}, T=25℃	± 0,5%	%	Operating temperature	-40 to +85	℃
Zero offset voltage V_{OE} @ I_P=0, T=25℃	$2,5^{\pm 0,5\%}$	V	Storage temperature	-40 to +125	℃
Offset voltage drift V_{OE} @ - 40℃ to 85℃	≤ ± 0,5	mV/℃	Weight	13	g
Linearity error ε_L	≤ 0,1	% FS	Insulation voltage (50 Hz, 1min)	3	KV
di/dt accurately followed	> 100	A/µs	Impulse withstand voltage (1,2/50µs)	> 8	KV
Response time tr	≤ 1	µs			
Bandwith (- 3db)	DC to 200	kHz			

DIMENSIONS

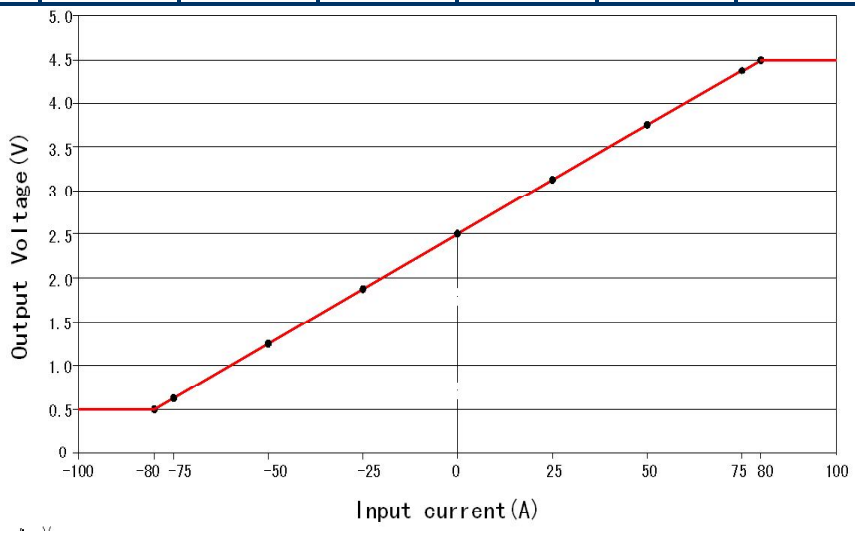


MECHANICAL CARACTERISTICS

Primary through hole	Ø 8,2 mm
Terminal connection	4 pins, size 0,64 mm x 0,64 mm
General tolerance	± 0,2 mm

HCS-ES5A-25A : Relation between Input Current and Output voltage :

Input current (A)	-80	-75	-50	-25	0	25	50	75	80
Output voltage (V)	0,5	0,625	1,25	1,875	2,5	3,125	3,75	4,375	4,5



Cautions :

I_S is positive when I_P flows in accordance whith the arrow direction (see the top of the sensor);
Primary conductor temperature should not exceed 100 °C;
Best dynamic performances (di/dt and response time) are achieved with a single electrical conductor completely filling the through hole.

WARNING : Incorrect wiring may cause damage to the sensor.