

# DATA SHEET

## Hall Effect Current Sensor

**PN : HCS-K5**

**IPN = 50A - 100A - 150A- 200A -  
300A - 400A - 500A - 600A**

### Features

- Open loop
- Small size
- Supply voltage : +5V DC
- Voltage output
- Through hole primary
- Can be customized

Easy installation  
 Frame mounting  
 Internal and external reference  
 High immunity to external interferences



### Applications

AC/DC variable speed motor driver  
 Battery applications  
 Uninterruptible power supplies (UPS)  
 Power supplies for welding applications

### ELECTRICAL DATA

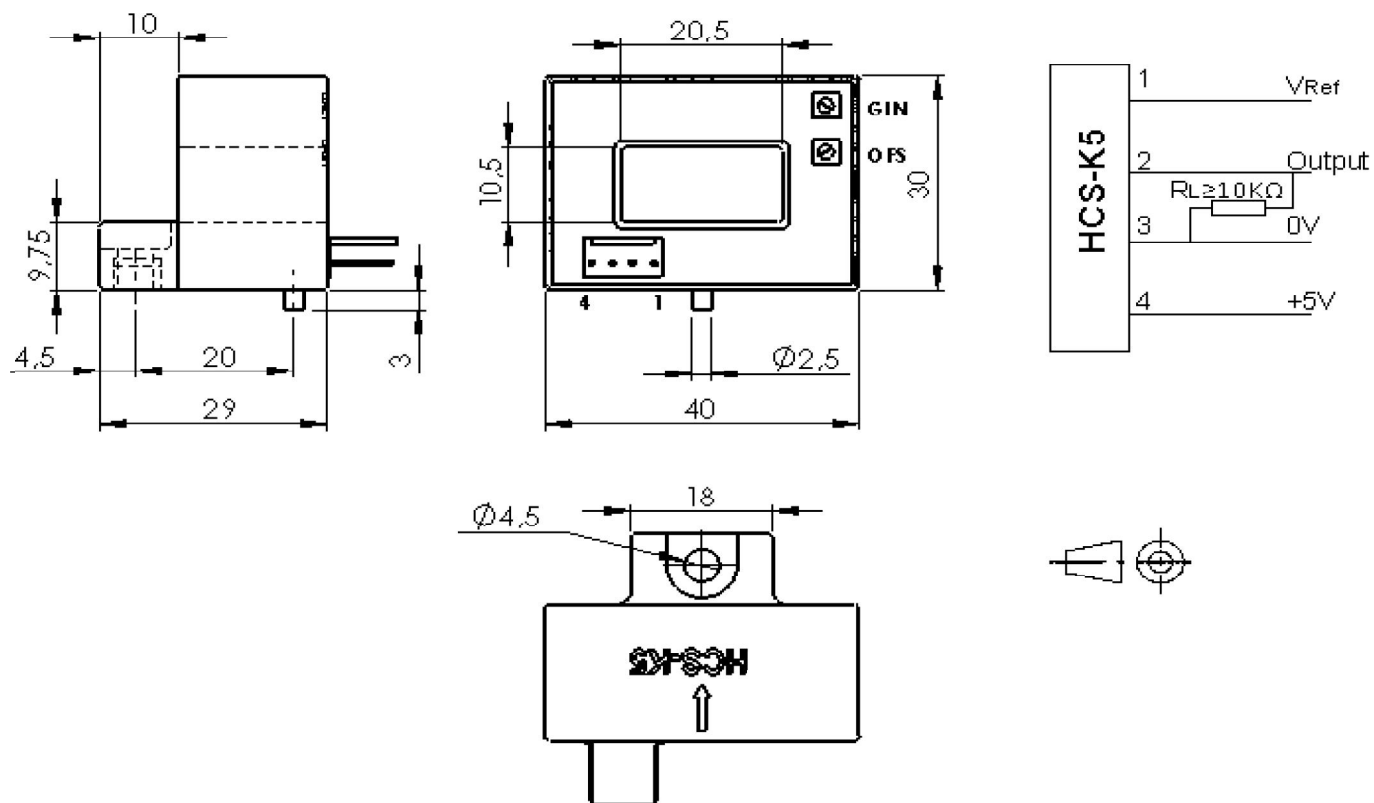
HCS-K5-...	50A	100A	150A	200A	300A	400A	500A	600A
Nominal rms current $I_{PN}$ (A)	50	100	150	200	300	400	500	600
Sensed current range $I_{PM}$ (A)	±100	±200	±300	±400	±600	±800	±900	±900
Output voltage @ $I_P$ (V)	$V_{OE} \pm (0,625 * I_P / I_{PN})$							
Supply voltage $V_C$ (Vdc)	+5 V $\pm 5\%$							
Static current consumption $I_C$ (mA)	15							

### ACCURACY DYNAMIC PERFORMANCE

### GENERAL & ISOLATION CHARACTERISTICS

Accuracy $X_G$ @ $I_{PN}$ , T=25°C	± 1	%	Operating temperature range	-40 to +85	°C
Offset voltage $V_{OE}$ @ $I_P=0$ , T=25°C	2,5±0,025	V	Storage temperature	-40 to +125	°C
Offset voltage drift @ -40 to +85 °C	$I_{PN}=50A$	≤ ± 2	Insulation voltage (50Hz, 1mn)	2,5	KV
	Other	≤ ± 1			
Hysteresis offset voltage $V_{OH}$ @ -40 to +85 °C	$I_{PN}=50A$	± 20	Weight	65	g
	Other	± 15			
Linearity error $\epsilon_L$	≤ 1	% FS			
Response time $t_r$	≤ 3	µs			
di/dt accurately followed	>100	A/µs			
Bandwidth (-1db)	DC to 30	Khz			

## DIMENSIONS



## MECHANICAL CHARACTERISTICS

General tolerance	$\pm 0,2$ mm
Primary square through hole size	20,5 x 10,5 mm
Transducer fastening	M4
Recommended fastening torque	< 1,5 Nm
Terminal connection	Molex 5045-04A

### **Cautions :**

$I_S$  is positive when  $I_p$  flows in accordance with 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;  
 To achieve the best magnetic coupling, the primary winding must be wound around the top edge of the sensor.

### **Required connection circuit :**

See drawing above.

**WARNING : Incorrect wiring may cause damage to the sensor.**