

## Hall Current Sensor CYHCS004



### Electrical Data/Input

Primary Nominal RMS Current $I_r$ (A)	Primary Current Measuring Range $I_p$ (A) at $V_{cc}=15V$ (12V)	Primary Conductor $\varnothing$ (mm)	Part number
3	$\pm 9$ ( $\pm 6$ )	0.6	CYHCS-D0030
5	$\pm 15$ ( $\pm 10$ )	0.8	CYHCS-D0050
10	$\pm 30$ ( $\pm 20$ )	1.0	CYHCS-D0100
15	$\pm 45$ ( $\pm 30$ )	1.6	CYHCS-D0150
20	$\pm 60$ ( $\pm 40$ )	1.6	CYHCS-D0200
25	$\pm 75$ ( $\pm 50$ )	1.6	CYHCS-D0250
30	$\pm 90$ ( $\pm 60$ )	2.0	CYHCS-D0300
35	$\pm 105$ ( $\pm 70$ )	2.0	CYHCS-D0350
40	$\pm 120$ ( $\pm 80$ )	2.0	CYHCS-D0400
45	$\pm 135$ ( $\pm 90$ )	2.0	CYHCS-D0450
50	$\pm 150$ ( $\pm 100$ )	2.0	CYHCS-D0500

Supply Voltage  
Current Consumption  
RMS Voltage for 2.5kV AC isolation test, 50/60Hz, 1min,  
Isolation Resistance at 500V DC

$V_{cc} = \pm 12V \sim \pm 15V \pm 5\%$ ,  
 $I_c < 20mA$   
 $V_{is} < 10mA$   
 $R_{is} > 500 M\Omega$

### Electrical Data/Output

Output Voltage at  $I_r$ ,  $T_A = 25^\circ C$ :  
Output Impedance:  
Load Resistor:

$V_{out} = 4V$   
 $R_{out} < 150\Omega$   
 $R_L > 10k\Omega$

### Accuracy

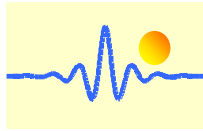
Accuracy at  $I_r$ ,  $T_A = 25^\circ C$  (without offset),  
Linearity from 0 to  $I_r$ ,  $T_A = 25^\circ C$ ,  
Electric Offset Voltage,  $T_A = 25^\circ C$ ,  
Magnetic Offset Voltage ( $I_r \rightarrow 0$ )  
Thermal Drift of Offset Voltage,  
Thermal Drift ( $-10^\circ C$  to  $50^\circ C$ ),  
Response Time at 90% of  $I_p$  ( $f = 1kHz$ )  
Frequency Bandwidth (-3dB),

$X < 1.0\%$   
 $E_L < 1.0\%$   
 $V_{oe} < 40mV$   
 $V_{om} < 15mV$   
 $V_{ot} < 2mV/^\circ C$   
T.C.  $< \pm 0.1\% /^\circ C$   
 $t_r < 3\mu s$   
 $f_b = 50 kHz$

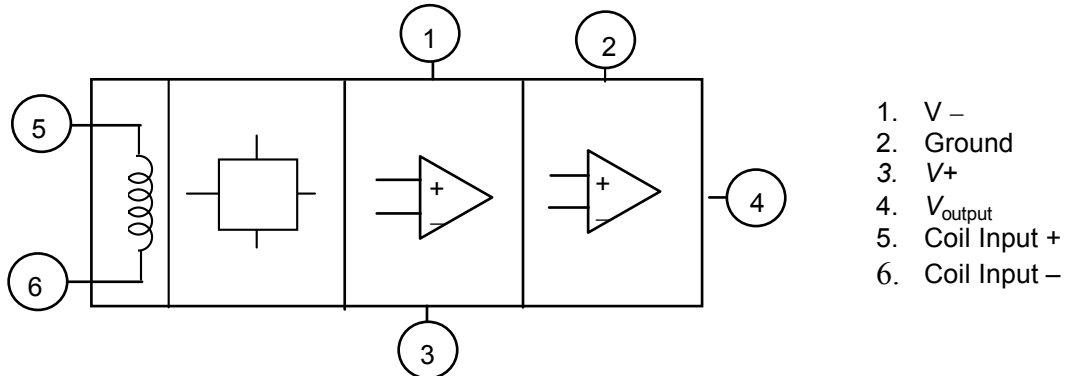
### General Data

Ambient Operating Temperature,  
Ambient Storage Temperature,

$T_A = -10^\circ C \sim +80^\circ C$   
 $T_S = -25^\circ C \sim +85^\circ C$

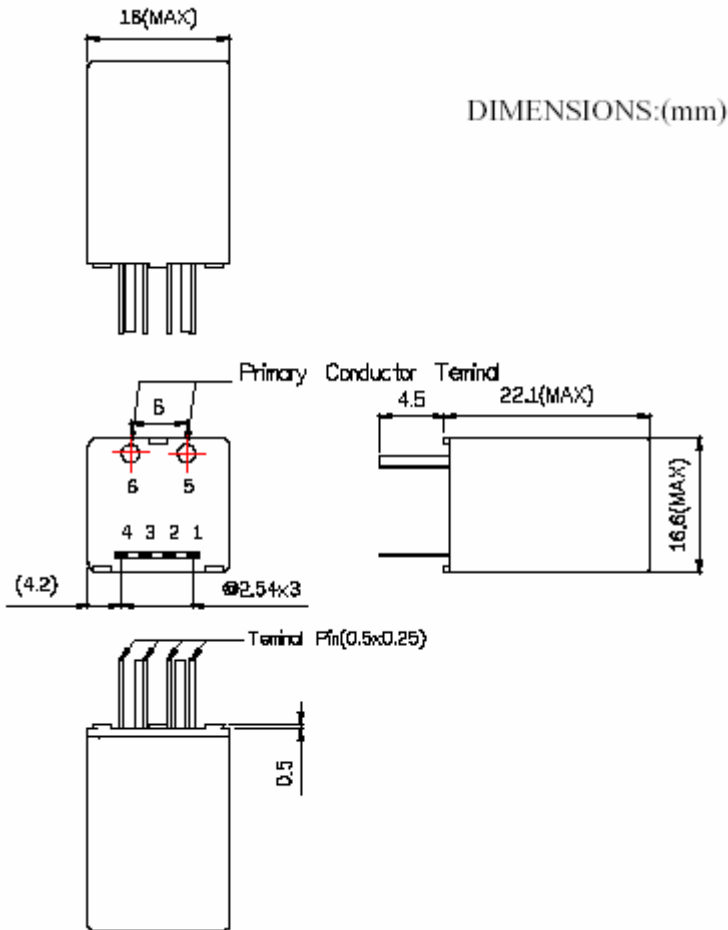


### Functional Block Diagram



- 1. V -
- 2. Ground
- 3. V+
- 4. V<sub>output</sub>
- 5. Coil Input +
- 6. Coil Input -

### PIN Definition

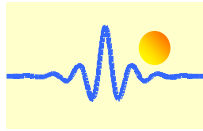


### Terminal PIN Definition

- 1. V-
- 2. Ground
- 3. V+
- 4. Output
- 5. Coil Input +
- 6. Coil Input -

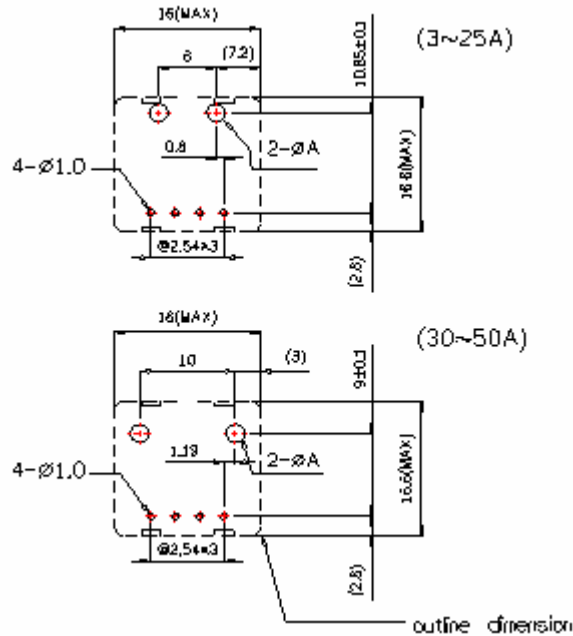
### Primary Conductor Terminal

CYHCS-D0030	Ø 0.6
CYHCS-D0050	Ø 0.8
CYHCS-D0100	Ø 1.0
CYHCS-D0150	Ø 1.6
CYHCS-D0200	Ø 1.6
CYHCS-D0250	Ø 1.6
CYHCS-D0300	Ø 2.2
CYHCS-D0350	Ø 2.2
CYHCS-D0400	Ø 2.2
CYHCS-D0450	Ø 2.2
CYHCS-D0500	Ø 2.2



## Hole Recommend

Dimensions (mm)



**Note:** The input pin pitch (between pin 5 and 6) is 6mm for Primary Nominal RMS Current 3-25A and 10mm for Primary Nominal RMS Current 30-50A

Part Name	∅A(mm)	Part Name	∅A(mm)
CYHCS-D0030	1.0	CYHCS-D0300	2.6
CYHCS-D0050	1.2	CYHCS-D0350	2.6
CYHCS-D0100	1.4	CYHCS-D0400	2.6
CYHCS-D0150	2.0	CYHCS-D0450	2.6
CYHCS-D0200	2.0	CYHCS-D0500	2.6
CYHCS-D0250	2.0		