

AC/DC Hall Current Sensor CYHCS004



Electrical Data/Input

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

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

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

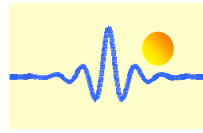
Accuracy at I_r , $T_A=25^\circ C$ (without offset),
Linearity from 0 to I_r , $T_A=25^\circ C$,
Electric Offset Voltage, $T_A=25^\circ C$,
Magnetic Offset Voltage ($I_r \rightarrow 0$)
Thermal Drift of Offset Voltage,
Thermal Drift ($-10^\circ C$ to $50^\circ C$),
Response Time at 90% of I_p ($f=1kHz$)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

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

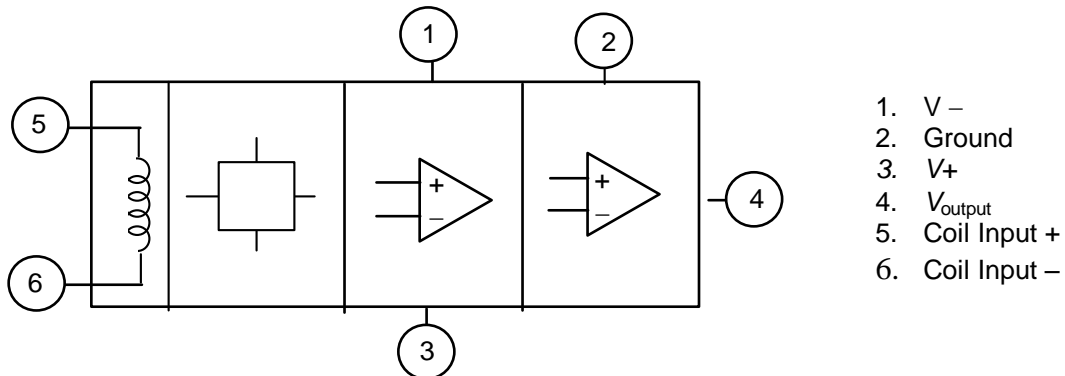
General Data

Ambient Operating Temperature,
Ambient Storage Temperature,

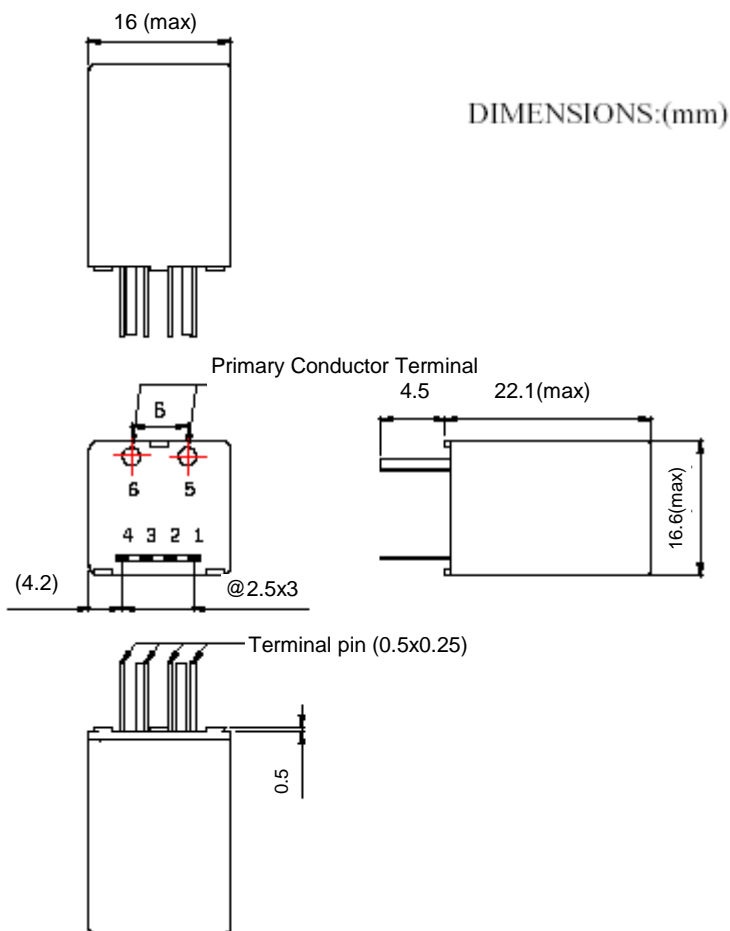
$T_A = -10^\circ C \sim +80^\circ C$
 $T_S = -25^\circ C \sim +85^\circ C$



Functional Block Diagram



PIN Definition

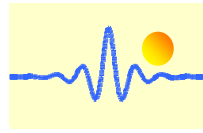


Terminal PIN Definition

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

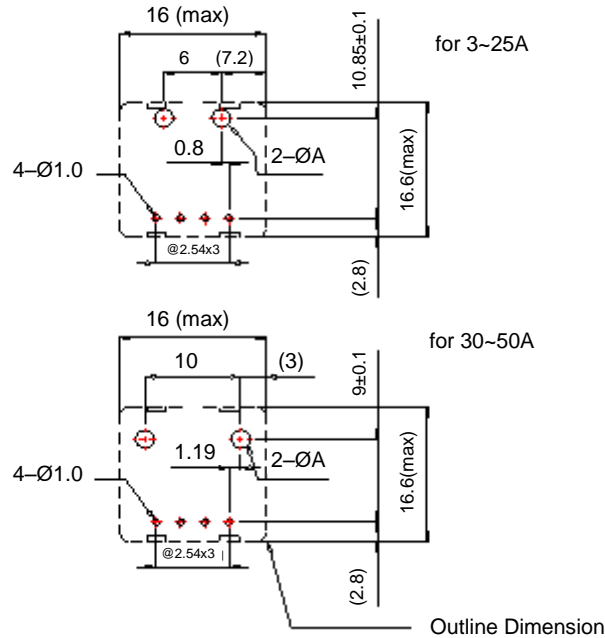
Primary Conductor Terminal

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	ØA(mm)	Part Name	ØA(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		