

DATA SHEET

Hall Effect Current Sensor

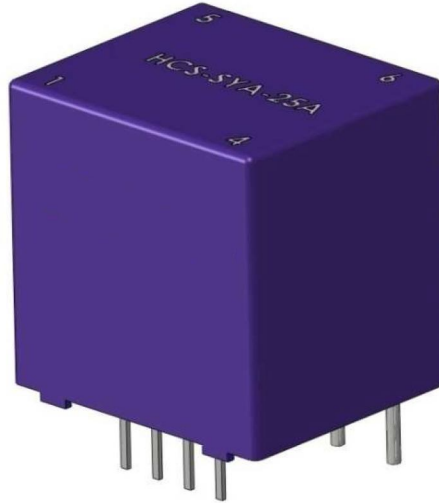
PN : HCS-SYA

IPN = 3A - 5A - 10A - 15A - 20A - 25A - 30A - 50A

Features

- Closed loop
- High accuracy
- Supply voltage : $\pm 15V$ DC
- Current output
- Small PCB mounting
- Can be customized

Very good linearity
 Low power consumption
 Good over-current capability



Applications

AC/DC variable speed motor driver
 Battery applications
 Uninterruptible power supplies (UPS)
 Switching power supplies (SMPS)

ELECTRICAL DATA

HCS-SYA-...	03A	05A	10A	15A	20A	25A	30A	50A
Nominal rms current I_{PN} (A)	3	5	10	15	20	25	30	50
Sensed current range I_{PM} (A)	± 6	± 10	± 20	± 30	± 40	± 50	± 60	± 100
Coil turns ratio K ($P^y \cdot S^y$)	7:1050	4:1000	3:1500	2:1500	1:1000	1:1250	1:1500	1:2500
Sampling resistor R_M (Ω)	200 to 400							
Rated output rms current I_{SN} (mA)	20							
Static current consumption I_C (mA)	10							
Supply voltage V_C (Vdc)	$\pm 15 \pm 0,5\%$							

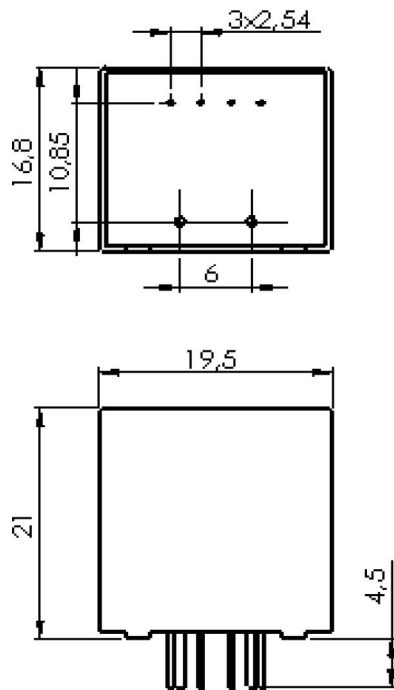
ACCURACY DYNAMIC PERFORMANCE

GENERAL CHARACTERISTICS

Accuracy X_G @ I_{PN} , $T=25^\circ C$	$\pm 0,5\%$	%	Operating temperature	-40 to +85	$^\circ C$
Zero offset current I_{OE} @ $I_p=0$, $T=25^\circ C$	$\pm 0,2$	mA	Storage temperature	-40 to +125	$^\circ C$
Offset current drift I_{OE} @ $-40^\circ C$ to $+85^\circ C$	$\leq \pm 0,005$	mA/ $^\circ C$	Insulation voltage (50Hz, 1mn)	5	KV
Linearity error ϵ_L	$\leq 0,1$	% FS	Weight	12	g
di/dt accuracy followed	> 50	A/ μs			
Response time t_r	≤ 1	μs			
Bandwidth (-3db)	DC to 200	Khz			

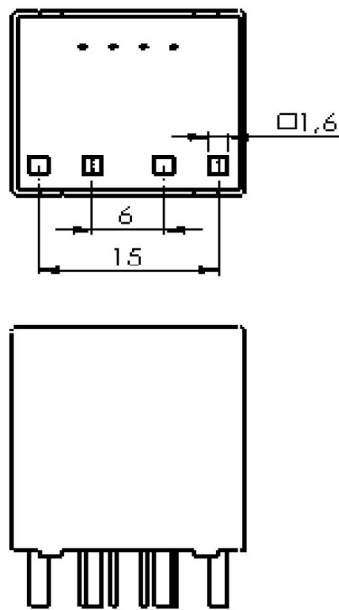
DIMENSIONS

HCS-SYA-03A to 30A

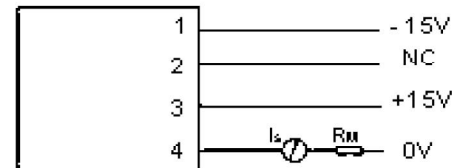
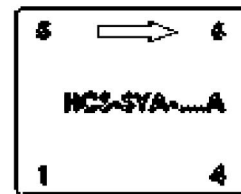


- 1 -15V
- 2 NC
- 3 +15V
- 4 Out
- 6 +IN
- 7 -IN

HCS-SYA-50A



- 1 -15V
- 2 NC
- 3 +15V
- 4 Out
- 5 +IN
- 6 +IN
- 7 -IN
- 8 -IN



MECHANICAL CHARACTERISTICS

HCS-SYA-...	03A	05A	10A	15A	20A	25A	30A	50A
Input pins (mm)	Ø 0,6	Ø 0,8	Ø 0,8	Ø 1,0	Ø 1,4	Ø 1,4	Ø 1,4	2 x Ø
Terminal connection	4 pins, size 0,25 x 0,5 mm							1,6 x 1,5
General tolerance	± 0,2 mm							

WARNING : Incorrect wiring may cause damage to the sensor.