

DATA SHEET

Hall Effect Current Sensor

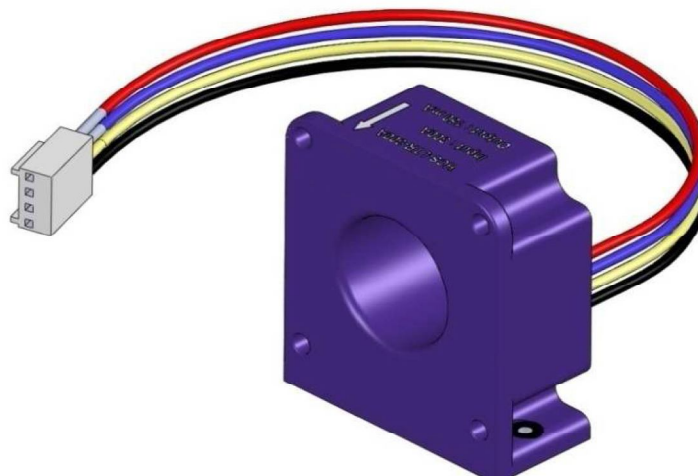
PN : HCS-LTR

IPN = 50A - 100A - 200A - 300A

Features

- Closed loop
- High accuracy
- Supply voltage : ± 12 to ± 18 V DC
- Current output
- Through hole primary
- Can be customized

Good linearity
 Fast response time
 Low temperature drift
 High anti-jamming capability
 Strong current overload
 Connection by 4 wire cable



Applications

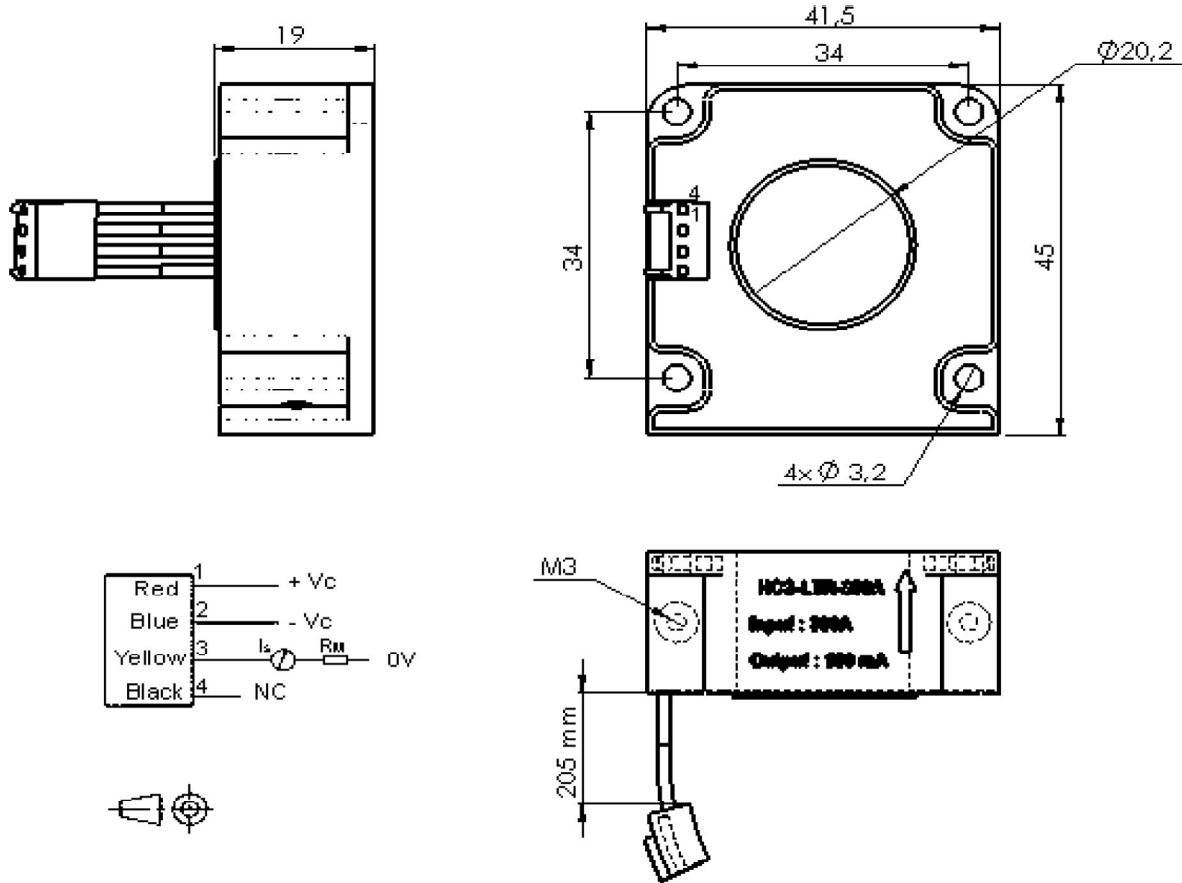
AC/DC variable speed motor driver
 Battery applications
 Uninterruptible power supplies (UPS)
 Power supplies for welding applications

ELECTRICAL DATA

HCS-LTR-...		50A	100A	200A	300A1	300A2	
Nominal rms current I_{PN} (A)		50	100	200	300	300	
Sensed current range I_{PM} (A) with $V_C = \pm 18$ V		± 150	± 300	± 600	± 600	± 900	
and R_M (Ω) =		100	90	35	35	20	
Measuring resistance with $V_C =$	± 12 V	@ $\pm I_P$ (A)	50	100	200	300	300
		$R_M \max(\Omega) =$	200	200	90	53	75
		@ $\pm I_P$ (A)	100	200	500	500	600
		$R_M \max(\Omega) =$	100	90	24	24	20
	± 15 V	@ $\pm I_P$ (A)	50	100	200	300	300
		$R_M \max(\Omega) =$	250	250	120	72	100
		@ $\pm I_P$ (A)	100	200	500	500	600
		$R_M \max(\Omega) =$	130	120	35	36	36
Coil turns ratio K ($P^N:S^N$)		1:1000	1:2000	1:2000	1:2000	1:3000	
Secondary coil resistance Ω		10	20	20	20	34	
Rated output current I_{SN} (mA)		50	50	100	150	100	
Supply voltage V_C (Vdc)		± 12 $\pm 5\%$ to ± 18 $\pm 5\%$					
Static current consumption I_{CO} (mA)		≤ 20					
Current consumption I_C (mA)		$20 + I_S$					

ACCURACY DYNAMIC PERFORMANCE			GENERAL CHARACTERISTICS		
Accuracy X_G @ I_{PN} , $T=25^\circ\text{C}$	$\pm 0,5$	%	Operating temperature	-40 to +85	$^\circ\text{C}$
Zero offset Current I_O @ $I_P=0$, $T=25^\circ\text{C}$	$\pm 0,2$	mA	Storage temperature	-40 to +125	$^\circ\text{C}$
Current offset drift I_O @ -40°C to 85°C	$\leq \pm 0,5$	mA	Weight	70	g
Linearity error ϵ_L	$\leq 0,1$	% FS	Insulation voltage (50Hz, 1mn)	6	KV
di/dt accurately followed	> 200	A/ μs	Lead length	205	mm
Response time t_r	< 1	μs			
Bandwidth (-3db)	DC to 100	kHz			

DIMENSIONS



MECHANICAL CHARACTERISTICS

General tolerance	$\pm 0,5$ mm
Through hole dimension	$\varnothing 20,2$ mm
Transducer fastening	M1,5 or 4 holes $\varnothing 3,2$ mm
Recommended fastening torque	$< 1,5$ Nm
Terminal connection	

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.

WARNING : Incorrect wiring may cause damage to the sensor.