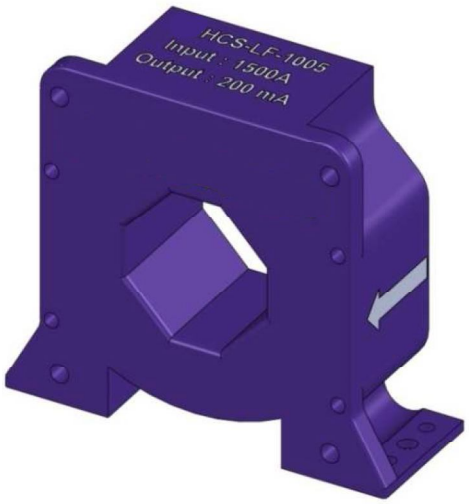
DATA SHEET
Hall Effect Current Sensor

PN : HCS-LF1005 | **IPN = 500A - 1000A**

Features

- Closed loop
- High accuracy
- Supply voltage : ±15 to ±24V DC
- Current output
- Through hole primary
- Can be customized

Good linearity
Fast response time
Low temperature drift
High anti-jamming capability
Strong current overload



Applications

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

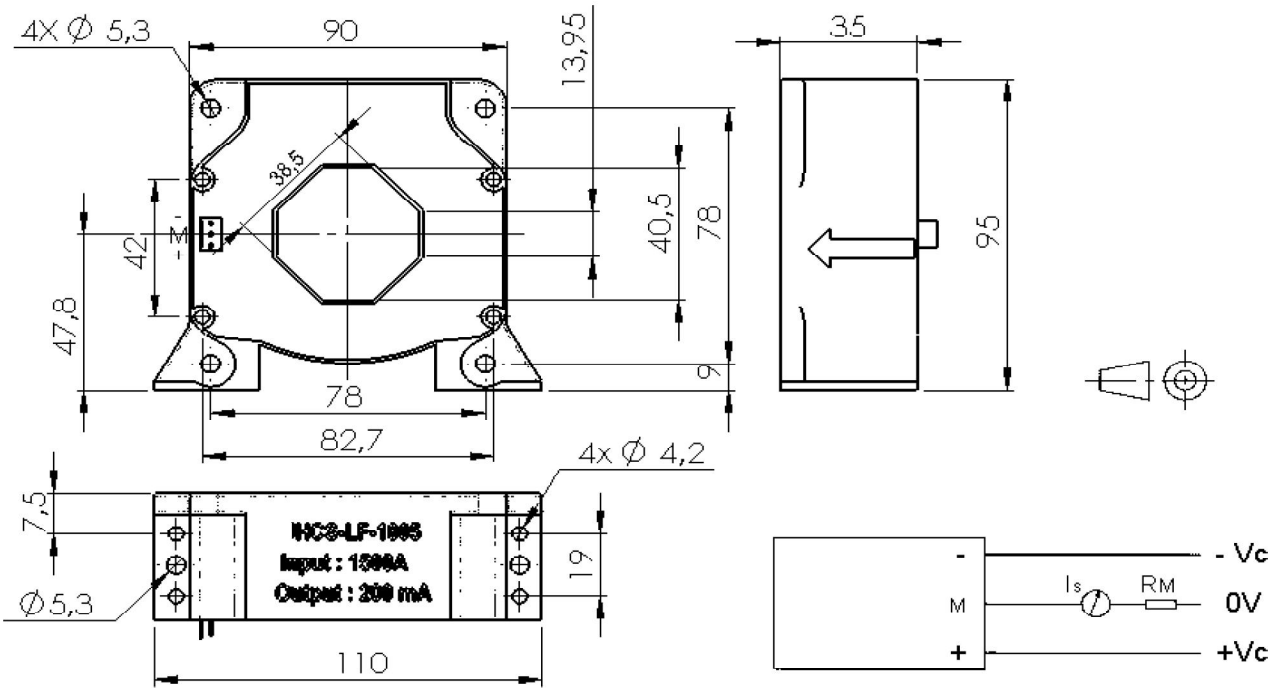
ELECTRICAL DATA

HCS-LF1005-…			500A	1000A
Nominal rms current I_{PN} (A)			500	1000
Sensed current range I_{PM} (A)			±1200	±1500
Measuring resistance with V_C=	± 15 V	@ ± I_P (A)	500	1000
		R_M max(Ω) =	100	31
		@ ± I_P max (A)	1200	1500
		R_M max(Ω) =	19	7
	± 24 V	@ ± I_P (A)	500	1000
		R_M max(Ω) =	180	71
		@ ± I_P max (A)	1200	1500
		R_M max(Ω) =	52	34
Coil turns ratio K (P^{ry}:S^{ry})			1:5000	
Secondary coil resistance R_S (Ω)			39	
Rated output current I_{SN} (mA)			100	200
Supply voltage V_C (Vdc)			±12 ±5% to ±24 ±5%	
Static current consuption I_{C0} (mA)			≤ 28	
Current consuption I_C (mA)			28 + I_S	

ACCURACY DYNAMIC PERFORMANCE			GENERAL & ISOLATION CHARACTERISTICS		
Accuracy X_G @ I_{PN}, T=25℃	± 0,2	%	Operating temperature	-40 to +85	℃
Zero offset Current I_O @ I_P=0, T=25℃	≤ ±0,2	mA	Storage temperature	-40 to +125	℃
Current offset drift @ -40℃ to 85℃	≤ ± 0,5	mA	Weight	510	g
Linearity error ε_L	≤ 0,1	% FS	Insulation voltage (50Hz, 1mn)	6	KV
di/dt accurately followed	> 100	A/µs			
Response time tr	< 1	µs			
Bandwidth (-3db)	DC to150	kHz			

DIMENSIONS

HCS-LF1005



MECHANICAL CHARACTERISTICS

General tolerance	± 0,5 mm	
Octagonal through hole size	min 38,5 mm / max 40,5 mm	
Transducer fastening	vertical installation	4 holes Ø 4,2 and 4 holes Ø 5,3 mm
	horizontal installation	4 holes Ø 5,3 mm
Terminal connection	Molex 6410	

Cautions :

I_S is positive when I_P flows in accordance whith 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;
For the required connection circuit, see the drawing above.

WARNING : Incorrect wiring may cause damage to the sensor.