



Closed Loop Hall AC/DC Current Sensor

LO-CL1A-200 series of high-precision current sensors, using the hall closed loop (magnetic balance) principle. The former side of the sensor is insulated and has no position error. It is used for precise measurement of DC, AC and pulse currents.

Product Features:

- Excellent accuracy
- Very good linearity
- Optimized response time
- No insertion losses
- High immunity to external interference
- Low temperature drift
- Wide frequency bandwidth

Application:

- AC variable speed and servo motor drives.
- Uninterruptible Power Supplies (UPS).
- Static converters for DC motor drives.
- Power supplies for welding applications.
- Battery management.
- Wind energy inverter

Electric Specifications						
ITEM	SYMBOL	UNIT	MIN	TYP	MAX	COMMENT
Primary nominal rms current	I_{PN}	A	-200		200	
Primary current, measuring range	I_{PM}	A	-420		400	
Measuring resistance	R_M	Ω	0		69	@±12V,85°C, ±200A
			0		12	@±12V, 85°C, ±420A
			23		98	@±15V,85°C, ±200A
			23		26	@±15V,85°C, ±420A
Secondary nominal rms current	I_{SN}	mA	-100		100	
Secondary coil resistance	R_S	Ω			27	@ 25°C
					35	@ 85°C
Secondary current, measuring range	I_S	mA	-210		210	
Number of secondary turns	N_S	-		2000		
Theoretical sensitivity	G_{th}	mA/A		0.5		
Supply voltage	V_C	V	± 12		± 15	@ ±5%
Current consumption	I_C	mA		16+I _S		
Zero offset current	I_0	mA	-0.2		0.2	
Thermal drift of offset current	I_{0T}	mA	-0.2	±0.1	0.2	@ -40°C~85°C
Residual current@ IP=0 after 3∠IPN	I_{0M}	mA	-0.1		0.1	
Sensitivity error	\mathcal{E}_G	%	-0.1		0.1	Exclusive of I _{OE}
Linearity error 0...IPN	\mathcal{E}_L	of I_{PN}	-0.1		0.1	Exclusive of I _{OE}
Accuracy @ IPN	\mathcal{X}	% of I_{PN}	-0.2		0.2	Exclusive of I _{OE}
Response time@ 90% of IPN	T_r	us		0.5	1	
Frequency bandwidth (-1dB)	BW	kHz	100			

Instructions

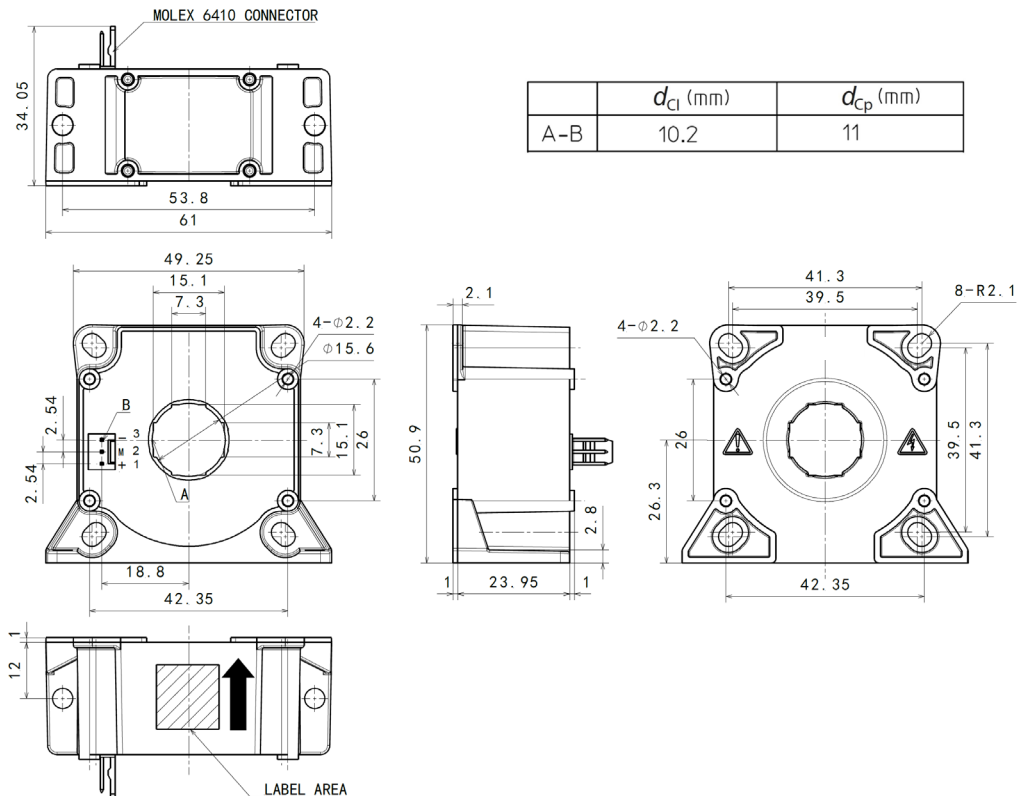
1. Incorrect wiring may cause the damage of sensor.
2. When the measured current through the center hole of the sensor, the current will be measured at the output end.
3. The dynamic performance (di/dt and the response time) is the best when the primary hole is fully filled with the bus bar.
4. User can adjust the output extent of sensor if necessary.
5. Rated input current and output voltage of sensor can be customized.

Standards

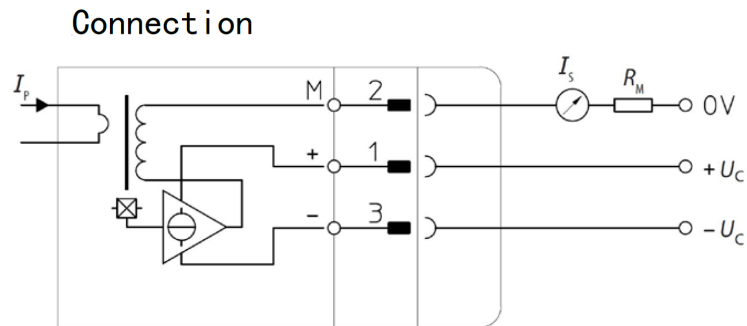
- IEC61010-1
- EN50178
- IEC61800-5-1
- UL94V-0
- RoHS Reach

Operating Conditions			
	Value	Unit	Symbol
Operating temperature	-40°C~+85°C	°C	TA
Storage temperature	40°C~+100°C	°C	TA
Weight(Appro)	85	g	M

Dimensions:



Connection Schematic:



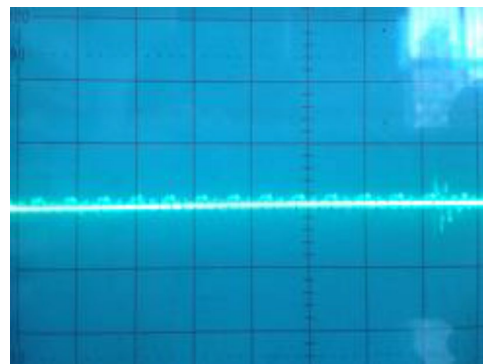
Output signal performance:



Pulse current signal response performance

Input signal

Output signal



Output voltage

Immunity to impulse voltage interference