CURRENT SENSOR

PRODUCT SERIES： STB-LF

PRODUCT PART NUMBER： STB-100LF

VERSION： Ver 1.0

Sinomags Technology Co., Ltd.

Web site: www.sinomags.com

CONTENT

1. Description

STB-LF series current sensors are based on close loop principle. The sensor can detect the current with DC, AC, pulse and irregular wave shape with current output.

Typical application

- Windmill inverters
- Test and measurement
- UPS
- AC variable speed and servo motor drives
- Switched model power supplies (SMPS)

General parameters

Parameter	Symbol	Unit	Value
Sensor operating temperature	T_A	℃	-40 ~ 85
Storage temperature	T_S	℃	-50 ~ 90
Mass	m	g	75

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage (-40℃…85℃)	Vcc_max	V	±15.75
Maximum primary conductor temperature	T_B_max	℃	100
Maximum steady state primary current (-40℃…85℃)	I_{PN}_max	A	100

Ratings

Parameter	Unit	Value
Primary involved potential	V AC/DC	1500
Maximum surrounding air temperature	℃	85
Primary current	A	0…100

Isolation parameters

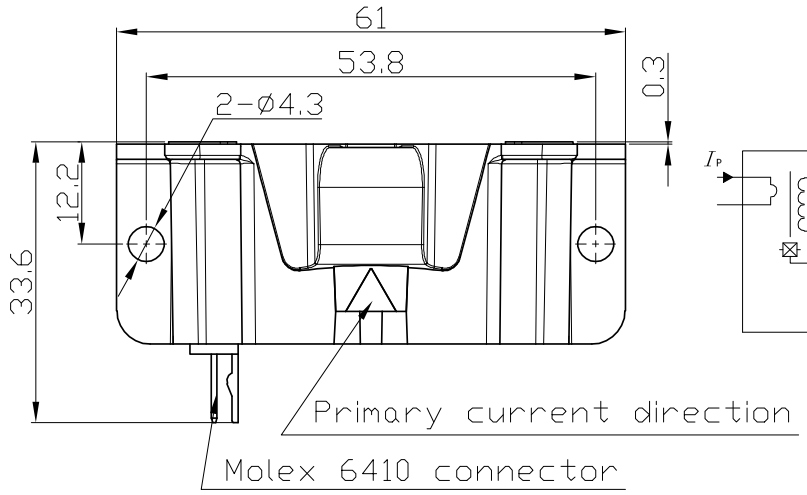
Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/1 min	Ud	kV	4	
Impulse withstand voltage 1.2/50μs	Ûw	kV	8	
Clearance distance (pri. -sec)	dCl	mm	10.2	Shortest distance through air
Creepage distance (pri. -sec)	dCp	mm	11	Shortest path along device body
Case material	-	-	V0	According to UL 94
Comparaticve tracking index	CTI		600	

2. Electrical parameters

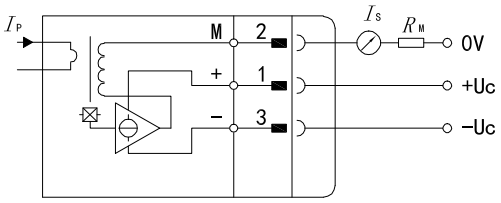
Condition: Vcc = ±15V, , T_A = 25℃,R_M=1Ω unless specified.

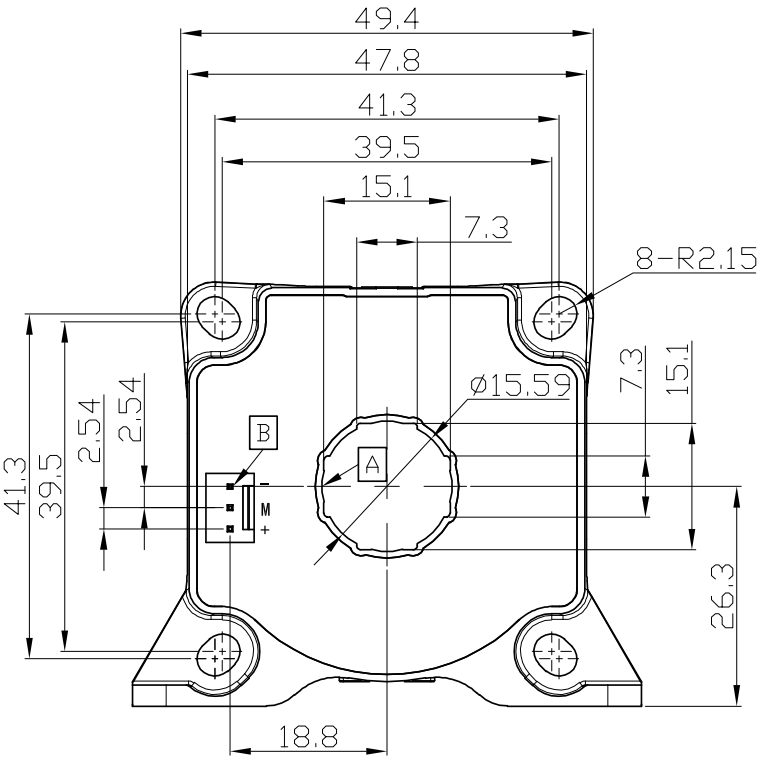
Parameters	Symbol	Unit	Min	Typ	Max	Remark
Primary nominal RMS current	I_{PN}	A			100	
Primary current measuring range	I_{PM}	A	-200		200	Vcc=±15V
Measuring resistance	R_M	Ω	0		45	
Secondary nominal RMS current	I_{SN}	A	-0.1		0.1	
Secondary current	I_S	A	-0.2		0.2	
Resistance of secondary winding	R_S	Ω			8.5	
Supply voltage	Vcc	V	±11.4		±15.75	
Current consumption	Icc	mA		35 + I_s		I
Turns ratio	N_s	NT		1000		
Norminal sensitivity	S_N	mA/A		1		
Offset current	I_O	A	-0.15		0.15	
Offset current temperature drift	I_{OT}	A	-0.2		0.2	-40℃ ~ 85℃
Sensitivity error	ξ_S	%	-0.15		0.15	
Linearity error	ξ_L	% of I_{PN}	-0.05		0.05	
RMS noise current	I_{no}	mA		20		1Hz to 100kHz
Delay time @ 10 % of I_{PN}	$t_{ra\ 10}$	μs		0.5		@10% of I_pn
Delay time @ 90 % of I_{PN}	$t_{ra\ 90}$	μs		0.5		@90% of I_pn
-3 dB band width	BW	kHz		100		
Total error at I_{PN}	ξ_{tol}	% of I_{PN}	-0.2		0.2	-40℃…85℃

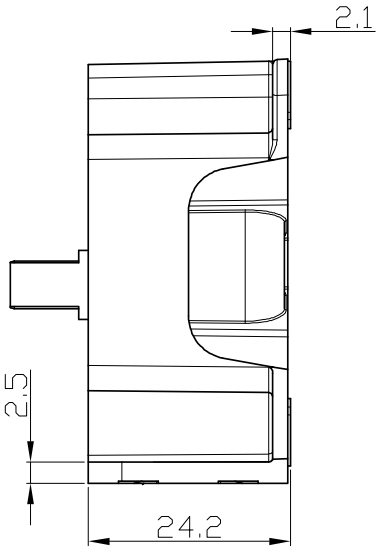
3. Dimensions:

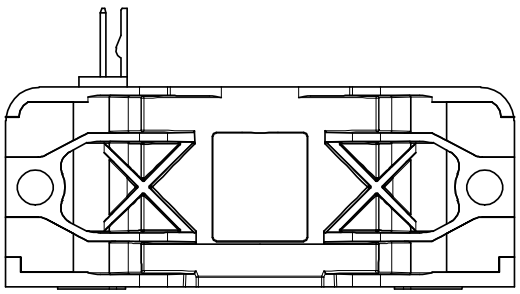


Connection









Material : Fit UL94V-0 & RoHS requirements ;
General tolerance : ±0.5
Unit :mm