CURRENT SENSOR

PRODUCT SERIES： STB-LF/6

PRODUCT PART NUMBER： STB-1000LF/6

VERSION： Ver 1.1

Sinomags Technology Co., Ltd.

Web site: www.sinomags.com

CONTENT

1. Description

STB-LF6 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

- Industrial
- Windmill inverters
- Test measurement
- UPS
- Power supplies for welding applications
- AC variable speed and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Switched Mode Power Supplies (SMPS)

General parameters

Parameter	Symbol	Unit	Value
Sensor operating temperature	T_A	˚C	-40 ~ 85
Storage temperature	T_S	˚C	-45 ~ 90
Mass	m	g	450

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage (-40˚C…85˚C)	Vcc_max	V	±25.2
Primary conductor temperature	T_B_max	˚C	100
Maximum steady state primary current (-40˚C…85˚C)	I_{PN}_max	A	1000

Isolation parameters

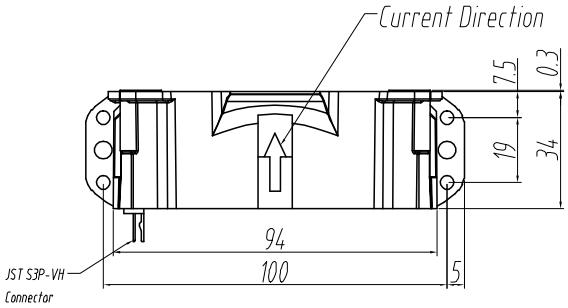
Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/1 min	Ud	kV	3.8	
Impulse withstand voltage 1.2/50μs	Ûw	kV	14.5	
Case material	-	-	V0	According to UL 94
Comparaticve tracking index	CTI		600	
Application example			1000V CAT III, PD2	Reinforced insulation, non uniform field according to EN 50178,IEC 61010
Application example			1000V CAT III, PD2	Basic insulation, non uniform field according to EN 50178,IEC 61010

2. Electrical parameters

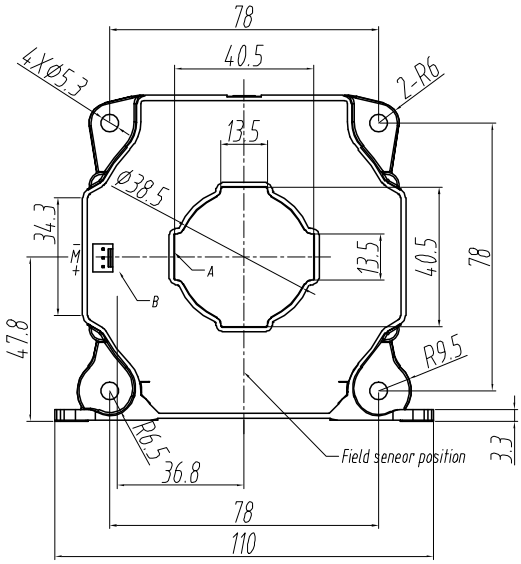
Condition: At TA = 25 °C, ±UC = ±24 V, RM = 1 Ω, unless otherwise noted. Lines with a * in the conditions column apply over the −40 … 85 °C ambient temperature range.

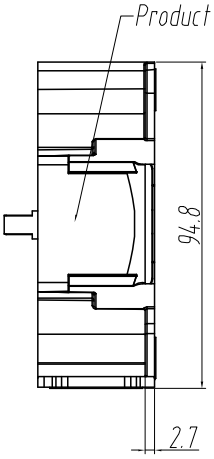
Parameters	Symbol	Unit	Min	Typ	Max	Remark
Primary nominal rms current	I_{PN}	A			1000	
Primary current measuring range	I_{PM}	A	-2100		2100	
Measuring resistance	R_M	Ω	0			
Secondary nominal RMS current	I_{SN}	A	-0.2		0.2	
Turns ratio	N_s	NT		5000		
Output range	I_S	A	-0.42		0.42	
Supply voltage	Vcc	V	±14.25		±25.2	
Current consumption	Icc	mA		44+I_s 49+I_s		±VCC=±15 ±VCC=±24
Offset current referred to primary	I_O	A		±1.1		-40℃…85℃
Magnetic offset current referred to primary	I_{OM}	A		±1		After 3* I_{PN}
Sensitivity error	ξ_s	%	-0.15		0.15	-40℃…85℃
Overall accuracy at I_{PN}	X_G	% of I_{PN}	-0.4		0.4	-40℃…85℃
Linearity error	ξ_L	% of I_{PN}	-0.15		0.15	-40℃…85℃
RMS noise current reffered to pri.	I_{no}	mA		50		1Hz to 20kHz
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
Frequency bandwidth	BW	kHz		200 100		-3dB +3dB

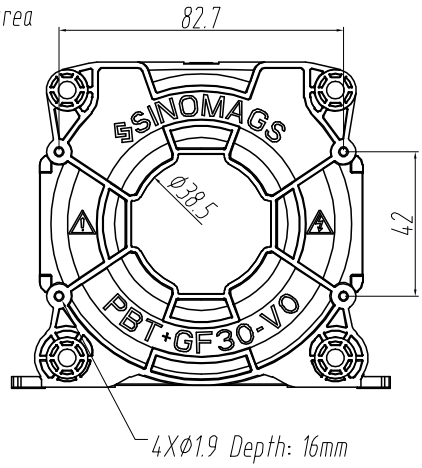
3. Dimensions:

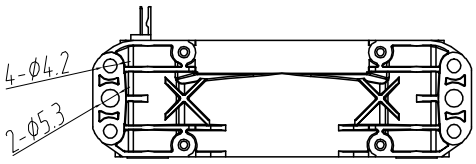


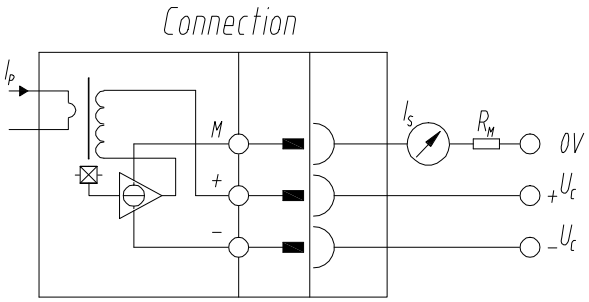
	d_{CI}	d_{CP}
A-B	16.2 mm	18.0mm



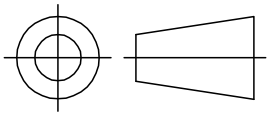








Material : Fit UL94V-0 & RoHS requirements ;
General tolerance : ±0.5
Unit :mm



Mechanical characteristics

● General tolerance	±0.5 mm
● Transducer fastening	
Vertical position	2 holes ⌀ 5.3 mm
	2 M5 steel screws
Recommended fastening torque	3.2 N·m(±10%)
Or	4 holes ⌀ 4.2 mm,
	4 M4 steel screws
Recommended fastening torque	2.1 N·m（±10%）
● Primary through-hole	⌀ 38mm
Or	40mm x 13 mm
● Transducer fastening	
Horizontal position	4 holes ⌀ 5.3 mm
	4 M5 steel screws
Recommended fastening torque	3.2 N·m (±10 %)
● Connection of secondary	Molex 6410