

CURRENT SENSOR

PRODUCT SERIES: STB-LF/7

PRODUCT PART NUMBER: STB-180LF/7

VERSION: Ver 1.0



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CONTENT

1.	Description	2
2.	Electrical parameters	3
3.	Dimensions:	4

1. Description

STB-LF/7 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

- Static converters for DC motor drives
- AC variable speed and servo motor drives
- Power supplies for welding applications
- Switched model power supplies (SMPS)
- UPS
- Battery supplied applications

General parameters

Parameter	Symbol	Unit	Value
Sensor operating temperature	T _A	°C	-15 ~ 85
Storage temperature	T _S	°C	-25~ 85
Mass	m	g	36

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage (-15°C...85°C)	V _{cc_max}	V	± 15.75
Maximum primary conductor temperature	T _{B_max}	°C	85

Ratings

Parameter	Unit	Value
Primary involved potential	V AC/DC	540
Maximum surrounding air temperature	°C	85

Isolation parameters

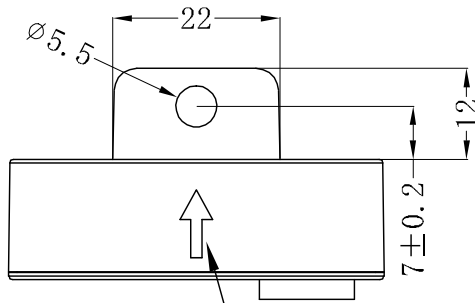
Parameter	Symbol	Unit	Value	Remark
RMS voltage for AC test 50Hz/1 min	U _d	kV	2.5	
Case material	-	-	V0	According to UL 94
Comparative tracking index	CTI		600	

2. Electrical parameters

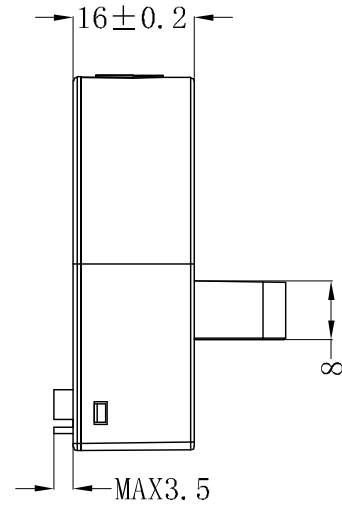
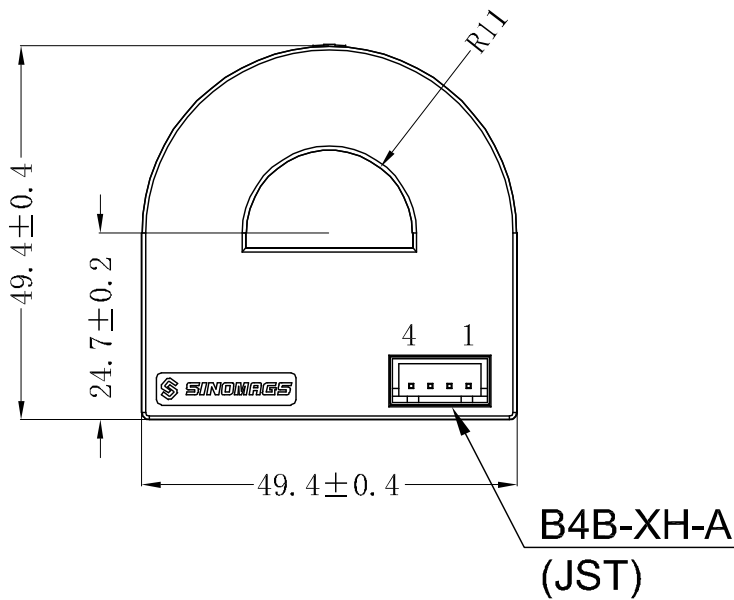
Condition: $V_{cc} = \pm 15V$, $T_A = 25^\circ C$, $R_M = 1.5\Omega - 3\Omega$ unless specified.

Parameters	Symbol	Unit	Min	Typ	Max	Remark
Primary nominal RMS current	I_{PN}	A		180		
Primary current measuring range	I_{PM}	A	-540		540	$V_{cc} = \pm 15V$
Secondary nominal RMS current	I_{SN}	mA		$I_O \pm 45$		
Resistance of secondary winding	R_S	Ω		52		
Supply voltage	V_{cc}	V	± 14.25	15	± 15.75	
Current consumption	I_{cc}	mA		$20 + I_s$		
Turns ratio	N_s	NT		4000		
Offset current	I_O	mA			± 0.20	Offset current @ $I_P = 0$, $T_A = 25^\circ C$
Offset current temperature drift	I_{OT}	mA			± 0.6	- $15^\circ C \dots + 85^\circ C$
Linearity error	ξ_L	% of I_{PN}	-0.3		0.3	
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			1	@90% of I_{pn}
di/dt accurately followed	di/dt	A/ μs	100			
Frequency bandwidth	BW	kHz		100		-1 dB band width
Total error at I_{PN}	ξ_{tol}	% of I_{PN}	-1.2		1.2	- $15^\circ C \dots + 85^\circ C$

3. Dimensions:



Current direction indicator



Terminals:

Pin 1	+
Pin 2	-
Pin 3	Output
Pin 4	GND

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

