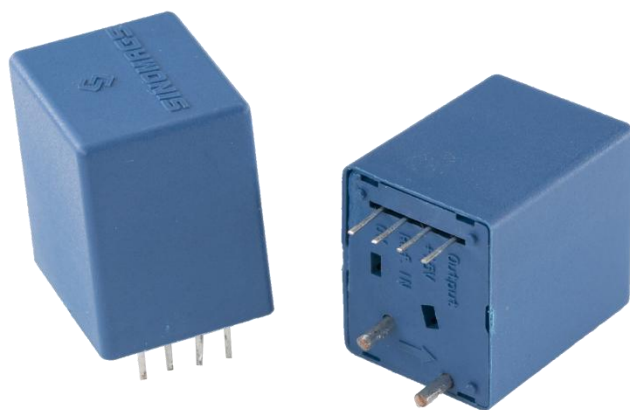


CURRENT SENSOR

PRODUCT SERIES: STB-xxHA-A3

PRODUCT PART NUMBER: STB-10HA/A3, STB-20HA/A3

VREISION: Ver 2.0



Sinomags Technology Co., Ltd.

Web site: www.sinomags.com

CONTENT

1.	Description	2
2.	STB-10/20 HA/A3 parameters	3
3.	STB-10 HA/A3: Dimensions & Pins & Footprint	4
4.	STB-20 HA/A3: Dimensions & Pins & Footprint	5

1. Description

STB-HA/A3 series current sensors are based on close loop principle with TMR technology. The sensor can detect those current with DC, AC, pulse and irregular wave shape.

Typical application

- Variable frequency converter
- Uninterruptible Power Supplies (UPS)
- Solar inverters.
- Direct-current dynamo
- Switched model power supplies (SMPS)

General parameters

Parameter	Symbol	Unit	Value
Working temperature	T_A	°C	-40 ~ 85
Storage temperature	T_{stg}	°C	-40 ~ 105
Mass	m	g	13

Absolute parameters

Parameters	Symbol	Unit	Value
Supply voltage	V_{cc_max}	V	18
ESD rating (HBM)	U_{ESD_HBM}	kV	4

Remark: the unrecoverable damage may occur when the product works on the conditions over the absolute maximum ratings. Long-time working on the absolute maximum ratings may cause the degradation on performance and reliability.

Electrical data

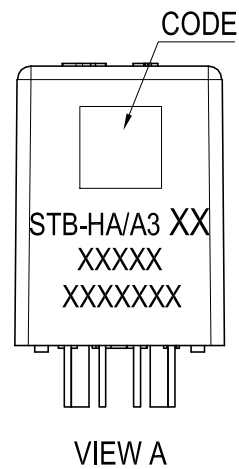
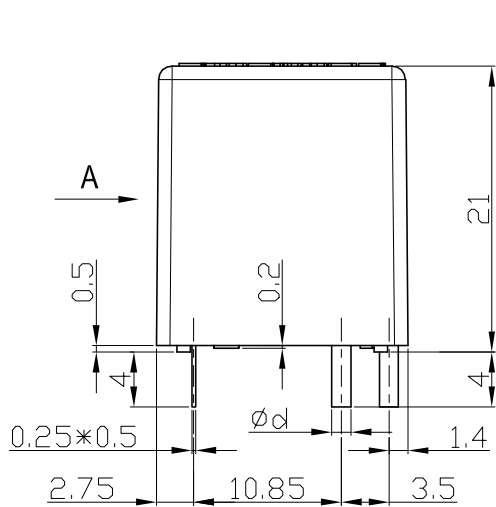
Primary nominal rms current I_{PN} (A)	Primary current measuring rang I_{PM} (A)	Primary conductor diameter x turns (mm)	Type
10	±30	1.3d x 2T	STB-10HA/A3
20	±60	1.6d x 1T	STB-20HA/A3

2. STB-10/20 HA/A3 parameters

Condition: $V_{CC} = 15.0\text{ V}$, $N_P = 2$, $R_L = 10\text{ k}\Omega$, $T_A = 25^\circ\text{C}$, unless specified.

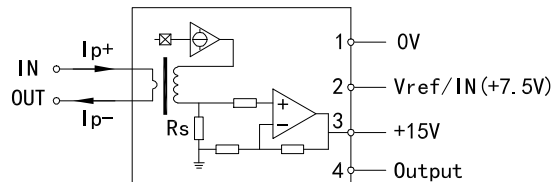
Parameters	Symbol	Unit	Min.	Typ.	Max.	Remark
Output Voltage	V_{out}	V	$V_{oe}-1.64$	$V_{oe}\pm 1.66$	$V_{oe}+1.68$	All series
Supply Voltage	V_C	V		$15 \pm 5\%$		All series
Current consumption	I_C	mA		$10 + I_P \cdot N_P / N_S$		STB-10HA/A3 $N_S: 1000$ $N_P: 2$ STB-20HA/A3 $N_S: 1000$ $N_P: 1$
Linearity ($0 \dots \pm I_{PN}$)	ϵ_L	% of I_{PN}		± 0.5		All series
Accuracy @ I_{PN}	X			$< \pm 1.2\%$		$T_A = 25^\circ\text{C}$ (excluding offset) of I_{PN}
Electrical offset voltage	V_{OE}	mV		$V_{ref} \pm 40$ (mv)		$I_{PN} = 0\text{ A}$
Hysteresis offset voltage	V_{OH}			$< \pm 35\text{ mV}$		@ $I_P = 0$, after an excursion of $3 \times I_{PN}$
Reference voltage-Input	V_{ref}	V	7.45	7.5	7.55	All series
Thermal drift of offset	TCV_{OE}	% of I_{PN}		± 1.8		$-40 \sim 85^\circ\text{C}$
Thermal drift of gain	TCV_O	%		± 1.5		$-40 \sim 85^\circ\text{C}$
Step response time	t_r	μs			3	All series
Frequency bandwidth (-3dB)	BW	kHz	50			All series

3. STB-10 HA/A3: Dimensions & Pins & Footprint



VIEW A

Electrical diagrams:



Terminal:

STB	10HA/A3
d	1.3x2T

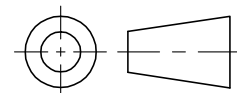
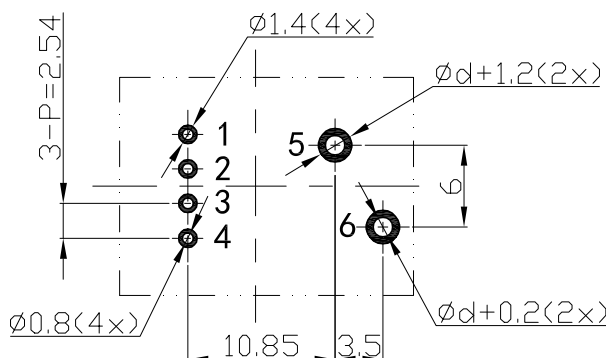
10HA/A3 Terminals:

- 1: 0V
- 2: Ref. IN (+7.5V)
- 3: +15V
- 4: Output
- 5: Input Current (+)
- 6: Input Current (-)

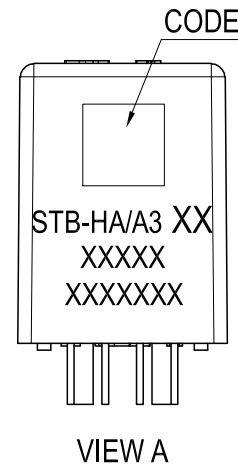
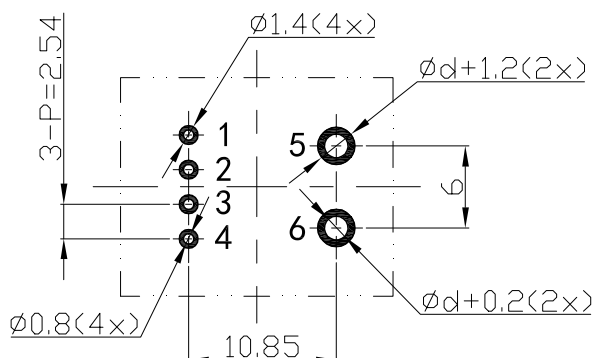
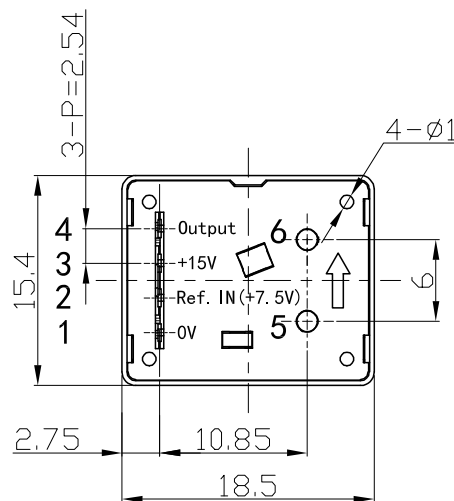
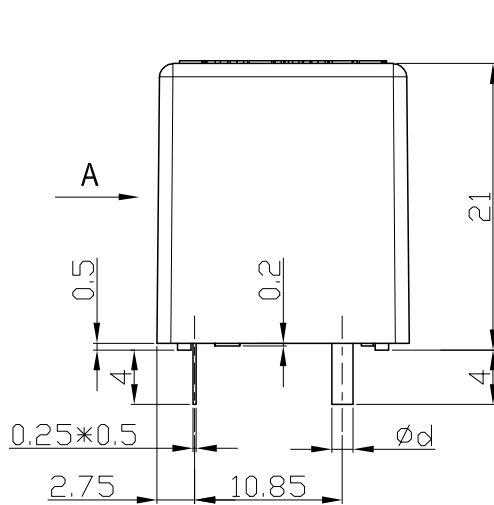
Material : Fit UL94V-0 & RoHS requirements ;

General tolerance : ± 0.5

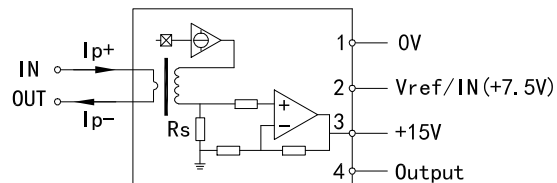
Unit : mm



4. STB-20 HA/A3: Dimensions & Pins & Footprint



Electrical diagrams:



Terminal:

STB	20HA/A3
d	1.6x1T

20HA/A3 Terminals:

- 1: 0V
- 2: Ref. IN(+7.5V)
- 3: +15V
- 4: Output
- 5: Input Current (+)
- 6: Input Current (-)

Material : Fit UL94V-0 & RoHS requirements ;

General tolerance : ± 0.5

Unit :mm

