

CURRENT SENSOR APPLICATION



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Residential Energy Storage Inverter
户用储能逆变器

Founded in 2013, Sinomags is dedicated to the development and production of magnetic sensors. we have four subsidiary companies in Germany, Wuxi, Ningbo, and Bengbu.

The company's R&D team consists of more than 250 R&D personnel with a number of experts in the field of magnetism and power electronics as the core, covering the design development and production of the whole industrial chain from xMR wafers to sensor modules.

1200/250 employees

1200 employees, 250 R&D staff

500 Mpcs

Wafer capacity 500 million pcs/year

100 Mpcs

2022 *current sensor* production capacity exceeds 100 million

250 Mpcs

Cumulative *current sensor* shipments of approximately 250 million units



○ **Wuxi**

R&D & Headquarter

○ **Bengbu**

Production for Current Sensor

○ **Ningbo**

R&D & Production for Current Sensor

○ **Mainz**

Waferfab for magnetic sensor

○ **Wetzlar**

R&D Center for magnetic sensor



Residential Energy Storage Inverter

Small size

Low cost

Full range of products

🏠 Type: Single-P (Energy storage) (Power: 3~10 kw)

AFCI Function			MPPT function		
Applied Current Sensor					
PN-01	SCT-CTS/P1		PN-01	STK-PL/A	
			PN-02	STK-616TM, STK-616KM	
			PN-03	STK-HD/K, STK-HD/P, STK-HD/S	
DCR	0.4~1.0	Ω	Vcc	3.3, 5	V
Induc. L	0.4~0.5	mH	I _{pn}	3~65	A
I _{PM}	50	A	I _{pm}	7.5~125	A
			F _{band}	400~1500	kHZ
			t _r	0.3~1.5	μs
			Acc.	1.5~3	%FS



AC current			Residual current		
Applied Current Sensor					
PN-01	STK-PL/A		PN-01	STK-1.0P/M1S-1	
PN-02	STB-CAS/R/F		PN-02	STK-0.3P/M1	
PN-03	STK-HD/K, STK-HD/P, STK-HD/S				
Vcc	3.3, 5	V	Vcc	5	V
I _{pn}	3~75	A	I _{pn}	0.3, 1	A
I _{pm}	7.5~220	A	I _{pm}	0.5, 1.7	A
F _{band}	400~800	kHZ	F _{band}	0.7	kHZ
t _r	0.3~1.5	μs	t _r	700.0	μs
Acc.	1.1~3	%FS	Acc.	4	%FS

DCDC to Battery		
Applied Current Sensor		
PN-01	STK-PL/A	
PN-02	STK-616TM, STK-616KM	
PN-03	STK-HD/K, STK-HD/P, STK-HD/S	
Vcc	3.3, 5	V
I _{pn}	3~65	A
I _{pm}	7.5~125	A
F _{band}	400~1500	kHZ
t _r	0.3~1.5	μs
Acc.	1.5~3	%FS

🏠 Type: Three-P (Energy storage) (Power: 5-10kw)

AFCI Function			String current		
Applied Current Sensor					
PN-01	SCT-CTS/P1, SCT-CTS/P2~P5		PN-01	STK-CTS/P5, STK-CTS/P6	
DCR	0.4~1	Ω	Vcc	5	V
	0.8~2	Ω	I _{pn}	10~32	A
Induc. L	0.4~0.5	mH	I _{pm}	25~50	A
I _{PM}	0.53~0.58	mH	F _{band}	400	kHZ
	50, 150	A	t _r	1	μs
			Acc.	2.5~3	%FS

MPPT function			AC current		
Applied Current Sensor					
PN-01	STK-PL/A		PN-01	STB-CAS/R/F	
PN-02	STK-616TM		PN-02	STK-PL/A	
PN-03	STK-616KM		PN-03	STK-HD/K	
PN-04	STK-HD/K, STK-HD/P, STK-HD/S				
Vcc	3.3, 5	A	Vcc	5	V
I _{pn}	3~65	kHZ	I _{pn}	6~50	A
I _{pm}	7.5~125	μs	I _{pm}	20~220	A
F _{band}	400~1500	A	F _{band}	400~600	kHZ
t _r	0.3~1.5	kHZ	t _r	0.3~1.5	μs
Acc.	1.5~3	μs	Acc.	1.1~1.6	%FS

Residual current			AC (load)		
Applied Current Sensor					
PN-01	SFG-0.3P/S2-1		PN-01	STB-CAS/x	
			PN-02	STK-PL/A	
				STK-HD/K, STK-HD/P	
Vcc	5	A	Vcc	3.3, 5	V
I _{pn}	0.3	kHZ	I _{pn}	5~75	A
I _{pm}	0.5	μs	I _{pm}	25~220	A
F _{band}	0.7	A	F _{band}	400~600	kHZ
t _r	700	kHZ	t _r	0.3~1.5	μs
Acc.	4	μs	Acc.	1.1~3	%FS