SINOMAGS
希 磁 科 技

CURRENT SENSOR

PRODUCT SERIES： SFG-X.XCPL/A4S

PRODUCT PART NUMBER： SFG-0.3CPL/A4S

REVISION： Ver 1.3

Sinomags Technology Co., Ltd.

Website: www.sinomags.com

CONTENT

1. Description

Features

- High and low level output
- Single supply voltage
- Self-check function
- Cobalt base magnetic ring.

Advantages

- Stable accuracy
- Low hysteresis
- Short response time
- Compact design

Applications

- Ground fault detection
- Converer leakage current detection
- Electric vehicle charge station
- IC-CPD
- Wallbox

Standards

- EN 50178
- IEC 62752 IEC62955
- IEC 61851
- UL1741 UL508 UL94-V0

2. Absolute parameter

Absolute maximum ratings

Parameter	Symbol	Unit	Min	Typ	Max
Supply voltage	Vc	V			5.5
Ambient operating temperature	T_A	℃	-40		105
Ambient storage temperature	T_A	℃	-40		105

Stresses above these ratings may cause permanent damage. Exposure to absolute maximum ratings for extended periods may degrade reliability.

Isolation parameters

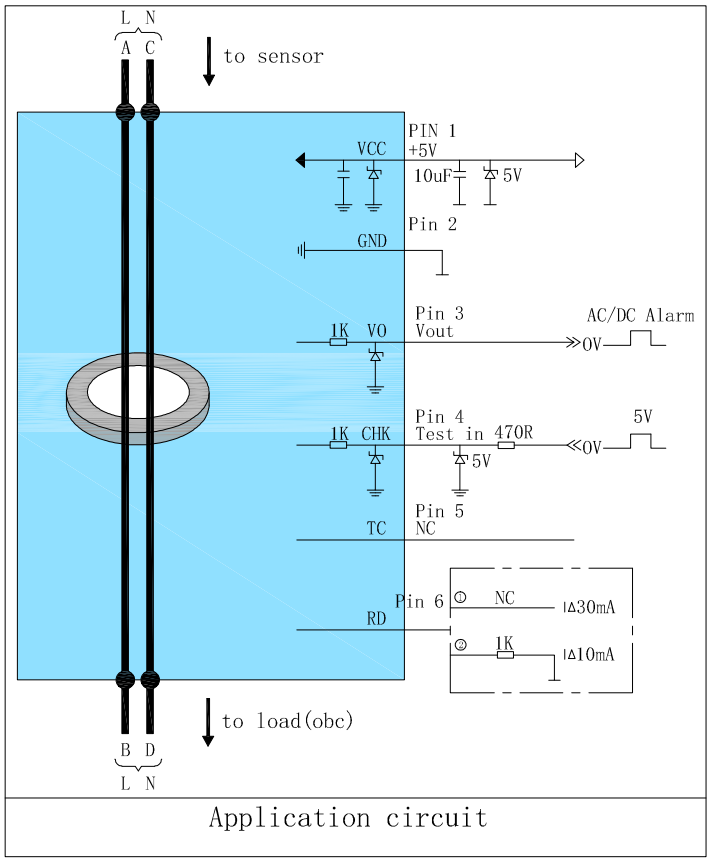
Parameter	Symbol	Unit	Value
RMS voltage for AC test 50Hz/1min	V_d	kV	3
Impulse withstand voltage 1.2/50μs	V_w	kV	7
Lightning surge current 8/20μs	I_{LS}	kA	5
Comparative tracking index	CTI	V	600
Application example	-	V	600,CAT III,PD2

3. Electrical data

at T_A= 25℃, V_C=5 V.

Parameters	Symbol	Unit	Min	Typ	Max	Remark
Supply voltage	V_C	V	4.9	5	5.1	
Current consumption	I_C	mA		25	30	
Output voltage (Check function)	V_{CK}	V		Vc		
Check current	I_{CK}	mA		30		
Check enable voltage	V_{CE}	V	3.3		Vc	
Check disabled voltage	V_{CD}	V		< 0.2		
Power on initialization	ton	ms			60	
DC trigger level	\	mA			6	
AC trigger level	\	mA			30	
Break time 30 mA AC	\	ms	40		60	
Break time 60 mA AC	\	ms	15		25	
Break time 150 mA AC	\	ms	6		10	
Break time 6 mA DC	\	ms	100		300	
Primary nominal RMS current	I_M	A		80		

4. Application information

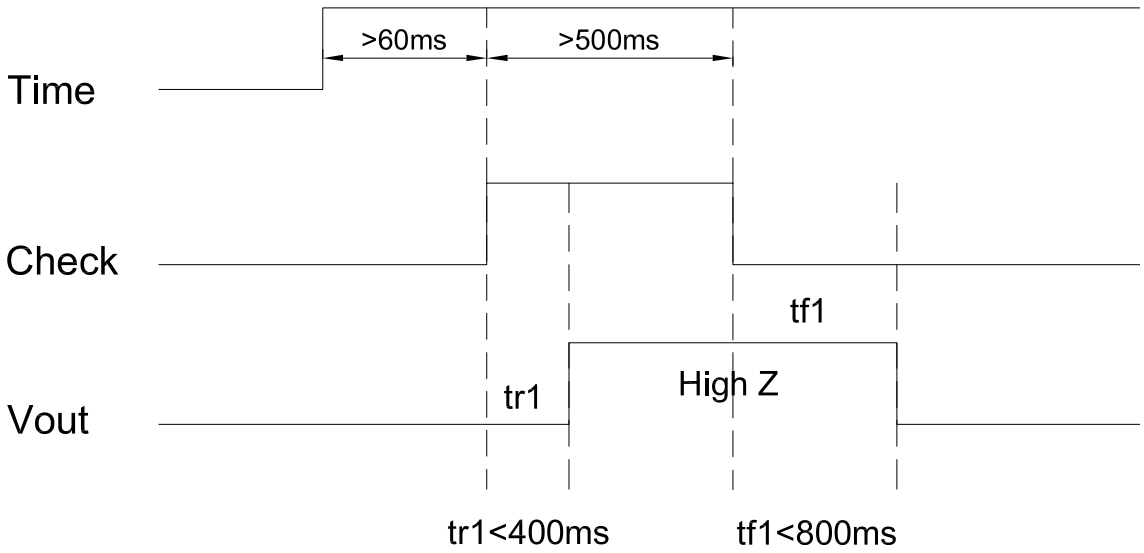


Application circuit

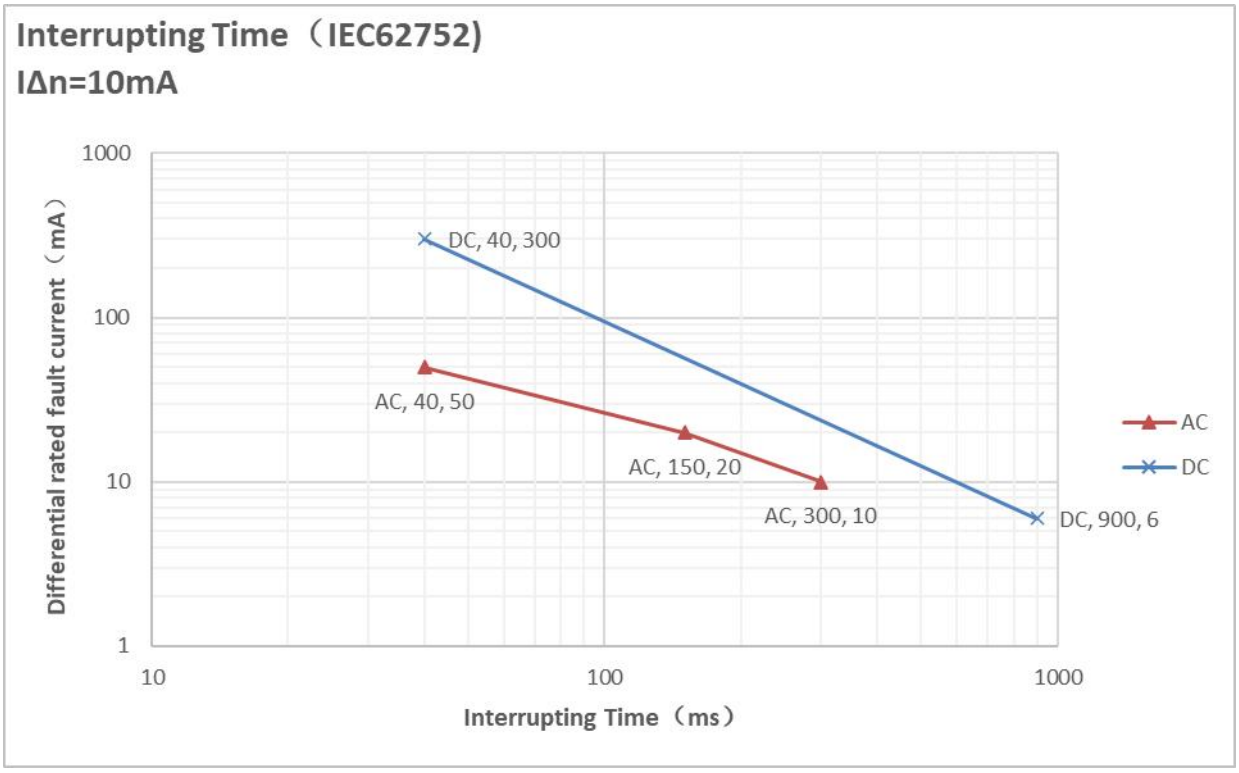
Self-check Function

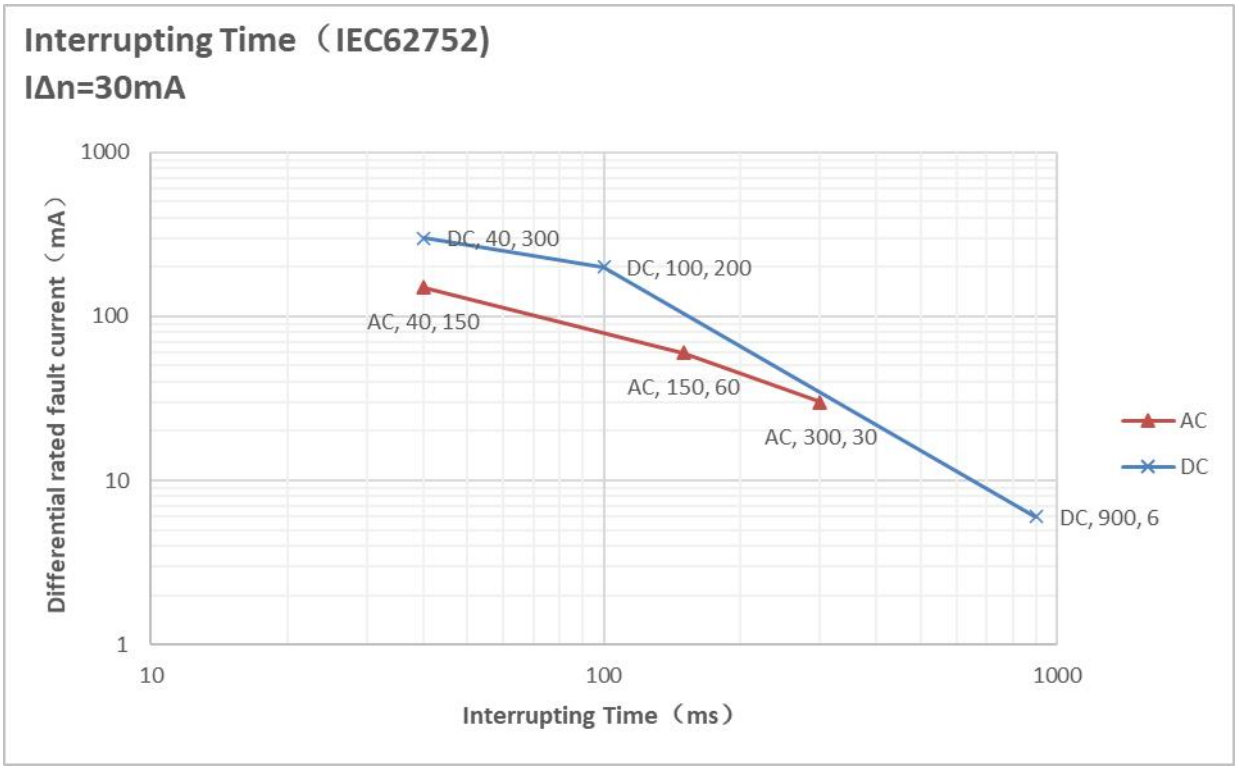
When the main circuit is not working, the system leakage current is 0, the Vout = Low level (0v).
(a) .when the CHK PIN is placed at high level (3.3~5V), Vout rises from Low level to high level(Vcc);
(b) .when the CHK PIN is placed at low level (< 0.2V), the self-generated the Vout drops to Low level (0v).
When the above (a) and (b) are completed, the leakage current sensor is judged to have normal function.
When the self-check function is not used, add a 0Ω resistance to the CHK PIIN and ground it.

Self-check Timing Diagram

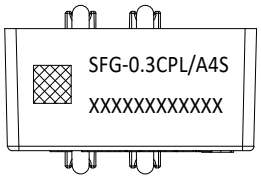


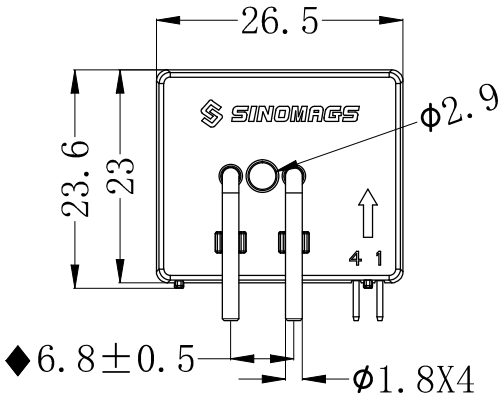
Interrrupting Time（IEC62752）

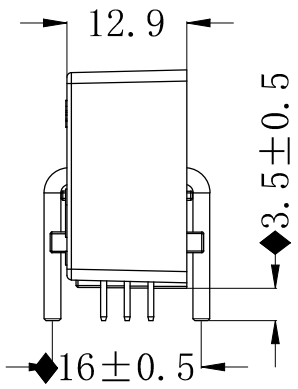


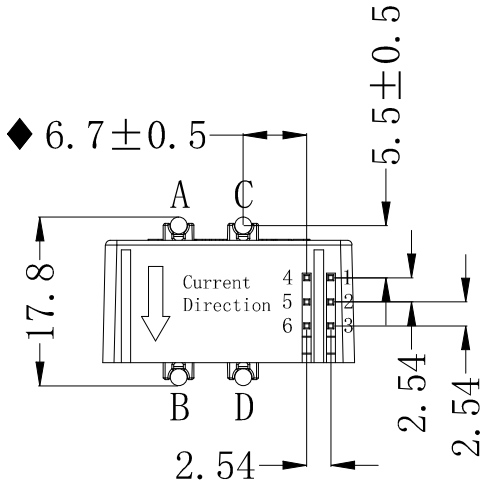


5. Dimensions (in mm)



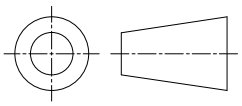






No.	Symbol	Description
1	VCC	Power supply
2	GND	Power GND
3	VO	High and low level output
4	CHK	Product Self-Check input
5	TC	NC-Float
6	RD	Version Conversion(①& ②)*
A-D	IP	Primary Current

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



Pin Definition

No.	Symbol	Description	
1	VCC	Power supply	***Note**:①:The default version(I△30mA); ②:Connect 1K resistance to ground version (I△10mA).
2	GND	Power GND	
3	Vo	High and low level output	
4	CHK	Product Self-Check input	
5	TC	NC-Float	
6	RD	Version Conversion(①&②)*	
A-D	IP	Primary Current	

更新履历：

V1.0 初版

V1.1 datasheet 增加脱扣参数细节判断

V1.2 增加丝印内容，产品内部添加屏蔽壳

V1.3 变更丝印内容为：SFG-0.3CPL/A4S