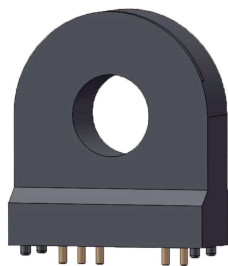




HFCF-F06

FLUXGATE CURRENT SENSOR



Features

- Fluxgate current sensor
- Digital open-drain output and PWM output
- Error output for system fault indication
- All-in-One highly integrated digital residual current action indicator
- On-board residual current protection modules for charging piles
- Meets IEC62955, IEC62752, UL 2231 requirements for residual current operating characteristics

SCOPE OF APPLICATION

HFCF-F06 Inspection modules are integrated with instrument transformers.
Measurement of various irregular waveform current under electrically isolated conditions.

ELECTRICAL DATA (Ta=25°C)

Type	Sym	Min	Typ	Max
Supply voltage	V _{DD}	4.85V	5V	5.15V
Power Consumption	P _C			110mW
Voltage input/output, low level	V _L	0V		0.6V
Voltage input/output, high level	V _H	4.2V		5V
Ambient operation temperature	T _A	-40°C		+105°C
Ambient storage temperature	T _S	-40°C		+105°C
Theoretical design life ¹	—		20Yr	
Operating altitude ²	—			4000m

RESIDUAL CURRENT RELATED CHARACTERISTICS

Parameter	Sym	HFCF-F06/ D-S5-1	HFCF-F06/ D-S5-2	HFCF-F06/ D-S5-3
Rated residual operating current (DC)	I _{AN1}	6mA DC	6mA DC	56mA DC
Rated residual operating current (rms)	I _{AN2}	30mA rms	—	20mA rms

ORDERING INFORMATION

Product Part NO.	HFCF	-F	06	D	-S	5	-□	(XXX)
	CF:Fluxgate current sensor							
Working Principle	F: For leakage							
Sequence number	06: 06							
Output method	D: Digital signal							
Operating Voltage Mode	S: Single power supply							
Typical operating voltage	5: 5V							
Programming Code	1: RDC-PD 2: RDC-MD 3: CCID20							
Special code ¹⁾	XXX: Customer special requirement							

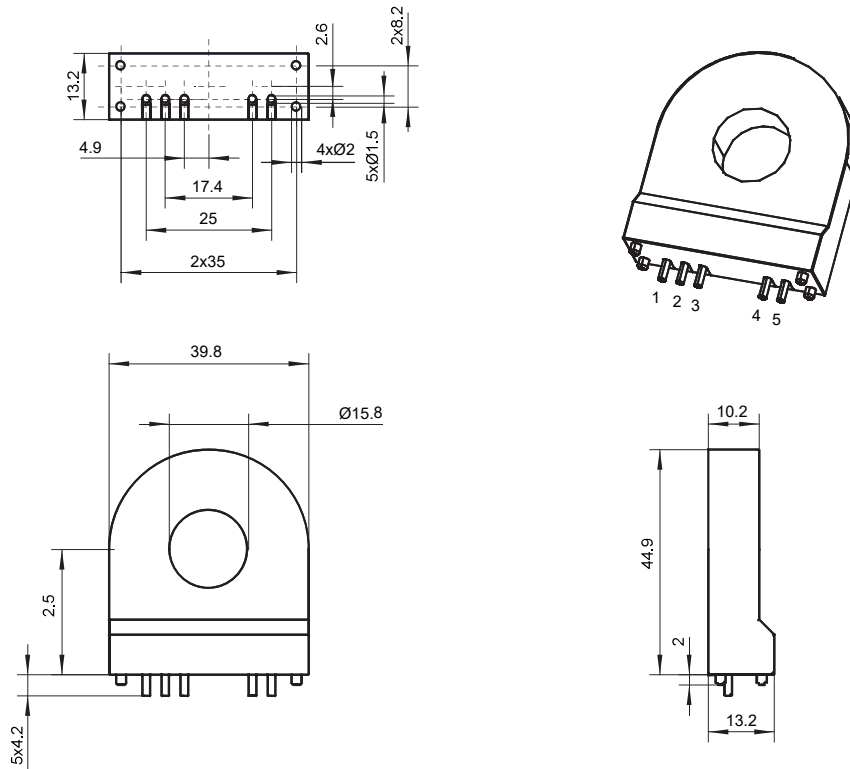
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.



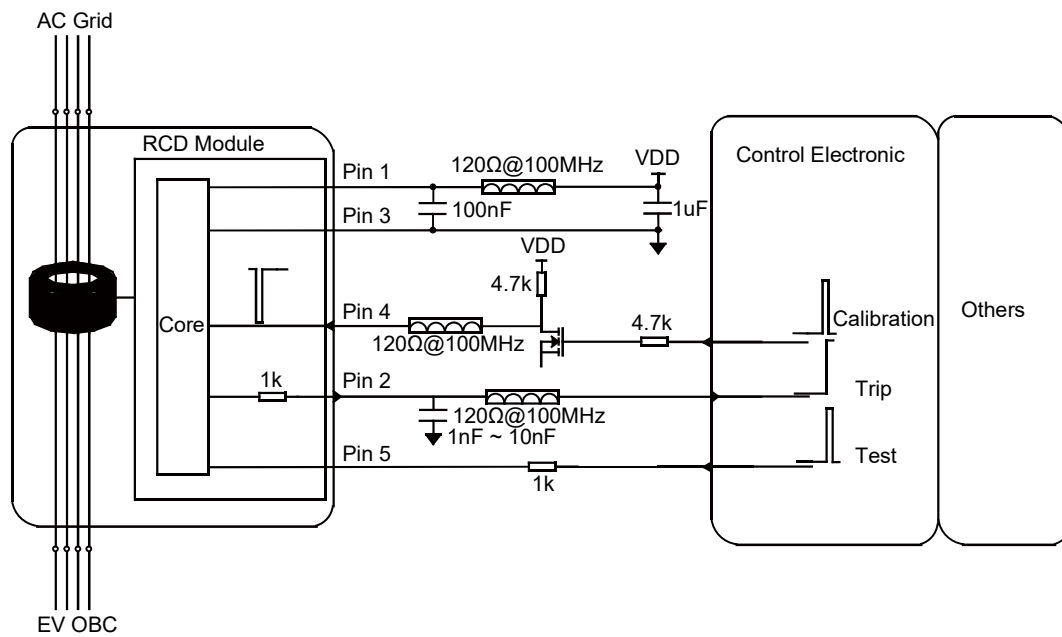
HONGFA CURRENT TRANSFORMER
ISO9001 CERTIFIED

2024 Rev. 1.00

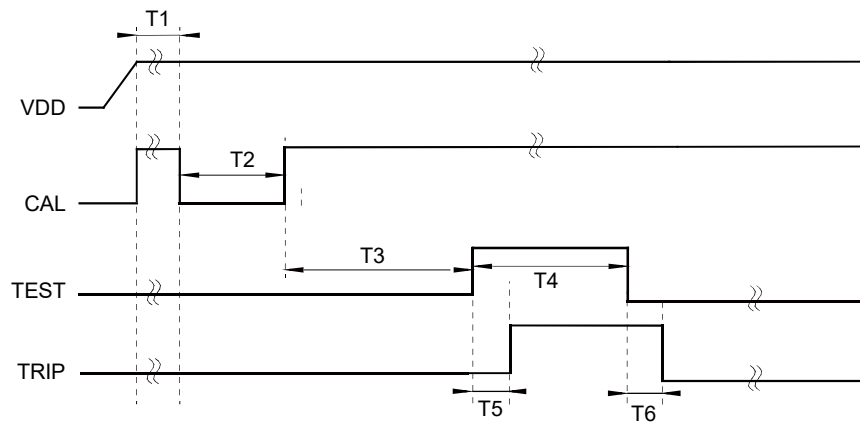
Outline Dimensions



Wiring Diagram



Timing Diagram



- Notes:**
- 1) VDD building up time should be $\leq 15\text{ms}$.
 - 2) T1 as the waiting time, it is suggested $T1 \geq 100\text{ms}$.
 - 3) T2 is the internal calibration command of the system, it is recommended that $50\text{ms} \leq T2 \leq 100\text{ms}$, when the pin low level is greater than 50ms, the product begins to enter the internal calibration.
 - 4) T3 Indicates the time for the system to complete the internal self-check. It is recommended that $T3 \approx 250\text{ms}$.
 - 5) T4 is the output period of TRIP indicating pin after the simulated residual current self-test in the system, and the high level duration is $\approx 1.3\text{s}$. Please start the normal residual current detection workflow after the TRIP signal is identified and turned over again.
 - 6) When VDD drops below VMT, the heartbeat signal switches from a 1KHz 50% duty cycle PWM waveform to a high level, and when VDD rises above VRT, the heartbeat signal reverts to a 1KHz 50% duty cycle PWM waveform.
 - 7) Do not close the main circuit switch during the self-test calibration process ($T1+T2+T3+T4$) to prevent residual current in the line from affecting the self-test calibration process. When the TRIP pin group is finally flipped, you can judge whether the RCD module is working properly for subsequent operations.

NOTES:

- 1) To avoid using current transformer under strong magnetic field, the external magnetic field will cause the accuracy of current transformer to change.
- 2) We could not evaluate all the performance and all the parameters for every possible application field and environment. Thus the user should be in a right position to choose the suitable produce for their own application. If there is any query, please contact HKG for the technical service. However, it is the user's responsibility to determine which product should be used only.
- 3) Operating temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions.
- 4) To maintain the performances of current transformers, please do not make the current transformer drop or be shocked strongly.
- 5) All the performance data listed in the datasheet are the initial values tested under standard testing condition.
- 6) HKG reserves the right to change the product, the customer should confirm this specification before placing the order for the first time, may request us to provide the new specification if necessary.