

K50

LIGHTNING AND CAPACITIVE CURRENT DETECTION WIDE-BAND CURRENT TRANSFORMER

The K50 wide-band current transformer is one type impulse current sensor, it utilizes the principle of magnetic induction to convert the measured current into a voltage signal proportional to the current, with high insulation between the primary and secondary sides (electrical isolation measurement of high impulse current and high-frequency pulse current). The K50 impulse current sensor has the advantages of high accuracy, wide frequency band, high sensitivity, no need for external power supply, and convenient use, making it suitable for measuring large impulse currents and wide-band transient currents. Can be applied to the measurement of lightning current, capacitor charging and discharging current, switch and harmonic current, EMI current; It can also be used for calibration of Roche coil current sensors; Due to limitations such as grounding circuit noise and high voltage isolation, it is not suitable for situations with splitters. The main performance indicators of this current sensor have been tested by authoritative departments and have reached the advanced level of similar international products.

All models are sealed and are suitable for use in high voltage insulating oil or under vacuum. They can be connected to oscilloscopes, spectrum analyzers, power analyzers, digital voltmeters, analog-to-digital convertors, and a variety of other measuring instruments.

Features

1. High accuracy;
2. High sensitivity;
3. Rise time: 100ns;
4. Wide Bandwidth;
5. Can be customized;
6. Current drop rate: 0.1% / mS;
7. Maximum RMS current: 200A;
8. Maximum peak current: 100kA;
9. Holding wire diameter: $\phi 50\text{mm}$;
10. Conforms to EN 61010, 600V CAT III;
11. Extremely strong anti-interference ability;
12. Frequency range: 0.5Hz-4MHz or 200MHz;
13. No external power supply and other advantages;
14. IEC/EN61010-2-032, IEC/EN 61010-2-031 etc standard;



Applications

1. Surge current;
2. Lightning current test;
3. Capacitor charging and discharging current test;
4. Pulsed charged particle beam current; Plasma current;
5. Power system transient current and harmonic current;
6. Pulse current test of welding machine shall be carried out;
7. Other 0.5Hz-4MHz band transient or pulse current test application scenarios;
8. Pulse current generated by high voltage, such as microwave or X-ray modulator, particle accelerator, etc;
9. It is not suitable for sampling resistance due to the limitation of grounding circuit noise, insertion impedance or high voltage isolation;



Electricity



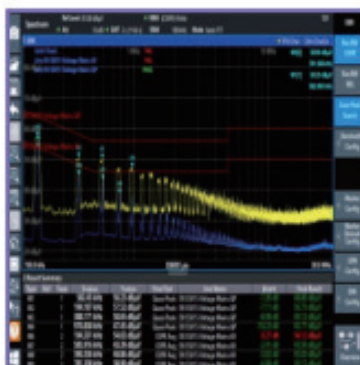
Medical Treatment



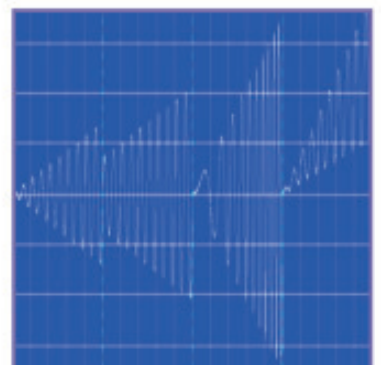
Science Appliance



Lightning Current

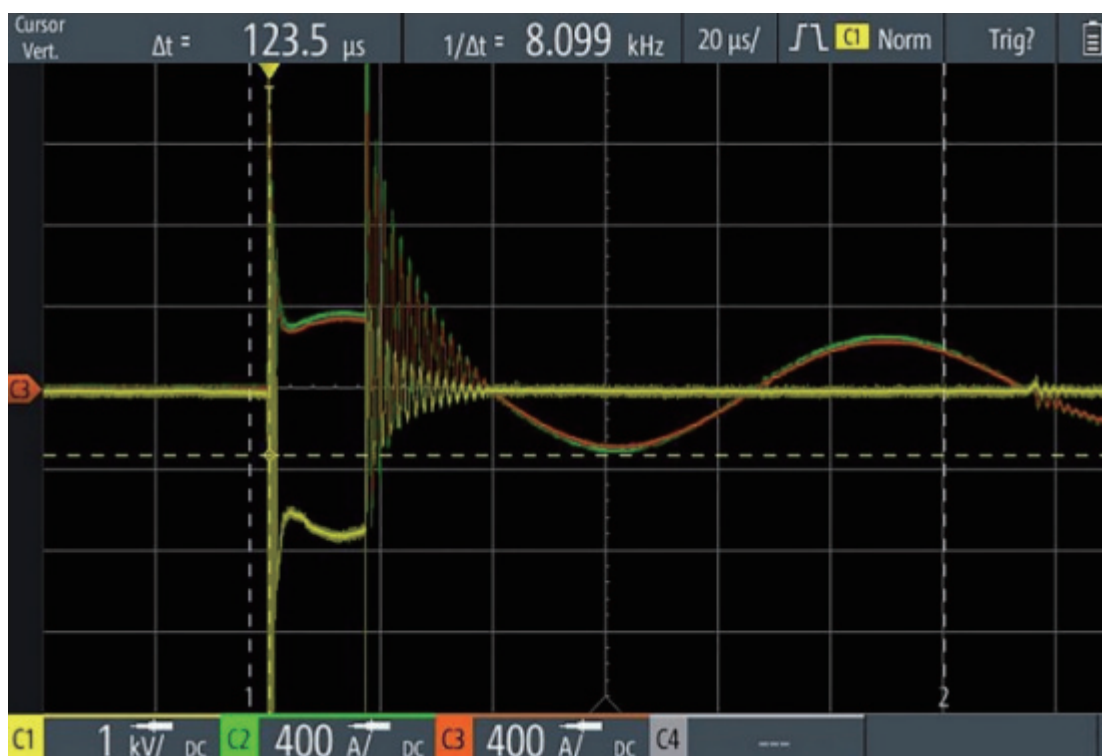


ElectroMagnetic Pulse



Inrush Current

Measurement Waveform



Parameters

Technical parameters	
Sensitivity	0.05V/A, 0.01 V/A, 0.001V/A
Accuracy	1.0%
Output resistance	50 Ohms
Maximum peak current	10kA, 50kA, 100kA
Maximum RMS current	100A, 200A, 400A
Current Droop rate	0.1% / mS
Useable rise time	50nS, 100nS, 200nS
Current time product	0.2A · s Max, 0.8A · s Max, 2A · s Max
Frequency range	0.5Hz-20MHz
Voltage output (corresponding to 50kA)	100V / 150V / 250V / 500V
I/f figure	12 peak Amperes/Hz ; 40 peak Amperes/Hz
Output connector	BNC
Operating temperature	0°C to +65°C
Dimensions (L x W x H) (mm)	123 x 108 x 26
Weight (g)	625
Holding wire diameter (mm)	φ50
Color	Blue & Grey

Selection Guide

MODEL	DIAMETER (mm)	OUTPUT(V/A)	CURRET PEAK-VALUE(A)	CURRENT RMS(A)	3dB LF(Hz)	3dB BH(Hz)
K50-1	50	0.001	100000	400	0.1	1M
K50-2	50	0.01	50000	200	0.25	2M
K50-3	50	0.05	10000	100	1	8M

Notes: Can be customized wide-band current transformers according to user requirements!