

General introduction:

In power system, CT is widely applied in one time measurement and control of current. In normal working condition, the secondary side of CT is almost short circuit, and output voltage is very low. During operation, if the secondary winding is open circuit, or abnormal current flows the primary winding (such as lightning current, resonance over current, capacitance charging current, inductive pickup current etc.) It will produce several thousands even several ten thousands voltage on the secondary side. This will not only damage the secondary system insulation, but also make CT burning owing to over voltage, even endanger the workman. But this CT can prevent such accident caused by the secondary open circuit of CT. The protector connects the two ends of secondary winding. The leakage current is very low on the normal working condition, and it's at the state of high resistance. When the abnormal over voltage occurs, the protector will act promptly and then short circuit. The panel will display the position of malfunction and the signal output of no power. When the malfunction is removed, pushing "reposition" button, the circuit will recover before, and then come into the normal condition.

CTKB-IV series CT overload protector is our own design and having got the patent, and up to the international advanced level. This product adopts the newly automatic control technology and high reliable components. Advanced design, long service life, over 100,000 times of reliable action; fast action speed, strong overload ability (exceed 5 times rated value in short time); low static current, it flows <5 A on normal working condition, which will not influence CT. And this product is featured in novel design, compact size, light weight, easy to carry.



CTKB-IV

Application:

CTKB-IV series CT overload protector is mainly applied in various CT secondary side abnormal over voltage protection, CT secondary side differential winding, over current winding, measurement winding, generatrix protection winding, spare winding etc.

Basic principal:

The basic apparatus of CT secondary open circuit over voltage protection is ZnO voltage dependent resistor, and parallel connection with secondary winding. In normal working condition, voltage dependent resistor is at the state of high resistance, and the leakage current is very low, while the sample signal is '0'. The control circuit is off operation, and the CT is at the normal working condition. In general condition, secondary winding just has several voltage, and the max. voltage is less than 20V.

When CT is secondary return open circuit or primary winding comes forth abnormal over current, the voltage emerged from secondary winding is far higher than the normal condition voltage. Then the voltage dependent resistor is on state (over 150V), the sample voltage signal is a little higher, and the inner automatic control circuit controls secondary winding short circuit, and active display on the panel. At the same time, it will output remote no power contact signal. When the malfunction is removed, it can operate. There're two reposition methods: one is the malfunction removing of power off, it automatically reposition when restarting the power; another is after the malfunction removing of power on, pushing "reposition" button, it'll remove the malfunction and the circuit will recover before.

Connection principal:

Generally speaking, CT connects A,B,C three phase. The minority connects two phase, and the fews connect single phase. The most is star connection scheme, and the minority is triangle connection. This product is secondary winding star connection scheme. Secondary winding A,B,C accordingly connect with connection terminal A,B,C. A,B,C three phase secondary central point (virtual earth N) connect the "N" connection terminal of CT. If only with A,C winding, B phase can be not connected, and it'll not influence CT operation. It can also be connected with the neutral terminal (virtual earth N). And A, B, C can be connected with every winding.

AC, DC 100-240V power connects CT for inner electric parts use. One group of no power output terminal is for customers use, and it can be connected externally with AC or DC. E.g. middle (action) terminal and NC terminal connect with red signal lamp. When the lamp is on, it indicates CT is at normal working condition. The middle (action) terminal and NO terminal connect with "red" lamp or warning device. When it's operating, it indicates CT detects some secondary winding is malfunction of open circuit.



CTKB-IV



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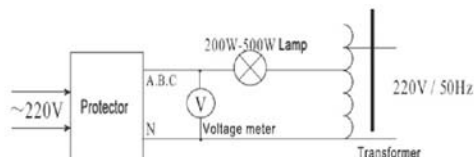
CTKB-IV

Technical specification:

Model		CTKB-IV
Normal leakage current IL20V		<5 A
Forward voltage Uc		150V ± 10% (It can be set as per customers request)
Forward time Ts		50ms = Ts = 250ms
Protection relay contact capacity		AC220V/10A
Remote relay contact capacity		AC220V/5A no power
CT specification		Secondary side peak value>150V
Reposition mode		Manual "reposition", automatic "reposition"
Working environment	Temperature	- 20~70 °C
	Humidity	<95%RH
Withstand voltage		2KV 50Hz 1min
Quark-proof performance		10-50-10Hz 2g 3min
Anti-jamming		4.4KV/M
Connection mode		DIN-Rail/base/plug-in type
Appearance and weight		Refer to the graph
Reliability and safety		Confirmed to IEC834-1

Inspection and operating method:

① Before operating, CT should be inspected. When the multi-meter resistance measures A (or B or C) and N terminal, the resistance should be over tens of megohm.



② When the protector is in testing process, the circuit should be connected as per the above drawing, then adjusting the transformer to OV position. When switching on AC 220V power, the protector should be "reposition" automatically. The yellow light on the panel should be on, and others should be off, which indicates that every circuit is "reposition". If there's red light on, it indicates that some are not "reposition" automatically. When pushing the "reposition" button, it'll "reposition" automatically. Then turning transformer handle slowly to increase the voltage, when the voltage is up to rated value, the load light will be suddenly on, and the red light with the same phase on the panel will be on too. Then adjusting the voltage lower, some of the lights will be not off, it indicates that CT protector with this phase is open circuit, the protector is short circuit, and operating is normal. In general situation, the voltage when lights are on is lower about 10% than the working voltage of CT protector.

③ As per the above operation method, every phase circuit should be inspected. Connecting as per the connection principal and connection terminal. When the inspection is no problem, it can be switched on.