TCK

Outdoor Voltage Presence Relay

TCK Voltage presence relay is normally used to check the voltage on the catenary line of a DC Traction System.
It is used in all the Traction systems like tramways, trolley buses, Metro and Railways Power Supply Substations.

Three versions are available:

TCK750 - for 750Vdc systems
TCK1500 - for 1500Vdc systems
TCK3000 - for 3000Vdc systems

In compliance with the most severe International Standards, it has been fully tested by independent laboratories for EMC compatibility.
It includes two units connected by a fibre optic cable; the transmitter unit (HV-Tx) is directly connected to the line whereas the receiver (LV-Rx) is normally mounted in the LV compartment of the DC panel or in a dedicated box.
The Transmitter unit is self-powered from the main DC line; the low Voltage Receiver Unit has a multivoltage autoranging power supply module.
Voltage level can be set in a wide range by means of internal dip-switches or by keyboard in case of HMI presence.
TCK also includes a complete self-diagnostic test which automatically checks the relay operation including fibre optic connection and triggers an alarm in case of Internal relay failure.

Reference Standards

- CE Directives
- EN60255-5
- EN60068-2
- EN61000-6-2
- EN61000-6-4
- EN50124
- EN50121-5

The receiver unit includes:
- N°1 Voltage Presence Output relay with 1 high capacity NO contact
- N°1 Diagnostic Output relay with 2C/O contacts normally energised

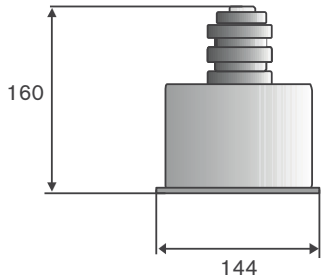
Following optional features are available:
- HMI kit including Display for Local measurement and keyboard for local setting
- Analogue voltage output programmable as 0-20 or 4-20mA
- RS485 serial port with Modbus Protocol

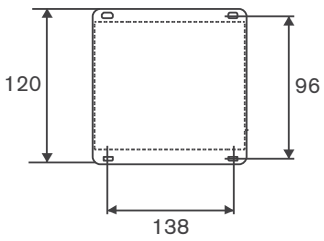
ELECTRICAL CHARACTERISTICS

High Voltage Input	•	TCK750: from 200 to 1000Vdc TCK1500: from 400 to 2000Vdc TCK3000: from 800 to 4000Vdc
Low Voltage unit Power Supply	•	24 - 230 Vac/dc ±15%
Burden	•	1W for HV-Tx unit 3W for LV-Rx unit
Measuring dynamic	•	2Vn
Analogue Output	•	1 current output programmable as 0-20 or 4-20mA; Output Max Power 0,5VA @ 13,5V
Measurement Accuracy	•	0,5%
Response Time	•	0,5msec
Signalisation Led	•	Voltage Presence, Relay Powered, HV-Tx unit fault
Diagnostic Output Relay	•	Normally Energised relay NO, C/O, NC contact De-energised on HV-TX or LV-Rx unit failure, Fibre Optic failure, Auxiliary supply failure.
Voltage Presence Output relay	•	NO, C/O, NC contact
Trip Time delay	•	40msec
Enclosure	•	HV-tx unit: IP 67 Metallic LV-Rx unit: IP67 or IP54 Plastic
Fibre Optic	•	Multimode ST connector
Operation Ambient Temperature	•	-10° ÷ 60°C
Storage Temperature	•	-40°C ÷ 85°C

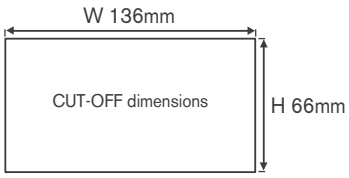
OVERALL DIMENSIONS

HV-Tx





LV-Rx



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