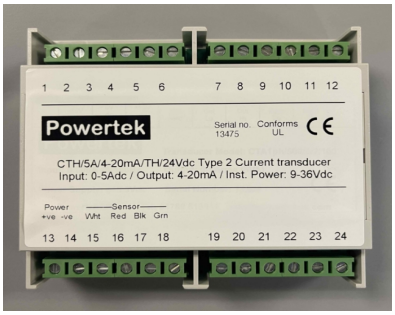
Powertek

Technical data and instructions for AC and DC Voltage Transducer Models VTHRiso, VTHiso and VTH

The Transducer Model VTHRiso, VTHiso and VTH voltage sensors convert dc or ac voltage to a low level voltage or 4-20mA current loop output – configuration is indicated on the rating label for input and output configuration along connections. The VTHiso, VTHRiso models cover the range from 50mV to 500Vrms, operating with a fast response capability. The Model VTHRiso offers true rms conversion DC-20kHz. VTHiso sensors are available in ac only or dc+ac configurations. VTH is a non isolated version where both input and output share common ground. The VTH power input is designed to operate with 24Vdc aux power found in process control and sub-station auxiliary dc supply systems.

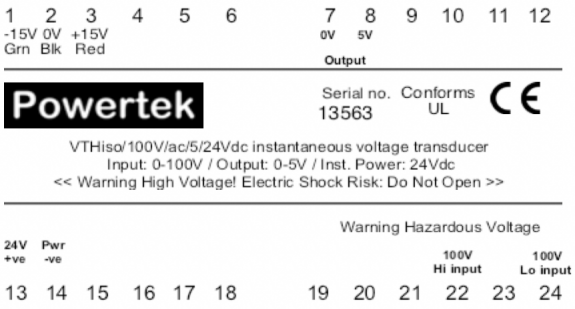
Typical applications: monitoring of utility voltage, power switching, voltage monitoring in dc drives, process control systems, rail transportation and circuit breaker test. For all products, NIST/NPL/UKAS traceable calibration certificates and certificates of conformance are available.



Specifications

❑ Available input ranges of 50mV to 500Vac dc, ac or ac+dc. Operational from 5% - 110% of range	❑ Internal gain and offset calibration controls ❑ Filter options ❑ 15Vdc 0V -15Vdc output
❑ Outputs: 100mV, 1V, 5V, 10V (ac or dc) bipolar / instantaneous or 4-20mA outputs available on dc input models and rms (VTHR)	❑ Working temperature range 0°C - 50°C ❑ Functional temp range –10°C - 70°C (see below for details)
❑ Auxiliary power input options 12/24/48/110/230 Vdc or Vac. Max voltage draw 24Vdc 75mA max	❑ Rated working voltage insulation 1.2kVpk, flash tested 2.5kVpk for 1 minute
❑ Fast response time <200uS (no filtering). VTHR 1 second. Standard frequency range is DC-20kHz	❑ Screw terminal input/output connections
❑ Certified accuracy better than <1.0% at +23°C ±5°C, traceable to NIST/NPL (5 minute warm up)	❑ 3.5 mm fixing holes or Din-rail mounting
❑ CE Marked ❑ UL94V0, IEC1010 cat II, IEC348, DIN 57411 ❑ Case IP50, terminals IP30 complies with IEC529	❑ 1 year warranty

Termination marking and identification – dependent on model



Important Safety and working practice when using the VTHiso and VTHRiso voltage transducers

<< Important User Safety >>

1. Ensure that all personnel connecting and configuring the VTHiso are fully trained and conversant with electric shock and fire hazards associated with electricity supplies
2. Ensure the circuit under test is switched off and isolated before connection
3. The VTHiso / VTHRiso should be installed in a protected metal cabinet to protect against accidental contact with hazardous voltages.
4. Ensure the VTH clear plastic terminal guards are clipped in place, on the terminal blocks, after connection
5. Only use insulated-shrouded safety type cables for connections to the VTHiso/VTHRiso probes. These cables are typically fitted with a 4mm safety type banana connector on either end. All connections should be insulated to prevent human contact
6. As with all high energy supplies, ensure all input cables are fused (100mA)
7. Ensure that the VTHiso/VTHRiso output (lo terminal) is connected to a grounded point on the scope/data logger/DAQ/measurement system. Ensure it is a true ground and not just signal low
8. Ensure that the maximum common mode voltage input voltage (500Vpk) and input voltage to ground (500Vpk) are not exceeded
9. Users should always work in pairs, both parties should be trained and familiar with medical procedures in the event of electric shock
10. During installation, avoid all mechanical stress to the VTHiso/VTHRiso terminals
11. Ensure that the storage and operating conditions are clean and dry, do not use where there is risk of explosion

Voltage transducer order codes :
VTHiso instantaneous measurement (to view wave shapes)
VTHRiso has rms conversion (ac in / dc out)
VTHiso / voltage range / ac+dc or ac / output / power input
VTHRiso / voltage range / ac+dc or ac / output / power input

Order code examples
VTHiso / 200V / dc / 4-20 / 24Vdc
200Vdc input, 4-20mA output with 24V aux power input
Calibrated at 0-200Vdc

VTHRiso / 500V / ac / 4-20 / 24Vdc
500V input, ac coupled, 4-20mA output with 24V aux power input
Calibrated at 0-500Vdc

VTHiso / 300V / 60 / 4-20 / 24Vdc
300Vrms input, 60Hz max, 4-20mA output with 24V aux power input
Calibrated at 300Vrms 60Hz

VTHiso / 50Vrms / dc-500 / 10 / 24Vdc
= 0-50Vrms input, frequency range dc-500Hz (3dB), 0-10Vdc output proportional to Vrms with 24V aux power input

Unless specified, the upper cut off frequency will be 20kHz

Options - Environmental
UL94V0 case material standard
Extended temperature range -25°C - 70°C (not available for all sensor types)

Optional Filter – noise rejection
User can specify upper or lower –3db point, External dc offset nulling control

Note: Powertek shall not be liable for any consequential damages, injuries, losses, costs or expenses arising from the use or misuse of this product however caused.

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