Powertek

NC-VTH NON-CONTACT AC VOLTAGE TRANSDUCER

Capacitive AC voltage sensing | Configurable analogue and digital outputs

PRODUCT OVERVIEW

The Powertek Non-Contact AC Voltage Transducer uses capacitive sensing to detect AC voltage without a conventional direct electrical connection to the monitored conductor. It is intended for voltage monitoring applications where isolation, installation flexibility and reduced disturbance of the monitored circuit are important.

KEY FEATURES

- Configurable AC measurement ranges spanning 100 mV to 40.5 kV (range and probe dependent)
- 0.5 accuracy class under normal-temperature reference conditions
- Analogue outputs: 0–5 V DC, 0–10 V DC, 4–20 mA or 0–20 mA
- Customisable RS485, RS232 and CAN interfaces; optional IoT connectivity
- 40 Hz to 10 kHz specified frequency range
- Open or closed probe designs; PCB, DIN-rail and screw-mount options

TECHNICAL SPECIFICATIONS

PARAMETER	MANUFACTURER SPECIFICATION
Measurement method	Non-contact capacitive AC voltage sensing
AC measuring ranges	100 mV–10 V; 10 V–1 kV; 1 kV–40.5 kV
Accuracy	Class 0.5 (standard reference environment)
Frequency range	40 Hz–10 kHz
Analogue output	0–5 V DC / 0–10 V DC / 4–20 mA / 0–20 mA
Digital communication	RS485 / RS232 / CAN (customisable)
Optional IoT	NB-IoT / GPRS / LoRa (configuration dependent)
Power supply	+24 V DC or ±15 V DC (PCB installation)
Response time	≤ 1 s
Output load	Voltage: ≥ 2 kΩ; current: ≤ 250 Ω
Output ripple	≤ 10 mV
Temperature drift	≤ 500 ppm/°C
Rated power consumption	< 2.5 W
Output–supply withstand	2.5 kV
Probe insulation	Customisable by application
Operating environment	–40 to +85°C; ≤ 90% RH, non-condensing
Storage temperature	–40 to +85°C
Surge immunity (power port)	4 kV
Surge immunity (analogue I/O)	1 kV

APPLICATIONS

High-voltage power monitoring; railway electrical systems; industrial automation and SCADA; petrochemical installations; remote voltage monitoring; laboratory and specialist electrical testing.

CONFIGURATION & INSTALLATION

Select the measurement range, probe construction, analogue/digital output and mounting format for the application. Exact dimensions, pin connections and probe withstand voltage must be confirmed against the selected part number and manufacturer drawings before installation.

IMPORTANT NOTES

Published ranges and interfaces represent available variants, not simultaneous capabilities of one fixed model. The 2.5 kV isolation figure applies between the output and supply; it must not be interpreted as the insulation rating between the probe and high-voltage conductor. Safety ratings, calibration conditions and final ordering code require confirmation.