GPS LTD.

HVT-2800

Wireless High Voltage Phase Detector

KEY FEATURES

- 30 V to 550 kV line voltage
- 0 to 360°, resolution 0.1°
- Wireless to about 200 m at 2.4 GHz
- Spoken result as well as displayed
- 3.5 inch colour screen, phasor and figures
- 500 groups of stored readings

Two Conductors, One Answer, 200 Metres Apart.

A phasing set for confirming that two conductors are in phase before they are paralleled. Two detectors clip to the lines, each sends its own reading back to the receiver over a 2.4 GHz link, and the receiver compares the pair and states the result out loud.

Each detector hooks over the conductor. The electric field around a live line induces the signal, so on insulated cable up to 550 kV, or bare conductor below 35 kV, the hook may touch it. Above 35 kV on bare conductor the probe is brought gradually towards the line instead and never makes contact.

The spoken output confirms each detector separately before it gives a verdict, so a reading of out of phase can be told apart from a detector that never acquired. That matters when the rod is at height and you are watching the conductor rather than the screen.

Line voltage runs from 30 V to 550 kV and the phase angle is read across the full 0 to 360° to 0.1°. The link reaches about 200 m, so the two conductors need not be near each other, and one can be at each end of a bay.

IDEAL FOR

- Phasing before paralleling circuits
- Phase sequence checks on a substation
- Transformer vector group confirmation
- Overhead line and cable commissioning
- Switching and outage restoration

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Phase and frequency			
0.0 to 360.0°	≤ ±10°	0.1°	Phasor diagram and figures together
30.00 to 100.0 Hz	≤ ±1 Hz	0.01 Hz	Displayed alongside the phase
Line voltage			
30 V to 550 kV	—	—	Phase detection range
Verdict			
330 to 360° and 0 to 30°	—	—	In phase
90 to 150° and 210 to 270°	—	—	Out of phase

Contact phasing may be used on bare conductors below 35 kV and on insulated conductors below 550 kV. Above 35 kV on bare conductor the non-contact method must be used, with the probe brought gradually towards the conductor until the field is sensed. The result is spoken as well as shown, and confirmed by the red and green indicators and the audible tone.

WHAT'S IN THE BOX

- HVT-2800 receiver, one
- Detectors, two, each with hook and probe
- Telescopic insulating rods, two, 3 m
- Three-way charger and inspection lead
- Manual, warranty card and certificate
- Instrument case

INSULATING RODS · Two rods at 3 m extended, Φ38 mm maximum diameter, tested at AC 220 kV rms end to end after stretching. The rods are what set the working clearance, so check them before every use.

GENERAL SPECIFICATIONS

MEASURES
Phase angle, phase sequence and frequency between two conductors · in-phase and out-of-phase verdict · live line check

WIRELESS LINK
2.4 GHz between each detector and the receiver · about 200 m integrated transmission distance

INDICATION
Spoken prompts confirming each detector signal and the phase verdict · red and green indicators · audible tone

POWER
Receiver and each detector carry a built-in 3.7 V rechargeable lithium battery · charged from the supplied three-way charger · shuts down after about 15 minutes idle

INSULATING RODS
Two, 3 m extended, Φ38 mm maximum diameter · both ends tested at AC 220 kV rms after stretching

COMPLIANCE
IEC 61481:1999/AMD2:2004 · IEC 61243-1 ed. 2:2003

DIMENSIONS
Receiver 187 × 119 × 48 mm · detector 52 × 31 × 114 mm

WARRANTY
1 year, subject to product registration with GPS LTD · service and calibration available

LINE VOLTAGE
30 V to 550 kV · contact phasing on bare conductor below 35 kV and insulated conductor below 550 kV · non-contact required above 35 kV bare

DISPLAY
3.5 inch colour screen, 72 × 55 mm · phasor diagram and numeric results shown together · English interface

MEMORY
500 groups, with recall of the stored history · FULL flashes when the memory is full

CONSUMPTION
Receiver 300 mA maximum · each detector 80 mA maximum

INSULATION
Receiver and detectors withstand AC 3700 V rms between exposed metal and the plastic casing

ENVIRONMENT
Operating −10 to 40 °C below 70% RH · storage −10 to 60 °C below 80% RH

WEIGHT
Receiver about 350 g with battery · each detector about 150 g with hook and battery