

Precision ac kilovoltmeter 0-40 kV (true RMS)

TYPE TRV 9940/

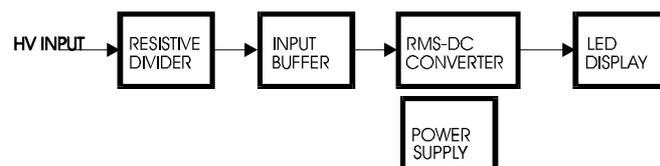
- ✓ True-rms reading
- ✓ Safe, reliable design
- ✓ Fully portable, battery powered
- ✓ Super-bright 4½-digit display
- ✓ Low-battery indicator
- ✓ Broadband frequency response

OVERVIEW. The TRV9940 precision true-rms kilovoltmeter is a versatile new product which measures ac voltages up to 40 kV rms. It is specifically designed for use in the performance evaluation and testing of high voltage electrical apparatus. A feature of the instrument is its compact self-contained and all-insulated construction. Unlike potential transformers and HV probes, adaptors, and the like, no additional equipment is required to make the voltage measurement. No adjustments are required in operation, so that operators can remain at a safe distance from all live circuits. The instrument can be placed either on the floor or at a convenient bench height. The high-intensity LED digital display is easily read from various viewing angles, at distances up to six (6.0) metres. Battery power is derived from two alkaline D-cells. A *low-battery* indicator is mounted on the front panel.



In single-phase test circuits, type TRV9940 is usually connected between the high voltage apparatus and ground, but the instrument can also be left “floating” if desired. With polyphase test circuits, type TRV9940 can be used to measure either line-ground or line-line voltages. Where the instrument is to be fully isolated (e.g. line-line measurements), our optional *insulating base assembly* is recommended (see OPTIONS below).

OPERATING PRINCIPLES. The HV input connects to the top terminal of an oil-filled bushing containing a resistive divider (10,000:1). The ground or return path is connected to one of the lower terminals. The divider output is followed in turn by an input buffer, a precision rms-dc converter, and the 4½ digit LED display. Two step-up power supply modules and a low-battery detector circuit are incorporated in the system (see Figure).



TRV9940 - Functional Diagram

ELECTRICAL CHARACTERISTICS

| | |
|-------------------------|-------------------------|
| voltage range | |
| -calibrated performance | 1.00 - 40.00 kV |
| -safe operation | 0.00 - 50.00 kV |
| frequency range | 30 - 500 Hz |
| input resistance | 80 MΩ |
| digital readout | |
| -resolution | ±0.01 kV |
| -accuracy | ± (0.5% reading + 0.01) |

ENVIRONMENTAL

| | |
|---------------------|---|
| ambient temperature | 18°C - 28°C (calibrated performance) 0°C - 45°C (storage and safe operation) |
| humidity | 10% - 85% (non-condensing) |

Please Note: Type TRV9940 is not weather-protected and may **not** be suitable for use in exposed outdoor applications. In case of doubt, please contact GNS Associates.

ELECTROMAGNETIC COMPATIBILITY

Type TRV9940 is fully-compliant with the requirements of Australian and New Zealand electromagnetic compatibility (EMC) Standards.



OPTIONS

| | |
|---------|---|
| 9940.01 | HV cable set (including HV fuse and fully-shielded terminating connector) |
| 9940.02 | cable support stand |
| 9940.03 | insulating base assembly |
| 9940.04 | remote control/readout** (under development) |

INQUIRIES AND ORDERING INFORMATION

Email orders and requests for quotations to: sales@gnsassoc.com.au

Email technical inquiries to: info@gnsassoc.com.au

For telephone inquiries, please call us on **(03) 9509 2203**. Or send us a fax on **(03) 9576 0635**.

GNS ASSOCIATES PTY LTD :: ELECTRONIC ENGINEERS
PO BOX 14 MALVERN VIC. 3144 AUSTRALIA
TEL +61 3 9509 2203 FAX +61 3 9576 0635 EMAIL info@gnsassoc.com.au
<http://www.gnsassoc.com.au>