

# HIGH VOLTAGE INSTRUMENTS LTD



METROHM

EDGCUMBE

## Company Profile

The 'Metrohm' / 'Edgcumbe' brand of High Voltage Products have been supplied to Electricity Utilities and major industrials worldwide for over 60 years - they are renowned for their impeccable safety record in the field and quality of workmanship, often operating in the most demanding of environments.

In April 2007 following consolidation of products / business by the then manufacturer (Spirent) the High Voltage products were taken over by long serving managers and experienced operators who formed High Voltage Instruments Ltd with a new facility in Glasgow - about 15 miles from the original site. This transfer of staff ensured that the products were not only built to the same exacting standards but were in fact built and tested by the same experienced operators with over 25 years of product manufacturing knowledge each. In addition, High Voltage Instruments is quality assured to ISO 9001:2000, a further endorsement of the commitment to supply quality products to the highest possible standards.

The products are available from a network of distributors both in the UK and internationally, the majority of which have had a long history of association with 'Metrohm' / 'Edgcumbe' products.



## Live Line Tester

Designed to comply with the requirements of IEC1243 Part 2, this versatile Live Line Tester employs a well-established, proven technique to detect and measure high voltages and to carry out phasing tests - indoors or out, whatever the weather.

Whether you need to conduct tests from pole, pylon, tower or ground-level, Metrohm high-quality testers have the capacity to reliably check high voltage systems from 3.3kV to 33kV, and a wide range of accessories are available to facilitate their use on overhead lines, in switchgear and in substations.

Consisting of a contact electrode, a high quality fibreglass shrouded resistive element, an indicating meter, a handle and an earth lead, the basic live line tester draws current from the source under test through the resistive element to earth/ground, via the earth/ground cord. The voltage measured is displayed on the rugged, taut band moving coil meter, which can be rotated 240 degrees

to ensure an optimum viewing position is provided. To check phase relationships, a phasing rod is employed in conjunction with the live line tester, and current from the two sources are combined and displayed on the meter. In-phase voltages will produce a reading twice the phase to earth/ground voltage reading.

A comprehensive range of accessories are available. These include a proving unit, enabling the operator to test the operation of the live line tester from start to finish, before and after each test; bent end adaptors to facilitate access into switchgear during phasing tests; and a hot rod adapter and repeater unit, allowing the user to test overhead lines from ground level.

A complete engineer's kit, supplied in a robust vacuum formed case, incorporating all components and accessories necessary to carry out voltage, phasing and proving tests, is available.

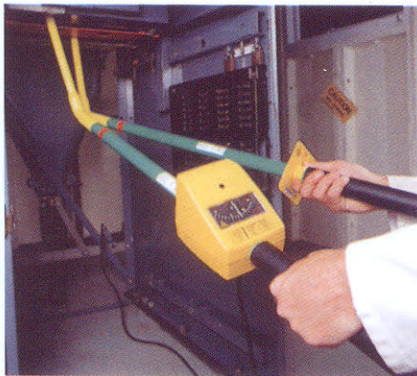
## High Voltage Detector (HVD)

The Metrohm High Voltage Detector proves a highly dependable ally in determining whether high voltage equipment such as overhead lines and transformers are live or dead, so that they may be safely earthed/grounded. Designed to comply with IEC1243 Part 1, it will work efficiently, effectively and safely indoors or out, come rain or shine.

Models are available to cover system voltages up to 275kV and, of the two operational types available, one requires to be armed before use and the other is self starting, activated only when voltage is applied to the contact electrodes.

Fully sealed against moisture ingress, the HVD is constructed with strong colour coded ABS plastic mouldings and stainless steel fittings imparting excellent shock, drop and vibration resistance commensurate with the rough handling experienced in field service.

Designed for easy and safe operator use, the HVD incorporates both audible and visual warning features, with a high dB



buzzer and red/green cluster of warning/status high intensity LEDs, giving clear indication even in poor lighting conditions or against the brightest sunlight.

A push button in the viewing face of the unit activates an integral self-test circuit proving the correct functioning of the internal detection circuitry, wiring, lamps and audible warning indication.

A removable cover gives easy access for quick battery replacement.

The HVD is available with a comprehensive range of insulated pole (hot stick) mounting adaptors, straight, Y and hook contact electrodes. A range of contact electrode extensions are available to provide access to difficult locations. An external proving unit can be provided to check the complete assembly from extension electrode to internal circuitry/audible and visual alarms.

The HVD is available as a kit housed in a tough compact ABS clamshell carry case, incorporating an HVD, pole mounting adaptor, contact electrode(s), separate proving unit, cleaning kit and instruction manual.

## The E45 Phase Comparator

Designed to comply with VDE 0681 Part 5, the E45 Phase comparator is used to successfully determine the correct phase relationship between two energised conductors at the same nominal voltage and frequency. The Metrohm E45 Phase Comparators/Phasing Detectors comprise of two hand-held interconnected pole devices, capable of operating indoors or outdoors in dry conditions.

You may choose from two alternative forms of indication, each signal driven: the first consisting of a flashing lamp with modulated buzzer, the second an analogue meter with coloured in and out-of-phase bands on the scale.

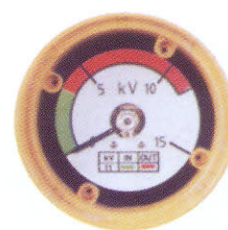
Safe and simple to use (it requires no batteries or mains power, its patented circuit draws current from the source it tests) the E45 gives clear visual and/or audible indication of the conductors in-phase/out-of-phase state.

The E45's two poles are fitted with resistor chains and joined by a connecting cable. When the tester is

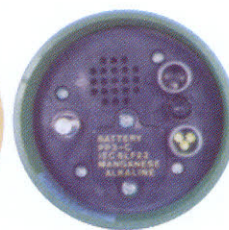
applied across two lines which are out-of phase, current flows through the chains and is indicated by the lamp and acoustic warning or the analogue meter —depending on the comparator-type in use. Alternatively, when two lines are in-phase, no current will flow and therefore no display will register.

Both units cover system voltages from 3.3 to 36 kV 50/60Hz.

The phase Comparator incorporates bayonet detachable handles, which provide insulation and clearance, and allow the E45 to dismantle into the compact carry case for easy transportation. The product's robust plastic mouldings and PVC extrusions provide excellent shock, drop and vibration resistance. A separate proving unit is also available if required.



The Metrohm Indicator can be specified with analogue reading showing in/out-of-phase.



The Metrohm Indicator can also be obtained with flashing lamp and modulated buzzer.

## High Voltage Indicator

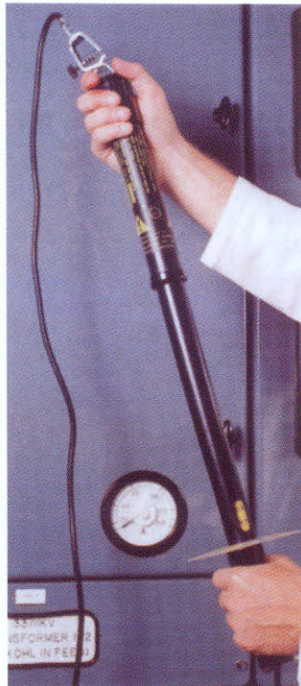
Capable of operating in even the most confined areas, the 19" (485mm) compact Metrohm Indicator provides its user with the safe and simple means to detect live voltage in circuits up to 15kV AC or DC.

It is ideal for use on busbars and switchgear in distribution equipment – its optional 60° to 90° bent end adaptors making access to switchgear spouts particularly easy.

The unit consists of a resistive element, neon indicator, hand guard, handle and earth lead, and is built to operate indoors or in dry outdoor conditions. The testing procedure could not be more straightforward. With the earth lead attached, the contact electrode is touched to the HV conductor and, if the neon indicator illuminates, the conductor is live.

A prominent feature of the Metrohm Indicator is that it provides an indication down to 200V AC. At this voltage, the neon light will flash at a very low rate, while above 5kV AC, the rate is high enough for the neon illumination to become continuous. This allows the presence of induced voltages to be readily detected by the operator and provides an indication of the discharge of capacitive circuits.

A comprehensive range of accessories are available, among them the highly-efficient, battery-powered hand-held proving unit which verifies the operation of the indicator, providing the user with a useful, time-saving assurance of performance before and after each test.



## High Voltage DC Indicator

The Metrohm range of High Voltage DC Indicators have been designed for use on the overhead conductors of light rail systems.

Instruments are available to suit the following system voltages, 0.75, 1.50 and 3.0kV

The function of the Metrohm High Voltage DC Indicator is to determine whether or not a conductor is de-energised so that it may be safely earthed.

The principle of operation is that after the instrument has been switched on a cluster of green LED's illuminate, if the contact electrode is placed in contact with a conductor the instrument compares the voltage found on the conductor with a pre-set value.

Should the voltage on the conductor be greater than the pre-set value the conductor is deemed live, the green LED's are replaced by a cluster of red LED's and the audible alarm sounds.

The instrument is designed to be mounted on insulated operating rods equipped with either Starwheel or Bowthorpe connectors.

The instrument is light weight and can be easily handled by one person.



The logo features a stylized blue lightning bolt striking downwards, positioned behind the letter 'V' in the company name.

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