BRENCO
7780 Willey Road, Harrison, Ohio. 45030 Phone: 513-738-1808 Fax: 513-738-1832

# Phasing Testers

## For Distribution Circuits

Phasing Testers easily determine phase relationships and approximate voltage, line-to-line or line-to-ground.

### Distribution Phasing Testers

**Single-Range Units**

| Catalog No. | Description | Weight |
|---|---|---|
| H1876 | 16 kV Tester Kit* | 27.5 lb./12.4 kg. |
| H1876-1 | 16kV Tester Hook Probes, Case and Manual | 23 lb./10.4 kg. |
| T403-2261 | 25 kV Tester Kit | 27.5 lb./12.4 kg. |
| H1876-7 | 40 kV Tester, Hook Probes, Case and Manual | 23 lb./10.4kg. |

**Dual-Range Units**

| | | |
|---|---|---|
| T403-0786 | 1 & 16 kV Tester Kit | 27.5 lb./12.4 kg. |
| T403-2311 | 5 & 16 kV Tester Kit | 27.5 lb./12.4 kg. |

### Extension Resistors

| | | |
|---|---|---|
| H1876-2 | Pair of Resistors up to 80 kV (43" long) | 6 lb./2.7 kg. |
| H1876-4 | Pair of Resistors up to 48 kV (25" long) | 4 lb./1.8 kg. |
| P624-2 | Bag fpr 48 kV Resistors | 1 lb./0.45 kg. |
| P624-4 | Bag for 80 kV Resistors | 1.25 lb./0.56 kg. |

### Accessories

| | | |
|---|---|---|
| H1760-1 | Universal Pole 1 1/4" x 6' - 2 needed | 1.75 lb./0.7 kg. |
| P643-6 | Bag for Two Poles | 1 lb./0.45 kg. |
| H1876-3 | Case only for Tester | 2 lb./0.9 kg. |
| H1876-6P | Pigtail Hook Probe | 1/4 lb./0.1 kg. |
| H1876-6S | Shepherd Hook Probe | 1/4 lb./0.1 kg. |
| P403-2422P | Straight Probe | 1/8 lb./0.05 kg. |

To detect faults on URD cable, Hi-Pot Adapter converts AC source to DC pulse. Effective field method quickly tests new, repaired or suspect span.

| Catalog No. | Description | Weight |
|---|---|---|
| T403-2557 | Phasing Tester Kit with 16 kV Hi-Pot Adapter, 2 URD Bushing Adapters, Phasing Voltmeter Tester | 31.5 lb./14.2 kg. |

### D.C. Hi-Pot URD Test Adapters

**Applications**

For quick, reliable fault detection on underground cables, two units are available for phase-to-phase system voltages up to 16 kV or 35 kV. By converting A.C. source voltage to pulsating D.C., these adapters permit testing of cables with a potential level equal to peak source voltage. This field effective method proves especially beneficial for:

* Testing new cable before initial energizing.
* Testing repaired cable before re-energizing.
* Testing suspect cable spans for faults.

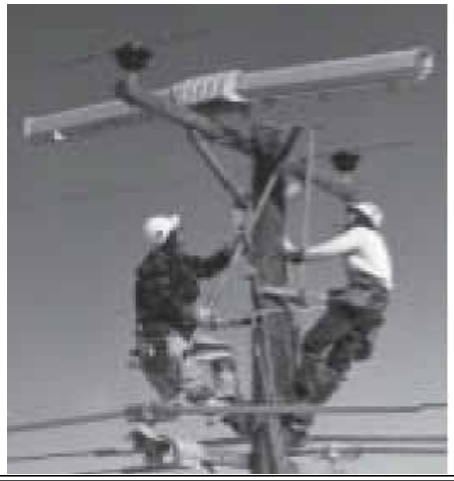
| Catalog No. | Description | Weight, each |
|---|---|---|
| C403-1762 | * 16 kV Hi-Pot Adptr. | 1 lb./0.45 kg. |
| C403-1763 | * 35 kV Hi-Pot Adptr. | 1 1/4 lb./0.57 kg. |

# Phasing Testers

## For Transmission Circuits

To easily determine phase relationships, these Phasing Testers read approximate voltage (line-to-line or line-to-ground) on transmission circuits. The testers consist of two high-impendance components encased in fiberglass poles, each with an end fitting threaded for interchangeable hook probes. A 22-foot long insulated flexible cable from the voltmeter stores on a reel on the other pole. Two complete kits offer a choice of voltage ranges for specific system applications. Each kit includes a pair of 11/4"-diameter insulated handles for proper safe-working clearances. Individual items listed in each kit's bill of materials may be ordered separately by reference numbers given.

| Catalog No. | Description | Weight |
|---|---|---|
| C403-0457 | 69-120 kV Phasing Tester Kit:<br>(1) Instruction Manual<br>(1) E403-0498 Tester (81" long)<br>(2) C403-0459 Handles (96")<br>(1) P621-8 Bag for Tester (108*)<br>(1) C403-0460 Bag for Tester | 39 lb./17.7 kg.<br><br>22.5 lb.<br>10 lb.<br>3.5 lb.<br>3 lb. |
| C403-0458 | 69-161 kV Phasing Tester Kit<br>(1) Instruction Manual<br>(1) E403-0499 Tester (99" long)<br>(2) C403-0459 Handles (96")<br>(1) P621-8 Bag for Handles (108")<br>(1) C403-0464 Bag for Tester | 44.5 lb./20.2 kg.<br><br>27.5 lb.<br>10 lb.<br>3.5 lb.<br>3 lb. |



# Multi-Range Voltage Detectors

To confirm that a line is de-energized prior to performing maintenance on it, the Multi-Range Voltage Detector (MRVD) presents field practicality. Actually a field intensity meter, the MRVD is calibrated to read approximate line-to-line voltage when connected to any phase conductor. It responds to the magnitude of the field gradient between its end probe and floating electrode (at the universal hot-stick attachment fitting). If the universal fitting is close to a ground, another phase or another voltage source, the reading should tend to be high; if it's close to a jumper or equipment of the same phase, the reading should be low.

The MRVD gives metered readout capable of distinguishing actual line voltage from static or feedover from an adjacent line. Readings from an MRVD can be compared with numerical certainty rather than the subjective judgments associated with "fuzz-sticking" or "glow-detecting." Since the MRVD is not a voltmeter, no specific accuracy is claimed by the manufacturer or can be assumed by the user.

Available in modes for various ranges, the MRVD should be mounted on proper length hotstick for the voltage class involved. Complete instructions are furnished with easy, illustrated step-by-step procedures. Internal circuit and push-button permit check before and after each use to confirm operational condition of instrument and battery,

### Distribution and Transmission Multi-Range Voltage Detectors

| Catalog No. | Scales | Weight |
|---|---|---|
| C403-0979 | 1 - 40 kV | 5.5 lb./2.5 kg. |
| C403-1029 | 16 - 161 kV | 5.5 lb./2.5 kg. |
| C403-1140 | 69 - 600 kV | 5.5 lb./2.5 kg. |

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# Digital Voltage Indicators

## For Distribution and Transmission Voltages

As tools for linework, these two Digital Voltage Indicators (DVI) apply to most system voltages. The Distribution DVI provides 1 to 40 kV readouts; and the Transmission DVI covers 16 to 161 kV. For overhead applications, the hooked probe hangs directly onto the conductor or apparatus. For underground systems, the Distribution DVI can indicate voltage at elbow test points or through bushings and elbows.

For such uses as confirming a "dead" condition before placing temporary grounds for de-energized maintenance, both models provide an easy yet reliable means to determine if a line is:

* De-energized...
* Carrying less than normal system voltage from any source or induced charges from an adjacent live circuit.
* Energized at full system voltage.

### Special design features

Simply by selecting "Peak Hold," the DVI will retain the display of its highest reading for 1 minute or until reset.

A built-in self-test function allows for a quick check of the meter before and after each use.

| Catalog No. | Description | Kit Weight |
|---|---|---|
| C403-2794 | 1 - 40 kV Voltage Indicator | 7 3/4 lb./3.5 kg. |
| C403-2588 | 16 - 161 kV Voltage Indicator | 7 1/2 lb./3.375 kg. |

# Audio/Visual Voltage Detectors

Voltage Detectors are used to verify live or de-energized conductors. These testers may be used with rubber insulating gloves or hot sticks using the splined universal end fitting. Each tester has a 4.5 volt transistor amplifier with a audio/visual indicator. It is recommended that the tester be moved closer to conductor until warning is indicated, or it touches conductor, apparatus, or test point. Test the unit on a nearby conductor to get verification of "dead." Each tester includes three "C" batteries.

| Cat. No. | Dimensions in. (mm) | Settings |
|---|---|---|
| 4444 | 11 x 3.5 (279.4 x 89) | URD 240V-35kV Overhead 4.2kV-69kV |
| 4244 | 11 x 3.5 (279.4 x 89) | 240V-230kV |
| 4344 | 11 x 3.5 (279.4 x 89) | 240V-345kV |
| **COMPLETE KIT** | | |
| 4356 | 1-4244 Tester 240V to 230kV, 1-4315 Case, 1-2500 Shotgun Adapter | |
| 4367 | 1-4344 Tester 240V to 500kV, 1-4315 Case, 1-2500 Shotgun Adapter | |
| 4469 | 1-4444 Tester 240V to 69kV, 1-4315 Case, 1-2500 Shotgun Adapter | |

## Voltage Detector Tester

| Catalog Number | Description | Weight |
|---|---|---|
| 4445 | Voltage Detector Tester | 1 lb. (.45 kg.) |

# Voltage Detectors

## Self Testing Audio/Visual

Self Testing Voltage Detectors are used to verify live or de-energized conductors. These testers may be used with rubber insulating gloves or hot sticks using the splined universal end fitting. Each tester has a 4.5 volt transistor amplifier with a audio/visual indicator. It is recommended that the tester be moved closer to conductor until warning is indicated, or it touches conductor, apparatus, or test point. Test the unit on a nearby conductor to get verification of "dead." Each tester includes three "C" batteries.

| Catalog Number | Dimensions in. (mm) | Settings |
|---|---|---|
| 4744 | 11 x 3.5 (279.4 x 89) | Test 240V URD 15kV-35kV Overhead: 4.2kV-69kV |
| 4544 | 11 x 3.5 (279.4 x 89) | 240V, 15kV-230kV |
| 4644 | 11 x 3.5 (279.4 x 89) | 240V, 4.2kV-345kV |
| **COMPLETE KIT** | | |
| 4556 | 1-4244 Tester 240V-230kV, 1-4315 Case, 1-2500 Shotgun Adapter | |
| 4667 | 1-4344 Tester 240V-500kV, 1-4315 Case, 1-2500 Shotgun Adapter | |
| 4479 | 1-4444 Tester 240V-69kV, 1-4315 Case, 1-2500 Shotgun Adapter | |

## AC Voltage Detector

**TIF300HV**

Used to check fuses, breaker panels, power outlets, load break connectors, transmission lines, etc.

UL, CE and MSHA Approved.

AC Voltage: 30 - 122.000VAC

## Clamp-on Ground Resistance Tester

### DGC - 1000

| Features | Range & Resolution |
|---|---|
| Ground Resistance | 0.025-0.250, 9.999, 99.99, 199.9, 400.0, 600.0, 1500 ohm |
| AC Current | 0.200 - 1.000, 10.00, 100.0, 1000 mA and 0.2 - 10.00A |

## AC Clamp-on Meters

### CM - 600

| | |
|---|---|
| **AC Amperage Range** | 0.1-600A |
| **Voltage Range** | 1-600VAC |
| **Display** | 3-.5 digit LCD, 2000-count |
| **Resistance** | 2-2000ohm |
| **Jaw Opening** | 1.38" (35 mm) |
| **Overvoltage Protection** | IEC 61010-1 Category III, 600V |

# Phase Sequence Indicator


The K-3 Phase Sequence Indicator is used to determine the phase sequence (A-B-C or C-B-A) of three-phase voltages.

The K-3 Phase Sequence Indicator is of the rotating-disk design; there are no lights to burn out. All internal connections are soldered and there are no exposed metal parts on the housing.

It's three leads are color coded, red, white, and blue. The leads are 36" in length. The K-3 is designed for operation from 25 to 60 Hertz and from 60 to 600 Volts.

* Carrying case (pictured to the left) is available upon request.

# Ratchet Hoists

## Link-Chain Style

For easy hook-up, chain release to freewheel but only under no-load conditions. Controls automatically lock when hoist is pulling a load. Two simple levers...Shift Key for up and down, on top housing, and Release Key in handle recess...are easy to switch, even wearing gloves.

Simply by ratcheting one or two clicks per stroke in up or down mode, operator can choose quick speed of a full link or half-link rate for extra accuracy. For cramped-quarters work, ratchet handle swings to either side. This provides option of push or pull stroke to best suit conditions and preferences.

| Catalog No. | Rating | Handle Pull at Rating | Hook-to-Hook Minimum |
|---|---|---|---|
| 3011S | 1-Ton | 90 lb. | 11 in. |

# Ratchet Hoists

## Ratchet & Pawl Design

Aluminum ratchet lever hoists utilize a ratchet and pawl design. The RA is ideal for transmission and distribution utility applications where a disc brake mechanism is not desirable.

Rated loads from 3/4 to 6 Tons, with 5-foot standard lift. Unit and handle are made from high strength ductile aluminum alloy for corrosion resistance and portability. Free chaining mechanism allows quick and easy one-handed take-up and positioning of slack chain. Will not accidently free chain when under load.

The ratchet and pawl design provides easy operation and freedom from maintenance. One pawl is always engaged with the ratchet during lifting and lowering operations, so handle will not ratchet when lowering operations. so handle will not ratchet when lowering a load if handle is unintentionally released.

Open body construction allows easy inspection. Handle stops keep handle from spinning in case the operator's hand slips off the handle.

**LIFETIME WARRANTY**

| Catalog No. | Capacity Lbs | Capacity Tons | Strands of Load Chain |
|---|---|---|---|
| RA-15 | 1500 | 3/4 | 1 |
| RA-20 | 2000 | 1 | 1 |
| RA-30 | 3000 | 1.5 | 1 |
| RA-40 | 4000 | 2 | 1 |
| RA-30-2 | 6000 | 3 | 2 |
| RA-30-4 | 12000 | 6 | 4 |