

DETEX[®]

Voltage detectors

- Seven models
- Continuous monitoring
- IEC conformance

Phasing testers

- Grounded or ungrounded ac system check
- Five models

Voltage Detectors and Phasing Testers

VOLTAGE DETECTORS

DESCRIPTION

For use on any grounded electrical system, DETEX[®] Voltage Detectors are available in seven models that cover a range from distribution class to transmission line voltages up to 550 kV. Biddle offers six electronic “beeper” models and one model with neon indication for greater visibility when testing indoors.

The beeper-style electronic detectors provide audible and visual indication of the presence of phase-to-ground ac voltages, in accordance with ANSI C84.1-1982 standards.

The 6.9-kV model is equipped with a telescopic pole. All other models are fitted for universal spline mounting on a hot line pole rated for the voltage of the system being tested.

Electronic voltage detectors for use on distribution line voltages (Cat. No. 514360 series) provide a single red LED.

Detectors rated for transmission line voltages (Cat. No. 514242 series) provide four LEDs for improved visibility at greater distances.

The neon-indicating voltage detector is designed for indoor testing of grounded ac systems. A bright neon indicator provides easy visibility in poor lighting conditions. During testing, the presence of voltages within the detector’s operating range will illuminate the bright neon lamp.

A built-in piezoelectric voltage source provides a test feature to ensure that the detector is operative before use. The self-test is activated by a pushbutton.

The neon detector is equipped with a 48-in. (1219-mm) telescopic pole calibrated and marked for voltages within the ratings of the detector. These demarcations assist the user in adjusting the pole to the length required for safe operation. The pole retracts to 34 in. (864 mm) for conve-



Distribution line voltage detector



Transmission line voltage detector

nient storage in a vinyl carrying case when not in use.

APPLICATIONS

All DETEX models provide continuous monitoring with no on/off switch. They respond to minimum phase-to-ground voltages as outlined by ANSI C84.1 standards, with conformance to IEC guidelines for capacitive high-voltage test instruments.

Prior to testing, a self-test may be activated on the electronic detectors at the push of a button. The test simulates application of external voltage to the probe electrode, which verifies the operation of the buzzer and lights a red LED.

When the TEST button is released, a green LED indicates the detector is operative and ready for use. If voltages within the detector's operating range are present during testing, the green LED extinguishes, the red LED flashes and the audio tone sounds until the detector is removed from the voltage source.

FEATURES AND BENEFITS

- Available in seven models covering a range from distribution class to transmission line voltages up to 550 kV
- Six electronic, beeper-style models and one model with neon indicator

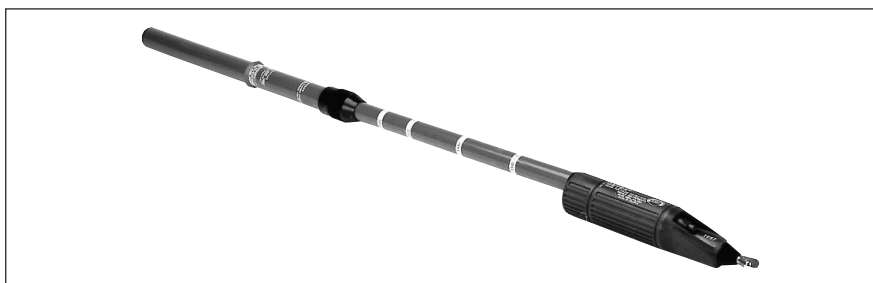
PHASING TESTERS

DESCRIPTION

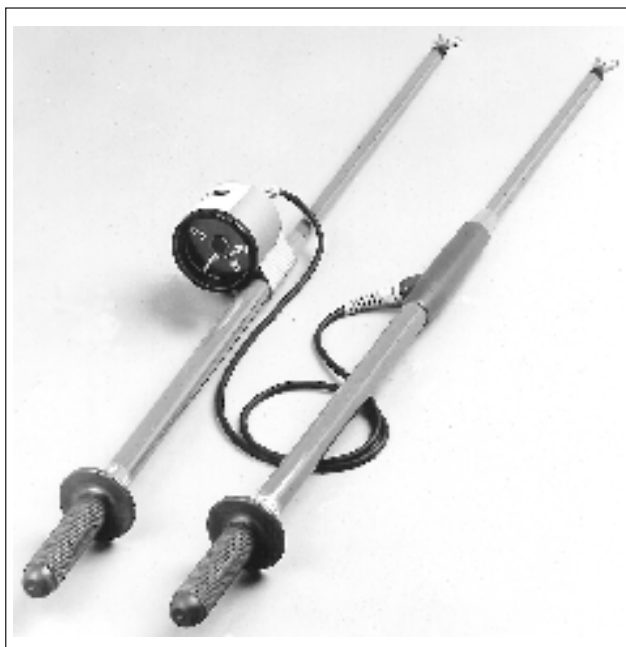
DETEX Phasing Testers are available in five models for applications up to 69-kV class systems. The models include four analog phasing testers and one model with neon indication.

The analog testers are ideally suited for outdoor testing of grounded and ungrounded systems, especially in areas where a neon lamp is not easily visible. The large, 3.5-in. (89-mm) analog scale is calibrated to indicate the presence of nominal system voltages; the tester cannot be used to determine an exact voltage measurement.

The testers are equipped with two fixed-length poles connected by a flexible, insulated cable. Hand guards are standard on lower voltage models, while units for use on higher voltages



Neon voltage detector



Analog phasing testers



Neon phasing tester

are fitted with a universal spline mount for attachment to a standard hot stick. Spline-mounted testers provide a 10-ft (3-m) nominal spacing between two energized phases.

The neon-indicating instrument provides bright neon indication for easy visibility indoors or where lighting conditions are poor. Approximate voltage ranges to be checked can be preset for additional assurance. The instrument consists of a pair of fixed-length,

43-in. (1092-mm) poles with hand guards. A flexible, insulated connecting cable is capable of covering a 7-ft (2.1-m) span between two energized phases under test.

APPLICATIONS

These two-pole phasing testers may be used on grounded and ungrounded ac systems to check high-voltage fuses, test for correct phase connections and test for the absence of high

voltage on de-energized lines or apparatus.

FEATURES AND BENEFITS

- Used on grounded or ungrounded ac systems to check high-voltage fuses, test for correct phase connections and test for the absence of high voltage on de-energized lines or apparatus
- Five models available for up to 69-kV class systems

SPECIFICATIONS

Voltage Detectors

CAT. NO.	Model	Operating Voltage Range (phase to phase)	Mechanical Style	Min Voltage (phase to ground)	Nominal System Voltage Range, 50/60 Hz (phase to phase)	Weight
514360-1	Electronic, with LED and audible indication	2.3 to 7.2 kV	51-in. (1295-mm) telescopic pole	1.2 kV	2.4 to 6.9 kV	2.2 lb (1 kg)
514360-2		4 to 14.5 kV	Spline fitted for attachment to a universal hot line pole	2.3 kV	4.16 to 13.8 kV	1.1 lb (0.5 kg)
514360-3		11.7 to 36.2 kV		6.8 kV	12 to 34.5 kV	
514360-4		24.3 to 72.5 kV		14 kV	24.94 to 69 kV	
514242-1		67 to 235 kV		38 kV	69 to 230 kV	1.5 lb (0.67 kg)
514242-2		200 to 550 kV		115 kV	230 to 500 kV	
514440-1	Neon	3.6 to 36.5 kV	48-in. (1219-mm) telescopic pole	2.1 kV	4.16 to 34.5 kV	2.1 lb (0.95 kg)

Phasing Testers

CAT. NO.	Model	Nominal System Voltage Range, 50/60 Hz (phase to phase)	Kilovolt Indicator Markings (kV)**	Mechanical Style	Pole Length	Cable Length Between Poles	Weight	
							Instrument Only	With Metal Case
514500-1	Analog*	2.4 to 6.9 kV	0, 1.4, 2.4, 4.2, 6.9	Two fixed-length poles with hand guards	39 in. (991 mm)	59 in. (1499 mm)	4 lb (1.8 kg)	16.6 lb (7.5 kg)
514500-2		6.9 to 34.5 kV	0, 4.2, 7.2, 13, 25, 35		56 in. (1422 mm)	59 in. (1499 mm)	4.7 lb (2.1 kg)	18.6 lb (8.5 kg)
514500-3		34.5 to 69 kV	0, 13, 35, 69	Spline fitted for attachment to a universal hot line pole	52 in. (1321 mm)	59 in. (1499 mm)	4.3 lb (1.9 kg)	27 lb (12.3 kg)***
514500-4		6.9 to 34.5 kV	0, 4.2, 7.2, 13, 25, 35		33 in. (838 mm) plus hook	9 ft (2743 mm)		27 lb (12.3 kg)
510836	Neon	4.16 to 34.5 kV			Two fixed-length poles with hand guards	43 in. (1092 mm)	54 in. (1372 mm)	3 lb (1.4 kg)

* Analog scale provides only an indication that voltage is present; the tester cannot be used to determine the exact voltage.

** The kilovolt indication obtained from these testers should not be interpreted as an exact measurement of the voltage.

*** With optional steel case



Pneumatic glove tester

Pneumatic Glove Tester

This rugged, molded air pump conveniently tests all types of rubber gloves with a cuff diameter of 5 in. (127 mm) or less. A built-in check valve retains pressure within the glove as long as desired. Tester is provided with two fabric-covered elastic sealing rings.

Length: 5.5 in. (140 mm)

Diameter: 5 in. (127 mm)

Weight: 1.5 lb (0.7 kg)

OPTIONAL ACCESSORIES

Piezo Verifier

This essential safety tool is used to confirm the correct operation of voltage detectors and phasing testers that do not have a self-testing capability. When the verifier handle is depressed at the rate of 3 strokes per second, a piezo crystal generates approximately 1800 volts. This voltage, when applied to the tip of the detector, tests for integrity of the current path and proper operation of the indicators.

A three-step procedure of testing the detector with the piezo verifier, using the detector to test for the absence of high voltage and then testing the detector again should be strictly observed in accordance with accepted operating procedures. Verifier can be used with single- and two-pole models.

Supplied with case and lead

Length: 7 in. (178 mm)

Weight: 0.75 lb (0.34 kg)



Piezo verifier

ORDERING INFORMATION

Item	Cat. No.	Item	Cat. No.
For DETEX Voltage Detector and Phasing Tester ordering information, refer to Specifications table.		Optional Accessories	
Included Accessories		Protective fiber case	
DETEX Voltage Detectors		for Cat. No. 514360-1/514440-1	513572
Carrying case, vinyl		Carrying case, steel, for Cat. No. 514500-3	514500-3C
Instruction manual		Piezo verifier	510005
DETEX Phasing Testers		Pneumatic glove tester	512117
Carrying case, steel, for all models except			
Cat. No. 514500-3			
Carrying case, vinyl, for Cat. No. 514500-3			
Instruction manual			