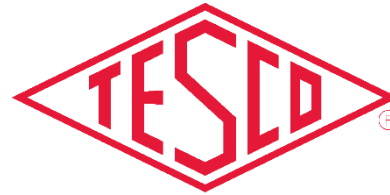


METERING LEADER SINCE 1904



THE EASTERN SPECIALTY COMPANY

TEST EQUIPMENT

Prepared by Tom Lawton, TESCO
The Eastern Specialty Company

*For Mid-South Meter School
Group 4A
Tuesday, May 2, 2023 at 3:00 PM*



TEST SWITCHES

TESCO introduced the original **Meter Test Switch** in the early 1920's. Today, TESCO's line of Test Switches has been redesigned with the intention to combine the best features of tried and proven switching methods with improvements in materials and construction. TESCO's Test Switches are open knife blade and can custom manufacture each order to your specifications.



TRANSFORMER-RATED ENCLOSURES

TESCO **Transformer-Rated Pre-Wired Meter Enclosures** are designed for use in commercial and industrial metering installations where voltage ratings of 480 and above are required. The enclosures are available with either ring or ringless, single piece or two piece covers, and can be pre-wired between the test switch and socket to meet your exact specifications. TESCO Pre-Wired Meter Enclosures are UL Listed.





TRANSOCKETS

TESCO Single & Three-Phase Transockets offer the flexibility of a single enclosure for current transformer metering and allow mounting of current transformers and a test switch.



300-2 AND 301

Cat. 300-2: The TESCO Hot Socket Gap Indicator is used to determine if a meter socket jaw has become worn-out and unsafe for continued use. The Gap Indicator determines unsafe holding force on meter socket jaws based on laboratory testing.

Cat. 301: TESCO's Socket Safety Clip improves the holding force of a meter socket jaw to close to 20 lbs., and can withstand temperatures beyond 400 degrees. This temporary solution simply clips around the jaws of a meter socket until the socket can be replaced.



METER SOCKET BLANK OUT COVERS

Meter Socket Blank-Out Covers: Available with **(Cat. 275)** or without blades **(Cat. 276)**, TESCO's Meter Socket Blank-Out Covers are the perfect solution for meter boxes that require a meter to be removed from service while still maintaining a safe environment.





CAT 305: HOT SOCKET REPAIR KIT



METER SEALS

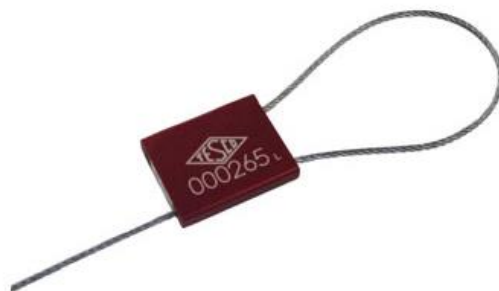
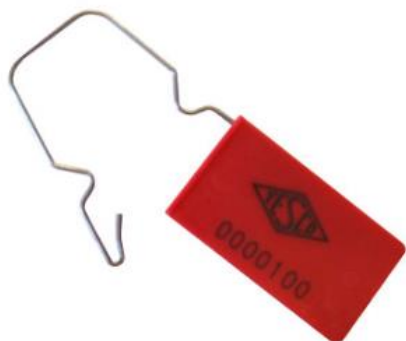


Cat. 220: TESCO's Demand Seals are self-locking, tamper-indicating and designed for easy application and removal from electrical meters.

Cat. 221 Acrylic Meter Seals and Cat. 222 Polypropylene Padlock Meter Seals are a low-cost solution that provides a tamper-evident meter seal. Combined with a stainless steel hasp, TESCO meter seals are ideal for outdoor use and are customizable. Also available with a square base.



Cat. 223: Cable Seals are used primarily for securing CT and PT cabinets in addition to metering enclosures. TESCO's Cable Seals are flexible, tamper-proof, user-friendly, and customizable.



CAT. 250: DISCONNECT SLEEVES

Cat. 250: TESCO's Mylar® Meter Disconnect Sleeves provide a fast and safe solution to leave a watt-hour meter in place, but electrically disconnected from the socket.



CAT. 200: JUMPERS

Cat. 200: TESCO's Load-to-Line Jumpers allows the utility to perform meter maintenance without interruption of service to the downstream occupant.



CAT. 201: JUMPERS

Cat. 201: The TESCO "H" Jumper allows utilities to perform meter maintenance while one leg of the service is inoperable. TESCO jumpers are rated for 100 amps continuous duty and are made from a durable 1/16" thick tin-plated copper with a durable insulating material covering everything except the blades.



CAT. 202: JUMPERS

Cat. 202: TESCO A-Base Jumpers allow meter technicians to jump either customer-load or test-load on A-Base meter installations.





CAT 203: JUMPERS

Cat. 203: TESCO also offers Potential Jumpers, which are equipped with crocodile-clip connectors, and are available in 18 gauge wire and rated for 5 amps/600 volts.



CAT. 204: JUMPERS

Cat. 204: TESCO offers Fused Jumper Sets in various combinations based on your preferences. Customization includes color, test clip style and cable length.



CAT. 205: JUMPERS

Cat. 205: TESCO's Horn Bypass Jumpers are used on self-contained meter services to temporarily supply a customer's power while the meter is removed from service.



JUMPER COVERS

Cat. 277: TESCO's Meter Socket Jumper Covers offer a safe and easy method of bypassing a meter socket. Can be used with either ringless or ring-style meters and designed to take the place of the meter.



VOLTAGE TESTER: K-60

FOR AC AND DC 120 TO 600 VOLTS

CAT III RATED UL 61010-1

K-60 KNOPP VOLTAGE TESTER for AC and DC with polarity indicator. Double safety indication is by solenoid and by neon lamp.

Knopp Voltage Testers offer portability and ease of use with full protection. These exceptionally versatile and useful tools are backed by a reputation for quality in the design and manufacture of electrical test equipment

Knopp Voltage Testers are designed and built with safety, the **key** criteria! Dual voltage indication is provided by solenoid and neon lamp, operating **independently**. The lamp gives a bright warning signal. Voltages are shown by a positive, easy-to-read, moving indicator. There is a signal by hum and vibration; and the user is protected by high-grade, properly applied insulation, and by separation of incoming leads (the do not cross over each other within the housing). Interior separation of the circuit is a basic design feature of the case.

Nylon insulation covers prod tips to within 9/16" of end to prevent shorts across tips. The K-60 has no exposed metal parts. The scale and plate are both of insulating material.

Each K-60 order includes the K-60 voltage tester, Cordura carrying case, and leads.



PHASE SEQUENCE INDICATOR

**Rotary type • no lamps • reliable •
rugged • versatile • time saving**

Positive, straightforward sequence indication is provided over a wide variety of voltage and frequency by direction of rotor rotation. No need for range switching or terminal charging. Also indicates an open phase.

MODEL K-3: 60-600 volts, 25-60 Hz

MODEL K-6: 24-480 volts, 400 Hz

Use of the Knopp Phase Sequence Indicator saves man-hours and protects valuable equipment against damage. It pays for itself in a short time.



CAT. 4E2-1: THIRD RAIL TESTER

The Knopp 4E2-1 Voltage Tester is designed to detect electrical potential (voltage) between the third rail and ground on high voltage electrified transit systems. Two, redundant neon bulbs are used to indicate the presence of voltage.

Features of the 4E2-1 include:

- Can be used on AC or DC
- Can be used up to 1,500 volts
- Can span a distance of up to four (4) feet
- Uses a dual neon lamp principle for double safety protection



CAT. 6330: METER SITE ANALYZER

6330

TESCO's **Meter Site Analyzer** is the most versatile and complete tool for testing the entire functionality of transformer-rated metering installations in a convenient, portable, and ULTRA lightweight kit—only **17.8 lbs!**

As a utility, the vast majority of revenue comes from large customers who have transformer-rated services. At transformer rated sites the opportunity for something to go wrong is much greater than at a self-contained site. Studies have shown that at transformer-rated sites, the vast majority of issues are related to wiring, CTs, PTs and other issues. If you want to be sure that the customer is billed correctly and you are not losing revenue, you must test the whole site, not just the meter.



2990 DESKTOP METER TEST SYSTEM

2990

State-of-the-art meter accuracy testing in an affordable desktop configuration!

Tired of waiting for access to a production test board?
Tired of wasting time going to another building to use test equipment? Need flexibility, state-of-the-art performance, and ease of use? If so, then **TESCO's 2990 Desktop Meter Test Station** is the answer to what you need.

The 2990 revolutionizes meter testing by providing full series parallel meter testing in a small, budget-friendly desktop package.

A fully ANSI compliant test board, the 2990 offers complete testing of all meters under the widest range of test conditions. The new waveform generator has all waveforms called out in ANSI C12.20-2015 (pub. 4/2017). All common electromechanical and solid state meters up to 50 amps can be tested with the 2990 using the single voltage and three isolated current sources.

For more than 110 years customers have trusted TESCO for accuracy and reliability. When you think metering, think TESCO.



MTB-3050

Three Phase Meter Test Board (MTB-3050)

An innovative meter ACCURACY test system offering unsurpassed functionality and ease of use. All of the features you will need to test meters today and tomorrow are standard.

Run standard meter accuracy tests and complex meter accuracy tests under widely varying loading conditions with TESCO's MTB-3050.



METER TEST BOARD 200A

MTB-3200

Run standard meter accuracy tests and complex meter accuracy tests under widely varying loading conditions with TESCO's **Meter Test Board (MTB-3200)**.

TESCO's **Three Phase Meter Test Board (MTB-3200)** is an innovative meter accuracy test system offering unsurpassed functionality and ease of use. All of the features needed to test meters today and tomorrow are standard.

The **MTB-3200** facilitates these meter shop functions:

- Full functional testing capability for all AMI/AMR meters
- Meter program updates
- Software revision checking for both the meter and the communications module
- Communications module troubleshooting
- Checking of problem meters for open/shorted elements



MULTI-POSITION METER TEST BOARDS AND MQB-MTB HYBRID BOARDS

MQB-MTB Hybrid Board

Three Phase Meter Test Board

Of course we can take this three-phase test board and can make a multi-position of up to three sockets per cabinet which allows us to stock these modules and provide these test boards in just a few weeks once again allowing us to meet difficult end of year budget cycles.

But we can also mix and match our MTB's (Meter Test Boards) with our MQB's to better match testing time and better meet your budgeting requirements.

We can provide better cost per test socket and provide more of the lower cost sockets for tests that take longer to run and provide only one or two of the Three Phase Accuracy test sockets (standard 0.04% accuracy) allowing a far greater bang for your buck.





AMI METER FARM

AMI Meter Farm

Do you have new AMI meters going into the field? Or have you already deployed your new meters, but will have firmware upgrades soon?

The answer? The **TESCO AMI Meter Farm** will support your AMI Meter Deployment. The Meter Farm powers up banks of meters and runs a current load through each meter.

TESCO Meter Farms are designed to serve as a cost-effective method for testing communication, functionality and firmware upgrades from your meter manufacturer(s).

The AMI Meter Farm can be used as part of the qualification process prior to deployment, but has been more popular as a post deployment tool to allow large scale testing of all new releases of firmware over hundreds or even thousands of meter points prior to upgrading the entire system.

The AMI Meter Farm can also be used to perform long-term testing for new hardware releases prior to introducing later generation meters into the field. As with all of our products, the TESCO AMI Meter Farm is built with the tradition of reliability and ruggedness.



QUESTIONS AND DISCUSSION



TESCO – The Eastern Specialty Company

Tom Lawton

215.228.0500

This presentation can also be found under Meter Conferences and Schools on the TESCO website: tescometering.com

ISO 9001:2015 Certified Quality Company
ISO 17025:2017 Accredited Laboratory

JOIN US AT THE WALKER CABIN

Come relax with us after a day at school

WHERE

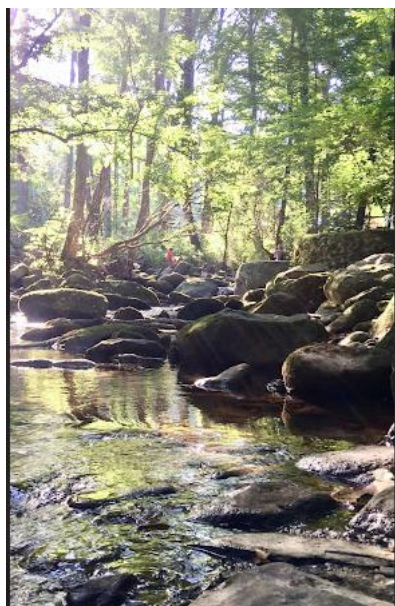
The Walker Cabin, Bottom of the hill from the Park Vista;
872 Wesley Dr, Gatlinburg

WHEN

Tuesday any time after dinner
(light fare for anyone who wants to come early)

WHAT

Corn Hole, Games, Snacks, Dinner,
Beer, Wine & Drinks and talking
about everything from hunting to
Meters – of course



REACH OUT to anyone on our team if you have any questions

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John Kretzschmar 864.590.2883