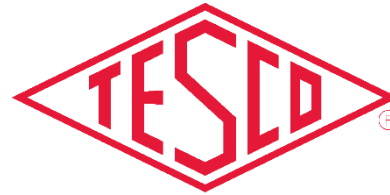


METERING LEADER SINCE 1904



THE EASTERN SPECIALTY COMPANY

# INTRODUCTION TO TESCO 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*

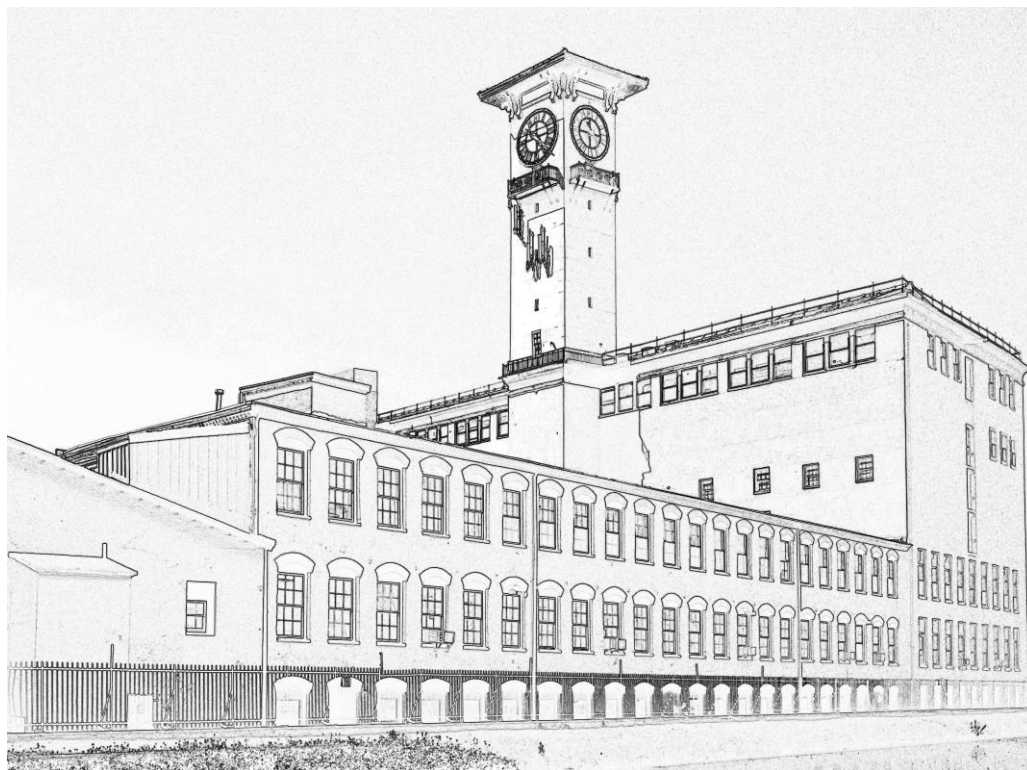


# WHO IS TESCO?

**TESCO – The Eastern Specialty Company** started in Philadelphia in 1904 by two Electric Utility engineers. TESCO developed the first Test Switches in the early 1910's and has been focused on meter related products, enclosures and meter Test Equipment for nearly 120 years.

We are headquartered in Bristol PA (just outside of Philadelphia) in a historic Mill near the Delaware River. We are focused on manufacturing and have been vertically integrating our manufacturing operations to better control our lead times, our supply chain, our quality and to be better able to respond to our customers changing needs and requirements. We have facilities and people throughout the United States plus facilities in Canada and the far east to better support our customers in those regions.

In short, we know a little about test equipment for metering applications.





# TESCO CATALOG No. 2990

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.



# TESCO CATALOG No. 3050 AND No. 3200

## 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.



## TESCO MTB3 Meter Test Board

Run standard and complex meter accuracy tests under varying loading conditions.  
Three-phase, multi-position accuracy test board.

**Accuracy:**  $\pm 0.04\%$  at unity power factor from 0.2A to 50A,  $\pm 0.02\%$  typical (Optional 0.02% accuracy boards available upon request)

**Current drive:** Single range 0.01 to 50A(rms), 70A (peak)

100 amp and 200 amp options available



# TESCO CATALOG No. MQB AND MQB1

## TESCO Next Gen Meter Qualification Board (MQB)

Power-up and apply load to electric watt-hour meters for functionality testing with TESCO's multi-position Meter Qualification Boards (MQBs). These boards assist with AMI Meter Certification process and AMI meter qualification and communication testing.





## **TESCO Three-Phase Meter Qualification Board (MQB3)**

The MQB3 facilitates the following meter shop functions in high volume:

New AMI/AMR meters settings check-out

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



## TESCO Meter Engineering Board (MEB)

Perform qualification, disconnect, communication, and advanced functional tests with TESCO's Meter Engineering Board. With basic metrology (0.1% accuracy) TESCO's MEB can also be used as a demand board or a time run board, as part of meter certification, or to meet regulatory testing requirements. A new socket design provides automated operation to make loading easier.





# TESCO CATALOG No. 2199

Providing complete capabilities for evaluating meters and communications performance, **TESCO's 2199 Desktop Meter Qualification Board** can generate any voltage and load conditions the meter may encounter in the field. Apply non-sinusoidal voltages with complex load waveforms. Perform disconnect tests and reconnect tests without worrying about being able to drive the meter's switches.



# TESCO CATALOG No. 2100

**The TESCO 2100 Desktop Meter Station** is an extremely versatile piece of testing equipment. It can be used as a programming station, a single meter evaluation station, or a test bed for checking meter features and anomalies (including creep testing!).



# TESCO METER FARMS

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.



**The TESCO Catalog No. 3100-L Hot Socket Simulator** gives you the ability to investigate meter failure issues related to hot socket phenomenon. The Simulator is equipped with one 2S meter socket with four jaws, one of which is the heated jaw. The arcing/heating apparatus can be moved to any of the four jaws (jaw 1 is the standard). Additional arcing/heating elements can be provided as an option for multiple hot jaws on the existing socket.



# TESCO CATALOG No. KCTS-8000

The **Knopp Current Transformer Testing System (Type KCTS-8000)** is designed to measure the accuracy of instrument transformers having 1 or 5 ampere secondaries and primaries of up to 8000 amperes. The system uses a high accuracy multi-range current transformer as a reference standard. All ANSI standard burdens are included. The phase angle and ratio errors of the transformer-under-test (TUT) are measured by the built-in Knopp Automatic Transformer Comparator.



**The KVTS Knopp Voltage Transformer Testing System** is designed to measure the accuracy of instrument transformers having 120 volt secondaries and up to 14,400 volt primaries (special order for up to 36,000 volt primaries is available). The system includes a control console which contains the control circuitry, ANSI standard burdens, and the Knopp Automatic Transformer Comparator. The Knopp precision and loading transformer set is also included (see picture above) and is connected to the console via a special cable.





# TESCO CATALOG No. 1043

The **Catalog No. 1043 Current Transformer Burden Test Set** is a simple and inexpensive means whereby a current transformer installation may be quickly checked for many sources of trouble. The tests are made without interrupting the customer's service and while the load is on.



# TESCO CATALOG No. 1044-A

Due to overwhelming demand, TESCO has re-introduced the **Catalog No. 1044A (20) Amp CT Burden Test Set**. This lightweight, handheld unit is a simple and inexpensive means whereby a current transformer installation may be quickly checked for many sources of trouble.





# TESCO CATALOG No. 621

**TESCO's Catalog No. 621, light-weight, 50 Amp Field Meter Test Kit** with Power Factor, has been designed to reduce the weight of field test equipment to the lowest possible limit. The carrying case is fabricated from durable powder-coated aluminum. The total weight of the meter test kit including leads and digital reference standard is only 25 lbs. The Test Kit also incorporates ample storage space for the cable set.



# TESCO CATALOG No. 630

**TESCO's Catalog No. 630, light weight, closed-link, 30 Amp Field Meter Test Kit** with Power Factor, has been designed to reduce the weight of field test equipment to the lowest possible limit when testing electric meters without potential links or with the links closed. The unit is protected within its ergonomic carrying case by a durable powder-coated aluminum shell.



# TESCO CATALOG No. GA-50 AND GA-2.5

## TESCO GA Series Field Test Kit (with Resistive Load)

The GA Series Field Meter Test Kit with Resistive Load has been designed to reduce the weight of field test equipment to the lowest possible limit. The carrying case is fabricated from durable powder-coated aluminum. The total weight of the meter test kit including leads and digital standard is approximately 25 lbs.





# TESCO CATALOG No. 6330

**TESCO's Catalog No. 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!**



# TESCO CATALOG No. TS400

Test the accuracy of AC and DC voltages and currents with **TESCO's Electric Vehicle Service Equipment (EVSE) Test System TS400**. The TS400 is a valuable instrument with complete testing capabilities and caters to every possible EVSE charging protocol in the world (AC and DC).



# TESCO CATALOG No. 1039 AND 1039-WP

## TESCO Catalog No. 1039 Safety Disconnect Device

Safely disconnect or reconnect power using the meter's remote disconnect from the palm of your hand.

TESCO's portable Catalog No. 1039 Safety Disconnect Device allows you to safely disconnect power using the meter's remote disconnect

**TESCO's Catalog No. 1039-WP Wireless Optical Probe** provides easy, two-way communication between a PC and meter with wireless convenience up to 1200 ft.



# TESCO CATALOG No. 1120

**Catalog No. 1120 TESCO RF Meter** combines all the features needed for fast, accurate measurements of electromagnetic fields. This instrument was designed to measure RF, but also has the ability to measure electric and magnetic fields.





# TESCO CATALOG No. 1160

For utilities considering or currently involved in AMI implementations, a **Catalog No. 1160 Signal Strength Analyzer (SSA)** will determine the location with the highest quality signal when placing an antenna for a poorly communicating meter.



# TESCO CATALOG No. 300-2

**Catalog 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.





# TESCO CATALOG No. 500 AND No. K-3

**The TESCO Catalog No. 500 Phase Sequence Indicator** meets the need for an instrument that makes basic phase sequence indication as easy as 1-2-3 (or 3-2-1). It is lighter and more compact than any other indicator available. Phase sequence is simply indicated by two neon lights. One light is for phase sequence 1-2-3 and the other light is for phase sequence 3-2-1.



## **MODEL K-3: 60-600 volts, 25-60 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.

**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



**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.





**Tom Lawton**

TESCO – The Eastern Specialty Company

*Bristol, PA*

215-228-0500

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

[www.tescometering.com](http://www.tescometering.com)

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