Automated Test System
Model 2150

- **Winboard™ Software**
- **Smart Socket™**
- **Laser Optics**
- **OPTOCOM™**
- **Barcode Option**
- **Testboard Options**

RADIAN

WECO

Introduction

Accuracy and efficiency are the cornerstones for any successful meter shop or production facility. Watthour Engineering offers a line of meter testing hardware and software products that combine over thirty years of meter testing experience and customer dedication with the insight into today's technologies to bring you industry leading test solutions.

WECO's Model 2150 automated test system is a fully ANSI compliant testboard that uses a single voltage and three independently controlled isolated current sources to test all electromechanical and solid state meters up to 50 Amps. Utilizing a precision laser optics system, the Model 2150 can test meters through the most grime-coated covers with unfailing accuracy. This same laser technology makes it possible to test using the disk's edge without wasting time with the tricky optics adjustments found with other test systems.

Convenience, functionality, and reliability are at the heart of the Model 2150's design. Smart Socket™ technology combines extra long socket life, minimal insertion force, and ultra-quiet operation. With the OPTOCOM™ option, you can snap the optic-coupler head in place to both test and program meters. Minimal power consumption, weight, and footprint make this testboard ideal for van mounted testing using a power inverter. Test meters using KYZ through cables or directly off the meter stabs, and use the built-in speaker to hear each pulse.

Barcode Option

Attach an optional barcode scanner and printer to your testboard to cut meter processing and data entry time. Scan AEP barcodes on meters with a wave of the barcode scanner to automate the data entry process, or print custom barcodes to automate customer information entry during testing. Either way, the optional barcode scanner and printer will save your shop time and money.

OPTOCOM™

With this optional OPTOCOM™ interface, you can test and program meters without changing heads. Just clamp the head on for testing and forget worrying about aligning optics or detecting creep holes. When the test is complete, you can program the meter without replacing heads. The OPTOCOM option takes the error and effort out of meter testing and programming.

Laser Optics

WECO's advanced laser optics has revolutionized meter testing. This innovative system employs a high intensity light beam that safely delivers highly accurate test results even through meter covers coated in dirt and grime. Whether testing off the black mark or through the creep holes, trust the WECO laser optics system to give you the precision that you demand with the ease you deserve.

Winboard™ Software

Unlock the power and flexibility of your WECO testboard with Winboard™ meter testing software. Winboard utilizes software "Wizards" to simplify even the most complicated tasks. A strikingly user-friendly interface makes it easy to select test sequences, elements, and service types. The powerful combination of file/graph, test time, and Hyper Sequence™ features gives you total control over all test parameters. Customizable security options and WECO's dedicated customer support team round out this robust software package.

Smart Socket™

Smart Socket™ technology extends the life of your testboard by mechanically controlling the inserting and removing of meters. Silver and gold connections inside the socket ensure the best connection to the meter under test. A quiet, cutting-edge solenoid motor means reliable, quiet operation with low insertion force.

Testboard Options

- Additional meter test stations:
  Three (3) stations maximum per cabinet.
  Six (6) stations maximum operated by one computer.
- OPTOCOM™:
  Optics coupler allows pulse testing and meter programming through the optical port of many solid state meters without changing optics coupler.
- Barcode printer with software
- Barcode reader with software
- Multi-function testing capability
- Higher accuracy reference standard available
- Computer memory and storage upgrades
- Bottom connected single stator adapter
- Bottom connected multi stator adapter
- Custom adapter design available
- Automated standards compare adapter for RM or RD standards

Specifications

- Input voltage:
  120 or 240VAC (3 wire), 50 or 60Hz single-phase
- Input power:
  650VA Maximum
- System accuracy: For current ranges 0.2A–50.0 A
  >>KWH ⁺/₋ 0.04% at 1.0 P.F. (⁺/₋ 0.01% typical)
  >>KWH ⁺/₋ 0.04% at 0.5 P.F. (⁺/₋ 0.01% typical)
  >>KW ⁺/₋ 0.075%
  >>System accuracy is based upon the accuracy of the reference standard.
- Voltage and current accuracy: 0.50% true RMS
- Phase angle accuracy: ⁺/₋ 0.5°
- Test frequency: 50 or 60Hz
- Voltage harmonic distortion:
  Less than 1.0% THD (less than 0.5% typical)
- Current harmonic distortion:
  Less than 1.0% THD (less than 0.3% typical)
- Meter forms tested:
  >>1S-6S, 8S-17S, 19S, 21S, 24S, 26S, 29S, 35S, 36S, 45S, 46S, 56S, 66S
  >>New meter forms can be added using the testboard utility included in the package.
- Dimensions: Approximately 21˝W × 20˝H × 21˝D
- Weight: Approximately 125 pounds
- Warranty: One (1) year limited warranty (all parts and labor). Manufacturer warranty on computer.

Testboard Features

- **Test voltage:**
  - *>>60–600V; programmable in 0.01V steps*
- **Test current:**
  - *>>0.25–50A; programmable in 0.001A steps*
- **Power factor test angle:**
  - *>>0–359.9°*
  - *>>Selectable in 0.1° increments*
- **Test revolutions:**
  - *>>Series full load selectable 1–65,534**
  - *>>Elements full load 1–65,534*
  - *>>Series light load selectable 1–65,534**
  - *>>Elements light load 1–65,534*
  - *>>Series power factor selectable 1–65,534**
  - *>>Elements power factor 1–65,534*
- **Test time:**
  - *>>Selectable from 1–9999 seconds (minimum of at least one energy pulse)*
- **Demand (KW) testing:**
  - *>>Standard revolutions (1–99999 revolutions)*
  - *>>Time run (up to 99 HRS, 59 MIN, 59 SEC)*
- **Contact device testing:** *Form "A" or "C" capability*
- **Hyper Sequence™:** *Four quadrant automated meter testing*

- File/graph testing
- Solid state voltage and current loading
- Voltage and current electronically ramped between tests
- Automatic slew between tests to minimize test time
- Potential clips closed for testing
- Smart Socket™ with minimal insertion force
- Front panel controls allow fast, easy test selection
- Modulated laser optics for through hole and reflect disk sensing
- Three optical pickups: *Top, bottom, and middle/center*
- Visual and audible (volume controlled) pulse indication for aid in aligning optical sensor
- LED bar graph for signal strength
- No sensitivity adjustment necessary for optics
- Easily removable reference standard for recertification
- **PC Minimum System:**
  - *>>Dell™ standard business class Mini Tower PC*
  - *>>17" flat screen monitor*
  - *>>Microsoft Windows® 7 Professional operating system*
- Windows® compatible Winboard™ software
- WATT-Net™ data acquisition system

*Selectable Per Element

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CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
650 nm LASER DIODE
<1.0 mW MAX OUTPUT
CLASS II LASER PRODUCT
AVOID EXPOSURE- LASER LIGHT
IS EMITTED FROM THIS APERTURE

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