Radian Research, Inc.

METERcert Software...

The cost-effective solution to multi position meter testing.

RM-17 Watthour Test System

RADIAN

RM-17 and METERcert in the Meter Shop

The Radian Research RM-17 has long been known for its leadership, convenience and superior performance in residential on-site meter testing. While the RM-17 provides easy transfer of on-site data to the shop and class accuracy of 0.05%, most meter shops require additional test equipment in-house in the form of a multi position meter test solution.

With Radian's new METERcert software metering personal can use the same familiar RM-17 hardware both in the on-site and in the shop. METERcert software provides an interface that allows up to sixteen RM-17s to be operated at the same time. With the combination of the RM-17 along with METERcert, meter shops now have a low-cost alternative to a high priced large multi position meter testing system.

Control up to Sixteen RM-17s from one PC

With the use of METERcert you will get the versatility you require for test control of up to sixteen meters. At a moment's notice, the user can add and remove RM-17s to accommodate the work load on-site or shop. An easy to understand software interface allows the operator to configure a new setup effortlessly. Independent control of each station allows for the use of multiple test parameters without interfering with other meters in the test process.

Bar Code Scanner Support

With the use of the optional bar code scanner meter information is automatically loaded and stored into METERcert. Optional bar code reading reduces the time between tests and eliminates the possibility of incorrect meter data being loaded that can result in confusion and reduced meter throughput.
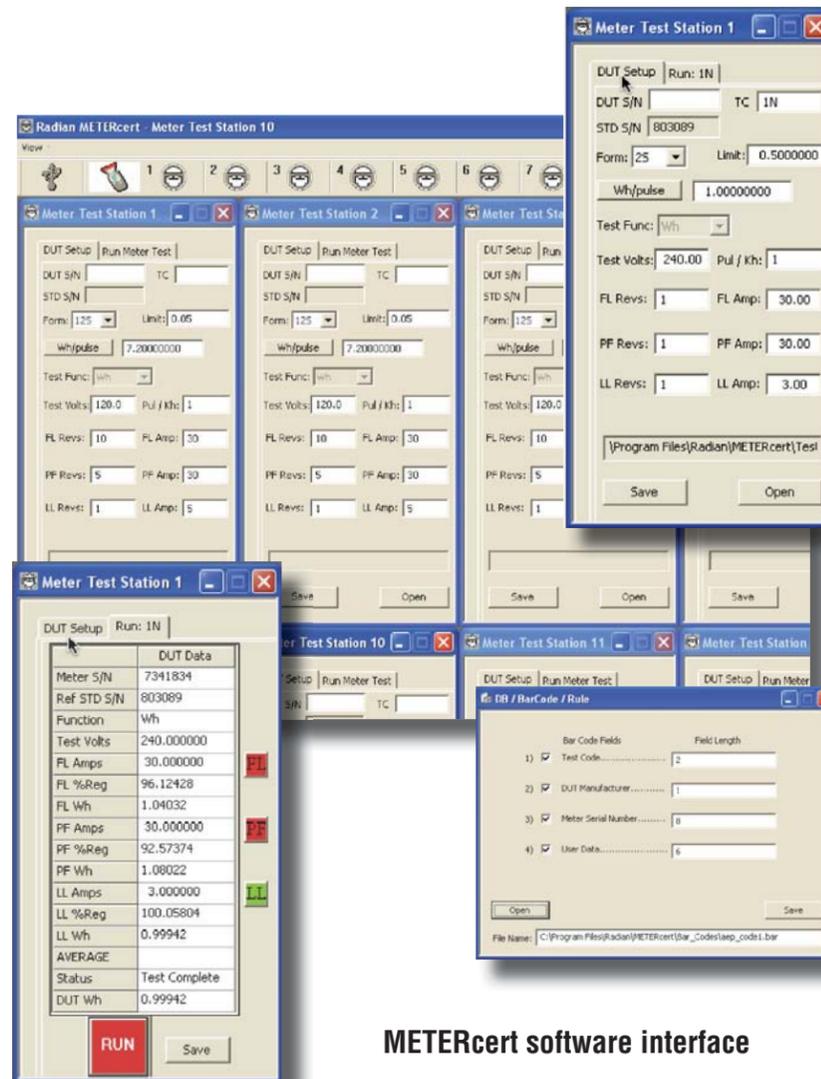
Automatic Pass/Fail Indicator

Speed workflow with the automatic Pass/Fail indicator. Once your test criteria has been set the test is automatically run, and an indicator allows easy meter performance evaluation. Never retest because of an error in calculation or mistaken evaluation.

Automated Full Load, Light Load, PF Testing

The ability to run automated full load, light load and power factor testing eliminates operator interaction and increases meter testing efficiency though the meter shop.

Closed Loop Current Control

The RM-17 ensures accurate sourcing of current to the meter under test, under any burden condition. Without closed loop control, current can sag to an unknown state without awareness.

METERcert software interface

RM-17 for On-site Testing

While simple to use for non-metering personnel, the RM-17 offers advanced features tailored for experienced meter technicians and supervisors. The RM-17 combines data management with superior accuracy and flexibility to provide a completely systematic approach to residential meter testing.

Using a true Radian standard as its reference, the RM-17 solution to residential meter testing provides typical accuracies 10 to 50 times greater than watthour verifying products. Full ANSI C12 compliance, including 0.5 lagging power factor testing as well as kW demand testing further distinguishes the RM-17 as the only portable test system flexible enough to meet the diverse needs of today's electric utility company.

Flexible Testing Methods

The RM-17 provides the electric utility with multiple testing operations. For testing induction meters the operator can count disk revolutions while starting and stopping the test from the hand controller. The optional RM-DS Meter Disk Sensor can be utilized to automatically sense disk revolutions. Radian offers the RM-DS with different mounting arrangements further enhancing user flexibility. For electronic meters, the optional RR-1H Optical Pickup can be utilized to sense infrared calibration pulses.

Accuracy Certification

The RM-17 is the only system of its kind to come with a complete calibration report certifying measurement accuracy across its entire operating range. The RM-17 can be easily tested with a simple accuracy certification test procedure using a Radian RD-23 Primary Reference Standard and the optional RD-TJ Test Jack. Complete recertification and recalibration service is available from Radian's NIST traceable calibration laboratory.

Ease of Operation

While providing the advanced functionality expected by experienced meter technicians, the RM-17 offers the ease of operation required for non-metering personnel. The operator simply removes the watthour meter from the socket and replaces it with the RM-17 Socket Adapter. The meter under test is then set in the Socket Adapter. Next, the operator selects test parameters from the RM-17 Hand Controller and initiates the test. Testing is then facilitated automatically by the RM-17 with little or no operator involvement depending on the testing method used. The hand controller features an alphanumeric keypad with large tactile feel buttons strategically located for ease of command selection. Operator commands are entered by way of a logical menu system enhanced by a 4 line, 16 character LCD display.

RM-17 and METERcert...

The cost-effective solution for residential meter testing in the shop and on-site!

Technical Specifications

RM-17 Portable Watthour Test System

WATTHOUR ACCURACY

All errors are in percent of reading at any combination of the normal operating conditions. Note that stability is included within the maximum accuracy specification.

UNITY POWER FACTOR	*0.01% typical, 0.05% maximum*
0.5 LAG POWER FACTOR*	*0.01% typical, 0.05% maximum*

*Power factor is referenced to Watthours and it is also assumed that voltage is the reference vector.

NORMAL OPERATING CONDITIONS

INPUT VOLTAGE	*60 to 600 VAC (Autorange)*
OUTPUT CURRENT	*0-50 Amps (Adjustable)*
POWER FACTOR	*Unity and 0.5 Lagging Power Factor*
RELATIVE HUMIDITY	*0 to 95%*
FREQUENCY	*48 to 62 Hz*
ORIENTATION	*Any*
RECALIBRATION	*365 days*
SHOCK AND VIBRATION	*Any which is nondestructive*
NORMAL OPERATING RANGE	*-20° to 70 C º (-4 to 158 F º)*

PHYSICAL DESCRIPTION

HAND CONTROLLER	*190 mm (7.5") **H***
	*105 mm (4.00") **W***
	*33 mm (1.25") **D** approx.*
SOCKET ADAPTER	*178 mm (7.0") **W***
	*178 mm (7.0") **D** approx.*
WEIGHT	7.25 lbs.

INFLUENCE AFFECTING ACCURACY

NONE

INPUT

PICKUP TERMINAL	*Lemo, pulse input for Radian RR-1H or RR-DS*
INPUT/OUTPUT TERMINAL	*BNC, RM-1S Remote Reset Switch*

OUTPUT

INPUT/OUTPUT TERMINAL	*BNC, 0.00001 pulse output value*
PRINTER/PCA TERMINAL	● *RM-PCA Communications to RS-232 Port*
	● *Serial Printer Interface*

METERcert Software

SYSTEM REQUIREMENTS

PC running Windows XP or greater, Approximately 100 Megs of hard disk space available, USB or RS-232 serial port(s) for RM-PCA Computer Interface Adapter(s)

COMPONENTS REQUIRED

- RM-PCA Adapter (100117)
- RM-17 Portable Test System (101701)
- Meter Pulse Sensor RR-1H (100172), RR-DS/s (192060)
- Optional Barcode Reader (A0620010)
- USB Multiport RS232 Adapter (170052)
- Meter Socket per station (customer supplied)

ACCESSORIES AVAILABLE

- RM-1S Remote Reset Switch
- RR-1H Optical Pickup for Infrared LED
- RM-PCA Interface Adapter
- RR-IRDS
- RD-TJ Test Jack
- RR-DS Meter Disk Sensor
- RM-1H/v
- *METERcert* Software

Radian Research, Inc.
3852 Fortune Drive
Lafayette, Indiana 47905 USA

Phone: 765-449-5500
Fax: 765-448-4614
Web Site: www.radianresearch.com