



*High Accuracy*

*Autoranging Inputs*

*0.2 to 100 Amp Current Input*

*Watthour Display*

*Kh of 1 at all Ranges*

*Lightweight*

## OVERVIEW

The Radian Research RM-12 Metronic Portable Watthour Standard is a high accuracy portable standard. The RM-12 has the key Radian features of autoranging inputs, watthour display, Kh of 1 and it is lightweight. In addition, an increased capacity current input is provided.

The RM-12 is totally autoranging on the potential input, current input and auxiliary power input. Totally autoranging inputs, a feature pioneered by Radian, make it impossible to damage the unit by applying a signal to the wrong input. The RM-12 provides one current input with a high capacity range of 0.2 to 100 Amperes.

The RM-12 provides a true watthour display with a Kh of 1 for its entire operating range. This feature, introduced by Radian, allows for a much simpler percent registration calculation.

At only 5.5 pounds, the RM-12 is the lightest standard available making it desirable for field testing applications. Ease of use and safety are further enhanced with the use of the RM-1S Remote Reset Switch for field testing. A full line of test accessories to use with the RM-12 are available from Radian. These accessories can be used for field and shop testing of solid state and induction meters.

In addition to high accuracy, user-friendly features, high current capacity and a full line of test accessories, the RM-12 is backed by the most aggressive warranty in the industry.

Technical specifications are detailed on the back side of this page.

## RM-12 Metronic Portable Watthour Standard

### RM-12 MODELS

RM-12-01 Portable Watthour Standard  
 RM-12-03 Portable Watthour Standard with I/O Communications Port

### 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 specifications for Watthours, Ohours and VARhours. \*Power factor is referenced to Watthours and it is also assumed that voltage is the reference vector.

	Watthour
AT UNITY POWER FACTOR* (0°)	$\pm 0.025\%$ typical, $\pm 0.10\%$ maximum
AT 0.5 LAG POWER FACTOR* (-60°)	$\pm 0.03\%$ typical, $\pm 0.10\%$ maximum
AT POWER FACTOR* P < 0.5 LAG (± between -60° and -90°)	$\pm 0.10\%/P$ maximum

### NORMAL OPERATING CONDITIONS

INPUT VOLTAGE	60 to 600 VAC (Autoranging)
INPUT CURRENT	0.2 to 100 Amps (Autoranging)
POWER FACTOR	Any (See accuracy definition)
AMBIENT TEMPERATURE	20° to 30° C (68° to 86° F)
RELATIVE HUMIDITY	0 to 95%
AUXILIARY POWER VOLTAGE	80 to 600 VAC (Autoranging)
FREQUENCY	48 to 62 Hz
ORIENTATION	Any
RECALIBRATION INTERVAL	365 days
WARMUP TIME	30 seconds
SHOCK AND VIBRATION	Any which is nondestructive

### INFLUENCE AFFECTING ACCURACY

TEMPERATURE	$\pm 0.001\%/^{\circ}\text{C}$ typical, $\pm 0.003\%/^{\circ}\text{C}$ maximum $-20^{\circ}$ to $70^{\circ}\text{C}$ ( $-4^{\circ}$ to $158^{\circ}\text{F}$ )
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### INPUT

INPUT TERMINAL BNC, digital display gate

### OUTPUT

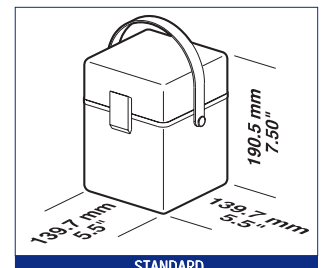
OUTPUT TERMINAL BNC  
 PULSE VALUE (Wh/pulse) 0.00001 (0.00002 for 200 Amp models)

### PROTECTION

ISOLATION Complete: Input/Output/Power/Case/Control  
 DIELECTRIC WITHSTAND 2.3 kVrms, 60 Hz, 60 seconds  
 SURGE WITHSTAND IEEE 472 and ANSI 37.90  
 FUSES Schurter #0342516 or Radian #3001000 for potential input and auxiliary power

### PHYSICAL DESCRIPTION

SIZE 190.5 mm (7.5") H x 139.7 mm (5.5") W x 139.7 mm (5.5") D excluding latches and strap  
 WEIGHT 2.5 kg (5.5 lbs); 3.6 kg (8 lbs) shipping weight  
 SHIPPING DIMENSIONS 305 mm (12") H x 248 mm (9.75") W x 248 mm (9.75") D  
 DISPLAY 12.7 mm (0.5") LCD, 6 digits, readout in Watthours



### ACCESSORIES AVAILABLE

RM-1S Remote Reset Switch	RM-DS Meter Disk Sensor	RM-OA Optical Adapter
RM-1N Solid State Meter Interface	RM-KYZ Pulse Input Adapter	RM-TC Transit Container
RM-1H Optical Pickup for Infrared LED	RM-1A Photo Counter Interface	RM-PCA Computer Interface Adapter with PCA-Link™ Software

### WARRANTY

The RM-12 is warranted to be substantially stable in calibration over time. If within one year after factory calibration the RM-12 does not meet its specifications, Radian will repair and recalibrate the unit. Radian Research warrants the RM-12 to be free from defects in material and workmanship. Radian will repair or replace any instrument or component therein which, within two years after shipment, proves to be defective upon examination. For a period of ten years, Radian warrants the RM-12's autoranging feature from catastrophic failure resulting from failure to autorange.

### SERVICES AVAILABLE

Extended Warranty (5 year warranty plus 6 recertifications)  
 Recertification of standards  
 Certification with special calibration points