



Description

The Model 63 Electronic Hour Meter with 8 LCD digits brings more features to the user than ever before. Models are available that are simple Hour Meters, while other models can bring together enough features to control a significant process.

A long list of features includes a programmable output, an external electronic reset, a front panel reset enable, and programmable alert or preset capability. In addition, the unit can be configured to operate from an external DC power supply or an internal 15+ year lithium battery. An EEPROM is available with the externally powered units to retain last data when power goes down. The front end of the Model 63 Hour Meter utilizes a high-contrast, reflective, 8-digit LCD with 0.32 inch [8mm] digits and seven icons, while at the back end Dry Contact, Low Voltage DC, and High Voltage DC and AC Inputs are available.

The Model 63 family is designed with a rugged plastic housing that is qualified to NEMA 4/4X when properly installed in a panel using an optional gasket. In addition, the unit is compliant with CE EMC standards to EN61326:2001 for industrial applications, the unit is recognized by UL for U.S. and Canadian safety standards, and it is compliant to European RoHS and WEEE standards.

Features

- Reflective LCD Display with 8 large (8mm) digits
- Choice of four Hour Meter types
 - Hour Meter
 - Minute Meter
 - Seconds Meter
 - Dual hour Meter
 - Twin Hour Meter
- Choice of I/O complement that includes
 - One or two inputs
 - Switch Input (No voltage)
 - Low DC Voltage (3-30VDC)
 - High Voltage (20-300VAC or 10-300VDC)
 - Control Inputs
 - External Electronic Reset
 - Front Panel Reset Enable
 - Discrete Output
 - Open-Drain MOSFET
- Choice of external power (with EEPROM) or internal 15+ year battery
- Optional Front Panel Programming for flexible Redi-Alert or Preset Hour Meter functionality
- Optional Redi-Alert Functions
 - 3 Redi-Alerts are available with Front Panel Programming option
 - 4 Redi-Alerts are available with Factory Programming
- Optional Preset Hour Meter Mode
 - Available with Front Panel Programming option or with Factory Programming
- NEMA 4/4X, 12, and IP66 rated
- EMC Compliant to EN61326:2001 for industrial environments
- CE compliant, UL and cUL recognized
- European WEEE & RoHS Compliant

Capabilities

Hour Meter Operation

Any of four different counting methods may be specified. These counting methods are factory set.

- | | |
|------------------|---|
| Hour Meter: | The Hour Meter displays hours in a resolution of hours and tenths. A front panel programmable unit or a factory programmed unit can be programmed to display a resolution of 0.01 hours. |
| Minute Meter: | The Minute Meter displays minutes to a displayed resolution of 0.1 minutes. |
| Seconds Meter: | The Seconds Meter displays seconds to a displayed resolution of 0.1 seconds. |
| Dual Hour Meter: | The Dual Hour Meter measures the time that Input A is at a high level in two accumulated times. One of the times can be reset, while the other cannot. The displayed times can be swapped on the display by pressing and releasing the SEL switch. The Dual Hour Meter is only available with the front panel programming option. |
| Twin Hour Meter: | The Twin Hour Meter behaves as two Hour Meters in one package. One Hour Meter is enabled by Input A and the second is enabled by Input B. The displayed Hour Meters can be swapped by pressing and releasing the SEL switch. The Twin Hour Meter is only available with the front panel programming option. |

I/O Functions

The I/O functions can be mixed and matched to maximize the functionality of the Hour Meter. There are three types of inputs that the Hour Meter can accept. The interfaces for each are factory set. The inputs can be

- Switch – open circuit or switch closure
- Low Voltage DC – Low input is less than 1VDC and High Input is 3 – 30VDC.



- High Voltage DC or AC – Low is less than 3VDC or 3VAC. A High Input is either 10 – 300VDC or 20-300VAC.

For the Switch and Low Voltage DC Hour Meters, there are six screw terminals for all of the I/O. For the High Voltage Hour Meters, there are four screw terminals for the I/O. The combinations of the I/O and power supply are factory set.

Enable Inputs:	The enable inputs are those inputs that enable the accumulation of time.
Remote Reset:	When the remote reset is at a high level, the Hour Meter will reset.
Front Panel Reset Enable:	The Hour Meter will reset when the Front Panel Reset Enable is at a high level, and the Front Panel Reset Switch is pressed. The Hour Meter will not reset when the Front Panel Reset Enable is at a low level and the Front Panel Reset Switch is pressed.
Output:	The output is an open-drain MOSFET. The output is used when operating in the Preset Mode, and it can be optionally used when using Redi-Alerts.

Preset Function

Each Hour Meter may be placed in a preset operating mode. This mode can be programmed through the front panel for those units that have the front panel programming option. It may also be factory programmed. IT IS NOT RECOMMENDED THAT THE PRESET FUNCTION BE USED AT THE SAME TIME THAT ALERTS ARE ENABLED.

Basically, a preset Hour Meter is an Hour Meter that times to a preset value and then turns on an output device. At some point, the output device is turned off, the Hour Meter is reset, and the process begins again. There are two things to determine. One is when and how to turn off the output device, and the second is when and how to reset the Hour Meter.

The preset Hour Meters can be set up for either automatic reset or external (front panel or remote) reset. The outputs can be turned off by either time out or external reset. In addition to the output, an icon can be turned on when the output is turned on for a visual indication of the preset condition.

Alert Functions

The Model 63 Hour Meter can be programmed to operate as a maintenance device in which alerts notify the user of certain maintenance actions to be taken after accumulation of a predefined time. When the accumulated time equals the predefined alert value, an icon is illuminated on the display. When the alert is reset, the icon is turned off, but the accumulated time is not reset.

There are two types of alerts. The first is a break-in alert. A break-in alert only occurs once at the start of unit operation. The second type of alert is recurring. A recurring alert occurs continuously at a predefined period. When tied to a break-in alert, the recurring alert will not begin its count until the break-in alert has occurred.

The intervals for the recurring alert can be performed as start-to-start or end-to-start. A start-to-start interval count starts when the last alert is turned on. The end-to-start interval count starts when the last alert is turned off.

The Model 63 Hour Meter can support three alerts using front panel programming and four alerts when factory programmed. IT IS NOT RECOMMENDED THAT THE PRESET FUNCTION BE USED AT THE SAME TIME THAT ALERTS ARE ENABLED. In both cases, Alert #1 is a break-in alert that is tied to Alert #2, which is recurring. Alert #3 is recurring, and Alert #4 can be factory set as either break-in or recurring. If Alert #4 is break-in, then it is tied to Alert #3.

The Model 63 Hour Meter can be programmed to be latched or kept on for a predetermined time. When latched, an external reset is required to turn off the alert. Each alert can also force the output on when the alert is on.

Front Panel

The liquid crystal display is reflective with dark characters on a light background. There are 8 digits on the display. The standard display contains seven icons which can be assigned as desired to either alerts or a preset.

Model 63 Hour Meters with the front panel programming option are capable of being programmed for either alerts or the preset function. There are two front panel switches. To begin programming, the two switches are pressed simultaneously. The programming menu must be completed in its entirety to return to normal operation. The switch functions are described as follows:

SEL:	During normal operation, the displayed Hour Meters will be swapped when the SEL switch is pressed and released. During programming, this switch is used to select options.
RST:	During normal operation, the RST switch is used for front panel reset. During programming, the RST switch is used to enter an option.

Resets

Unless using alerts, a reset returns the display to zero. If using alerts, the reset turns an alert off. There are three different reset configurations available:

Non-Reset:	The Hour Meter can never be reset. A non-reset unit also has no front panel programming option.
Remote Reset:	A model with Remote reset has a dedicated terminal for performing the reset function. The unit resets when the remote reset signal is at a high level. When the reset signal is at a low level, accumulating time can occur.
Manual Reset:	Manual reset occurs when the RST switch on the front of the Hour Meter is pressed. Accumulating time resumes upon release of the RST switch. The exception to this operation is in the Dual Hour Meter case; the non-resettable Hour Meter can not be reset.

Note: Some Hour Meters are equipped with a Manual Reset Enable Input. In this case, the Manual Reset Enable Input must be high for the RST switch to be functional.

**Specifications**

Display: Figures: 8 LCD digits 0.32" [8mm] high
Annunciators Icon: A choice of 7 Icons 0.08" [2mm] high

Reset: Remote, manual & non-reset. Manual reset enable is available on some models

Speed: Low speed: 0-40 counts per second (min. 12.5ms-on, 12.5ms-off)
High speed: 0-500 counts per second (min. 1.0 ms-on, 1.0 ms-off)

Inputs: Switch (no voltage)
DC Voltage:
Absolute voltage range: -0.5 VDC, minimum to 30.0VDC, maximum
VIH: 3.0 VDC, maximum
VIL: 1.0 VDC, minimum
High Voltage AC/DC:
Absolute Maximum voltage: 300VAC/VDC
VIH: 10VDC/20 VAC, max.
VIL: 3VDC/3 VAC, minimum

Power: Internally powered models: Self powered (+15yrs lithium battery)
Externally Powered models: 5-28 VDC , externally supplied
Absolute Maximum external power: 30.0 VDC

Output: Format: Open-Drain MOSFET with Source connected to Common (see note 3)
Maximum Withstanding voltage: 30VDC, reference to Common
Maximum Load current: 0.1Amp

EEPROM: (When installed) 40 years
Maximum data writes: 100,000

Battery Life: 15 years +

Mounting: Panel with clip

Terminations: Terminal block

Weight: 2 oz. [57g]

Environmental: Temp. (Storage & Operating): -4°F to + 140°F [-20°C to +60°C]
Humidity: 0 to 95% RH, non-condensing

Vibration: Operating: 10 to 55 Hz, 0.01" [0.25mm] double amplitude
Non-operating: 10 to 55 Hz, 0.03" [0.75mm] double amplitude

Shock: Operating: 10G's
Non-operating: 30G's

Dielectric: 1000 VAC 50/60Hz for 1 minute

Accuracy: 100% (provided signal meets stated parameters)

EMC Compliance: EN61326:1997 with A1: 1998 & A2:2001 for industrial environments

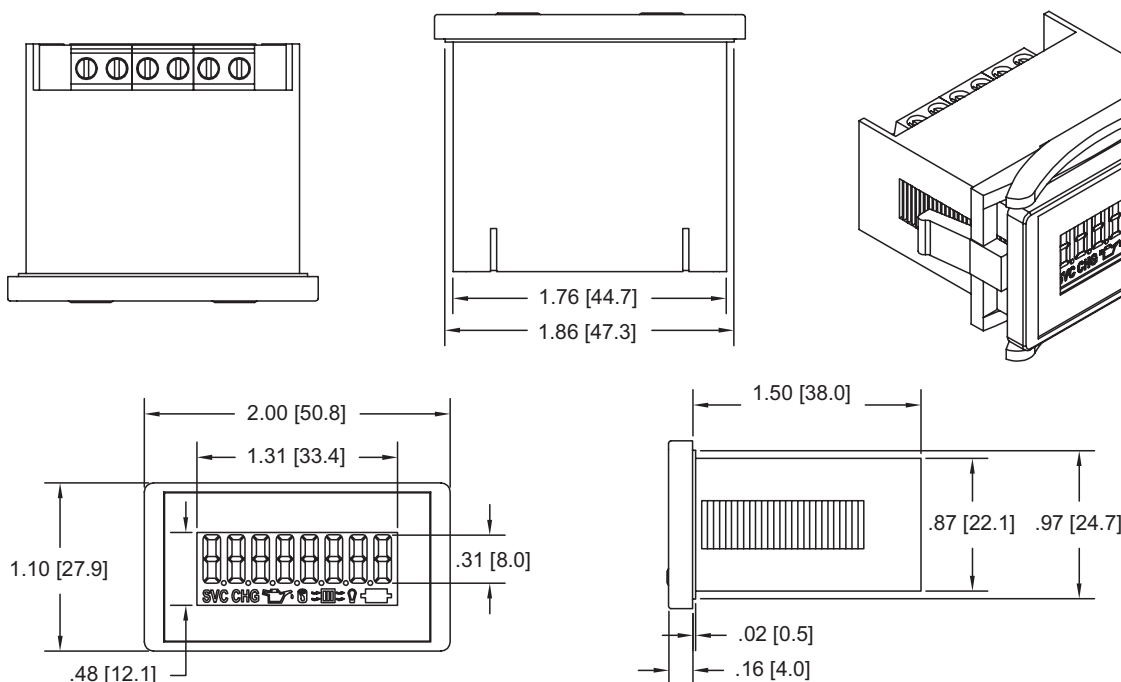
Enclosure: NEMA 4/4X, 12, & IP66 compliance (from the front) when properly mounted using the optional gasket

Approvals: CE compliant, UL & cUL recognized

Environmental Compliance: Compliant to the European WEEE & RoHS

Notes

1. When interfacing the Model 63 with a Solid State Relay or AC Sensor, the leakage current needs to be considered. Contact the factory or see the application note at www.redingtoncounters.com for further information.
2. The Absolute Voltage Range and the Absolute Maximum Voltage are the voltages at which operation beyond the specified limits may result in damage to the unit.
3. Operates like open-collector NPN. Care should be taken when interfacing to this input since there is no current limiting protection.

Dimensions

Panel Cutout: 1.79" [45.5mm] x 0.89" [22.6mm]
Recommended Panel Thickness: 0.875" [22.2mm]

Available Icons

SVC

SERVICE



OIL



AIR FILTER



MUFFLER

CHG

CHANGE



OIL FILTER



LAMP

REDINGTON MODEL 63 PART NUMBER MATRIX							
Function/		Input			Reset		Stock
Application		3-30VDC	10-30VDC or 20-300VAC	Switch	Remote	Manual*	Part Numbers**
Totalizer (8 fig.)	40/500 cps			●	●		6300-0000-0000
				●		●	6300-0500-0000
		●			●		6300-1000-0000
		●				●	6300-1500-0000
			●		●		6301-2000-0000
			●			●	6300-2500-0000
Hour Meter (8 fig.)	Hours			●	●		6320-0000-0000
				●		●	6320-0500-0000
		●			●		6320-1000-0000
		●				●	6320-1500-0000
			●		●		6320-2000-0000
			●			●	6320-2500-0000
	Minutes			●	●		6321-0000-0000
				●		●	6321-0500-0000
		●			●		6321-1000-0000
		●				●	6321-1500-0000
			●		●		6321-2000-0000
			●			●	6321-2500-0000
	Seconds			●	●		6322-0000-0000
				●		●	6322-0500-0000
		●			●		6322-1000-0000
		●				●	6322-1500-0000
			●		●		6322-2000-0000
			●			●	6322-2500-0000
Tach.	(4 fig.)			●			6330-0000-0000
		●					6330-1000-0000
			●				6330-2000-0000
All Stock Part Numbers are: ● Panel Mount (1.79" x .89") ● Self-Powered (15yr lithium battery) ● Terminal Block Termination **This product can be customized to meet any application. Contact Redington for optional alert features, outputs, etc.							