Model RT-02 Operating Instructions

Introduction:

Welcome as a new user of the Vistron RT-02 Runtime Statistics Meter! It will provide you with a host of useful and convenient monitoring functions for equipment operating under automatic on/off control. With it, you will be able to accurately determine the operating cycle profiles of most intermittently operated electrical machines such as pumps, compressors, etc. Its sequential display directly indicates measured parameters that characterize the operating patterns of the monitored equipment.

This compact instrument continuously updates and displays its measurements on an easy to read 5-digit LCD display. The display indicates the following parameters in a three-part sequence:

a.) The percent of running time of the monitored equipment during the last 24 hours.
b.) The number of operating cycles of the monitored equipment since display was last reset.
c.) The total running time in hours of the monitored equipment since the display was last reset.

Long-life internal batteries power the unit, which is always operating. An inductive sensor is connected to the display with a flexible cable. The sensor section can be temporarily affixed to the metallic case of the monitored equipment using the sensor's magnetic base. This inductive sensor detects the small alternating magnetic fields, which surround the monitored equipment whenever the equipment is energized. This sensor arrangement provides an intrinsically safe, uncomplicated connection to the monitored equipment. If desired, the display subsection can be secured to a vertical surface using its two mounting ears, for convenient and safe observation of the latest measurement results.

The RT-02 serves as a convenient method of continuously checking the rate of utilization and energy consumption of intermittently operated equipment. Its data can be used to keep track of operating duty cycle trends that can anticipate oncoming problems like inadequate lubrication, bearing wear, low refrigerant levels, clogged filters, etc. It can also be used to perform energy consumption studies and to determine how closely the rated capacity of equipment is matched to its actual usage.

Features

- Intrinsically safe, instant installation using the inductive sensor
- Reliable operation under shock, vibration moisture and dust
- Self-powered by internal long-life replaceable “AA” batteries
- Works with either fixed speed or variable frequency drive motors
- Use with single or multi-phase motors of any HP rating
- Can also monitor solenoid-operated valves, relays and transformers
- Easily moved from one piece of equipment to another
- Visual indication when the ON state of the monitored device is sensed
- Protected reset function with special key
- Useful for making routine checks of equipment wear and operating efficiency

Specifications

LCD Display:	Five 0.4″ high digits
Display Rotation Rate:	4 Seconds interval for each of the three fields
Display Fields:	P = Percent Runtime for last 24 hours (00.00 to 100.0 percent) C = OFF/ON Cycle Count (0 to 9999) A = Accumulated Runtime (0 to 999.9 hours then to 9999 hours)
“Equipment Energized” indicator:	A colon appears after the leftmost character
“Energized” indicator update interval:	2 seconds
Physical Size (Display Module):	2″ high x 4″ wide x 1.5″ deep
(Inductive Sensor Module):	1″ high x 0.8″ square
Sensor attachment:	Ceramic magnetic disk
Sensor-to-Display cable:	30″ long (Other lengths available)
Operating Power:	Three self-contained replaceable “AA” batteries
Battery Life:	1-2 years, typical
Operating Temperature:	0 to 125°F.
Warranty:	3 years

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Installation:

1) While the monitored equipment is in operation, secure the inductive sensor to the equipment frame with the magnetic hold-down disk. Choose a location that is in proximity to the stray AC magnetic fields produced by the device being monitored. When the monitored device is energized, the display should register that condition by showing a colon between the first and second leftmost digits.

   Example:

   P : 0 0 . 0 0 (ON state) Note: The colon indication will be repeated in all three fields, as described below in Section 3 of "Using the RT-02".

   P 0 0 . 0 0 (OFF state)

2) With the monitored equipment running, ensure that the inductive sensor is appropriately positioned for reliable detection by raising the sensor about 1/4" from the surface on which it has been attached. The colon should remain, confirming that the sensor is operating reliably.
3) Once a reliable sensing location has been established, fix the sensor to the equipment at that location. Confirm that the colon appears while the equipment is energized and that it disappears when the equipment is off.
4) After approximately five minutes of operation, the percent runtime and accumulated runtime fields will have advanced in value. This confirms that the installation is successful. You are now ready to put the RT-02 to practical use.

Using the RT-02:

1) Reset the unit by inserting the reset key into the reset jack; the fields will stop alternating.
2) Remove the reset key; all three display fields will now be reset and all character segments will momentarily be turned on. Then the unit will commence normal operation.
3) When the monitored equipment turns on, the colon should appear and within 12 seconds the fields will begin updating with new information, e.g.:

P : 0 3 . 6 7	The *P* field displays the percent runtime usage during the last 24 hour interval. Its reading is updated every 12 seconds, and has a resolution of 0.33%. Continuous operation will register as 100.0%.
C : 0 0 8 5	The *C* field displays the number of operating cycles the monitor has sensed. Up to 9999 cycles are registered. This data increments with each ON /OFF transition.
A : 0 1 0 . 3	The *A* field displays the accumulated run time since the last reset, with a precision of one-tenth of an hour and a range from 0 to 999.9 hours until 999.9 hours have been accumulated. After that, the decimal point is removed and field displays a precision of 1 hour and a range from 1000 to 9999 hours..

Battery Replacement:

Open the cover of the RT-02 by unscrewing the two oval head screws located on the rear cover. The small semicircular cutout at the bottom of the case can be used to provide access for lifting off the rear cover. The battery holder that is attached to the inside of the back cover now becomes accessible. When replacing the three AA batteries take care not to apply excessive tension on the two wires, which connect to the main printed circuit board. High quality alkaline batteries such as the Eveready "Energizer", Duracell or equivalent are recommended as replacements. Carefully observe the correct battery polarity graphics, which are molded into the battery holder. Once battery replacement is completed, the rear cover may be reinstalled.

Customer Support:

If you require applications assistance, please do not hesitate to contact us:

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