

## Introduction

Your Veeder-Root brand Series C342 panel instrument is powered by an internal lithium battery, features an 8 digit LCD display and is housed in a ultra compact 1/32 DIN package. An IEC IP65 rated front panel is suitable for washdown environments.

This model has been configured at the factory to perform one of the following functions: Count Totalizer, Time Totalizer (Hours:Minutes:Seconds), Time Totalizer (Hours, 1/100 resolution), or Tachometer. Easy to use programmable features that let you select a sinking or sourcing input, a count input filtering speed, and front panel reset restriction.

The following pages of the manual will provide information on proper panel mounting of the device, terminal layout and wiring instructions, directions on how to access and set the field programmable features, as well as an overview of the basic operating functions of the unit.

Also included are the key product specifications, warranty procedures, and ordering information should you require additional units.



### Models Covered in this Manual

**C342-0464 Totalizer:** Accumulates and displays counted pulses. Total can be reset via front panel button (may be disabled) or remote reset terminals.

**C342-1464 Time Totalizer:** Accumulates time in the format Hours:Minutes:Seconds. Can be reset via front panel button (may be disabled) or remote reset terminals.

**C342-2464 Time Totalizer:** Accumulates time in hours with 1/100 resolution. Can be reset via front panel button (may be disabled) or remote reset terminals.

**C342-3464 Tachometer:** Pulses are sampled for a 6 second period then displayed as a rate value in units per minute. A Display Hold input can freeze the current reading.

Other matching C342 models are available which offer features such as a 6 digit LED display, quadrature (bidirectional encoder) input capability, factory programmed presets and scale values, high voltage inputs, and a message display with alpha numeric capability. Ask us for more information regarding the complete C342 family of products.

## Features

- Available models include count and time totalization and rate metering
- Crisp 8 digit LCD display provides easy to read process values
- Compact 1/32 DIN bezel and 32mm behind the panel depth save panel space
- Internal lithium battery provides long life and eliminates the need for external power
- Field programmable for NPN or PNP signals and for hi-speed (7.5 kHz) or low speed (30 Hz) filtering
- IEC IP65 rated front panel for use in washdown environments

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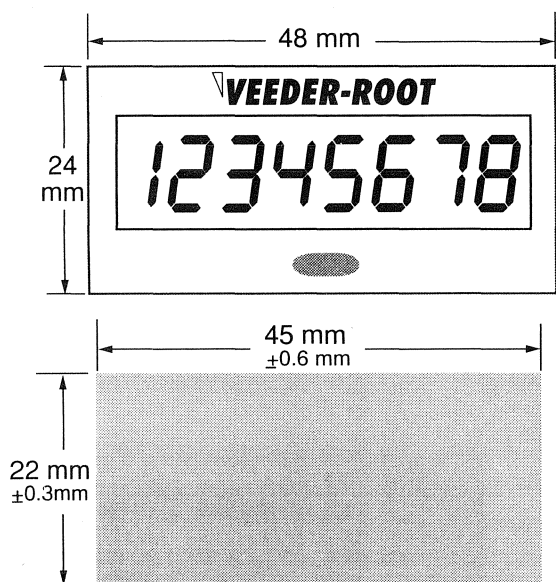
**Technical Manual**  
**702083-0001**

**Veeder-Root brand**  
**C342**  
**Self Powered**  
**LCD Display**

# OVERVIEW

## INSTALLATION

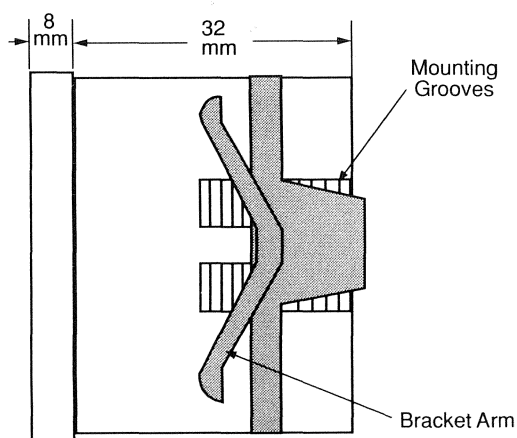
### Dimensions



### Panel Mounting

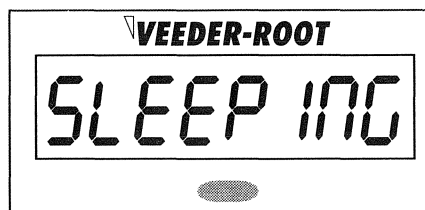
Make a panel cutout per the recommended opening illustrated by the figure above. Place the included gasket over the rear of the unit and place the unit in the panel cutout. Slide the panel mount bracket into place over the unit's rear allowing the bracket tabs to engage the grooves on the case. Continue to push forward until the bracket arm fits snugly against the panel.

### Top View



### Energy Conservation Mode

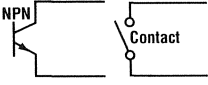
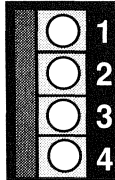

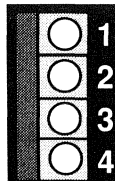
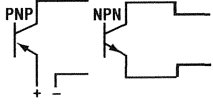
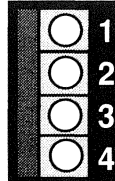
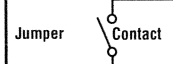
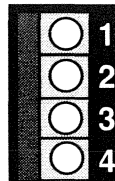
In order to maximize the lifetime of the internal battery the unit is shipped in a low energy use mode. When in this mode, the display will appear as shown in the figure below. Prior to use, the unit must be woke up by pressing the front panel reset key. Please note that the Energy Conservation Mode can not be reactivated.



## REAR TERMINAL CONNECTIONS

### Wiring

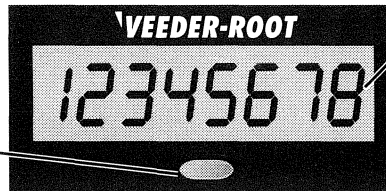
Insert wire into the appropriate openings as pictured in the drawing below. Turn the screws, located on the left side of the terminal block to tighten the clamp and secure the wire.

		<b>Remote Reset:</b> the displayed value will be reset for counting or timing models. Count Input is ignored when the Reset is active. <b>On tachometer version</b> , this terminal serves as a display hold input.
		<b>Signal Input (from switch):</b> Contact closure signals are accumulated for count and tachometer versions. <b>For timer versions</b> , timer runs when contact is closed. See "Programming" to select Low speed, NPN mode.
		<b>Signal Input (transistor):</b> Signal pulses are accumulated for count and tachometer versions. <b>For timer versions</b> , timer runs when signal is present. See "Programming" for selection of PNP or NPN signal.
		<b>Reset-lock Input:</b> When active, the Front Panel Reset Function is restricted. Use jumper for full restriction or key-switch for selective restriction.

## OPERATION

### Front Panel Reset

On Time or Count models, used to reset the Process Value Display. May be disabled through the keylock input. Also used to perform Programming mode functions



### Process Value Display

Displays the count, time or rate value based upon the model

Dependant on model, your C342 will perform one of the following functions:

**C342-0464 Totalizer:** The instrument will accumulate and display the pulses received on the count input terminals (2 & 3). Count capacity is 8 digits: 12345678. The total can be reset via the remote reset terminals (1 & 3) or the front panel. Connecting terminals 3 & 4 will disable the front panel reset key.

**C342-1464 Time Totalizer:** The instrument will accumulate time when the input signal (terminals 2 & 3) is active. The time will be displayed in the format: 9999:59:59 Hours:Minutes:Seconds and can be reset via the remote reset terminals (1 & 3) or the front panel. Connecting terminals 3 & 4 will disable the front panel reset key.


**C342-2464 Time Totalizer:** The instrument will accumulate time when the input signal (terminals 2 & 3) are active. The time will be displayed in hours with 1/100 resolution 999999.99 and can be reset via the remote input terminals (1 & 3) or the front panel. Connecting terminals 3 & 4 will disable the front panel reset key.

**C342-3464 Tachometer:** Pulses received on the input terminals (2 & 3) are sampled for a 6 second period then displayed as a rate value in units per minute: 999990. A Display Hold function (terminals 1 & 3) will freeze the current reading.

## PROGRAMMING

### To access Input Configuration Parameters:

- Place a jumper between connector terminals 1 and 3
- Press the Front Panel Reset key for 8 seconds
- Press and release the Reset key to scroll display to desired configuration.
- Press the Reset key for 2 seconds to select that choice and return to Operation Mode.
- Remove the jumper from terminals 1 and 3 and continue installation.

 For 8 seconds (with terminals 1 and 3 jumpered)

LO NPN

**Low Speed NPN Input:** Configures the unit to accept a sinking or dry contact input and sets a filtering speed of 30 Hz

LO PNP


**Low Speed PNP Input:** Configures the unit to accept a sourcing input and sets a filtering speed of 30 Hz  
**Note: This choice will not appear for Time Totalizer models**

HI NPN

**Hi Speed NPN Input:** Configures the unit to accept a sinking or dry contact input of up to 7.5 kHz

HI PNP

**Hi Speed PNP Input:** Configures the unit to accept a sourcing input of up to 7.5 kHz

 To complete, hold for 2 seconds then remove the jumper

# GENERAL

## SPECIFICATIONS

### Count Input:

Count Input: NPN or PNP Signal field selectable  
Count Speed: 30 Hz or 7.5 kHz max  
Logic: Low < 1.0 VDC, High > 2.0 VDC  
Minimum Pulse Width: 70  $\mu$ second  
Maximum Input: 30 VDC

### Operation:

Power Source: Internal Lithium Battery  
Expected Battery Life: 7 years  
Display Type: 8 digit LCD  
Display Height: 7.6 mm  
Operating Temperature: -10°C to 50°C  
Storage Temperature: -20°C to 60°C  
Approvals: CE Mark

### Reset Input:

Type: NPN Signal, Contact Closure  
Minimum Pulse Width: 15 ms

### Keylock Input:

Type: NPN Signal, Contact Closure

### Physical:

Dimensions: 24mm x 48mm, 32mm deep  
Mounting: Panel Mount (mounting bracket supplied)  
22mm ( $\pm$  0.3mm) x 45mm ( $\pm$  0.6mm) panel cutout  
Maximum Panel Thickness: 14mm  
Connections: 4 screw terminals  
Weight: Approximately 2.25 ounces  
Front Panel Rating: IEC IP65

## ORDERING INFORMATION

<u>Part #</u>	<u>Description</u>
C342-0464	Count Totalizer
C342-1464	Timer (H:M:S)
C342-2464	Timer (Hundredths of Hours)
C342-3464	Tachometer

## WARRANTY

Standard products manufactured by the Company are warranted to be free from defects in workmanship and material for a period of one year from the date of shipment, and products which are defective in workmanship or material will be repaired or replaced, at the option of the Company, at no charge to the Buyer. Final determination as to whether a product is actually defective rests with the Company. The obligation of the Company hereunder shall be limited solely to repair and replacement of products that fall within the foregoing limitations, and shall be conditioned upon receipt by the Company of written notice of any alleged defects or deficiency promptly after discovery within the warranty period, and in the case of components or units purchased by the Company, the obligation of the Company shall not exceed the settlement that the Company is able to obtain from the supplier thereof. No products shall be returned to the Company without its

prior consent. Products which the Company consents to have returned shall be shipped F.O.B. the Company's factory. The Company cannot assume responsibility or accept invoices for unauthorized repairs to its components, even though defective. The life of the products of the Company depends, to a large extent, upon the type of usage thereof, and THE COMPANY MAKES NO WARRANTY AS TO FITNESS OF ITS PRODUCTS FOR SPECIFIC APPLICATIONS BY THE BUYER NOR AS TO PERIOD OF SERVICE UNLESS THE COMPANY SPECIFICALLY AGREES OTHERWISE IN WRITING AFTER THE PROPOSED USAGE HAS BEEN MADE KNOWN TO IT.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.