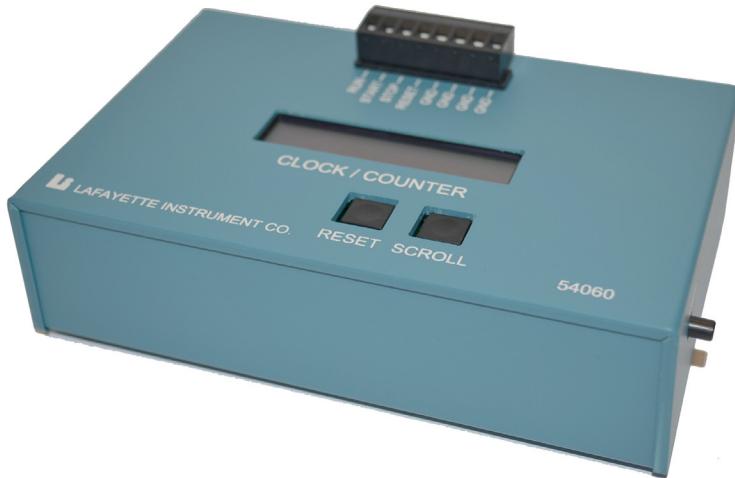


# **Economy Clock/Counter**

## **User Instructions**



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## Description

The economy clock/counter is a timing device that is capable of accurately recording times down to the millisecond. This device is powered by a single 1.5 volt AA battery, and a small micro is employed to provide all the operational needs of this device. All of the switch contacts can be configured for Normally Open or Normally Closed contacts, adding versatility to the device. This unit can display times up to 999.999 seconds before roll-over of the display occurs, and can display up to 9,999 count inputs before roll-over occurs.

## Specifications

<b>Voltage Supply:</b>	1.5 Volt AA battery
<b>Power:</b>	20 milliwatts
<b>Weight:</b>	14 Ounces
<b>Size:</b>	6 1/2" x 4 1/4" x 1 1/2"

## Operation

1. Depress the Power push button switch on the side of the Clock/Counter enclosure. After a short delay, the device will then display the start up message, which reads "LAFAYETTE INSTRUMENT CO CLOCK/COUNTER". Following this display, the next message will ask the user "INPUTTYPE CONFIG? YES NO".
2. The last message will be displayed until a selection is made. This is accomplished by pressing the pushbutton directly under the possible choices that are displayed, in this case, yes or no. If you wish to use the default switch types (all normally open contacts), press the button under NO, at this point, the unit is ready for testing to begin. If you would like to configure the switch contacts, press the button under YES.
3. If you wish to configure the switch contacts, and you have pressed the button under YES, the next message to be displayed is the following; START NO NC, where NO stands for normally open contacts and NC stands for normally closed contacts. Again, the selection is made by pressing the button under the choices given. Once the start contact is chosen, the next choice is for the stop input. This message will read; STOP NO NC. Following the stop selection, the choice for the RUN input is next, and the choice for the RESET input is the last selection to be made. Following the switch contact selection, the clock/counter will enter the operational portion, where testing can begin.
4. If the default settings of normally open contacts are used, the unit will start timing or counting when the Start or Run inputs from the eight pin terminal block is contacted to signal ground. There are four ground connections on the eight pin terminal block, so that each input can be easily connected to the unit. If a Start input is received, the unit will start timing, and will continue timing until the Stop input is received. Once the clock is stopped, a concurrent Start signal will start the clock timing again, until another Stop signal is received. The time displayed will be accumulative, unless a Reset signal is received via the terminal block or the Reset Button, which will reset the clock to zero. If the initial input received is the Start input, the Run/Count input will be an invalid input, until the unit is reset via the reset post or button. By the same token, if the Run/Count input is the initial signal received by the clock/counter, then the Start input will be ignored until a reset occurs.
5. When the duration of an input is to be timed or the number of inputs is to be tabulated, then the Run/Count input should be used. If, for example, the Run/Count input is configured for normally open contacts, when the run input is tied to signal ground, the clock will begin to run and the count display will increment. Once contact is broken, the clock will stop, and if initiated, again, the count will increment by one and the clock will start running until the signal path is broken. If you wish to have the count to be displayed, press the Scroll Button once. This will bring up the count display. A subsequent press of the Scroll Button will bring back the clock display. The timing or counting will not be affected by the screen that is being displayed, that is, the clock will continue to be accurately updated when the count display is on, and the count will update when the clock display is on. A Reset input will clear both the clock display and the counter, and will allow the Start input to be used.

6. When a normally closed contact is chosen for a signal input, that input becomes valid when the signal path is broken from signal ground. For example, if the Run/Count input is normally closed, the clock will run when continuity to signal ground is broken, and will stop when the Run/Count line is reconnected to ground.
7. The operation of the clock/counter is the same regardless of the switch configuration, except in one case, which is when the **Start input** is configured for **normally closed contacts**. In this situation, the clock will begin when the start input loses contact with the signal ground, and will stop timing when the Stop input is received. **The difference in operation is the following, a concurrent Start signal will not start the clock.** The unit must receive a reset input, before the Start input will become valid. This feature has been incorporated into the design, so that, timing of events, such as the 40 yard dash, can be readily recorded. In the 40 yard dash, the general set-up has the runner standing on a switch mat (switch is closed) and when the runner steps off of the switch mat, the clock begins to run until the stop input is received (generally from an infrared device). If this feature were not present, the clock would momentarily stop when the stop input was received, and then begin to run again, unless someone else was standing on the Start switch mat.

## Battery Installation Instructions

1. Lift and separate edges of Counter from Base. (Fig A)
2. Slide Base away from Counter. (Fig B)
3. Place battery in battery cradle. Be sure that padding on Base is aligned with battery. (Fig C)
4. Slide Counter back onto Base. Base will "click" when locked. (Fig D)



Fig A

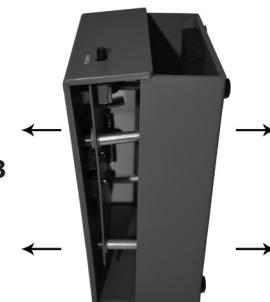


Fig B

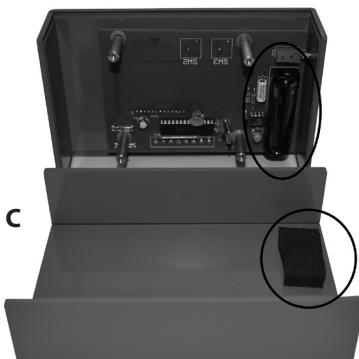


Fig C

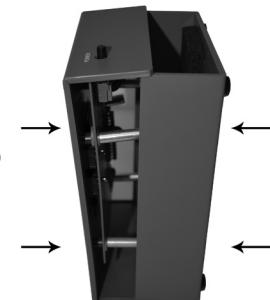


Fig D

# Terms and Conditions

## LIC Worldwide Headquarters

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[export@lafayetteinstrument.com](mailto:export@lafayetteinstrument.com) (Outside the USA)

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## Lafayette Instrument Europe:

Phone: +44 1509 817700

Fax: +44 1509 817701

Email: [eusales@lafayetteinstrument.com](mailto:eusales@lafayetteinstrument.com)

## Phone, Fax, Email or Mail-in Orders

All orders need to be accompanied by a hard copy of your purchase order. All orders must include the following information:

- Quantity
- Part Number
- Description
- Your purchase order number or method of pre-payment
- Your tax status (include tax-exempt numbers)
- Shipping address for this order
- Billing address for the invoice we'll mail when this order is shipped
- Signature and typed name of person authorized to order these products
- Your telephone number
- Your email address
- Your FAX number

## Domestic Terms

There is a \$50 minimum order. Open accounts can be extended to most recognized businesses. Net amount due 30 days from the date of shipment unless otherwise specified by us. Enclose payment with the order; charge with VISA, MasterCard, American Express, or pay COD. We must have a hard copy of your purchase order by mail, E-mail or fax. Students, individuals and private companies may call for a credit application.

## International Payment Information

There is a \$50 minimum order. Payment must be made in advance by: draft drawn on a major US bank; wire transfers to our account; charge with VISA, MasterCard, American Express, or confirmed irrevocable letter of credit. Proforma invoices will be provided upon request.

## Exports

If ordering instrumentation for use outside the USA, please specify the country of ultimate destination, as well as the power requirements (110V/60Hz or 220V/50Hz). Some model numbers for 220V/50Hz will have a "°C" suffix.

## Quotations

Quotations are supplied upon request. Written quotations will include the price of goods, cost of shipping and handling, if requested, and estimated delivery time frame. Quotations are good for 30 days, unless otherwise noted. Following that time, prices are subject to change and will be re-quoted at your request.

## Cancellations

Orders for custom products, custom assemblies or instruments built to customer specifications will be subject to a cancellation penalty of 100%. Payment for up to 100% of the invoice value of custom products may be required in advance. Cancellation for a standard Lafayette Instrument manufactured product once the product has been shipped will normally be assessed a charge of 25% of the invoice value, plus shipping charges. Resell items, like custom products, will be subject to a cancellation penalty of 100%.

## Exchanges and Refunds

Please see the cancellation penalty as described above. No item may be returned without prior authorization of Lafayette Instrument Company and a Return Goods Authorization (RGA#) number which must be affixed to the shipping label of the returned goods. The merchandise should be packed well, insured for the full value and returned along with a cover letter explaining the reason for return. Unopened merchandise may be returned prepaid within thirty (30) days after receipt of the item and in the original shipping carton. Collect shipments will not be accepted. Product must be returned in saleable condition, and credit is subject to inspection of the merchandise.

## Repairs

Instrumentation may not be returned without first receiving a Return Goods Authorization Number (RGA). When returning instrumentation for service,

please call Lafayette Instrument to receive a RGA number. Your RGA number will be good for 30 days. Address the shipment to:

Lafayette Instrument Company

3700 Sagamore Parkway North

Lafayette, IN 47904, USA.

Shipments cannot be received at the PO Box. The items should be packed well, insured for full value, and returned along with a cover letter explaining the malfunction. An estimate of repair will be given prior to completion ONLY if requested in your enclosed cover letter. We must have a hard copy of your purchase order by mail or fax, or repair work cannot commence for non-warranty repairs.

## Damaged Goods

Damaged instrumentation should not be returned to Lafayette Instrument prior to a thorough inspection. If a shipment arrives damaged, note damage on delivery bill and have the driver sign it to acknowledge the damage. Contact the delivery service, and they will file an insurance claim. If damage is not detected at the time of delivery, contact the carrier/shipping and request an inspection within 10 days of the original delivery. Please call the Lafayette Instrument Customer Service Department for repair or replacement of the damaged merchandise.

## Limited Warranty

Lafayette Instrument Company warrants equipment manufactured by the company to be free of defects in material and workmanship for a period of one year from the date of shipment, except as provided hereinafter. The original manufacturer's warranty will be honored by Lafayette Instrument for items not manufactured by Lafayette Instrument Company, i.e. resell items. This assumes normal usage under commonly accepted operating parameters and excludes consumable products.

Warranty period for repairs or used instrumentation purchased from Lafayette Instrument is 90 days. Lafayette Instrument Company agrees either to repair or replace, at its sole option and free of part charges to the customer, instrumentation which, under proper and normal conditions of use, proves to be defective within the warranty period. Warranty for any parts of such repaired or replaced instrumentation shall be covered under the same limited warranty and shall have a warranty period of 90 days from the date of shipment or the remainder of the original warranty period whichever is greater. This warranty and remedy are given expressly and in lieu of all other warranties, expressed or implied, of merchantability or fitness for a particular purpose and constitutes the only warranty made by Lafayette Instrument Company.

Lafayette Instrument Company neither assumes nor authorizes any person to assume for it any other liability in connection with the sale, installation, service or use of its instrumentation. Lafayette Instrument Company shall have no liability whatsoever for special, consequential, or punitive damages of any kind from any cause arising out of the sale, installation, service or use of its instrumentation. All products manufactured by Lafayette Instrument Company are tested and inspected prior to shipment. Upon prompt notification by the Customer, Lafayette Instrument Company will correct any defect in warranted equipment of its manufacture either, at its option, by return of the item to the factory, or shipment of a repaired or replacement part. Lafayette Instrument Company will not be obliged, however, to replace or repair any piece of equipment, which has been abused, improperly installed, altered, damaged, or repaired by others. Defects in equipment do not include decomposition, wear, or damage by chemical action or corrosion, or damage incurred during shipment.

## Limited Obligations Covered by this Warranty

1. In the case of instruments not of Lafayette Instrument Company manufacture, the original manufacturer's warranty applies.
2. Shipping charges under warranty are covered only in one direction. The customer is responsible for shipping charges to the factory if return of the part is required.
3. This warranty does not cover damage to components due to improper installation by the customer.
4. Consumable and/or expendable items, including but not limited to electrodes, lights, batteries, fuses, O-rings, gaskets, and tubing, are excluded from warranty.
5. Failure by the customer to perform normal and reasonable maintenance on instruments will void warranty claims.
6. If the original invoice for the instrument is issued to a company that is not the company of the end user, and not an authorized Lafayette Instrument Company distributor, then all requests for warranty must be processed through the company that sold the product to the end user, and not directly to Lafayette Instrument Company.

## Export License

The U.S. Department of Commerce requires an export license for any polygraph system shipment with an ULTIMATE destination other than: Australia, Japan, New Zealand or any NATO Member Countries. It is against U.S. law to ship a Polygraph system to any other country without an export license. If the ultimate destination is not one of the above listed countries, contact us for the required license application forms.