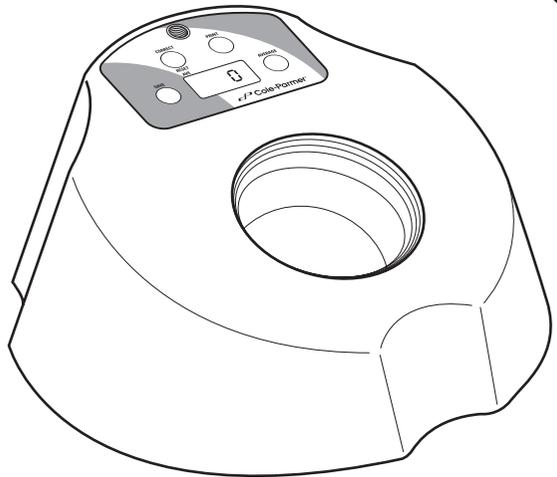


Colony Counter



User Guide

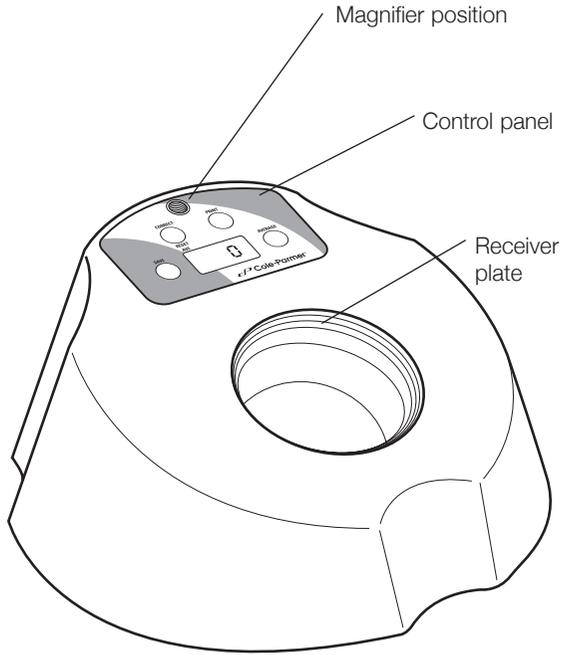


Figure 1 - Colony Counter controls

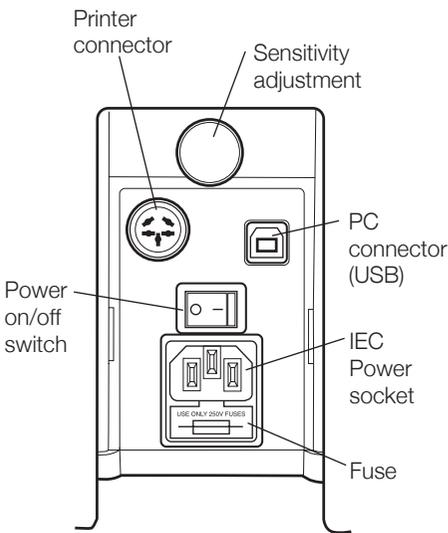


Figure 2 - Colony Counter back panel

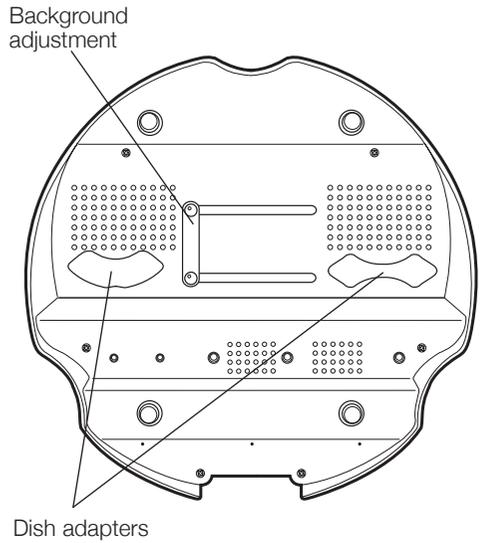


Figure 3 - Underneath the Colony Counter

Colony Counter

Introduction

Thank you for purchasing this Cole-Parmer product. To get the best performance from the equipment, and for your own safety, please read these instructions carefully before use. Before discarding the packaging check that all parts are present and correct.

This equipment is designed to operate under the following conditions:-

- ❖ For indoor use only
- ❖ Use in a well ventilated area
- ❖ Ambient temperature range +5°C to +40°C (+41°F to +104°F)
- ❖ Altitude to 2000 m (6500 ft)
- ❖ Relative humidity not exceeding 80%
- ❖ Power supply fluctuation not exceeding 10% of nominal
- ❖ Overvoltage category II IEC60364-4-443
- ❖ Pollution degree 2 IEC664
- ❖ Use with a minimum distance all round of 200 mm, (8 in.) from walls or other items

If the equipment is not used in the manner described in this manual and with accessories other than those recommended by the manufacturer, the protection provided may be impaired.

Electrical Installation



THIS EQUIPMENT MUST BE GROUNDED

Before connection please ensure that the line supply corresponds to that shown on the rating plate located on the base of the unit.

Power requirements:

Model:

14312-00 70 W Universal 90-240 V F3.15 A (x2)

The Colony Counter is provided with a NEMA 5-15 plug for 120 V installations and a UK 3-pin and a "Schuko" 2-pin plug for 230 V installations.

Should the cable not be suitable for connecting to the power supply, replace the plug with a suitable alternative.

IT IS IMPORTANT THAT THIS OPERATION SHOULD ONLY BE UNDERTAKEN BY A QUALIFIED ELECTRICIAN

NOTE: Refer to the equipment rating plate to ensure that the plug and fusing are suitable for the voltage and wattage stated.

The wires in the power cable (120 V) are colored as follows:

BLACK - HOT/LIVE
WHITE - NEUTRAL
GREEN - EARTH

The wires in the power cable (230 V) are colored as follows:

BROWN - HOT/LIVE

BLUE - NEUTRAL

GREEN/YELLOW - EARTH

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

Should the power cable need replacing, a cable of 1mm² of harmonized code H05W-F connected to an IEC320 plug should be used.

The appropriate power cable should be connected BEFORE connection to the power supply.

General Description

The Colony Counter consists of an illuminated receiver plate and a large LED display (see Fig. 1). The pressure of marking a colony with a felt-tip pen registers a count by an audible bleep and advance on a digital display. A built-in averaging facility allows multiple plates to be counted and then the average colony count calculated.

A choice of light or black background is available and the pressure required to register a count can be adjusted. The unit is supplied complete with one Wolffhuegel graticule, segmentation disc and centering adapters for 50-90 mm dishes. A printer and a magnifier for counting very small colonies are available as accessories. Counting results may also be sent to a computer via USB.



Safety Advice

Users should be aware of the following safety advice:

- ❖ The unit should be carried using both hands with the fingers under the side edges.
- ❖ NEVER move or carry the unit with containers on the top or while still connected to the power supply.
- ❖ In case of power interruption, a fault or mechanical failure, the unit will continue to operate on removal of fault.
- ❖ DO NOT position the unit such that it is difficult to disconnect it from the power by removing the power cable from the socket at the back.

Operation

Setting Up the Colony Counter

To select either the dark or white background, slide the panel, which can be found underneath the unit (see Fig. 3), to the left or right until the background clicks home into place. To use a petri dish of less than 90 mm (3.5 in.) in diameter, select the appropriate adapter, which can also be found on the underside of the unit (see Fig. 3) and place on the receiver plate.

The Colony Counter is provided with a pack of clear discs, designed to protect the receiver plate from dust and scratches. Place a disc in the receiver plate. If this becomes damaged, remove and replace with another. If the Wolffhuegel graticule or segmentation disc is required, place on top of the clear protective disc on the receiver plate.

Position the unit on a firm level surface. The sensitivity control dial, located at the back of the unit (see Fig. 2), can adjust the pressure required to register a count. Turning it clockwise will increase the sensitivity, turning it counter-clockwise will decrease the sensitivity.

If small colonies are to be counted, a magnifier accessory is available for separate purchase. To assemble, screw the flexible support arm into the designated area located on top of the unit. Adjust the flexible support arm until the required magnification and field of view is achieved.

Counting

Turn the unit ON at the ON/OFF switch located at the back of the unit (see Fig. 2). Position the petri dish on the receiver plate using the centering adapter if required. Ensure the display is set to zero before counting by pressing and holding the <correct/reset> key (see Fig. 4). Mark each colony with a felt tip pen. Every time a colony is marked, the apparatus will register the count with a beep and counter advance. If unwanted counts are made, they can be removed from the display by pressing the <correct/reset> key once for each count. When the count is complete, either set the display to zero using the <correct/reset> key or switch the unit OFF.

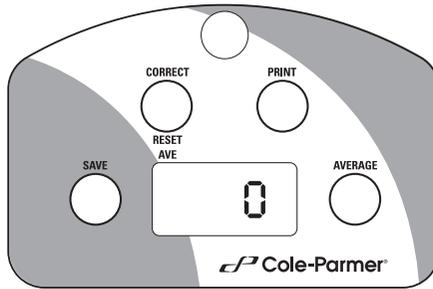


Figure 4 - Control Panel

Averaging

To use the averaging function, place the first petri dish on the receiver plate. At the end of the count, press the <save> key to store the count in the memory. This will be indicated by three dashes on the display:

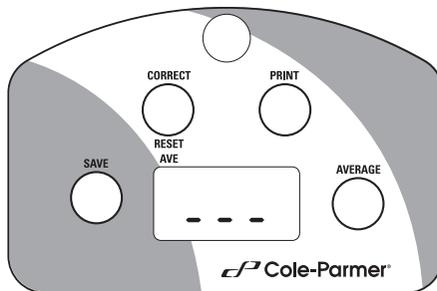


Figure 5 - Saving counts

Replace the petri dish with the next and press <save> to resume the count. Repeat until all dishes have been counted. At the end of the run, press the <average> key to display the average count. The average count will be calculated from all previously saved counts. The average count may be viewed at any time during the batch counting of petri dishes by pressing the <average> key when the three dashes are visible on the display. When the average function is active, a red LED spot at the top left-hand corner of the display will be visible:

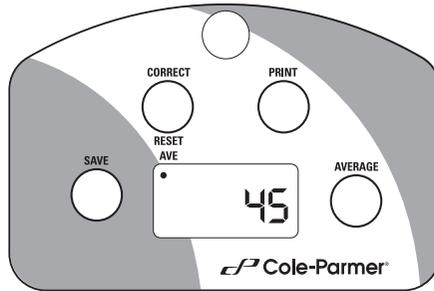


Figure 6 - Active Averaging Function

To resume counting, press the <average> key again. When the count is complete, press and hold the <correct/reset> key until the display returns to zero. This will clear the memory of saved counts.

When all counting is completed, switch the unit OFF.

Printing Results

Ensure the colony counter is OFF. Plug the printer into the port on back of the Colony Counter (see Fig. 2) and connect the printer to the mains. Turn the Colony Counter ON.

To print the results of a single dish, complete the count and then press the <save> key to confirm. Three dashes will appear on the screen. Press the <print> key and the printer will be activated. Remove the dish and press the <save> key again followed by the <correct/reset> key to set the display to zero. You can now count another dish.

To print the results of multiple dishes, count each dish in turn pressing the <save> key after each count. The results can be printed by pressing the <print> key whenever the three dashes appear on the screen. The printed results will include all the dishes counted up to that point.

When the count and print are complete, press and hold the <correct/reset> key until the display returns to zero. This will clear the memory of saved counts.

Turning the Audible Counting Beep ON or OFF

Turn the unit OFF at the power ON/OFF switch.

Hold the <save> key down and switch the unit ON at the power ON/OFF switch.

Select either 'ON' or 'OFF' on the screen using the <correct/reset> key.

To confirm, press the <average> key.

The colony counter is now ready to use.

To turn the beep back on, repeat steps 1 to 5.

Cleaning and Care



WARNING: Ensure the unit is disconnected from the power supply before attempting maintenance or servicing.

Casework:

The unit should be cleaned using a damp cloth and a mild detergent solution. Cleaning is made easier if spillages are attended to promptly. In any case, spillages of acids and alkalies **MUST** be removed immediately as these chemicals can attack and damage the casework finish. Ensure that the appropriate safety precautions are observed.

Receiver Plate:

The receiver plate can easily be removed for cleaning. To remove, make sure that the instrument is switched OFF at the power. Tip the colony counter upside down to remove the plate. Clean the plate using a damp cloth only. Once cleaned the plate should be returned to the colony counter.

Accessories

A number of accessories are available for your Colony Counter: Magnifiers, Centering Adapters, Protective Disks, a Printer and consumables.

Please visit the Cole-Parmer website www.coleparmer.com for further information.

Servicing and Repair

This product range does not require any routine servicing.

Note: There are no internal user replaceable parts.

In the event of product failure it is recommended that any repair is only undertaken by suitably qualified personnel. For advice, please contact Cole-Parmer quoting the model and serial number.

Only spare parts supplied by the manufacturer or its agent should be used. Fitting of non-approved parts may affect the performance of the safety features of the instrument.

If in doubt, please contact Cole-Parmer.

Warranty

Cole-Parmer warrants this equipment to be free from defects in material and workmanship, when used under normal laboratory conditions, for a period of **three (3)** years. In the event of a justified claim, Cole-Parmer will replace any defective component or replace the unit free of charge.

This warranty does NOT apply if:

- ❖ Any repair has been made or attempted other than by the manufacturer or its agent.
- ❖ Any minor coating chips or scratches occur during normal use (i.e., wear and tear).
- ❖ Damage is caused by fire, accident, misuse, neglect, incorrect adjustment or repair, damage caused by installation, adaptation, modification or fitting of non-approved parts.

Technical Specification**14312-00**

Digital display	3-digit LED
Light source	White LED
Count	0 to 999
Dish size up to	90 mm (3.5 in.)
Dimensions (width x depth x height)	310 x 300 x 140 mm (12.2 x 11.8 x 5.5 in.)
Net weight	1.5 Kg (3.3 lb)
Electrical supply	90 - 240 V, 70 W
Fuses	F3.15 A (x2)



These products meet the relevant EC harmonized standards for radio frequency interference and may be expected not to interfere with, or be affected by, other equipment with similar qualifications. We cannot be sure that other equipment used in their vicinity will meet these standards

and we cannot guarantee that interference will not occur in practice. Where there is a possibility that injury, damage or loss might occur if equipment malfunctions due to radio frequency interference, or for general advice before use, please contact the manufacturer.

Declaration of Conformity

Catalog Number:	Description:
14312-00	COLONY COUNTER, DIGITAL

This product complies with the requirements of the EU Directives listed below:

2004/108/EC	EMC Directive
2006/95/EC	Low Voltage Directive (LVD)
2011/65/EC	RoHs Directive



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