

INTRODUCTION

The CT87V is a precision instrument used to monitor and record voltage or current on a 6" circular paper chart. The CT87V may be carried as a portable instrument or mounted in a fixed location.

The CT87V offers a variety of features to meet any voltage or current recording requirements. A combination of two voltage ranges and two current ranges combined with four chart speeds provide a high degree of flexibility. In addition, the chart rotation may be set for single or continuous turn operation as required by a particular application. To protect the data being recorded, the CT87V uses an automatic battery backup to maintain operation during a power outage.

CT87V FEATURES AND CONTROLS

1. The **3 DIGIT LED DISPLAY** shows voltage or current being monitored. When the batteries are nearly discharged, the display will alternate the display reading and "LO" to advise the operator that the batteries are discharged and the CT87V will shortly cease operation.

NOTE: The battery backup feature of the CT87V is primarily intended for use in situations where primary power is lost for short periods of up to 48 hours. The CT87V is not intended to be used as a battery powered instrument. If the CT87V is to be stored for an extended period, it is strongly advised to disconnect the battery pack and remove the batteries to avoid damage to the instrument from battery leakage.

2. The **INPUT RANGE SELECTOR** allows the user to choose the desired voltage or current range for measurement and recording.

3. The **CHART SPEED SELECTOR** allows the user to select the time of one full chart revolution. The corresponding chart has to be chosen according to the desired chart speed. Chart part numbers are listed in this manual.

4. The **PEN POSITION ADJUSTMENT KNOB** allows the user to adjust the position of the chart pen.

5. The **CHART ADVANCE BUTTON** allows the operator to set the chart to the correct time. Press and hold the chart advance button until the desired time lines up with the Time Pointer (Item 11). The chart is rotated counterclockwise only.

CAUTION: Movement of the Chart Spindle (Item 9) by hand may cause permanent damage to the chart mechanism.

6. **OFFSET ADJUSTMENT** feature allows the user to adjust the reading of the digital display to allow for transducer or input variations.

7. The **POWER ON / OFF / CONTINUOUS / SINGLE CHART SELECTOR** allows the user to apply power to the CT87V and to select Continuous or Single Turn for the chart rotation. When power is first applied to the CT87V, the display will show "888" to test each segment of the display, and the pen will move to the edge of the chart. The pen will then move to the correct position on the chart. In the Continuous switch position, the chart will rotate until power is removed. In the Single Turn switch position, the chart will make one complete revolution and stop. A blinking dot on the display (Item 1) will indicate that the chart has made one complete revolution and stopped. **To reset the chart for another revolution** place the switch in the Continuous switch position until the blinking dot goes out and then slide the switch back to the Single Turn position. The chart will make one complete revolution and stop.

DO NOT move the pen by hand or interrupt the pen movement. Failure to observe this will cause the pen to read incorrectly and may result in damage to the pen mechanism.

8. The **RECORDING PEN** contains special ink. The pen has a wrap-around arm latch which makes the pen replacement "A SNAP!" To replace the pen, gently lift up the PEN ARM, (do not over bend pen arm) release the pen latch by pushing it down, and remove the pen; place a new pen on top of the pen arm, align the notches on the pen arm with the notches on the pen latch and close the latch by wrapping it around the pen holder until it is secured. Replace cap on the pen tip when the CT87V is not used to insure long pen life. **For pen installation see Fig. 1.*

9. The **CHART SPINDLE** holds and rotates the chart during the recording operation. **DO NOT ROTATE THE SPINDLE BY HAND AS IT MAY DAMAGE THE INTERNAL MECHANISM.**

10. The **PAPER CHART** is 6 inches in diameter. The replacement charts are available from Omega in a box of 60 charts each. The chart part numbers are listed on the following page.

TO INSTALL A NEW CHART disconnect power from the CT87V by selecting OFF with the Power / Single / Continuous Chart Selector. Place pen cap on pen point. Gently lift the pen arm and while holding it remove the old chart. Slide a new chart under the pen holder and the chart holding tabs. Align the chart with the chart spindle. Apply power to the CT87V and rotate the chart by depressing the chart advance button until the time pointer is aligned with the line on the chart representing the right time or day. Remove the pen cap. If desired, adjust the pen position according to the scale you wish to record on.

11. The **TIME POINTER** is simply a point against which the current time is being read during a chart rotation. Initially a new chart has to be rotated until the time pointer shows the right time and day when using a chart.

12. The **HANDLE** for carrying folds towards the back of the case to be out of the way when CT87V is mounted on the panel or on the wall.

13. The **KEYHOLE SLOTS** located on the back of the case are provided for wall or panel mounting.

14. The **REAR COMPARTMENT** was designed to store the battery holder for battery backup as well as the connection for the adapter box.

15. The **INPUT TERMINALS** may be unplugged to allow for easy wire connections. Note that the terminal connector is keyed and only fits into the mating PCB connector one way.

16. The **BATTERY HOLDER** is stored in the rear compartment for backup batteries. Use of 8 alkaline "AA" batteries is required for proper operation.

17. The **12VDC PLUG IN WALL ADAPTER** provides primary power for the CT87V. Alternate sources of 12 Volt power may also be used. This allows use of the CT87V in automotive, marine or other mobile applications.

18. The **POWER CONNECTOR** is a connection point for the 12VDC wall adapter or alternate source of 12VDC power.

19. Snap on **EXTRA SUPPORT LEGS** for better stability.

CHARTS

CHART #	SPEED
CT87V-C-6H	6 Hours
CT87V-C-24H	24 Hours
CT87V-C-7D	7 Days
CT87V-C-31D	31 Days

SPECIFICATIONS

Voltage Ranges (Selectable)	0-100mv 0-5V
Current Range	0-20ma 4-20ma
LED Display	0-5.00 Volts 0-100 mV 0-20.0 ma
Accuracy	0-5.00 Volts +/- 0.01 Volt 0-100mV +/- 1mV 0-20ma +/- 0.1ma 4-20ma +/-0.1ma
Chart Speed Selectable	6 Hours, 24 Hours, 7 Days, 31 Days
Chart Speed Accuracy	+/-1%
Chart Diameter	6 Inches
Recording Pen	Ink Type
Power Supply	120 VAC, 50/60 Hz., (220/240 VAC, 50 Hz. Optional)
Battery Backup	8 Alkaline "AA" cells
Battery Life	48 Hours
Operating Ambient Temperature Range	+32°F to +120°F (0°C to +49°C)
Relative Humidity	96% Maximum
Dimensions	9 1/4" x 7 1/4" x 2 3/4"
Weight	4 lbs., 7 oz.

CAUTION: DO NOT PLACE THE RECORDER DIRECTLY IN AREAS OF EXTREME TEMPERATURES, HIGH HUMIDITY OR HEAVY CHEMICAL CONTENT.

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