

OPERATING  
INSTRUCTIONS  
FOR  
AMPROBE®  
**PYROMETER  
RECORDERS**

MODELS  
P3100, P3100C  
P3100-T, P3100C-T

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See Limited Warranty On Page 2

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## LIMITED WARRANTY

Congratulations! You are now the owner of an AMPROBE® instrument. It has been quality crafted according to quality standards and contains quality components and workmanship. This instrument has been inspected for proper operation of all of its functions. It has been tested by qualified factory technicians according to the long-established standards of **AMPROBE INSTRUMENT**.

Your **AMPROBE** instrument has a limited warranty against defective materials and/or workmanship for one year from the date of purchase provided, in the opinion of the factory, the instrument has not been tampered with or taken apart.

**Should your instrument fail due to defective materials, and/or workmanship during the one year warranty period, return it along with a copy of your dated bill of sale which must identify instrument by model number and serial number.**

### IMPORTANT:

For your protection, please use the instrument as soon as possible. If damaged, or should the need arise to return your instrument, it must be securely wrapped (to prevent damage in transit) and sent prepaid via Air Parcel Post insured or UPS where available to:

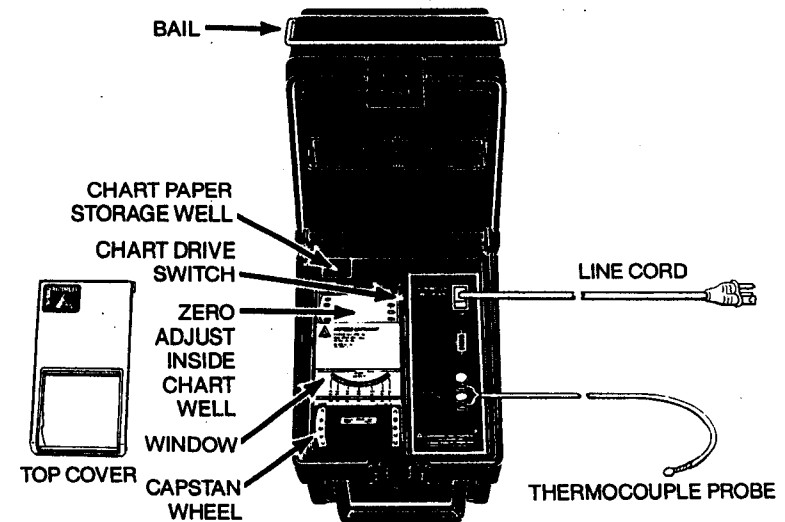
Service Division  
**AMPROBE INSTRUMENT**  
630 Merrick Rd. (Use for U.P.S.)  
P.O. Box 329 (Use for P.P.)  
Lynbrook, N.Y. 11563-0329

Outside of the U.S.A. the local Amprobe representative will assist you.

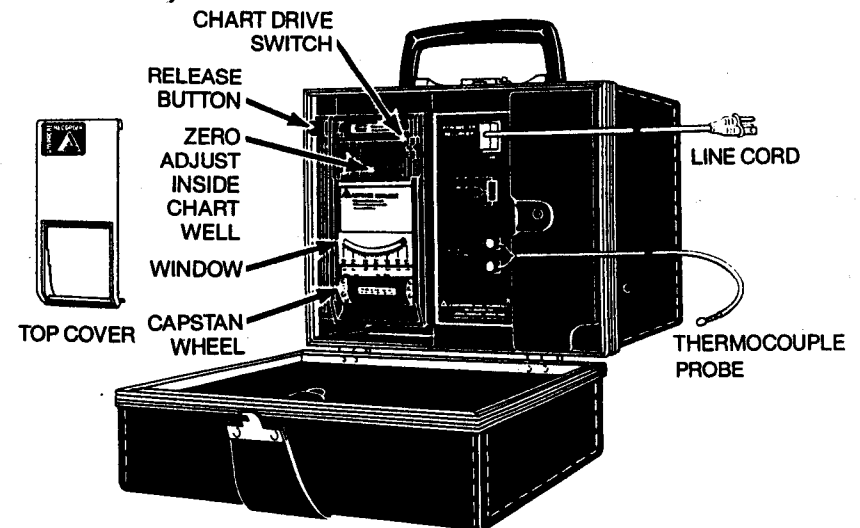
Above limited warranty covers repair and replacement of instrument only and no other obligation is stated or implied.

Serial number is located on the scale plate of the unit.

## NOMENCLATURE



Models P3100, P3100C  
Fig. 1a



Models P3100-T, P3100C-T  
Fig. 1b

## SPECIFICATIONS

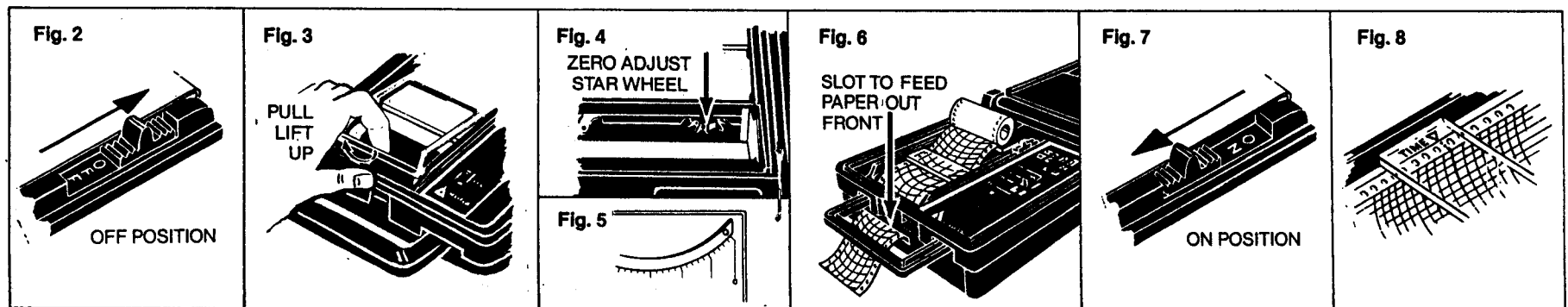
(Maximum Resistance 500 Ohms)

Model	Temperature Range	Recorder Accuracy*	Chart Cat. No.
P3100	32° to 272°F	± 6.8°F	452F
P3100-T	212° to 452°F	± 6.8°F	452F
	390° to 830°F	± 10.8°F	1190F
	750° to 1190°F	± 10.8°F	1190F
P3100C	0° to 120°C	± 3.5°C	220C
P3100C-T	100° to 220°C	± 3.5°C	220C
	200° to 440°C	± 5.9°C	640C
	400° to 640°C	± 5.9°C	640C

\*The total accuracy tolerance will be equal to the recorder accuracy plus the thermocouple accuracy. Thermocouple not supplied with instrument.

### HOW TO USE AS A RECORDER (P3100, P3100C)

1. Chart drive switch must be in "OFF" position exposing the word "OFF". See Fig. 2.
2. Remove top cover. Adjust zero setting with the recorder disconnected from the power line. (Chart drive switch does not control power). See Figs. 3, 4, 5.
3. Plug power line cord into recorder line receptacle and connect to proper line voltage and frequency.



4. Connect type J - iron/constantan thermocouple to the terminals on the right hand panel of the recorder. Observe the iron and constantan markings at the terminals. If correct polarity is not observed, meter pointer will move downscale with increasing temperature at the sensing junction. Place sensing junction of thermocouple into medium to be measured. Set temperature range switch to range compatible with medium temperature. Indications below the low end of scale require setting the range switch to a lower temperature range. Indications above the high end of scale require setting the range switch to a higher temperature range.
5. Insert appropriate chart paper. See Fig. 6. Replace cover by positioning the "U" bend onto the metal projections of chart well and then snap front down. Make sure chart paper is not binding with the cover in place.
6. Push chart drive switch into "ON" position (exposing the word "ON"). Make sure switch clicks into detent. See Fig. 7.
7. Mark time of start on chart paper. See Fig. 8.
8. Secure recorder in a horizontal or vertical position.

### HOW TO USE AS AN INDICATING METER (P3100, P3100C)

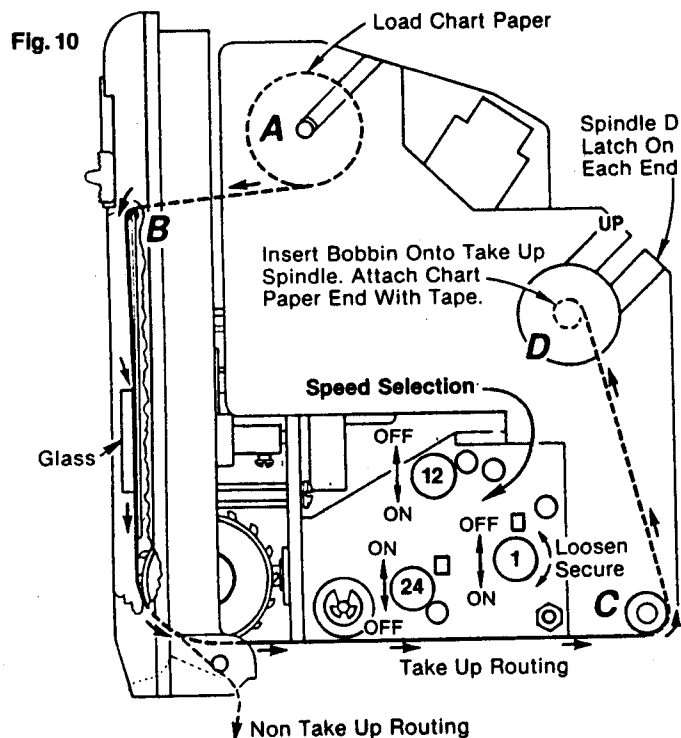
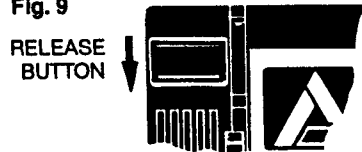
1. Set chart drive switch to "OFF" position (exposing the word "OFF"). Remove chart paper and set up as in above paragraphs 2, 3, & 4.

### Models with Take-Up Feature

## HOW TO USE AS A RECORDER (P3100-T, P3100C-T)

1. Chart drive switch must be in "OFF" position exposing the word "OFF". See Fig. 2.
2. Remove top cover. Adjust zero setting with the recorder disconnected from the power line (chart drive switch does not control power). See Figs. 3, 4, 5.

Fig. 9



3. Plug power line cord into recorder line receptacle and connect to proper line voltage and frequency.
4. Connect type J - iron constantan thermocouple to the terminals of the recorder. Observe the iron and constantan markings at the terminals. If correct polarity is not observed, meter pointer will move downscale with increasing temperature at the sensing junction. Place sensing junction of thermocouple into medium to be measured. Set temperature range switch to range compatible with medium temperature. Indication below the low end of the scale require setting the range switch to a lower range. Indications above the high end of scale require setting the range switch to a higher temperature range.
5. To insert chart paper, place recorder in horizontal position and press the release button in the direction shown in Fig. 9. Raise the recorder mechanism to a vertical position until it locks. Remove chart spindle [A] (see Fig. 10) and place chart roll on spindle. Remove tape on roll and retain tape for securing chart on take-up spindle [D]. Unroll about 12" to 15" and route paper over top edge of scale plate [B] underneath glass, over the sprocket wheels, to the rear and over the idle roller [C] up to the cardboard bobbin mounted on take-up spindle [D]. Secure edge of chart to bobbin with tape. Make sure the sprocket holes in the paper engage the sprocket wheels. Be sure that feed control is tight and in the right position. The word "ON" must be visible. Press in the idle roller extension [C] to allow the recording mechanism to move back down into case and lock into position. Replace cover by positioning the "U" bend onto the projections above the chart well opening. Make sure chart paper is not binding with the cover in place. For "non-take-up" recording, route chart through bottom slot as shown in Fig. 10.
6. To remove chart from take-up spindle [D], move the latches away from the take-up spindle. Turn knurled knob on spindle [D] until the slot in the take-up drive pulley at the opposite end of the spindle is lined up with the slot in the side frame of the recorder. Slide the spindle and chart up and out of the slots in the side frames of the recorder.

## HOW TO USE AS AN INDICATING METER (P3100-T, P3100C-T)

1. Set chart drive switch to "OFF" position (exposing the word "OFF"). Remove chart paper, follow paragraph 6 above and set up recorder as in paragraphs 2, 3 and 4.