

4. OPERATION

A. Initial Preparation

With the instrument de-energized, adjust the mechanical meter zero by the adjusting screw on the meter case.

Plug the line cord into a 120 volt, 50 or 60 cycle receptacle. Set the SENSITIVITY knob on a 0 position, snap the line switch on, and allow a 15 minute warm-up period. An additional one-hour warm-up period may be necessary to obtain specified minimum zero drift.

B. Input Connections

Both main chassis and sub-chassis are insulated from the front plate and side brackets; therefore, any panel or relay rack on which the instrument might be mounted will not be at chassis potential unless the main chassis is grounded by connecting the GRD binding post to ground.

Both sides of the detector input are above ground. The insulated shield (guard conductor) of the input cable is connected through the shell of the input connector to the input circuit sub-chassis. Connect this insulated shield to the guard circuit of other guarded instruments with which the detector is used. In unguarded applications, connect the guard conductor (cable shield) to the Pin 1 side of the input circuit (white wire).

Pin 1 is the low impedance side of the input circuit and should be connected to the low impedance side of the source, regardless of polarity. When Pin 1 (white wire) of the input connector is positive with respect to Pin 2 (black wire), the meter needle will deflect to the right.

To reduce thermal emfs at the

soldered input plug terminals, a special solder is used. If it is necessary to make soldered connections to the input cable or plug, use only thermal-free solder (ordered separately by Part No. 107-1-0-1) in accordance with the procedure given in Directions 77-39-0-7.

C. Output Connections

To use the instrument with an external indicating device, connect a suitable cable to the plug (Part No. 40-3-0-28) supplied on the output connector. Pin 1 on the output connector will be positive when Pin 1 (white wire) on the input connector is positive. (The meter needle in this case will deflect to the right.)

Both sides of the detector output have the same impedance to ground; therefore, the output leads may be reversed to obtain appropriate polarity. Connections to the built-in meter may also be interchanged to obtain a particular direction of deflection.

D. Sensitivity

Maximum sensitivity is obtained when the knob is set on 1. As the knob is turned counterclockwise between sensitivity positions, the sensitivity is decreased successively in steps of ten-to-one each. Selected sensitivity is retained at center scale, but is reduced by the shunting effect of a non-linear device (silicon diodes) across the output circuit as the input signal increases.

E. Zero Adjustment

The sensitivity switch is provided with three zero positions located between the four measuring positions. These are useful in checking detector zero performance, adjusting zero during and after warmup, and zeroing