

## SECTION I

### INTRODUCTION AND SPECIFICATIONS

#### 1-1. INTRODUCTION

1-2. The Model 80E Voltage Dividers extend the measuring range of Fluke differential voltmeters. The Model 80E-10 has a maximum input voltage of 10KV. The Model 80E-5 has a maximum input voltage of 5KV. Other input voltages are available on request. Both 10V and 1V output terminals are provided, which permit use of the 80E with Fluke differential voltmeters, or a null-type potentiometer.

1-3. A center zero panel meter permits observation of the approximate magnitude and polarity of the unknown voltage. In order to ensure maximum accuracy and long life, properly aged, wirewound resistors, having a very low temperature coefficient, are used throughout the instrument. The case of the instrument is suitable for either bench use or rack mounting.

1-4. This instrument has been thoroughly checked and tested before being shipped from the factory. Immediately after receiving the instrument, carefully inspect for any damage which may have occurred during transit. If any damage is noted, refer to the instructions outlined in the back of this manual.

#### 1-5. SPECIFICATIONS

#### 1-6. ELECTRICAL

**ACCURACY:**  $\pm 0.01\%$  for both division ratios over a temperature range from  $18^{\circ}\text{C}$  to  $28^{\circ}\text{C}$  and for any input voltage up to rated maximum. Derate at  $2\text{ ppm}/^{\circ}\text{C}$  outside this temperature range to  $0^{\circ}\text{C}$  and  $50^{\circ}\text{C}$ .

**STABILITY OF DIVISION RATIO:**  $\pm 0.01\%$  per year (recalibrated by internal adjustment).

**METER:** Center zero panel meter for indicating approximate magnitude and polarity of unknown high voltage.

#### 1-7. MECHANICAL

**INPUT CONNECTOR:** MS3102A-18-16S on front panel (mating connector supplied).

**OUTPUT CONNECTORS:** Two binding posts on  $3/4''$  centers for each of two outputs. One side of each output is common to chassis. Separate binding post for grounding case. All output connectors located on front of instrument.

**TEMPERATURE RANGE:**  
 $0^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  ( $32^{\circ}\text{F}$  to  $122^{\circ}\text{F}$ ) operating  
 $-35^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  ( $-31^{\circ}\text{F}$  to  $158^{\circ}\text{F}$ ) storage

**HUMIDITY:**  
 0 to  $80\%$  (to  $28^{\circ}\text{C}$ )  
 0 to  $60\%$  (to  $50^{\circ}\text{C}$ )

**ALTITUDE:**  
 0 to 10,000 feet operating  
 0 to 50,000 feet non-operating

**VIBRATION:**  
 MIL-T-945A.

**SHOCK:** Meets half sine (20g's, 11 milliseconds) shock and bench handling requirements of MIL-E-4970A.

**SIZE:**  
 $7''$  high x  $8-1/2''$  wide x  $8''$  deep.

**WEIGHT:** Approximately 6 pounds.

Model	Division Ratio		Maximum Input	Current Drawn at Maximum Input	Total Input Resistance
	10V Max	1V Max			
80E-5	500:1	5,000:1	5 KV	1 ma	5 Meg
80E-10	1000:1	10,000:1	10 KV	1 ma	10 Meg