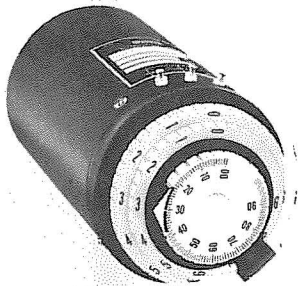
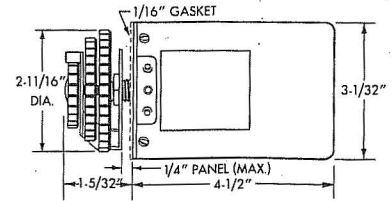


MILITARIZED PRECISION DECADE POTENTIOMETER



Voltage ratio in 0.0001 steps 0.0000 to 1.0000
 Standard input resistance, ohms 1K, 10K, 20K and 100K
 (Other values available as specials)
 Standard resistance tolerance
 (full scale) ±0.05%
 Resolution, better than 0.002%
 Standard linearity (full scale) ±0.005%
 Frequency range DC to 100 KC
 Power rating, watts 5 at 20°C
 Also available with 360° rotation.
 Price—1K, 10K, 20K, and 100K . . . \$130.00



TEST PROCEDURE - DECADE POTENTIOMETERS

1. Input Resistance

40A - Measure input resistance across E-in and REF terminals with Wheatstone bridge, the accuracy of which is 0.05% or better.

50A, 60A - Same as for 40A, but accuracy of Wheatstone bridge must be 0.005% or better.

2. Linearity

a. Standards

40A - Check linearity against standard voltage divider, the linearity of which is known to be 0.01% of full scale or better. Equipment: L&N 4395 or equivalent.

50A, 60A - Check linearity against standard Kelvin-Varley divider, the linearity of which is known to be 1 ppm of full scale. Equipment: JRL VDR-106 or equivalent.

b. Operation

Set up equipment as shown in Figure 2.

(1) Adjust applied voltage so that the power rating of the FLUKE decade potentiometer is not exceeded.

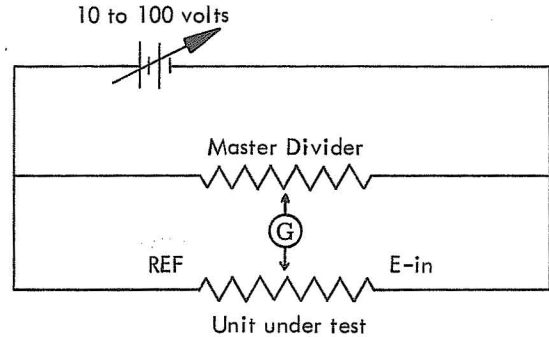


Figure 2.

(2) Adjust HI lead balance pot to get null with 1.00 (0.999¹⁰) dialed up on decade and standard.

(3) Adjust LO lead balance pot to get null with 0.00 dialed up on decade and standard.

(4) Check linearity by setting the cardinal points on the FLUKE decade potentiometer and obtaining null with adjustment of standard.

Linearity error in ppm (of full scale) is difference in standard and decade readings.

ENVIRONMENTAL

All FLUKE militarized decades meet or exceed the environmental portions of the following military specifications:

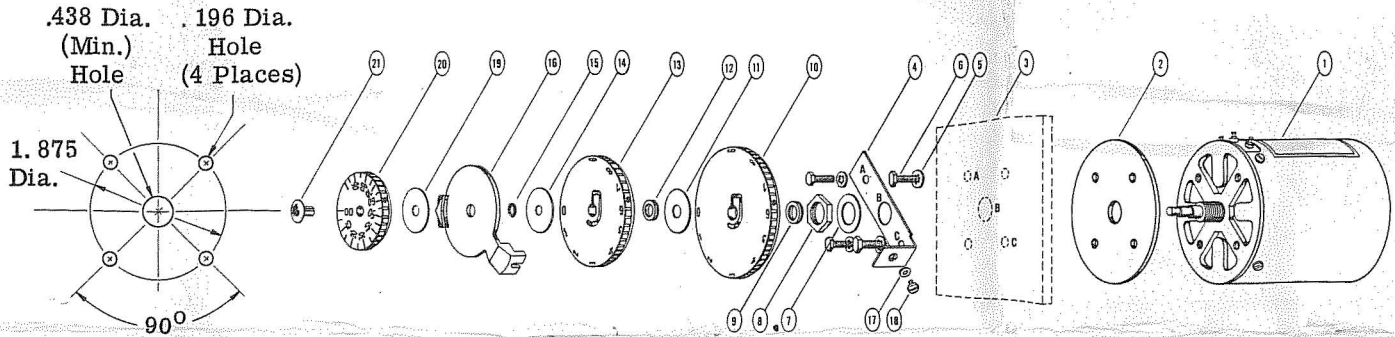
MIL-E-5272C, Section 4.2.2, 4.3.1, 4.4, 4.6 through 4.11.3, 4.12 and 4.15. MIL-T-945A, Sections 4.4.1 through 4.6

Rototest Laboratories test report available on request.

MATERIALS: Materials of the highest quality are used throughout. The decade switches have silicone glass stator and Kel-F Rotor and the contacts are solid silver. The interpolating potentiometer is wirewound with special alloy contacts for long life and minimum noise. The case is of heavy gauge aluminum to provide shielding and dust protection. All resistors are carefully processed and matched. All fixed resistors are coated with moisture and fungus proof varnish and are wirewound with wire having a very low temperature coefficient and thermal EMF.

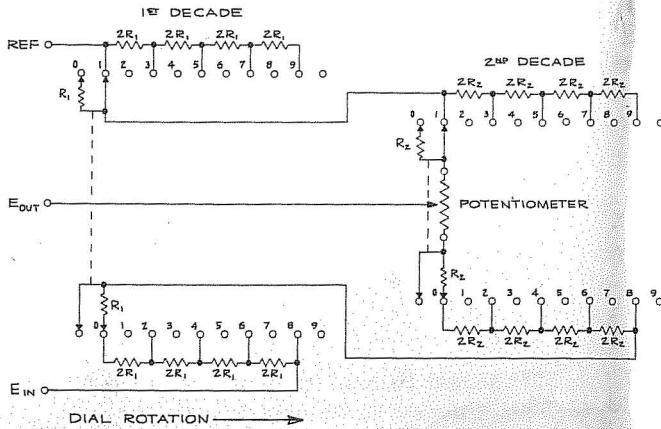
NET WEIGHT: 1-3/4 lbs.

ASSEMBLY AND INSTALLATION INSTRUCTIONS



External Nomenclature & Fluke Part No.

1. Decade body unit	-
2. Gasket	145425
3. Customer's panel	-
4. Indicator bracket	152231
5. Lockwasher (4 req.)	110320
6. Screw (4 req.)	114603
7. Washer	129973
8. Nut	129734
9. Quad ring	146365
10. Dial	146639
11. Washer	156281
12. Quad ring	146332
13. Dial	146647
14. Washer	156299
15. "O" ring	146696
16. Indicator	156208
17. Washer	146308
18. Screw	146290
19. Washer	177071
20. Dial	156638
21. Cap	156265



CAUTION

All Quad Rings must be under compression to insure splashproof operation.

1. Drill panel (see panel drilling detail, above).
2. To disassemble unit, set all dials at zero, loosen screw (18), loosen all dial set screws (four places), lift indicator (16), dial (20), cap (21) off as a unit. Push cap (21) from dial (20) from back side. Remove balance of dials, washers and rings. Remove bracket.
3. Place gasket (2) on shaft of unit (1). Align holes of gasket with tapped holes on unit.
4. Position unit behind panel (3). Align holes in unit and gasket with holes in panel. (Terminal location optional.)
5. Place bracket (4) on panel. Locate as shown, (A) to (A), (B) to (B), (C) to (C).
6. Place washer (7) and nut (8) on unit shaft (optional).
7. Place lockwasher (5) on screw (6) (four places). Insert screws/lockwashers in holes provided. Tighten set screws to 15 in/lbs. maximum.
8. Place quad ring (9) into recess on back of dial (10). Place dial/quad ring assembly on .312 dia. shaft. Face of dial to be flush with .312 dia. shaft. Locate dial with

zero at 9 o'clock position. Tighten dial with .062 Allen wrench. CAUTION: When assembling, dials must be free and not rub any other surfaces.

9. Place washer (11) on .250 dia. shaft. Place quad ring (12) into recess on back of dial (13). Place dial/quad ring assembly on .250 dia. shaft. Face of dial to be flush with .250 dia. shaft. Locate dial with zero at 9 o'clock position. Tighten dial with .062 Allen wrench.
10. Place washer (14) on .125 dia. shaft. Place indicator (16) over shaft and attach to bracket (4) with washer (17) and screw (18). Place "O" ring (15) on .125 dia. shaft and in center hole of indicator.
11. Place washer (19) on .125 dia. shaft.
12. Place dial (20) on .125 dia. shaft. Place cap (21) in C/hole in dial, locate slot in cap shaft between set screws. Locate dial with zero at zero position of pot. Use ohmmeter with resolution of 0.01Ω or better, between "E in" and "E out" terminals, to establish true zero position. Tighten set screws (two places) with .062 Allen wrench.