INSTALLATION INSTRUCTIONS 800HL-EMP POTENTIOMETER
FOR NEMA TYPE 7 [3/8" (9.5) TO 2-1/2" (50.8) PANELS]
AND TYPE 9 [7/32" (7.2) TO 2-1/2" (50.8) PANELS]

Installation:
1. Place securing ring and/or adjusting nut as supplied on unit and thread unit into panel until bushing extends approximately 11/32" (8.7) [4 to 5 threads], past front of panel - 9/32" (7.1) [3 to 4 threads] if a legend plate is not to be used; see Figure 1. Set screws in the legend plate provides mechanical clearance and tighter adjusting nut and/or locking screw. When two units are mounted adjacent, arrange securing rings to avoid interference.
2. To secure unit, rotate to a position which provides electrical clearance and tighten adjusting nut and/or locking screw. Where two units are mounted adjacently, arrange securing rings to avoid interference.
3. Place legend plate, if to be used, over mounting bushing.
4. Assemble mounting ring adapter and tighten.
5. Rotate shaft counterclockwise to stop.
6. Position knob on shaft aligning white indexer on knob with "min." increment marking on legend plate.
7. Tighten the two set screws in the knob with a 1/16" (1.6) hex wrench.
8. Install mounting ring and tighten. Allen-Bradley Catalog No. 800T-N3 wrench is available for this operation.

Replacing Potentiometer:
1. Remove the two screws on the rear of the housing and pull the housing (see Figure 3) from the bushing.
2. Disconnect the three wire leads from the potentiometer terminals.
3. Loosen the two set screws in the shaft adapter with a 1/16" (1.6) hex wrench and remove shaft adapter from potentiometer shaft.
4. Remove nut, lockwasher and mounting plate.

Potentiometer Installation:
1. Remove mounting ring leaving mounting ring adapter in place. Allen-Bradley Catalog No. 800T-N3 wrench is available for this operation.
2. Loosen the two set screws in the knob with a 1/16" (1.6) hex wrench and remove the knob.
3. Rotate shaft so that it extends .40 ± .01 (10.2 ± .2) from bushing.
4. Before installing potentiometer bend the three terminals 80° -90° and remove nut and lockwasher from bushing (see Figure 2).
5. Install mounting plate, printed side facing outward, over potentiometer shaft aligning locating tab on potentiometer with slot in mounting plate.
6. Tighten nut and lockwasher on potentiometer shaft and tightening tab bolt to mounting plate.
7. Solder wire to potentiometer shaft and identify wire to its corresponding terminal. If the potentiometer housing does not have wires with terminal lugs, cut and strip the wire and solder the wire end to the appropriate potentiometer terminal.
8. Rotate potentiometer clockwise to stop.
9. Place shaft adapter onto potentiometer shaft. Rotate shaft adapter to orient slot in shaft adapter with roll pin in shaft while holes in diaphragm and mounting plate are in line with holes in mounting bushing.
10. Tighten the two set screws in the shaft adapter to 4 ± ½ lb.-in. with a 1/16" (1.6) hex wrench.
11. Line up holes in housing, mounting plate, and mounting bushing and push the unit into the mounting bushing.
12. Secure by threading in the two screws from the rear of the potentiometer housing.
13. Rotate shaft counterclockwise to stop.
14. Position knob on shaft aligning white indexer on knob with "min." increment marking on legend plate.
15. Tighten the two set screws in the knob to 4 ± ½ lb.-in. with a 1/16" (1.6) hex wrench.
16. Install mounting ring and tighten. Allen-Bradley Catalog No. 800T-N3 wrench is available for this operation.

Enclosure must comply with U.L. standards 698 and 1203 and CSA standard C22.2 No. 30 for Class I Groups B, C and D hazardous locations or C22.2 No. 25 for Class II Groups E, F and G hazardous locations.

For Class I locations, a suitable seal fitting is required within 18 inches.

Hole size to be .958 (24.3 Ø) to .970 diameter (24.6 Ø) ¾-14NPSM tap.

Apply grease from capsule (supplied) to threads of ¾-14NPSM hole before assembling units into panel and to the threads of the lens assembly.

For standard length units (Bul. 800H), maximum panel thickness is 1" (25.4). From 3/4" (9.5) to 23/32" (18.3) securing ring is used as shown, without adjusting nut. For panels above 23/32" (18.3), securing ring is reversed when panel thickness is from 23/32" (18.3) to 29/32" (23) and eliminated between 29/32" (23) and 1" (25.4).

For long barrel units (Bul. 800HL), maximum panel thickness is 2 1/2" (50.8). For panels above 2 1/2" (50.8) ALL bolted surface shall be 21/2" (50.8) minimum panel thickness is required.

Power Rating:
Maximum power (P) = 2 watts provided maximum working voltage is not exceeded.
Maximum working voltage (EMAX) shall not exceed 300 volts (RMS or DC) or as determined by EMAX=\sqrt{PR}, R = resistance, whichever is less. See Table 1 for power derating with respect to rotation for rheostat application.

Table 1

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<tr>
<th>Percent Rotation</th>
<th>Multiplying Wattage Rating By</th>
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<tr>
<td>100</td>
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For Class I Group B application, 5/8" (15.9) minimum panel thickness is required.