TYPES W5MT3A, W5MT3W, AND W5MT3AW

METERED VARIAC® AUTOTRANSFORMERS

with DURATRAK Coating Process

(U.S. Patent No. 2,949,592)

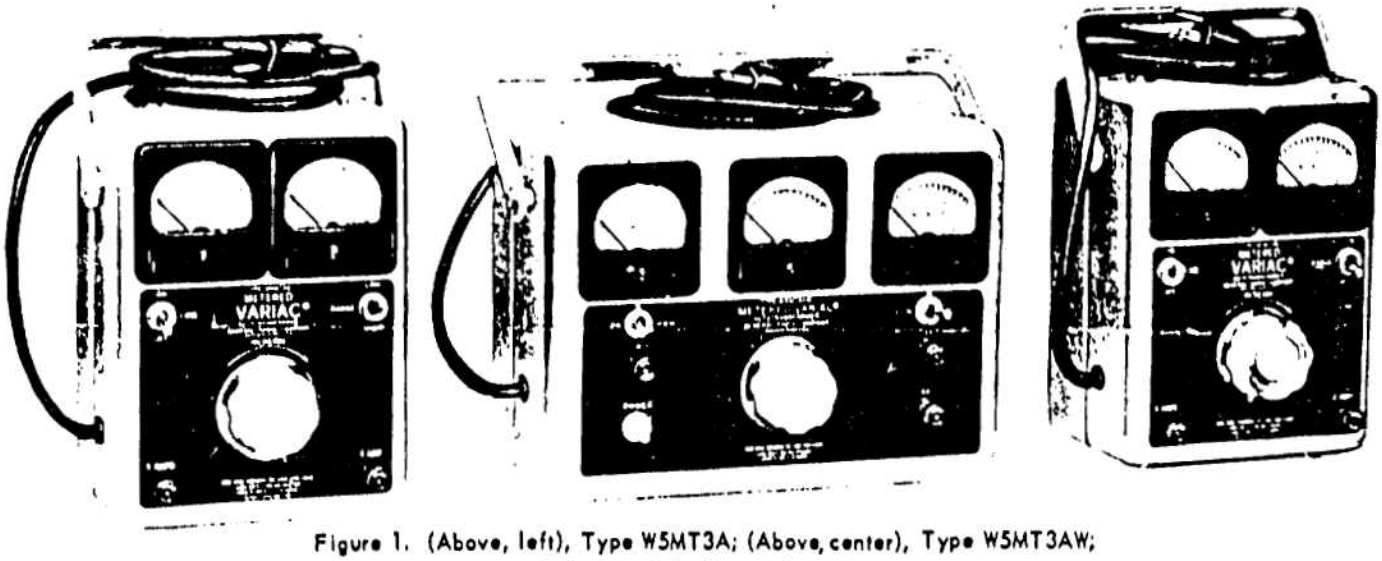

Figure 1. (Above, left), Type W5MT3A; (Above, center), Type W5MT3AW; (Above right), Type W5MT3W.

1. INPUT POWER. Metered Variacs are supplied with a three-wire cord and plug, and a two-wire adaptor, for connection to 50-60-cycle, nominal 120-volt power line. The third wire in the cord-plug circuit provides automatic grounding of external metal parts, as a safety feature. Do not attempt to operate the Metered Variacs on direct current, or damage to the unit will result.

2. LOADS. Metered Variacs are suitable for the control of any alternating-current load within their rating of 5 amperes (W5MT3A, -AW) or 700 watts (W5MT3W, -AW). Since Metered Variacs are connected for overvoltage (117% of line) operation, care must be taken to avoid damage to loads that are incapable of withstanding higher than line voltage. Metered Variacs are, of course, particularly useful in determining load current, or watts, versus applied voltage.

3. SWITCHING. To avoid possible destructive surges, set the control knob to the full counterclockwise (zero voltage) position before connecting the Variac to the line or the load to the Variac. The HIGH-LOW meter switch should be in the HIGH position. Slowly rotate the control knob clockwise, (increase the voltage) observing the meters. Unusually high readings signify trouble; the voltage should be returned to zero and the trouble corrected. If the ammeter or wattmeter reads below one-fifth of full scale, set the meter switch to LOW for increased sensitivity. The meter range is changed by a current transformer for highest possible accuracy, and make-before-break contacts permit switching under load.

4. ACCESS. To gain access to interior parts, first disconnect the unit from the power line. Remove the four slotted screws and the cover. Reverse this procedure to replace the case.

5. BRUSH TRACK. The brush tracks on all Metered Variacs are treated by the *DURATRAK* process to prevent injurious oxidation. If cleaning is necessary, use only a soft cloth and a simple solvent such as alcohol or "white" (nonleaded) gasoline. Do not use abrasives; their action may destroy the silver alloy surface.

6. BRUSHES. Normally, brushes will last indefinitely. Rapid brush wear is usually caused by the pres-

W5MT3A, W5MT3W
W5MT3AW
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ence of abrasive on the brush track, which should be cleaned as described in paragraph 5. If brushes wear excessively, replace them as follows:

a. Rotate the top plate to clear the retaining pins.

b. Replace with Type VB-2 Brush.

c. Proper brush insertion is indicated by a slight click, or detent action, as the long axis of the top plate is aligned with the retaining pins.

d. Seat the new brush for proper operation by swinging it a few times over the abrasive side of a piece of crocus cloth resting on the brush track. Remove the crocus cloth and blow or brush loose particles from the track before applying power.

7. FUSES. The meter circuits of Metered Variacs are fused to prevent overload damage to the meter movements. The fuses required are:

For W5MT3A	1-ampere Bussman Type AGC-1 5-ampere Bussman Type MTH-5
For W5MT3W	2-ampere Bussman Type AGC-2 5-ampere Bussman Type MTH-5
For W5MT3AW	1-ampere Bussman Type AGC-1 2-ampere Bussman Type AGC-2 5-ampere Bussman Type MTH-5

Replacement with fuses of a higher rating will endanger meters.

8. SERVICE. In case of difficulties that cannot be eliminated by the use of these service instructions, please write or phone our Service Department, giving full information of the trouble and of steps taken to remedy it. Be sure to mention the serial and type numbers of the instrument.

Before returning a Metered Variac for repair, please write to our Service Department, requesting shipping instructions. State the type number of the unit and the date of purchase. Pack it carefully; returned units often suffer more damage in shipment than in service.

SPECIFICATIONS

Frequency: 50-60 cycles.

Input Voltage: 120.

No-Load Loss (60 cycles): 9 watts

Output: 0-140 volts; 5 amperes, maximum.

Voltmeter Range: 0-150

Ammeter Ranges: W5MT3A, -AW: two each, 0-1 and 0-5 amperes.

Wattmeter Ranges: W5MT3W, -AW: two each, 0-150 and 0-750, watts.

Meter Accuracies: ±3% of full scale.

Switching: OFF-ON, two-pole switch disconnects assembly from line in "OFF" position.
Meter RANGE, HIGH-LOW, make-before-break to permit switching under load.

Terminals: Line - 3-wire cord and plug.
Load - 3-wire outlet receptacle (will accept parallel 2-wire plug.)

Fusing: W5MT3A - 1ampere, low range. 5 ampere, high range.
W5MT3W - 2 ampere, low range. 5 ampere, high range.
W5MT3AW - 1 and 2 ampere, low range. 5 ampere, high range.

Angle of Rotation: 320°

Case Dimensions: W5MT3A, -W Width 6-3/4, height 10, depth 6-3/8 inches (175 by 255 by 165 mm).
W5MT3AW, Width 11-5/8, height 8-5/8, depth 5-1/4 inches (300 by 220 by 135 mm).

Net Weight: W5MT3A, -W 11-3/4 lbs (5.5 kg).
W5MT3AW 12-1/2 lbs (5.7 kg)

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