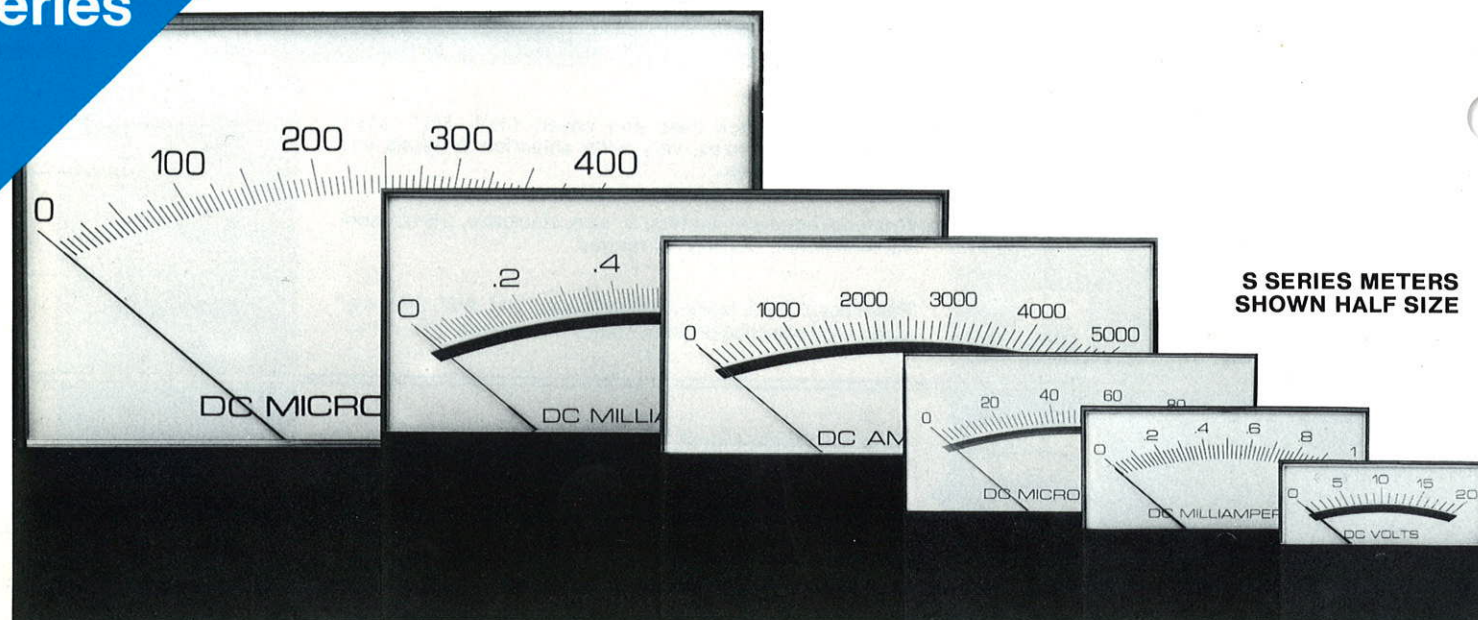


# PANEL METERS ~ surface mount



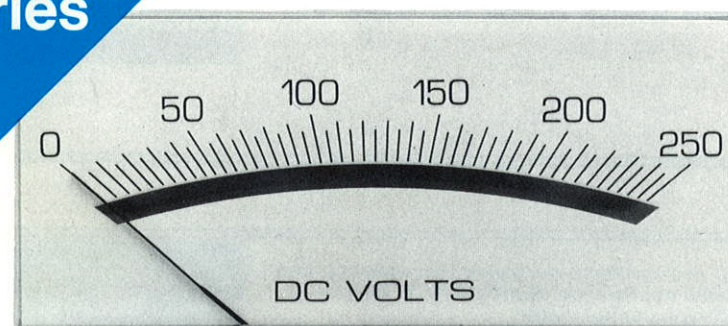
S SERIES METERS  
SHOWN HALF SIZE

These clean-cut meters with straightforward design and pleasing aspect ratio are leaders of the Modutec line and will add distinction to any instrument or control panel. Available in six sizes and a wide variety of types and ranges, they resolve many problems for the equipment designer and are always a solid choice for function and appearance.

AC meters in this series are available in both moving coil (rectifier type) and iron vane versions. The latter has the virtue of being relatively insensitive to input distortion, while the rectifier type is less affected by frequency variations.

**Options:** Many desirable factory-installed options are available at modest additional cost; see pages 38-43.

# PANEL METERS ~ Windo-mount™



Windo-mount is sophisticated design that has found universal acceptance since Modutec introduced it several years ago. The W series meters are easily installed per applications bulletin AB6-1; when so installed the meter cover is flush with the panel surface, with the dial easily read.

W Series meters are available in the same ranges and at the same prices as the S series meters. They offer excellent functional appearance, plus the looks-enhancing edge options shown below.

**Options:** Many desirable options are available at modest additional cost, as described on pages 39-43.



EDGE OPTIONS W1

1. Clear. Concealed outside edge of dial cover is polished plastic. This is the standard meter, and will be supplied unless specified otherwise.



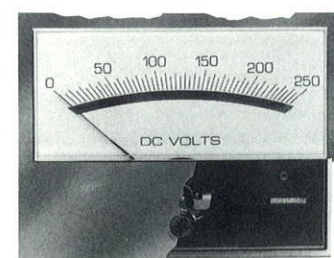
W2

2. White. Concealed outside edge of dial cover is painted white. Added cost HAG. To order, change catalog number prefix to "W2".



W3

3. Black. Concealed outside edge of dial cover is painted black. Added cost HAG. To order, change catalog number prefix to "W3".



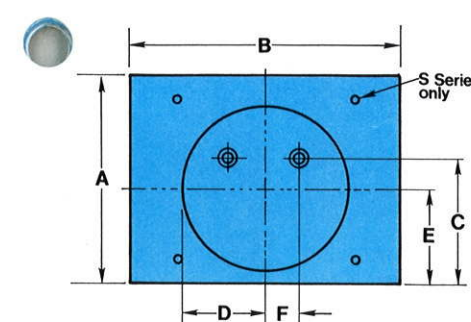
Cutaway of Windo-Mount Meter  
installed in 1/8" panel

## S & W Series-Types Available (UL recognition optional)

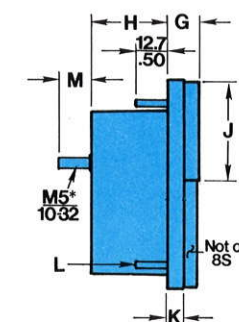
**DC** Microammeters: standard, logarithmic, suppressed zero  
Milliammeters: standard, suppressed zero  
Ammeters  
Millivoltmeters  
Voltmeters: standard, expanded scale, percent deviation

**AC** Milliammeters: taut band, iron vane  
Ammeters: taut band, iron vane  
Voltmeters: standard, expanded scale - taut band, iron vane  
Null Meters  
Frequency Meters  
VU Meters  
Pyrometers

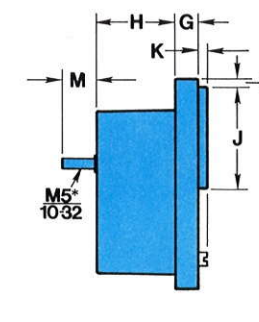
# 1 1/2", 2 1/2", 3 1/2", 4 1/2", 5 1/2", 8" sizes



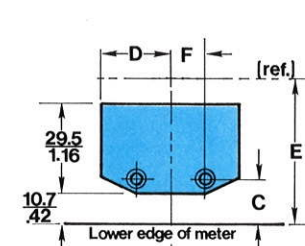
Above: S and W Series  
rear view (combined)



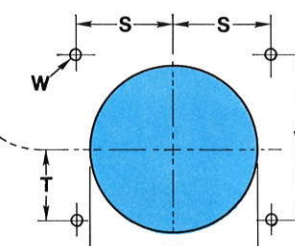
Side view, S Series



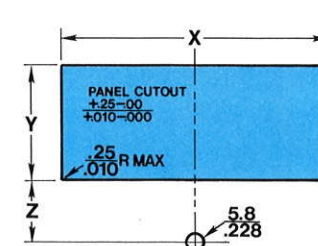
Side view, W Series



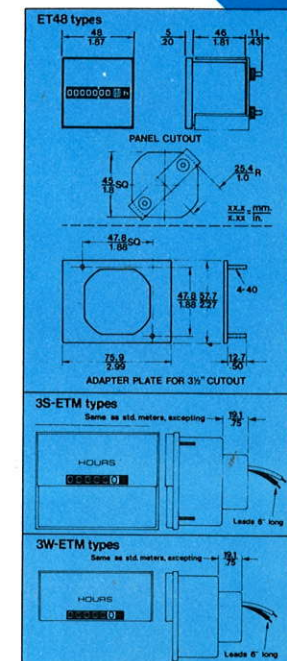
8S and 8W barrel detail



S Series panel cutout



W Series panel cutout



Elapsed Time Meters

## DIMENSIONAL DATA

|          | A         | B     | C    | D    | E    | F    | G    | H    | J     | K    | L     | M    | R    | S    | T     | V     | W    |
|----------|-----------|-------|------|------|------|------|------|------|-------|------|-------|------|------|------|-------|-------|------|
| 1S       | mm. 44.5  | 56.9  | 25.1 | 19.3 | 21.1 | 12.2 | 8.6  | 33.0 | 22.1  |      | M3*   | 6.4  | 39.4 | 16.8 | 16.8  | 33.3  | 3.2  |
|          | in. 1.75  | 2.24  | .99  | .76  | .83  | .48  | .34  | 1.30 | .87   | N/A  | 4-40  | .25  | 1.55 | .66  | .66   | 1.31  | .125 |
| 2S       | mm. 57.7  | 75.9  | 33.8 | 27.2 | 28.7 | 14.2 | 10.2 | 33.0 | 31.5  |      | M3*   | 12.7 | 56.4 | 23.9 | 23.9  | 47.8  | 3.2  |
|          | in. 2.27  | 2.99  | 1.33 | 1.07 | 1.13 | .56  | .40  | 1.30 | 1.24  | N/A  | 4-40  | .50  | 2.22 | .94  | .94   | 1.88  | .125 |
| 3S       | mm. 72.9  | 94.0  | 36.6 | 33.8 | 36.6 | 14.2 | 10.4 | 33.0 | 39.4  |      | M3*   | 12.7 | 71.6 | 28.4 | 28.4  | 57.2  | 3.2  |
|          | in. 2.87  | 3.70  | 1.44 | 1.33 | 1.44 | .56  | .41  | 1.30 | 1.55  | N/A  | 4-40  | .50  | 2.82 | 1.12 | 1.12  | 2.25  | .125 |
| 4S       | mm. 100.6 | 129.5 | 44.2 | 33.8 | 44.2 | 14.2 | 12.9 | 33.0 | 55.9  |      | M3.5* | 12.7 | 71.6 | 50.8 | 39.1  | 90.4  | 3.8  |
|          | in. 3.96  | 5.10  | 1.74 | 1.33 | 1.74 | .56  | .51  | 1.30 | 2.20  | N/A  | 6-32  | .50  | 2.82 | 2.00 | 1.54  | 3.56  | .150 |
| 5S       | mm. 113.8 | 148.6 | 41.9 | 33.8 | 41.9 | 14.2 | 14.0 | 33.0 | 63.5  |      | M3.5* | 12.7 | 71.6 | 66.8 | 21.6  | 76.2  | 3.8  |
|          | in. 4.48  | 5.85  | 1.65 | 1.33 | 1.65 | .56  | .55  | 1.30 | 2.50  | N/A  | 6-32  | .50  | 2.82 | 2.63 | .85   | 3.00  | .150 |
| 5S Opt.1 | mm. 113.8 | 148.6 | 41.9 | 33.8 | 41.9 | 14.2 | 14.0 | 33.0 | 63.5  |      | M3.5* | 12.7 | 71.6 | 57.2 | 27.8  | 88.9  | 3.8  |
|          | in. 4.48  | 5.85  | 1.65 | 1.33 | 1.65 | .56  | .55  | 1.30 | 2.50  | N/A  | 6-32  | .50  | 2.82 | 2.25 | 1.093 | 3.50  | .150 |
| 8S       | mm. 165.1 | 203.2 | 17.3 | 25.4 | 50.8 | 12.2 | 14.0 | 30.5 | 114.3 | 10.4 | M3.5* | 12.7 | 88.9 | 76.2 | 25.4  | 114.3 | 3.8  |
|          | in. 6.50  | 8.00  | .68  | 1.00 | 2.00 | .48  | .55  | 1.20 | 4.50  | .41  | 6-32  | .50  | 3.50 | 3.00 | 1.00  | 4.50  | .150 |

|    |     | A     | B     | C    | D    | E    | F    | G    | H    | J     | K     | L   | M    | X     | Y     | Z     |      |
|----|-----|-------|-------|------|------|------|------|------|------|-------|-------|-----|------|-------|-------|-------|------|
| 1W | mm. | 45.0  | 57.4  | 24.9 | 19.3 | 20.8 | 12.2 | 7.0  | 33.0 | 23.5  | 3.7   | 1.5 | 6.4  | 54.6  | 23.7  | 13.6  |      |
|    | in. | 1.77  | 2.26  | .98  | .76  | .82  | .48  | .275 | 1.30 | .925  | .145  | .06 | .25  | 2.150 | .935  | .535  |      |
| 2W | mm. | 58.2  | 76.5  | 34.3 | 26.9 | 29.2 | 14.2 | 7.5  | 33.0 | 32.0  | 3.7   | 1.5 | 12.7 | 73.7  | 32.3  | 16.1  |      |
|    | in. | 2.29  | 3.01  | 1.35 | 1.06 | 1.15 | .56  | .295 | 1.30 | 1.260 | .145  | .06 | .50  | 2.900 | 1.270 | .633  |      |
| 3W | mm. | 73.7  | 94.7  | 36.8 | 33.8 | 36.8 | 14.2 | 8.1  | 33.0 | 40.3  | 3.7   | 1.8 | 12.7 | 91.7  | 40.5  | 20.4  |      |
|    | in. | 2.90  | 3.73  | 1.45 | 1.33 | 1.45 | .56  | .32  | 1.30 | 1.585 | .145  | .07 | .50  | 3.610 | 1.595 | .804  |      |
| 4W | mm. | 103.1 | 131.6 | 45.5 | 33.8 | 45.5 | 14.2 | 9.4  | 33.0 | 59.3  | .37   | 2.3 | 12.7 | 127.5 | 59.6  | 21.7  |      |
|    | in. | 4.06  | 5.18  | 1.79 | 1.33 | 1.79 | .56  | .37  | 1.30 | 2.335 | .145  | .09 | .50  | 5.020 | 2.345 | .856  |      |
| 5W | mm. | 116.8 | 151.6 | 41.9 | 33.8 | 41.9 | 14.2 | 9.4  | 33.0 | 65.6  | 3.7   | 2.5 | 12.7 | 146.8 | 65.8  | 32.5  |      |
|    | in. | 4.60  | 5.97  | 1.65 | 1.33 | 1.65 | .56  | .37  | 1.30 | 2.583 | .145  | .10 | .50  | 5.780 | 2.590 | 1.278 |      |
| 8W | mm. | 165.1 | 203.2 | 17.3 | 25.4 |      |      | 12.2 | 10.4 | 30.5  | 114.3 | 3.6 | 3.0  | 12.7  | 198.4 | 114.6 | 28.9 |
|    | in. | 6.50  | 8.00  | .68  | 1.00 | N/A  | .48  | .41  | 1.20 | 4.50  | .14   | .12 | .50  | 7.810 | 4.510 | 1.138 |      |

## SPECIFICATIONS

Modutec meters meet or exceed the performance requirements of American National Standards (ANSI) C39.1-1981

**\*Accuracy:** ±2% DC;  
±2% AC — iron vane;  
±3% AC — rectifier type  
(60 Hz sine wave).

**\*Tracking:** ±1 1/2 % DC;  
±2% AC; vertical  
mounting.

**\*Repeatability:**  
±0.5% DC and rectifier;  
±2% iron vane

**Response time:** 1.5 sec-  
onds maximum for all  
ranges, except 0-50 µA  
and below, where the  
response time is 3.0  
seconds maximum.

**\*Symmetry:** ±1.5%.

**Resistance:**  
±10% DC and rectifier;  
±30% iron vane

**Scale arc:** 100°  
(iron vane 90°).

**Shielding:** Self-shielded;  
no special calibration  
needed for steel or non-  
ferrous panel mounting,  
including iron vane  
meters, a Modutec  
exclusive.

### Scale lengths:

| Meter<br>Size | Scale Length<br>DC & Rectifier | Iron Vane |
|---------------|--------------------------------|-----------|
| 1 1/2"        | 1.75"                          | —         |
| 2 1/2"        | 2.41"                          | 2.15"     |
| 3 1/2"        | 3.00"                          | 2.70"     |
| 4 1/2"        | 4.22"                          | 3.80"     |
| 5 1/2"        | 5.12"                          | —         |
| 8"            | 7.55"                          | —         |

\*Percent of full scale. On zero center meters, specification applies to full scale, not end scale values, e.g., 50-0-50 µA is 100 µA full scale.

**NOTE ON ORDERING:** The ranges, catalog numbers, and price codes on the next six pages apply to both the S and W Series meters. To designate choice when ordering, replace the ☐ in the applicable catalog number with "S" or "W".