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### MOVING IRON AC INSTRUMENTS

\* Rated Accuracy: Class 0.5% or 1.0% of Full Scale value as per IS 1248/84, between 20% - 100% of scale.

| STANDARD RANGES |  |  |  |  |
|-----------------|--|--|--|--|
|                 | A.C. VOLTMETERS  |  |  |  |
| 1 Range :       | 0-15, 30V, 60V, 75V, 100V, 125V, 150V, 250V, 300V, 500V, 600V                |  |  |  |
| 2 Ranges :      | 0-15/30V, 30/60V, 62.5/125V, 75/150V, 125/250V, 150/300V, 250/500V, 300/600V |  |  |  |
| 3 Ranges :      | 0-30/60/120V, 75/150/300V, 62.5/125/250V, 125/250/500V, 150/300/600V         |  |  |  |

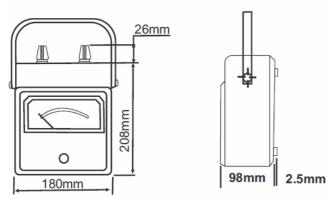
Délka stupnice: cca 140mm ISO 9001-2015 Certified

Testovací napětí: 2000V AC(rms) 1min. Izolační odpor: přes 20MΩ při 500V

Portable Voltmeters are designed for the use in laboratories, field & test room where precision measurement is required. These portable instruments can be used in precision research laboratories where carefully controlled atmospheric conditions are secured, in educational institutions where possible misuses exist and in factories where these instruments are important for making calibration check on switchboard and panel instruments.

- Knife edge Pointer & Antiparallax mirror scale.
- Shock resistant Pivot jewel movement: The pivots are made from carbon steel hard chrome plated and are mounted in spring loaded sapphire jewels. This ensures shock resistance due to vibrations in transit and minimum friction during use.
- Tough Bakelite Case: The complete body of the instrument is made from superior grade of Bakelite and ABS. Unique design makes it strong in construction and at the same time provides very high insulation.
- Dust Proof: The moment is placed in a separate compartment making it completely dust proof, thus ensuring long life & years of trouble free service.
- Minimized Heating of Voltmeters or less internal heating due to low VA-loss: The resistances
  of Voltmeters are housed separately in a ventilated compartment making heating problems
  negligible.
- Quick Response due to unique damping.
- Confirming to BS 89, IEC 51 & ISS 1248.

### **DIMENSIONS**





Plastové pouzdro-plášť přístroje:

## b) AC voltmetry t.p.0.5%

These are Moving Coil or Moving Iron type instruments or dynamometric type instruments, specially designed to be operated in horizontal position (also in inclined position upto 45°) & can be carried along safely.

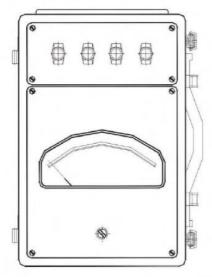
#### FEATURES / ADVANTAGES:

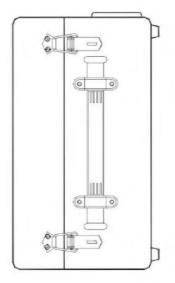
- Instruments with 0.5% accuracy class.
- Instruments with multiple scale available (refer table).
- Robust housing suitable for schools, workshops, field operations for continuous use.
- Precision instruments suitable for standard laboratories (Size: 1).

| MODEL              | TYPE          | SCALE         | RANGE  | ACCURACY   |  |
|--------------------|---------------|---------------|--|--|--|
| 1                  | A.C.AMMETER.  | Single        | 0.5A, 1A, 2.5A, 5A, 10A, 15A, 20A, 30A.                                    |  |  |
| ₩\ <sub>PORT</sub> | A.C.AMINETER. | Dual          | 1/2A, 2.5/5A, 5/10A. & also 0.2/1A, 0.5/2.5A, 1/5A, 2/10A, 10/20A, 15/30A. |  |  |
|                    |               | Single        | 62.5V, 75V, 125V, 150V, 250V, 300V, 500V, 600V                             | 0.5%   |  |
| LSPW-2             | LSPW-2        | A.C.VOLTMETER | Dual   | 62.5/125V, 75/150V, 125/250V, 150/300V, 250/500V, 300/600V |  |
|                    |               |               | Triple   | 62.5/125/250V, 75/150/300V, 125/250/500V, 150/300/600V     |  |

# Dřevěné pouzdro-plášť přístroje:

#### **MECHANICAL SPECIFICATIONS**







SIZE 1

|      |              |       |              | HOUSING<br>MATERIAL |                         | SCALE                     |               |                            |
|------|--------------|-------|--------------|---------------------|-------------------------|---------------------------|---------------|----------------------------|
| SIZE | LENGTH<br>mm | WIDTH | HEIGHT<br>mm |                     | MODEL<br>IDENTIFICATION | LENGTH<br>mm<br>(Approx.) | DIVISION nos. | WEIGHT<br>kg.<br>(Approx.) |
| 1    | 300          | 200   | 155          | Wooden Box          | LSPW —                  | 150                       | 100 ~ 150     | 4                          |
| 2    | 300          | 200   | 190          | Wooden Box          | LSPW —                  | 150                       | 100 ~ 150     | 5                          |

## c) AC voltmetry t.p.1%

These are Moving Coil DC, Moving Coil rectifier type AC, Moving Iron AC ammeters & voltmeters which are suitable for use in school, laboratories, workshops & for field operation. Specially designed to be operated in horizontal position (also in inclined position upto 45°) & can be carried along safely.



#### **FEATURES / ADVANTAGES**

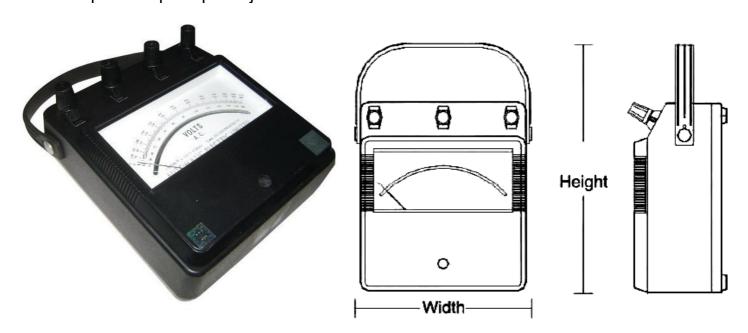
- Instruments with accuracy class 1.0% for DC/AC, 1.5% for Rectifier type AC.
- Instruments with multiple scale (refer table).
- · Robust housing.

| MODEL  | TYPE          | SCALE           | RANGE  | ACCURACY |
|--------|---------------|-----------------|--|----------|
|        |               | Single          | 0.2A, 0.5A, 1A, 2.5A, 5A, 10A, 15A, 20A, 30A, 50A, 100A.   |          |
| * ~    |               | Dual            | 0.5/1A, 1/2A, 2.5/5A, 5/10A. & also 0.2/1A, 0.5/2.5A,1/5A, 2/10A, 10/20A, 15/30A, 25/50A, 50/100A. |          |
| \ ~\ \ | A.C.AMMETER.  | Triple          | 1/3/10A, 3/10/30A, 10/30/100A, 5/10/25A, 10/25/50A, 25/50/100A.                                    |          |
| DODT   |               | Quadruple       | 1/3/10/30A, 3/10/30/100A, 5/10/25/50A, 10/25/50/100A.  |          |
| PORT   |               | 5 <sup>TH</sup> | 1/3/10/30/100A, 5/10/25/50/100A.   | 1.0%     |
| MSSB-3 |               | Single          | 15V, 30V, 62.5V, 75V, 125V, 150V, 250V, 300V, 500V, 600V.  |          |
|        | A.C.VOLTMETER | Dual            | 15/30V, 30/60V, 62.5/125V, 75/150V, 125/250V, 150/300V, 250/500V, 300/600V.                        |          |
|        |               | Triple          | 15/30/75V, 62.5/125/250V,<br>75/150/300V, 125/250/500V, 150/300/600V.                              |          |

### MECHANICAL SPECIFICATIONS

| Size | length | width  | height | housing                   | model | Scale length    | division | weight       |
|------|--------|--------|--------|---------------------------|-------|-----------------|----------|--------------|
| 1    | 250 mm | 190 mm | 80 mm  | Black Engineering Plastic | MSSB  | 145 mm (approx) | 60-150   | 1Kg (approx) |

### Plastové pouzdro-plášť přístroje:



## d) AC voltmetry t.p.0,5%

## Magnetolektrický systém s usměrňovačem !!!

| <b>→</b> |
|----------|

| Name        |          | Range            | No.  |
|-------------|----------|------------------|------|
|             | 1 Range  | 50mV             | 1601 |
|             |          | 5/10V            | 1602 |
|             |          | 1/3V             | 1603 |
|             |          | 10/30V           | 1604 |
|             | 2 Ranges | 30/100V          | 1605 |
|             |          | 30/150V          | 1606 |
| DC          |          | 100/300V         | 1607 |
| Voltmeter   |          | 300/1000V        | 1608 |
| VOILITIOLOI | 3 Ranges | 1/3/10V          | 1610 |
|             |          | 3/10/30V         | 1611 |
|             |          | 30/100/300V      | 1612 |
|             |          | 3/10/30/100V     | 1614 |
|             | 4 Ranges | 1/3/10/30V       | 1615 |
|             |          | 10/30/100/300V   | 1616 |
|             |          | 30/100/300/1000V | 1617 |



• Principle: Moving coil type

• Accuracy : ±0.5% F.S.

• Scale Length: Approx. 135mm(5-3/8")

Approx. 1.7kg • Weight :

 $196(L) \times 170(W) \times 87(D)mm$ • Dimension :

Bakelite with glass window Case Material :





#### ( MS 300 SERIES

#### Feature

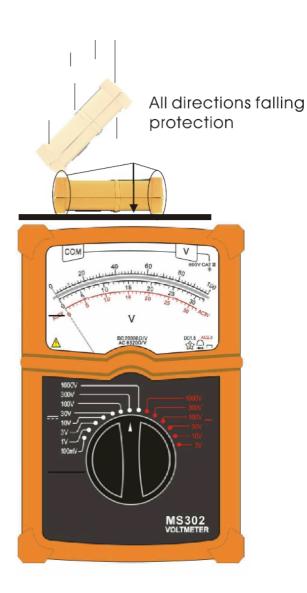
- .Sturdy, simple and extremely safe to use
- .High accuracy and reliability
- .Combination of electronic and mechanical advantage
- Single switch for range selection. Safety sockets and dual insulation. Moulded, water-resistant casing

| Technical data      | MS-302  |
|---------------------|---|
| Function            | AC/DC Voltage meter                           |
| Range               | AC 3V~1000V(6Steps)<br>DC 100mV~1000V(8Steps) |
| Accuracy            | 1.5%(DC), 2%(AC)                              |
| Operating frequency | 20~400Hz                                      |
| Fuse                | Electronic Protection                         |
| Accessories         | NA  |

170×165×55 mm Dimensions:

Weight: 200g





## f) AC voltmetry t.p.1,5%

## Magnetolektrický systém s usměrňovačem !!!



• Precision meters for plant maintenance, field servicing and educational purposes.

• Taut Band movement with rectifier type.

• Multi terminals (4mm socket) for range selection.

• Carbon pointer, mirror scale to eliminate parallax error.

• High resistance to shock and vibration.

Accuracy: ±1.5% F.S.Scale length: 80mm.

• Dimension : 107(L) × 117(W) × 53(D)mm.

• Weight: Approx. 300g.

Meets CE

EN 61010-1 CAT II 600V EN 61326-1 (for 0~600V)



| Name                                    |          | No.               |            |
|---|----------|-------------------|------------|
| AC Voltmeter (Rectifier Type) Accuracy: | 3 Ranges | 10/30/100V        | 305ACV 300 |
|   |          | 75/150/300V       | 305ACV 301 |
|   | 4 Ranges | 15/30/150/450V    | 305ACV 401 |
|   |          | 100/250/500/1000V | 305ACV 402 |
| ± 1.5% F.S.                             |          | 5/30/100/300V     | 305ACV 403 |
|   |          | 75/150/300/750V   | 305ACV 404 |



### g) AC voltmetry t.p.0,5% nebo 1%





Portable Ammeters & Voltmeters are designed for use in the field, test rooms and laboratories where precision measurement is required. These Portable Instruments can be used equally well in precision research laboratories where carefully controlled atmosphere conditions are secured, in educational institutions where possible misuses exist and in factories where these instruments are important for making calibration check on switchboard and panel instruments.

#### Features:

- Knife edge Pointer & Anti-parallax mirror scale.
- Tough Bakelite Case: The complete body of the instrument is made from superior grade of bakelite. Unique design makes it very strong in construction and at the same time provides very high insulation.
- Shock resistant Pivot jewel movements: The pivots are made from Carbon Steel hard chrome plated and are mounted in spring loaded sapphire jewels. This ensures shock resistance due to vibrations in transit and minimum friction during use.
- Dust Proof: The Movement is placed in a separate compartment making it completely dust proof, thus ensuring long life and years of trouble free service.
- Minimised Heating of Voltmeters or less internal heating due to low VA-loss: The resistence of voltmeters are housed separately in a ventilated compartment making heating problems negligible
- Quick Response due to unique damping.
- Confirming to BS 89, IEC 51 & ISS 1248.

#### Specifications:

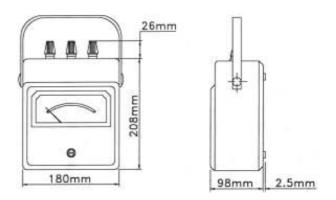
Scale Length : 140mm approx

Test Voltage : 200VAC (rms) for 1 minute

Insulation Resistance : Over 20 Megohms at 500VDC

Sensitivity : 1000 ohms/V for DC Meters.

#### **Dimensions:**



#### Moving Iron / AC Voltmeters

| Order Code | Accuracy   | Range (Choose Any One)  |
|------------|--|---|
| 20027      | Class 0.5 as per ISS 1248/83                           | 0-62.5/125/250V, 75/150/300V, 0-125/250/500V, 150/300/600V              |
| 20028      | Class 1.0 as per ISS 1248/83                           | 0-15, 30, 60, 75, 100, 125, 150, 250, 300, 500, 600V                    |
| 20029      | Class 1.0 as per ISS 1248/83                           | 0-15/30, 30/60, 75/150, 62.5/125, 125/250, 150/300, 250/500, 300/600V   |
| 20030      | Class 1.0 as per ISS 1248/83                           | 0-15/30/60, 75/150/300, 62.5/125/250, 125/250/500, 150/300/600V         |
| 20031      | Class 2.5 as per ISS 1248/83<br>Sensitivity 1000Ohms/V | 0-7.5, 15, 30, 60, 75, 125, 150, 300, 500, 600V                         |
| 20032      | Class 2.5 as per ISS 1248/83<br>Sensitivity 1000Ohms/V | 0-7.5/15, 15/30, 30/60, 75/150, 125/250, 150/300, 300/600V              |
| 20033      | Class 2.5 as per ISS 1248/83<br>Sensitivity 1000Ohms/V | 0-7.5/15/30, 15/30/75, 30/75/150, 75/150/300, 125/250/500, 150/300/600V |