

● SYMBOLS IDENTIFICATION OF THE INSTRUMENTS TECHNICAL CHARACTERISTICS

| | | | |
|--|-------------|---|--|
| Electronic device in a measure circuit | | AC | |
| Rectifier (instrument with AC input) | | Testing voltage higher than 2000V | |
| Shunt | | Vertical mounting (for example 50 deg.) | |
| Additional resistor | | Inclined mounting (for example 50 deg.) | |
| Positive terminal | | Moving coil for instruments | |
| Negative terminal | | Moving iron for instruments | |
| Class index | 1.0 1.5 2.5 | Bimetal instrument | |
| DC | | Vibrating reeds instruments | |

● REFERENCE STANDARDS

EN60051, EN50081, EN50082, EN61010,
IEC60051, IEC61010, DIN43780

● FIXING POSITION

All instruments should be mounted in a vertical position. On request, other inclined or horizontal models are supplied.The tolerance is ± 5 for any model.

● AMBIENT TEMPERATURE

If on the meter or in the concomitant documentation it is indicated differently, the ambient temperature is equal $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The rated range of use is equal $\pm 10^{\circ}\text{C}$ regarding the fiducial temperature and the variation in this range does not exceed the value of the accuracy class index, unless we give a smaller value for the specified meter.

● TEMPERATURE LIMITES

The measuring instruments and their accessories withstand temperature variations from -25°C to $+40^{\circ}\text{C}$ (55°C in the tropical weather proof version) without permanent fault.

● RELATIVE HUMIDITY

The accuracy class is maintained within the interval of 25% to 80% of non condensed relative humidity.

● TROPICAL WEATHER RESISTANT (TROP)

For TROP, and according to the DIN40040 standard, the instruments will be protected against corrosive atmospheres and will endure temperatures between -25°C and $+55^{\circ}\text{C}$, with a non condensed relative humidity of 95%. This humidity refers to a maximum temperature of 30°C and 30days per year, the remaining 278 days of the year the humidity must not exceed 75%.

For this, the instruments may be set for reference temperature values above 20°C . For these events the ranges are marked with the word TROP, followed by the temperature to which they have been set.

● AUXILIARY POWER SUPPLY

The accepted tolerance for nominal values of the auxiliary power supply is:
Voltage: $+10\% \sim -15\%$ Frequency: $45\sim 65\text{Hz}$.

● ZERO CORRECTION

A zero corrector is provided on the front panel of the meter, which can adjust the pointer to the zero position.

● CASING

The casings and frames for all instruments are made of self extinguishing ABS, according to UL94, with high impact resistance.

The bases are made from self extinguishing reinforced PPO, according to UL94, with high impact resistance and maximum electrical insulation.

● PROTECTION GRADE

Under normal operation, the instrument cases have a protection grade of Ip54 and their terminal IP20(with back cover).

● VIBRATIONS

The instruments and their accessories support a minimum vibration of $\pm 0.25\text{ mm}$ of amplitude at a frequency of 50 cycles. This vibration is equivalent to applying an acceleration equal to 2.5g for 20 minutes between the three perpendicular axes.

● SUSTAINED ELECTRICAL OVERLOAD

All types of ammeters and voltmeters, and also voltage circuits of power meter, phase meters and power factor meters resist during 2 hours without damage to overload equals 120% of the reference voltage value or reference current. In power meters and power factor meters, current circuits and voltage circuits should be overloaded separately.

● KIND REMINDER

Due to analogue panel meter is a kind of precision measuring instrument, we strongly recommend our customers choose ocean shipping, then we can make firm wood pallet for certain cases to protect the goods against probable rough handling in the transportation.

● NOTE:

All 96X96, 72X72 with cover on movement available, see below examples.



Cover on Movement



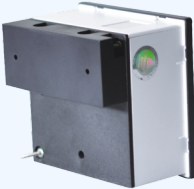
Regular Movement

Just mention one of above model when ordering.

● CHANGING THE SCALE PLATE

Draw out the scale plate with a suitable tool introduced in the scale plate perforation. When replacing the new scale plate, carefully close the slot of the case with the plastic cover. The scale plate is changeable without influence to accury of DT-A96, DT-A72, DT-A48 DE-A96, DE-A72, DT-M96, DT-M72, DT-2M96, DT-AM96, DT-AM72, DT-A45, DL-A72. See right Demo.

● ACCESSORY



DE Model
Terminal protection cover



DG Model
Terminal protection cover



DT Model
Terminal protection cover



DL-A72 Model
Terminal protection cover



Larger curent screw

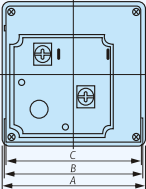
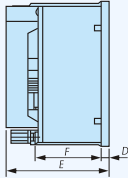
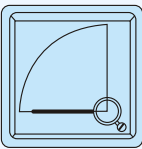


Plastic screw holder



Brass screw holder(option)

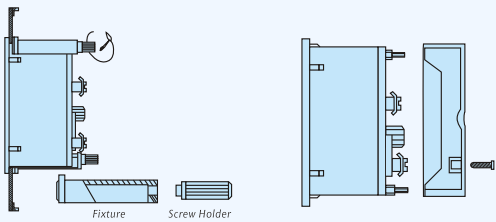
● DIMENSION



| Frame Size | Dimension (mm) | | | | | |
|------------|----------------|----|----|-----|----|----|
| | A | B | C | D | E | F |
| 96X96 | 96 | 92 | 90 | 5.5 | 65 | 43 |
| 72X72 | 72 | 68 | 66 | 5.5 | 65 | 43 |
| 48X48 | 48 | 44 | 42 | 5.5 | 65 | 43 |

● MOUNTING

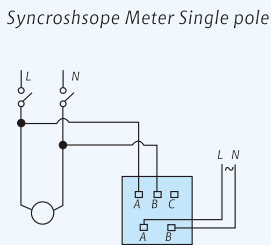
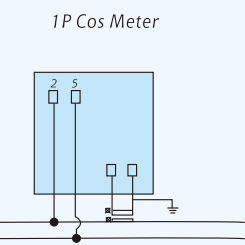
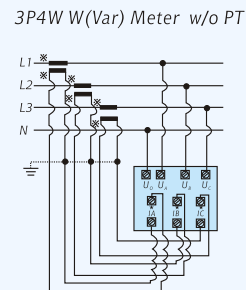
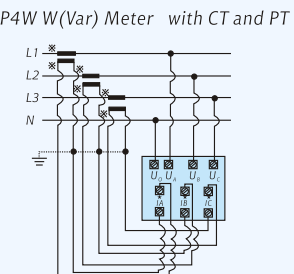
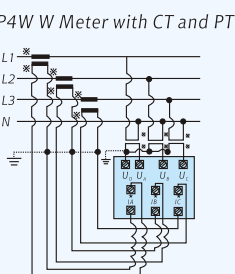
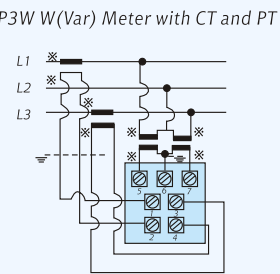
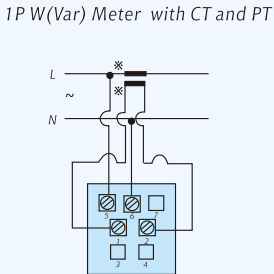
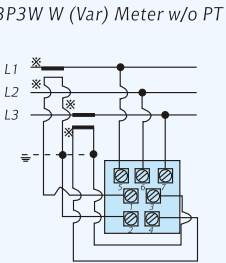
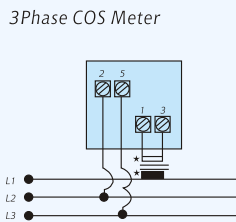
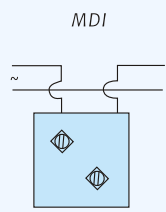
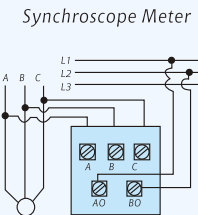
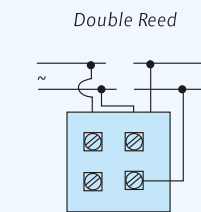
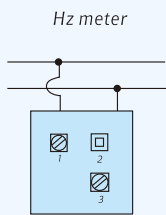
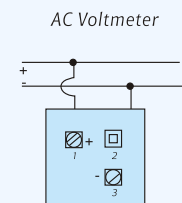
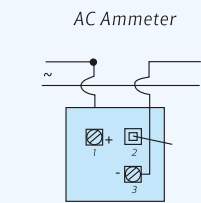
The meters are adapted to be mounted from the front of panels and then they are equiped with two spring holders, which can be fixed on arbitrary opposite case sides or to be mounted from the rear of panels and then they are equiped with two screw holders which can be fixed on arbitrary, opposite case corners.



There is no need to stock for CT operated AC Ammeters due to interchangeable scale system. Only scale plate is sufficient to have in stock.

| Ref. | For Size | Item Code |
|------|----------|-----------|
| | 96×96 | 0960000 |
| | 72×72 | 0720000 |
| | 48×48 | 0480000 |

● CONNECTION DIAGRAM



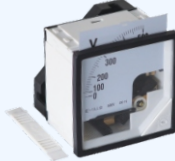
● DEMO



DT Model
Left slot with end stopper



DE Model
Removable top cover



DL-A72 Model



Currently, Top cover removable type is available for CT operted AC Ammeter and Direct input Ammeter and Direct input AC Voltmeter.


● SELECTION OF MOVING IRON METER

Moving-iron meters are intended for measuring AC current or AC voltage. These meters measure the RMS value and their indications are highly independent of the measured value curve shape.

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|---|---------|----------------|-------|-----------------|-------------|----------------|-----------|
| Direct Input AC Ammeter (2In) | | | | | | | |
| DT-DA96 | DT-DA96 | 96X96 | - | 5~100A | 1.5 | 60 | 1496000 |
| | DT-DA72 | 72X72 | - | 5~100A | 1.5 | 100 | 1472000 |
| | DT-DA48 | 48X48 | - | 5~50A | 2.5 | 256 | 1448000 |
| DE-DA96 | DE-DA96 | 96X96 | - | 5~100A | 1.5 | 60 | 1596000 |
| | DE-DA72 | 72X72 | - | 5~100A | 1.5 | 100 | 1572000 |
| | DL-DA72 | 72X72 | - | 5~100A | 1.5 | 100 | 1672000 |
| CT Operated AC Ammeter (2In) | | | | | | | |
| DT-A96 | DT-A96 | 96X96 | x/5A* | 5~6000A | 1.5 | 60 | 1960000 |
| | DT-A72 | 72X72 | x/5A* | 5~6000A | 1.5 | 100 | 1720000 |
| | DT-A48 | 48X48 | x/5A* | 5~6000A | 2.5 | 256 | 1480000 |
| DE-A96 | DE-A96 | 96X96 | x/5A* | 5~6000A | 1.5 | 60 | 2960000 |
| | DE-A72 | 72X72 | x/5A* | 5~6000A | 1.5 | 100 | 2720000 |
| | DL-A72 | 72X72 | X/5A* | 5~6000A | 1.5 | 100 | 3720000 |
| *Note: Using with external CT. X/1A upon request. | | | | | | | |
| Direct Input AC Voltmeter (Vn) | | | | | | | |
| DT-V96 | DT-V96 | 96X96 | - | 100~600V | 1.5 | 60 | 1196000 |
| | DT-V72 | 72X72 | - | 100~600V | 1.5 | 100 | 1172000 |
| | DT-V48 | 48X48 | - | 100~600V | 2.5 | 256 | 1148000 |
| DE-V96 | DE-V96 | 96X96 | - | 100~600V | 1.5 | 60 | 3496000 |
| | DE-V72 | 72X72 | - | 100~600V | 1.5 | 100 | 3472000 |
| | DL-V72 | 72X72 | - | 100~600V | 1.5 | 100 | 3572000 |

● SELECTION OF MOVING COIL METER

Moving-coil meters are intended for measuring DC current or DC voltage. These meters can also be used for measuring AC voltages and AC currents as long as rectifier built in.

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|---|---------|----------------|------|-----------------|-------------|----------------|-----------|
| Direct Input DC Ammeter (In) | | | | | | | |
|  | DC-DA96 | 96X96 | - | 50 μ A~50A | 1.5 | 60 | 1796000 |
| | DC-DA72 | 72X72 | - | 50 μ A~50A | 1.5 | 100 | 1772000 |
| | DC-DA48 | 48X48 | - | 50 μ A~20A | 2.5 | 256 | 1748000 |

Shunt Operated DC Ammeter

(In)

| | | | | | | |
|--------|-------|---------|---------|-----|-----|---------|
| DC-A96 | 96X96 | x/60mV* | 5~6000A | 1.5 | 60 | 4960000 |
| DC-A72 | 72X72 | x/60mV* | 5~6000A | 1.5 | 100 | 4720000 |
| DC-A48 | 48X48 | x/60mV* | 5~6000A | 2.5 | 256 | 4480000 |

* Using with external DC shunt, x/50mV or 75mV upon request.

Direct Input DC Voltmeter

(Vn)

| | | | | | | |
|--------|-------|---|--------|-----|-----|---------|
| DC-V96 | 96X96 | - | 5~500V | 1.5 | 60 | 1896000 |
| DC-V72 | 72X72 | - | 5~500V | 1.5 | 100 | 1872000 |
| DC-V48 | 48X48 | - | 5~500V | 2.5 | 256 | 1848000 |

Dual CT operated AC Ammeter

(2In)

| | | | | | | |
|---------|-------|-------|---------|-----|----|---------|
| DT-2A96 | 96X96 | x/5A* | 5~6000A | 1.5 | 48 | 1090000 |
| DT-2A72 | 72X72 | x/5A* | 5~6000A | 1.5 | 48 | 1070000 |

* x/1A upon request.


Dual Direct Input AC Voltmeter

(Vn)

| | | | | | | |
|---------|-------|---|----------|-----|----|---------|
| DT-2V96 | 96X96 | - | 100~600V | 1.5 | 48 | 1096000 |
| DT-2V72 | 72X72 | - | 100~600V | 1.5 | 48 | 1072000 |

● SELECTION OF BIMETAL + MOVING IRON METER

Maximum demand meters are intended for testing momentary thermal load of transformers, cables, electrical machines etc. The bimetallic movement responds and indicates the mean RMS current loading over a specified period of time. A black pointer which is attached to the bimetal spiral moves in response to the current -(heating) in the bimetal spiral. A red pointer (slave or memory pointer) is driven by the black pointer. The red pointer remains at its maximum position to which the black pointer has reached during any period of time. Further, when the loading is reduced, the red pointer remains at the maximum value. This enables the operator to know the maximum loading of the system without continuously watching the meter. A zero corrector is provided on the front of the meter to bring back the red pointer to the position of the black pointer. A sealing/locking facility is also provided on the zero corrector to prevent tampering of the reading at the red pointer.

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|---|---------------------|----------------|---------------|-----------------|-------------|----------------|-----------|
|  DT-M96 | Maximum Demand(MDI) | | | (1.2In) | | | |
| | DT-M96 | 96X96 | x/5A T=15min* | 5~6000A | 3.0 | 60 | 5960000 |
| | DT-M72 | 72X72 | x/5A T=15min* | 5~6000A | 3.0 | 100 | 5720000 |

* Also T=8min or x/1A are available upon request. Special specifications upon request.

Combined Maximum Demand(CMDI)

(1.2In)


| | | | | | | |
|---------|-------|---------------|---------|-----------|----|---------|
| DT-2M96 | 96X96 | x/5A T=15min* | 5~6000A | 3.0 & 1.5 | 60 | 7960000 |
|---------|-------|---------------|---------|-----------|----|---------|

* Also T=8min or x/1A are available upon request. Special specifications upon request.

● SELECTION OF METER WITH CHANGE-OVER SWITCH

Moving-iron panel Ammeter with a change-over switch is adapted for measuring AC Ampere in 3 phase 3 wire system and 3 phase 4 wire system. A three-positional switches installed on the meter frontal side enables the choice of the measured voltage in different points of the network system.

Moving-iron Voltmeter with a change-over switch is adapted for measuring line-to-line and phase-to-phase RMS voltage in 3-phase 4-wire power networks. A six(three)-positional switches installed on the meter frontal side enables the choice of the measured voltage in six(three) different points of the network system.

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|--|------------------------------------|----------------|-------|-----------------|-------------|----------------|-----------|
|  DT-AS96 | AC Ammeter With Change-over Switch | | | 2In | | | |
| | DT-AS96 | 96X96 | x/5A* | 5~6000A | 1.5 | 48 | 8960000 |
| | DT-AS72 | 72X72 | x/5A* | 5~6000A | 1.5 | 50 | 8720000 |

* x/1A upon request.

Note: Please mention the No.of positions for the change-over switch. Our standard option is 3 positions: L1-L2, L2-L3, L1-L3.

AC Voltmeter With Change-over Switch

Vn

| | | | | | | |
|---------|-------|---|----------|-----|----|---------|
| DT-VS96 | 96X96 | - | 100~600V | 1.5 | 48 | 2096000 |
| DT-VS72 | 72X72 | - | 100~600V | 1.5 | 50 | 2072000 |

Note: Please mention the No.of positions for the change-over switch. Our standard option is 6positions: L1-L2, L2-L3, L1-L3, L1-N, L2-N, L3-N.

● SELECTION OF FREQUENCY METER

Frequency meter is the instrument, which measures the frequency. Frequency meter shows the number of the cycles in 1 second. Frequency meters are connected parallel to circuit which frequency will be measured like voltmeters.

| Ref. | Model | Frame Size(mm) | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|------|-------|----------------|-----------------|-------------|----------------|-----------|
|------|-------|----------------|-----------------|-------------|----------------|-----------|

DT-F96



Pointer Frequency Meter

| | | | | | |
|--------|-------|---------|-----|-----|---------|
| DT-F96 | 96X96 | 45~65Hz | 1.5 | 60 | 2190000 |
| DT-F72 | 72X72 | 45~65Hz | 1.5 | 100 | 2170000 |
| DT-F48 | 48X48 | 45~65Hz | 2.5 | 256 | 2180000 |

Note: Please mention the voltage when ordering, our standard voltage are 110V, 220V, 380V, 415V, special voltage upon request.

DT-FR96



RPM Frequency Meter

| | | | | | |
|---------|-------|---------|-----|-----|---------|
| DT-FR96 | 96X96 | 45~65Hz | 1.5 | 60 | 2290000 |
| DT-FR72 | 72X72 | 45~65Hz | 1.5 | 100 | 2270000 |
| DT-FR48 | 48X48 | 45~65Hz | 2.5 | 256 | 2280000 |

Note: Please mention the voltage when ordering, our standard voltage are 110V, 220V, 380V, 415V, special voltage upon request.

DT-R96



Single Row Reed Frequency Meter

| | | | | | |
|--------|-------|---------|-----|-----|---------|
| DT-R96 | 96X96 | 45~65Hz | 1.5 | 60 | 2390000 |
| DT-R72 | 72X72 | 45~65Hz | 1.5 | 100 | 2370000 |

Note: Please mention the voltage when ordering, our standard voltage are 110V, 220V, 380V, 415V, special voltage upon request.

DT-2R96



Double Row Reeds Frequency Meter

| | | | | | |
|---------|-------|---------|-----|-----|---------|
| DT-2R96 | 96X96 | 45~65Hz | 1.5 | 60 | 2490000 |
| DT-2R72 | 72X72 | 45~65Hz | 1.5 | 100 | 2470000 |

Note: Please mention the voltage when ordering, our standard voltage are 110V, 220V, 380V, 415V, special voltage upon request.

DT-2F96



Dual Frequency Meter

| | | | | | |
|---------|-------|---------|-----|----|---------|
| DT-2F96 | 96X96 | 45~65Hz | 1.5 | 48 | 1390000 |
| DT-2F72 | 72X72 | 45~65Hz | 1.5 | 48 | 1370000 |

Note: Please mention the voltage when ordering, our standard voltage are 110V, 220V, 380V, 415V, special voltage upon request.

● SELECTION OF POWER FACTOR METER

Power factor meters are destined for measuring of the phase angle between the current and voltage in single-phase or three-phase AC power networks. These meters are calibrated to correspond to the cosine of the angle i.e. the power factor.

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|------|-------|----------------|------|-----------------|-------------|----------------|-----------|
|------|-------|----------------|------|-----------------|-------------|----------------|-----------|

DT-PF96



Power Factor Meter

| | | | | | | |
|---------|-------|----|-------------------|-----|-----|---------|
| DT-PF96 | 96X96 | 1P | 0.5cap-1.0-0.5ind | 2.5 | 60 | 2591000 |
| DT-PF96 | 96X96 | 3P | 0.5cap-1.0-0.5ind | 2.5 | 60 | 2593000 |
| DT-PF72 | 72X72 | 1P | 0.5cap-1.0-0.5ind | 2.5 | 100 | 2571000 |
| DT-PF72 | 72X72 | 3P | 0.5cap-1.0-0.5ind | 2.5 | 100 | 2573000 |

Note: Please mention the voltage when ordering.

● SELECTION OF POWER METER

Power meter is a moving-coil meter with a built- in measuring transducer. It is destined to measure active or reactive power in AC power networks. The measured power is indicated by a magnetoelectric (moving-coil) measuring system.

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|------|-------|----------------|------|-----------------|-------------|----------------|-----------|
|------|-------|----------------|------|-----------------|-------------|----------------|-----------|

DT-W96



Active Power Meter

| | | | | | | |
|--------|-------|------|--------------|-----|----|---------|
| DT-W96 | 96X96 | 1P | Upon request | 1.5 | 60 | 2691000 |
| DT-W96 | 96X96 | 3P3W | Upon request | 1.5 | 60 | 2693000 |
| DT-W96 | 96X96 | 3P4W | Upon request | 1.5 | 36 | 2694000 |
| DT-W72 | 72X72 | 1P | Upon request | 1.5 | 60 | 2671000 |
| DT-W72 | 72X72 | 3P3W | Upon request | 1.5 | 60 | 2673000 |
| DT-W72 | 72X72 | 3P4W | Upon request | 1.5 | 60 | 2674000 |

Note: Please mention voltage and watts when ordering, Reactive power meter upon request.

● SELECTION OF SYNCHROSCOPE METER

Synchroscope meter for phase comparison for single phase or three phase AC circuits, 50/60Hz.

| Ref. | Model | Frame Size(mm) | Case Qty.(Pcs) | Item Code |
|------|-------|----------------|----------------|-----------|
|------|-------|----------------|----------------|-----------|

DT-S96



Synchroscope Meter

| | | | |
|--------|-------|----|---------|
| DT-S96 | 96X96 | 48 | 2796000 |
| DT-S72 | 72X72 | 50 | 2772000 |

Note: Please mention the voltage when ordering.

● SELECTION OF PHASE SEQUENCE METER

Phase sequence mete is designed for easy testing of phase sequence in three-phase systems with a permissible operating voltage up to 500V. For short connections, not longer than 5 minutes or 15 minutes for one test, a push-button switch is placed on the front plate. A disc with an indicating arrow rotates in the direction of the arrow, if the three phases are properly connected, otherwise the disc rotates in the othe direction. By changing of two wires, the phase sequence will be corrected to corresponding designation of the terminals.

| Ref. | Model | Frame Size(mm) | Case Qty.(Pcs) | Item Code |
|------|-------|----------------|----------------|-----------|
|------|-------|----------------|----------------|-----------|

DT-PS96



Phase Sequence Meter

| | | | |
|---------|-------|----|---------|
| DT-PS96 | 96X96 | 48 | 2896000 |
| DT-PS72 | 72X72 | 50 | 2872000 |

Note: Please mention the voltage and time (15min/5min) when ordering.

● LONG SCALE METER(240°)

| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|-----------------------------|--------|----------------|------|-----------------|-------------|----------------|-----------|
| CT Operated AC Ammeter (In) | | | | | | | |
| DG-A96 | DG-A96 | 96X96 | ×/5A | 5~6000A | 1.5 | 48 | 9960000 |
| | DG-A72 | 72X72 | ×/5A | 5~6000A | 1.5 | 48 | 9720000 |



DG-V96



DG-F96



DG-PF96



DG-W96



CT Operated AC Ammeter

(In)

| | | | | | | |
|--------|-------|------|---------|-----|----|---------|
| DG-A96 | 96X96 | ×/5A | 5~6000A | 1.5 | 48 | 9960000 |
| DG-A72 | 72X72 | ×/5A | 5~6000A | 1.5 | 48 | 9720000 |

Note: ×/1A upon request, using with external CT.

Direct Input AC Voltmeter

(Vn)

| | | | | | | |
|--------|-------|---|---------|-----|----|---------|
| DG-V96 | 96X96 | - | 30~500V | 1.5 | 48 | 2996000 |
| DG-V72 | 72X72 | - | 30~500V | 1.5 | 48 | 2972000 |

Frequency Meter

| | | | | | | |
|--------|-------|------|---------|-----|----|---------|
| DG-F96 | 96X96 | 220V | 45~65Hz | 1.5 | 48 | 3196000 |
| DG-F72 | 72X72 | 220V | 45~65Hz | 1.5 | 48 | 3172000 |

Note: Please mention the voltage when ordering, our standard voltage are 110V, 220V, 380V, 415V, Special voltage upon request.

Power Factor Meter

| | | | | | | |
|---------|-------|----|-------------------|-----|----|---------|
| DG-PF96 | 96X96 | 1P | 0.5cap-1.0-0.5ind | 2.5 | 48 | 3291000 |
| DG-PF96 | 96X96 | 3P | 0.5cap-1.0-0.5ind | 2.5 | 48 | 3293000 |
| DG-PF72 | 72X72 | 1P | 0.5cap-1.0-0.5ind | 2.5 | 48 | 3271000 |
| DG-PF72 | 72X72 | 3P | 0.5cap-1.0-0.5ind | 2.5 | 48 | 3273000 |

Note: Please mention the voltage when ordering.

Power Meter

| | | | | | | |
|--------|-------|------|--------------|-----|----|---------|
| DG-W96 | 96X96 | 1P | Upon request | 1.5 | 48 | 3391000 |
| DG-W96 | 96X96 | 3P3W | Upon request | 1.5 | 48 | 3393000 |
| DG-W96 | 96X96 | 3P4W | Upon request | 1.5 | 48 | 3394000 |
| DG-W72 | 72X72 | 1P | Upon request | 1.5 | 48 | 3371000 |
| DG-W72 | 72X72 | 3P3W | Upon request | 1.5 | 48 | 3373000 |
| DG-W72 | 72X72 | 3P4W | Upon request | 1.5 | 48 | 3374000 |

Note: Please mention the voltage and watts when ordering.

● ROUND METER

| Ref. | Model | Rear Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|------------------------------|---------|---------------|------|-----------------|-------------|----------------|-----------|
| Direct Input AC Ammeter (In) | | | | | | | |
| DT-DA52 | DT-DA52 | 52 | - | 5~30A | 2.5 | 150 | 1452000 |
| DT-DA65 | DT-DA65 | 65 | - | 5~30A | 2.5 | 150 | 1465000 |
| DT-DA70 | DT-DA70 | 70 | - | 5~30A | 2.5 | 100 | 1470000 |

DT-DA65



DT-A65



DT-V52



DC-A65



DC-V52



Direct Input AC Ammeter

(In)

| | | | | | | |
|---------|----|---|-------|-----|-----|---------|
| DT-DA52 | 52 | - | 5~30A | 2.5 | 150 | 1452000 |
| DT-DA65 | 65 | - | 5~30A | 2.5 | 150 | 1465000 |
| DT-DA70 | 70 | - | 5~30A | 2.5 | 100 | 1470000 |

CT Operated AC Ammeter

(In)

| | | | | | | |
|--------|----|-------|---------|-----|-----|---------|
| DT-A52 | 52 | ×/5A* | 5~6000A | 2.5 | 150 | 1520000 |
| DT-A65 | 65 | ×/5A* | 5~6000A | 2.5 | 150 | 1650000 |
| DT-A70 | 70 | ×/5A* | 5~6000A | 2.5 | 100 | 1700000 |

* ×/1A upon request, using with external CT.

Direct Input AC Voltmeter

(Vn)

| | | | | | | |
|--------|----|---|------------|-----|-----|---------|
| DT-V52 | 52 | - | 300V; 500V | 2.5 | 150 | 1152000 |
| DT-V65 | 65 | - | 300V; 500V | 2.5 | 150 | 1165000 |
| DT-V70 | 70 | - | 300V; 500V | 2.5 | 100 | 1170000 |

Shunt Operated DC Ammeter

(In)

| | | | | | | |
|--------|----|---------|---------|-----|-----|---------|
| DC-A52 | 52 | ×/60mV* | 5~6000A | 2.5 | 150 | 4520000 |
| DC-A65 | 65 | ×/60mV* | 5~6000A | 2.5 | 150 | 4650000 |
| DC-A70 | 70 | ×/60mV* | 5~6000A | 2.5 | 100 | 4700000 |

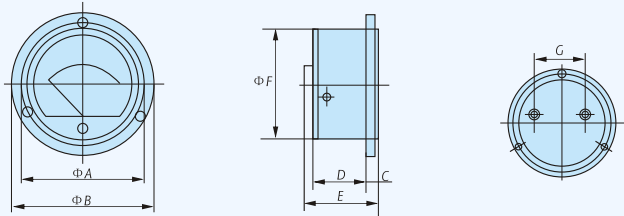
* X/50mV or X/75mV upon request, using with external DC Shunt.

Direct Input DC Voltmeter

(Vn)






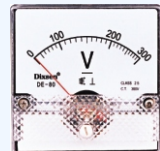
| | | | | | | |
|--------|----|---|-----------|-----|-----|---------|
| DC-V52 | 52 | - | 50mV~500V | 2.5 | 150 | 1852000 |
| DC-V65 | 65 | - | 50mV~500V | 2.5 | 150 | 1865000 |
| DC-V70 | 70 | - | 50mV~500V | 2.5 | 100 | 1870000 |

● DIMENSION

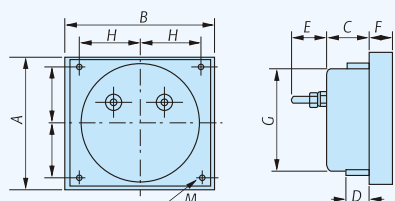


| Rear Size | Dimension (mm) | | | | | | |
|-----------|----------------|------|-----|----|------|----|----|
| | A | B | C | D | E | F | G |
| 52mm | 58 | 66.5 | 4.5 | 26 | 40.5 | 52 | 39 |
| 65mm | 73.5 | 83.5 | 4.5 | 31 | 42 | 65 | 39 |
| 70mm | 75 | 90 | 8 | 45 | 65 | 70 | 35 |

● SQUARE METER

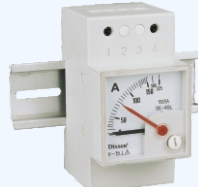
| Ref. | Model | Frame Size(mm) | Mode | Measuring Range | Class Index | Case Qty.(Pcs) | Item Code |
|---|-------|----------------|------------|-----------------|-------------|----------------|-----------|
| DT-DA50 | | | | | | | |
|  | | | | | | | |
| DT-A50 | | | | | | | |
|  | | | | | | | |
| DT-A67 | | | | | | | |
|  | | | | | | | |
| DC-DA50 | | | | | | | |
|  | | | | | | | |
| DC-A50 | | | | | | | |
|  | | | | | | | |
| DC-V50 | | | | | | | |
|  | | | | | | | |
| Direct input AC Ammeter (In) | | | | | | | |
| DT-DA50 | 50×50 | - | 5~50A | 2.5 | 200 | 1450000 | |
| DT-DA60 | 60×60 | - | 5~50A | 2.5 | 150 | 1460000 | |
| DT-DA67 | 60×70 | - | 5~50A | 2.5 | 150 | 1467000 | |
| DT-DA80 | 80×80 | - | 5~60A | 2.5 | 100 | 1481000 | |
| CT Operated AC Ammeter (In) | | | | | | | |
| DT-A50 | 50×50 | ×/5A* | 5~6000A | 2.5 | 200 | 1500000 | |
| DT-A60 | 60×60 | ×/5A* | 5~6000A | 2.5 | 150 | 1600000 | |
| DT-A67 | 60×70 | ×/5A* | 5~6000A | 2.5 | 150 | 1670000 | |
| DT-A80 | 80×80 | ×/5A* | 5~6000A | 2.5 | 100 | 1800000 | |
| * ×/1A upon request. | | | | | | | |
| Direct input AC Voltmeter (Vn) | | | | | | | |
| DT-V50 | 50×50 | - | 300V; 500V | 2.5 | 200 | 1150000 | |
| DT-V60 | 60×60 | - | 300V; 500V | 2.5 | 150 | 1160000 | |
| DT-V67 | 60×70 | - | 300V; 500V | 2.5 | 150 | 1167000 | |
| DT-V80 | 80×80 | - | 300V; 500V | 2.5 | 100 | 1180000 | |
| Direct input DC Ammeter (In) | | | | | | | |
| DC-DA50 | 50×50 | - | 50 μA~30A | 2.5 | 200 | 1750000 | |
| DC-DA60 | 60×60 | - | 50 μA~30A | 2.5 | 150 | 1760000 | |
| DC-DA67 | 60×70 | - | 50 μA~30A | 2.5 | 150 | 1767000 | |
| DC-DA80 | 80×80 | - | 50 μA~30A | 2.5 | 100 | 1780000 | |
| Shunt operated DC Ammeter (In) | | | | | | | |
| DC-A50 | 50×50 | ×/60mV* | 5~6000A | 2.5 | 200 | 4500000 | |
| DC-A60 | 60×60 | ×/60mV* | 5~6000A | 2.5 | 150 | 4600000 | |
| DC-A67 | 60×70 | ×/60mV* | 5~6000A | 2.5 | 150 | 4670000 | |
| DC-A80 | 80×80 | ×/60mV* | 5~6000A | 2.5 | 100 | 4800000 | |
| * ×/50mV or ×/75mV upon request. | | | | | | | |
| Direct input DC Voltmeter (Vn) | | | | | | | |
| DC-V50 | 50×50 | - | 50mV~500V | 2.5 | 200 | 1850000 | |
| DC-V60 | 60×60 | - | 50mV~500V | 2.5 | 150 | 1860000 | |
| DC-V67 | 60×70 | - | 50mV~500V | 2.5 | 150 | 1867000 | |
| DC-V80 | 80×80 | - | 50mV~500V | 2.5 | 100 | 1880000 | |

● DIMENSION



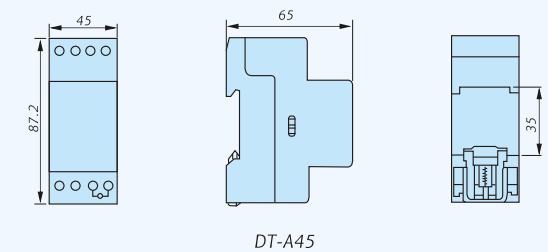
● SELECTION DIN RAIL METER


DIN rail meters are adapted for a fast assembly rail mounting (35mm rail).

| Ref. | Model | Mode | Measuring Range | Class Index | Case Qty. (Pcs) | Item Code |
|---|---|-------|-----------------|-------------|-----------------|-----------|
|  | DIN Rail Direct Input AC Ammeter | | | | | |
| | DT-DA45 | - | 1~10A | 1.5 | 200 | 1445000 |
| | DIN Rail CT operated AC Ammeter | | | | | |
| | DT-A45 | X/5A* | 5~6000A | 1.5 | 200 | 2450000 |
| | Din Rail Direct Input AC Voltmeter | | | | | |
| | DT-V45 | - | 100~500V | 1.5 | 200 | 1145000 |

* ×/1A upon request.

● DIMENSION

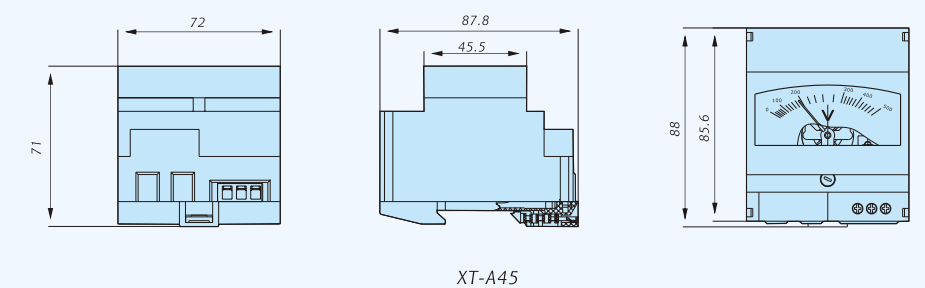


| Ref. | Model | Mode | Measuring Range | Class Index | Case Qty. (Pcs) | Item Code |
|---|---|-----------|-----------------|-------------|-----------------|-----------|
|  | DIN Rail Direct Input AC Ammeter | | | | | |
| | XT-DA45 | - | 1A~10A | 1.5 | 200 | 3845000 |
| | DIN Rail CT operated AC Ammeter | | | | | |
| | XT-A45 | X/5A* | 5~6000A | 1.5 | 200 | 3945000 |
| | Din Rail Direct Input AC Voltmeter | | | | | |
| XT-V45 | - | 100V-600V | 1.5 | 200 | 4045000 | |

* x/1A upon request.

* ×/1A upon request.

● DIMENSION



● SELECTION HOUR METER

Elapsed time meter monitor ON/OFF time of plant and equipment allowing the user to perform functions such as Production Efficiency Cost Estimating and Service Period monitor-ink for preventatives maintenance etc. The time is measured in instrument of 0.01hrs up to 99999.99 hrs after which time the meter resets to zero. Non-reset table to prevent accidental resetting.
SYS elapsed time meter is suitable for usage of House, Industry, Air condition, etc.

| Ref. | Model | Frame Size (mm) | Measuring Range | Case Qty. (Pcs) | Item Code |
|------|-------|-----------------|-----------------|-----------------|-----------|
|------|-------|-----------------|-----------------|-----------------|-----------|

DT-H96



DT-H48



SYS



HM-1



HM-1 c/w adapter



Elapsed Time Meter

| | | | | |
|--------|-------|-------------|-----|---------|
| DT-H96 | 96X96 | 99999.99Hrs | 48 | 4196000 |
| DT-H72 | 72X72 | 99999.99Hrs | 48 | 4172000 |
| DT-H48 | 48X48 | 99999.99Hrs | 200 | 4148000 |

| Model | Control Voltage | Measuring Range | Case Qty. (Pcs) | Item Code |
|-------|-----------------|-----------------|-----------------|-----------|
|-------|-----------------|-----------------|-----------------|-----------|

Elapsed Time Meter

| | | | | |
|-----|-----------------|-----------|-----|---------|
| SYS | DC12~36V/30~60V | 9999.9Hrs | 150 | 4200000 |
|-----|-----------------|-----------|-----|---------|

| Model | Frame Size (mm) | Measuring Range | Case Qty. (Pcs) | Item Code |
|-------|-----------------|-----------------|-----------------|-----------|
|-------|-----------------|-----------------|-----------------|-----------|

Elapsed Time Meter

| | | | | |
|------------------|-------|-----------|-----|---------|
| HM-1 | 45X45 | 9999.9Hrs | 200 | 4310000 |
| HM-1 c/w adapter | 72X72 | 9999.9Hrs | 200 | 4320000 |

Note: Please mention the voltage when ordering, we offer two different voltages: 220-240VAC and 24VDC.

● DIMENSION

