# FIELD MEASURING INSTRUMENTS FOR PV SYSTEMS

## INSULATION RESISTANCE TESTERS

## MIS-PV SERIES PATENT PENDED

Three Models Line-up according to the applications

### MIS-PV1

PV OK | 2 RANGE

- Can measure accurately during PV generating
- Safety – no need to short-circuit P & N phase
- Measurable from AC circuit to PV panels
- Switchover 2 ranges – 500/1000V

### MIS-PV2

PV OK | 4 RANGE | AC VOLT

- Can measure accurately during PV generating
- Safety – no need to short-circuit P & N phase
- Measurable from low voltage circuit to PV panels
- Can measure AC voltage (AC0～599V)
- Switchover 4 ranges - 125/250/500/1000V

### MIS-PVS

PV OK | 2 RANGE | DC VOLT | DETERIO RATION

- Can measure accurately during PV generation
- Safety – no need to short-circuit P & N phase
- Measurable from AC circuit to PV panels
- With function to judge deterioration point (only for solar panel measurement)
- Measurable generated voltage (DC0～999V)
- Switchover 2 ranges – 500/1000V



FIELD MEASURING INSTRUMENTS FOR PV SYSTEMS

FOR PV SYSTEMS

## DIFFERENCE FROM ORDINARY INSULATION RESISTANCE TESTERS

Generally, PV systems are generating powers always during day time and the measurement of insulation resistance should be done under live line conditions.
In case of ordinary resistance testers, the generated voltage will have an influence on measured values and in addition, there is a possibility that the tester might be damaged caused by superimposed voltage.
In order to solve this problem, there is a measuring method by short-circuit of P & N phase but it is necessary to prepare the short-circuit breaker, etc. and there is possible danger that electric arcs happen by mis-operation.
MIS-PV series have been developed by taking the above matters into consideration and can measure insulation resistance accurately & safely even during PV generation without short-circuit by its unique designs.
By using MIS-PV series, safer and more efficient works for insulation resistance measurement of PV generating panels can be realized.

## SPECIFICATIONS

| | | | | |
|---|---|---|---|---|
| RATED VOLTAGE EFFECTIVE | MIS-PV1/MIS-PVS(500/1000V) MIS-PV2(125/250/500/1000v) | | | |
| | 125V | 250V | 500V | 1000V |
| MAX. DISPLAY | 20MΩ | 50MΩ | 100MΩ | 2000MΩ |
| CENTER | 0.5MΩ | 1MΩ | 2MΩ | 50MΩ |
| FIRST EFFECTIV | 0.02MΩ～10MΩ | 0.05MΩ～20MΩ | 0.1MΩ～50MΩ | 2MΩ～1000MΩ |
| TOLERANCE | Less than ±5% | | | |
| SECOND EFFECT. | 0.01MΩ～less 0.02MΩ Over 10MΩ～20MΩ | 0.02MΩ～less 0.05MΩ Over 20MΩ～50MΩ | 0.05MΩ～less 0.1MΩ Over 50MΩ～100MΩ | 1MΩ～less 2MΩ Over 1000MΩ～2000MΩ |
| TOLERANCE | Less than ±10% | | | |
| DETERIORATION (ONLY MIS-PVS) | Deterioration point will be displayed on LCD in case of insulation resistance less than 1MΩ. ※Only during measurement of PV panels, indicate P or N phase and or between modules. | | | |
| AC VOLTAGE(ONLY MIS-PV2) | | | | |
| RANGE | AC0～599V (Min. Resolution 0.1V) | | | |
| TOLERANCE | ±1.5%rdg±10dgt | | | |
| DC VOLTAGE(ONLY MIS-PVS) | | | | |
| RANGE | DC0～999V (Min. Resolution 0.1V) | | | |
| TOLERANCE | ±1.5%rdg±10dgt | | | |

## GENERAL

| | |
|---|---|
| DISPLAY RANGE | 3.200MΩ/32.00MΩ/320.0MΩ/3200MΩ (4 Range Auto) |
| OTHER FUNCTIONS | OVER RANGE DISPLAY, DATA HOLD, AUTO POWER OFF, BACKLIGHT, LOW BATTERY DISPLAY, AUTO DISCHARGE |
| STANDARD | JIS C 1302 Equivalent |
| OPERATING TEMP. | 0～40℃, less than 80%RH (without condensing) |
| POWER SUPPLY | 1.5V (AA size, LR6) alkali battery×6 pcs. |
| DIMENSION/WEIGHT | 170(W)×105(D)×52(H)㎜, approx. 350g (without batteries) |
| ACCESSORIES | MIS-PV1 : Line Cord×1, Earth Cord×1, Case for Cords<br>MIS-PV2 : Line Cord×1, Earth Cord×1, Hard Case for Instrument×1<br>MIS-PVS : Line Cord×2, Earth Cord×1, Hard Case for Instrument×1<br>Common : Insulation Cap×1, Belt×1, LR6 battery×6, Instruction Manual×1 |