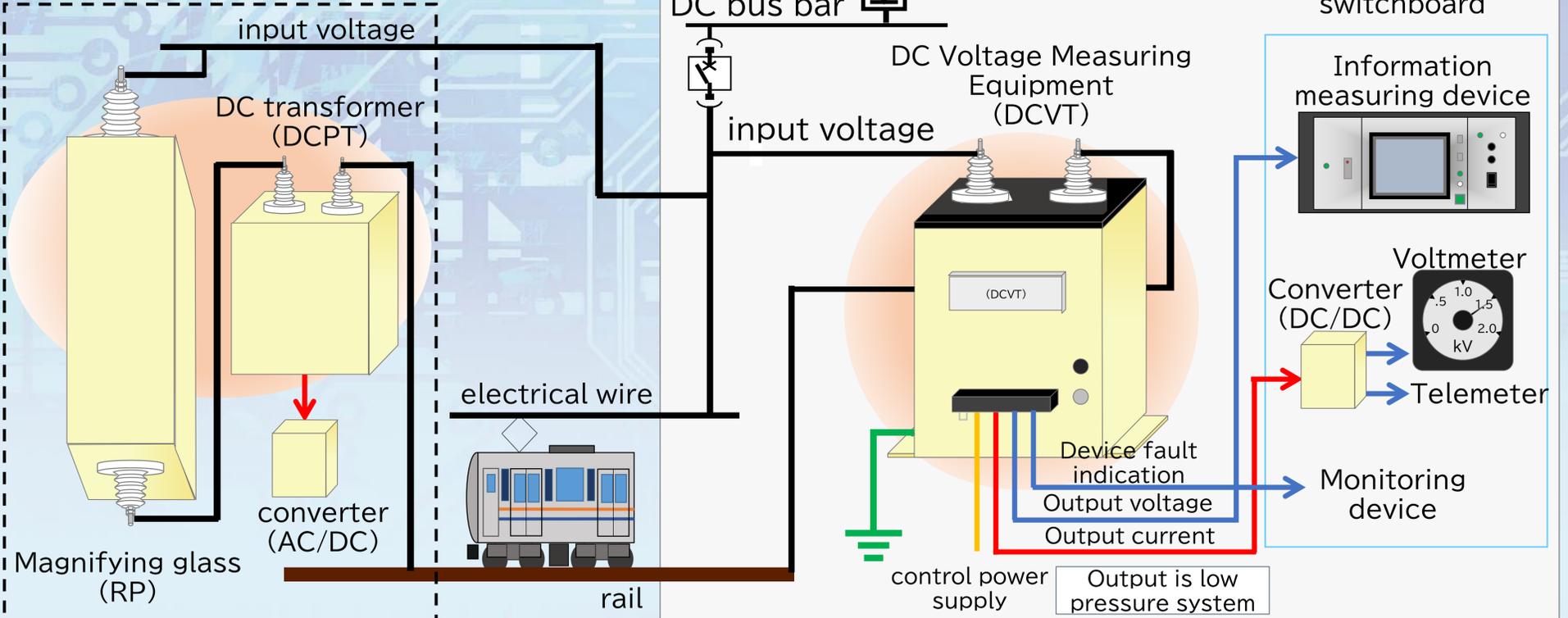


# DC Voltage Measuring Equipment (DCVT)

DC-Voltage-Measuring Equipment (DCVT) is the voltage measuring equipment to measure the feeder voltage. The voltage between the wire and the rail is input to the device and the converted output is obtained through the high resistance and insulation circuit in the device. This device obtains the voltage output proportional to the input voltage and the current output.

Previously two units required, now only one combined unit can work (DCPT+RP→DCVT)

## Conventional product



## Purpose and role of the device

In the past, DC transformers (DCPTs), multipliers (RPs), and converters (SBs, REBs) were used in combination to measure the feeder voltage, but we have developed the DC feeder voltage measurement device (DCVT) packed in a single package to meet the needs for downsizing of DC feeder cubicles.

In addition, the lightning resistance has been improved in order to respond to recent lightning damage countermeasures.

## Miniaturization and Light weight

Our new compact device one unit is equivalent to our conventional installation of two DC transformers (DCPT) and two multipliers (RP). It is possible to reduce the size, weight and space required. (Compared to the conventional system: 1/4 the volume and 1/4 the weight)

## Improvement of electrical insulation performance

The input circuit section and output circuit section are completely isolated from each other. The lightning impulse withstand voltage of the input terminal is secured at 30kV. (Conventional model: 20kV)

## Energy saving

Comparing the use of our conventional two-unit combination of a direct current transformer (DCPT) and a multiplier (RP) with the new model, the power consumption has been significantly reduced. (99% reduction compared to conventional models)

## Improved responsiveness

Compared with our conventional DC transformers (DCPT) and multipliers (RP), the new model can follow step changes and has improved input voltage reproducibility.

## Monitoring the status of the supply voltage

We also have a DC line voltage detector (separate product) that can monitor the pressurized state of the line voltage with an output contact.



## DC-Voltage-Measuring Equipment (DCVT)

| Type                          | PTMF-2  |
|-------------------------------|---|
| Input voltage                 | DC ±2000V   |
| Input resistor                | Approx. 2 MΩ  |
| Output current                | DC ±8mA (Load: 1kΩ or less)   |
| Output voltage                | DC ±10V (Load: 10kΩ or more)<br>or<br>DC ±6.67V (Load: 10kΩ or more)<br>(Output voltage DC5V at input voltage DC1500V)  |
| Fault indication of Device    | Control power "OFF" or<br>Display output (closed circuit) when the power supply of the circuit in the device is "OFF"<br>Contact configuration : 1b<br>Contact capacity : DC125V 0.2A (Resistance load) |
| Accuracy                      | ±1.0% (FS, but 2000V equivalent to be FS)   |
| Ripple noise                  | 100mVp-p or less  |
| Response time (Step Response) | 2ms<br>(From when input voltage 1500V is applied until output value reaches 90%)  |
| Control power supply          | AC200/210V (-15%, +10%) 50/60Hz (±2Hz)<br>or<br>AC100/110V (-15%, +10%) 50/60Hz (±2Hz)  |
| Dimensions/Weight             | H413mm x W254mm x D152mm / Approx. 7.0kg  |



**PTMF-2**

## DC Voltage Detecting Equipment (VD)

| Type                               | YFV-8   |          |
|------------------------------------|---|----------|
| Input voltage                      | DC 2000V  | DC 1000V |
| Input resistor                     | Approx. 2 MΩ  |          |
| Set voltage (Detection voltage)    | DC 1000V  | DC 500V  |
| Accuracy (Detection voltage)       | ±5% or less   |          |
| Set voltage (Released voltage)     | DC 800V   | DC 400V  |
| Accuracy (Released voltage)        | ±10% or less  |          |
| Fault indication of Device         | Control power "OFF" or<br>Display output (closed circuit) when the power supply of the circuit in the device is "OFF"<br>Contact configuration : 1b<br>Contact capacity : DC125V 0.2A (Resistance load) |          |
| Operating time (Detection voltage) | 50ms or less<br>(When inputting 0% to 120% of detectable voltage)   |          |
| Operating time (Released voltage)  | 50ms or less<br>(When inputting 120% to 0% of return voltage)   |          |
| Control power supply               | DC100/110V<br>(DC80V to 130V)   |          |
| Dimensions/Weight                  | H413mm x W254mm x D152mm / Approx. 7.0kg  |          |



**YFV-8**

