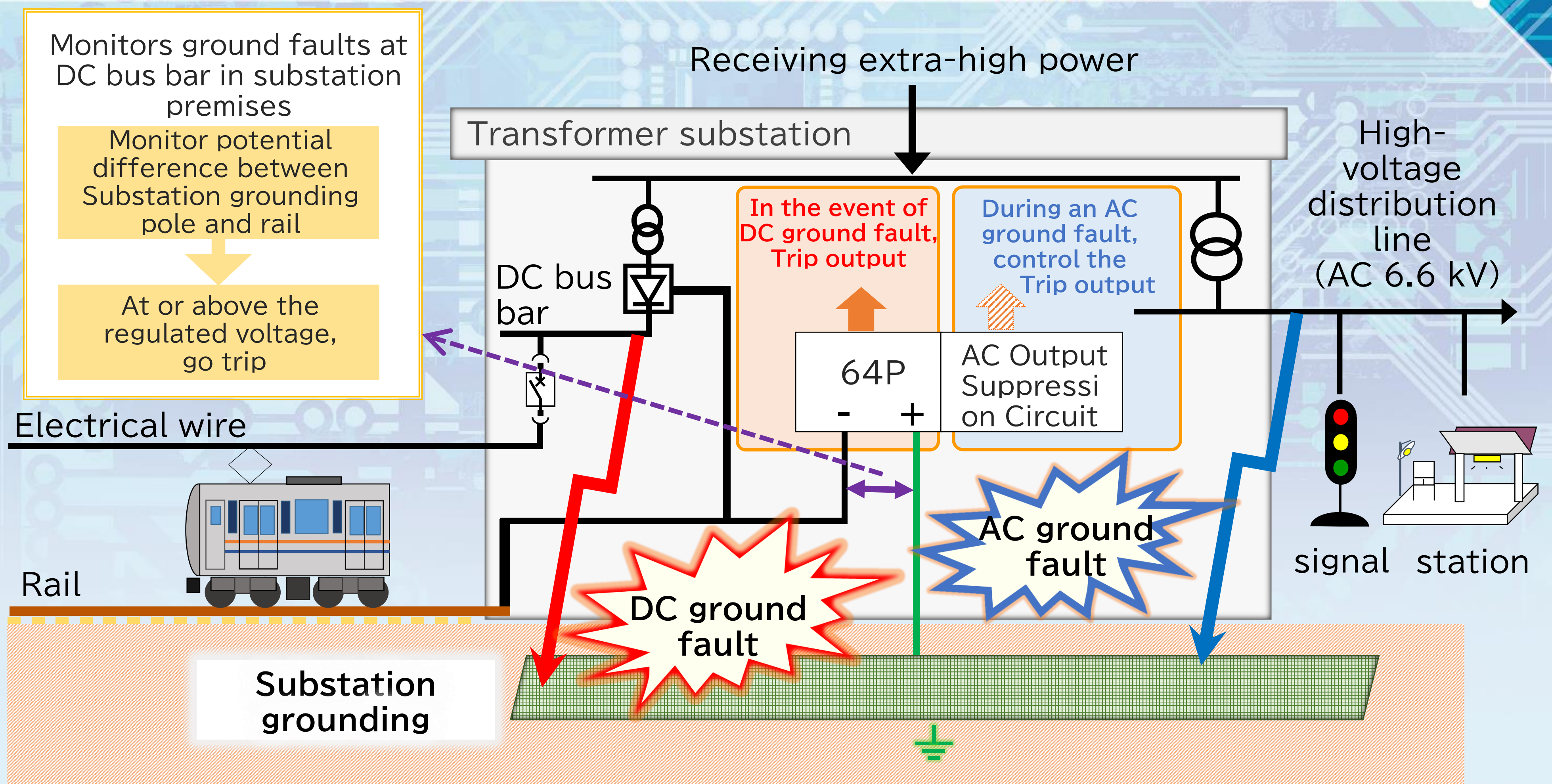


DC Ground Fault Protective Relay (64P)

By monitoring the potential difference between the substation ground pole and the rail, this device detects DC bus line ground faults in the substation premises for DC electric railways and protects substation equipment.



Purpose and the role of equipment

In the event of a ground fault accident at the substation premises, it is necessary to shut down the supply of electricity from the substation to the trains. This device monitors the voltage at the grounding pole (grounding mat) and the negative return line (rail), and the relay operates and outputs the point of contact if the voltage exceeds a predetermined value.

No control power supply required

Since no control power supply is required, relay operation is ensured even in the event of power loss in the plant.

Suppresses unwanted operation of lightning surge

The built-in discharge circuit suppresses unwanted operation due to lightning damage, etc.

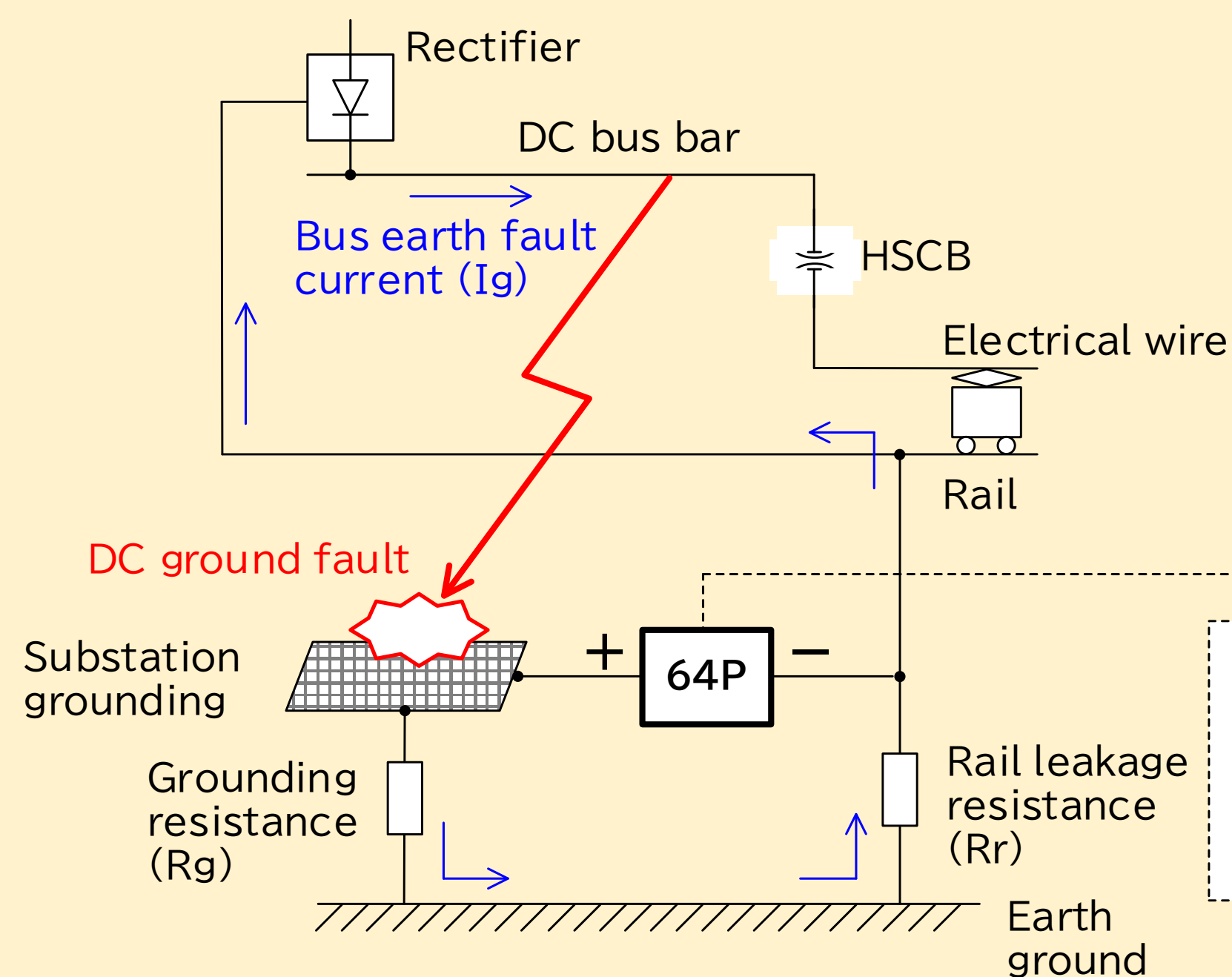
Suppression of Unwanted operation for AC ground fault

The built-in AC/DC ground-fault discrimination circuit and AC suppression filter circuit ensure that unwanted operations caused by AC ground faults can be avoided. A 64P (separate product) with AC ground-fault operation suppression is also available.

We can also customize the system to meet your requirements.



Operating principles

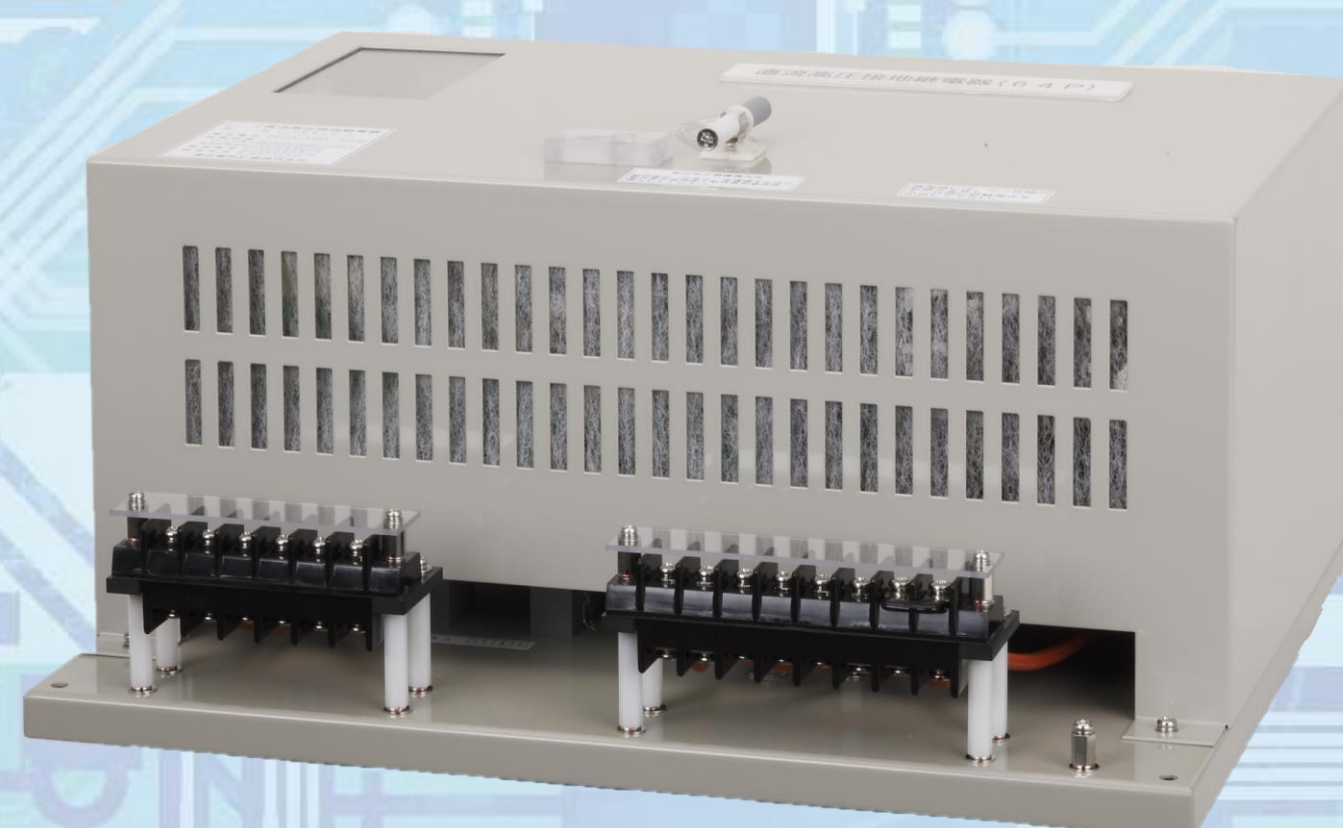


In the event of a ground fault on the DC bus bar Substation, High voltage between grounding pole and negative return line (rail) is generated.

When the electric potential is above the settling voltage between substation ground pole and negative return line (rail), the relay operates and outputs a contact point.

Voltage of $I_g \times (R_g + R_r)$
 I_g : Bus earth fault current
 R_g : Grounding resistance
 R_r : Rail leakage resistance

Model	YRV-2	YRV-2-2	YRV-2L	YRV-3
Voltage Rating	1500V		750V/600V	1500V
Constant Voltage	400V/500V/600V	300V/400V/500V	200V/250V/300V	400V/500V/600V
Tolerance (ambient temperature 25°C)	Within ±5% of each regulated voltage		Within ±10% of each regulated voltage	Within ±5% of each regulated voltage
Released voltage	80% or less of each regulated voltage			
Control power supply	unnecessary			
Ambient temperature/humidity	-10°C to 40°C / 30% to 80%RH (with no condensation)			
Operating Time	Within 20ms (when 110% of each regulated voltage is input)		Within 80 to 160 ms (when 110% of each regulated voltage is input)	
Action Indication	White (Returned with the attached operating indicator return stick)			
Lightning impulse withstand voltage	Between terminals batch and G (case) ±20kV +, -, A, B, C terminals to other terminals ±20kV +,A terminal to -,B,C terminal ±20kV			
Output contact capacity	Contact output 2a Energizing capacity DC 110V 3A (resistive load) Interrupting capacity DC110V 0.4A (resistive load)			
Dimensions Mass Coating color	350mm x 400mm x 194.5mm (H x W x D) Approx. 7.4kg 5Y7/1		620mm x 407mm x 221.5mm (H x W x D) Approx. 15kg 5Y7/1	



YRV-2

