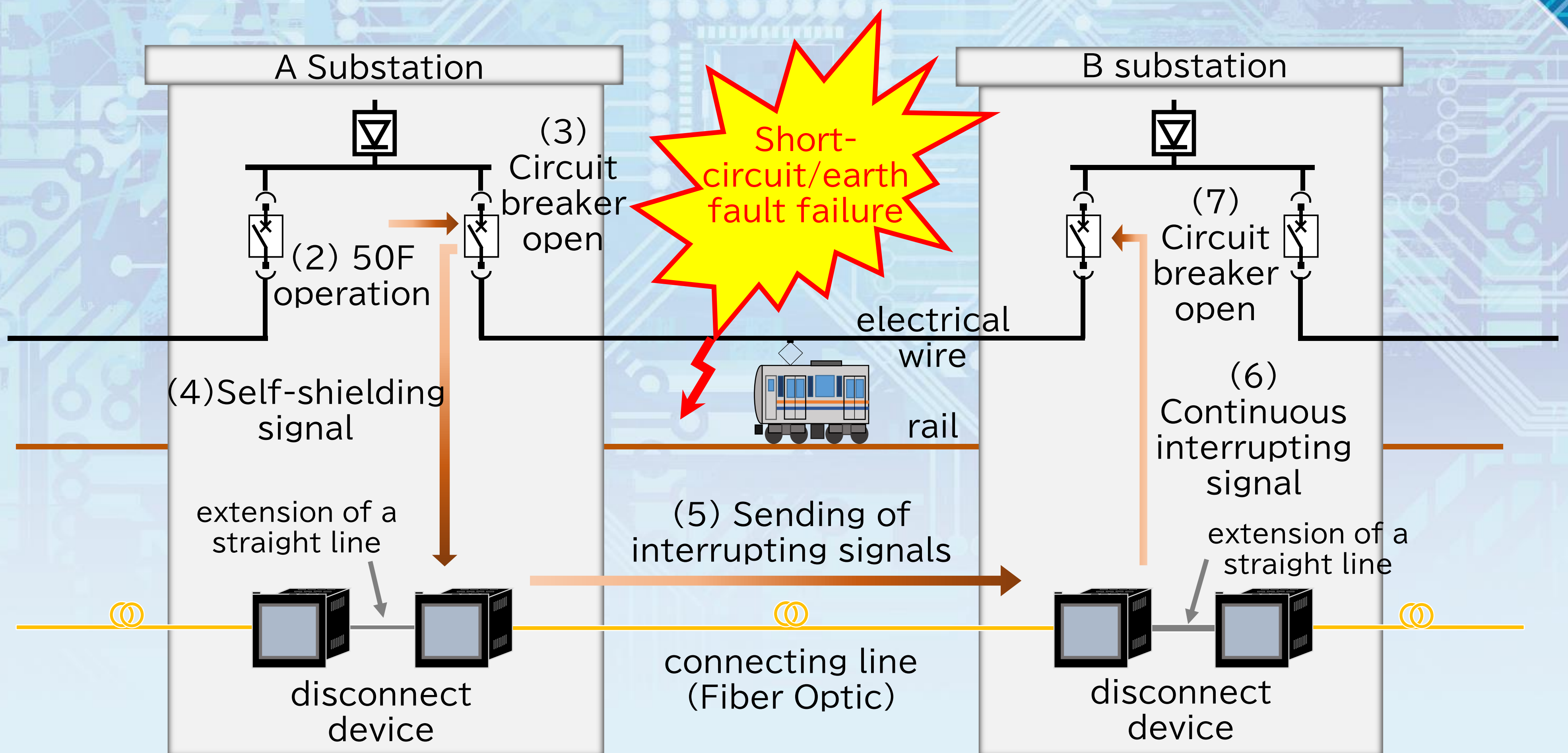


Breaking Device of Feeding Circuit (Optical Transmission Type)

This is a device that prevents the spread of damage between substations for DC electric railways by quickly shutting down the circuit breaker of the opposite substation when the circuit breaker is opened by detecting a fault in 50F or 54F. High noise immunity and high speed communication are realized by using optical communication.



Purpose and role of the device

The liaison breaker is the device that prevents the spread of damage by quickly communicating with the circuit breaker of the opposing substation when a fault is detected in 50F or 54F and the circuit breaker is opened between substations for DC electric railways. In this device high noise immunity and high speed communication are realized by optical communication between contact blocking devices.

Support for power generation system

The liaison interrupter can be used for liaison interrupting between opposing substations, liaison interrupting at three points in T feeders, and liaison interrupting in extended feeders.

Maintenance and inspection functions

The following functions are provided to improve the efficiency of maintenance and inspection. In addition, Function 2 and 3 can be performed by available working personnel at substation.

Function 1: Self-monitoring function

The system constantly monitors itself during operation (power monitoring, output circuit check, etc.) and sends the alarm to the outside in case of equipment failure.

Function 2: Air control test

By switching to the test mode, it is possible to perform communication tests with opposing devices and input/output functions without opening the circuit breaker.

Function 3: Actual test

Inspection with actual opening of circuit breaker is always available.

Equipment Compatibility

This has the same function as our conventional type (integrated transport type contact breaker) except for the contact line. The same external dimensions and terminal arrangement make it easy to replace existing equipment.



High noise immunity by optical fiber

High immunity to communication errors caused by noise superimposition on the contact line

High-speed communication by optical communication

High-speed optical communication reduces transmission time to less than half of conventional equipment, which enables rapid opening of circuit breakers in opposing substations.

Easy to perform health-check of the equipment

Inspection of input/output functions (empty control test) can be carried out by entering at only one substation.

Compatible with our conventional equipment

Compatibility is ensured in terms of input/output functions, external dimensions, and terminal arrangement, which enables the use of the space as same as existing equipment when updating equipment.

Panel design that pursues operability

The panel design has been renewed from conventional equipment

type	HRO-21H-1	HRO-22H-1	HRO-23H-1
linked	Corresponding to each customer's specifications		West Japan Railway Specifications
reclose function	Yes	No	Yes
transmission time	50ms or less (at all times)		
transmission distance	20km or less However, the cable loss shall be 0.5dB/km. Excluding attenuation due to connector splicing and optical fiber fusion		
conforming fiber	1 single-mode fiber optic cable SM 10/125 1 core		
Applicable connectors	SC connector F04 type single-core optical fiber connector (JIS C 5973)		
input signal	DC100/110V 10mA or less		
Output contact capacity	DC100/110V 100mA		
control power supply	DC100V/110V (variation range DC80 to 132V)		
Dimensions/Mass	H246mm x W280mm x D265mm / Approx. 8kg		



HRO-21H-1

