

# NEW PRODUCTS

## FUJI RECTIFIER-TYPE NETWORK RELAYS

A rapid increase in electric power consumption has accompanied the expansion of industrial and urban districts and the increase in buildings and population. Electricity plays an essential role in modern daily living and a power failure can cause serious social loss and dismay.

Therefore,

- large capacity and
- high reliability

are primary power distribution system requirements. High-capacity high-reliability low-voltage economical-network distribution systems are being widely used to meet these requirements. These distribution systems are centered around network protectors consisting of air circuit breakers, protector fuses and network relays which permit rapid control of circuits in response to circuit conditions. These devices contribute mightily to the primary objective of high reliability. Network relays, which perform the primary functions of network protection, are especially important.

Therefore they must be

- highly reliable
- highly sensitive
- highly accurate
- compact and easy to handle
- vibration and shock resistant
- weatherproof

The design of Fuji Network Relays is based on Fuji Electric's unique rectifier-type direction relay techniques and amply satisfy all of the above requirements. These relays can not only be used in ordinary star network circuits but also in different-capacity delta and V network circuits which may produce characteristic phenomena.

### General Description of Network Distribution Installation

#### (1) Construction

Fig. 1 illustrates a network distribution system employing network relays. This system consists of the following items:

- transformers
- network protectors
- network bus lines
- take-off fuse

#### (2) Function

The network distribution system insures failure-free power distribution through the response of the network relays of the individual lines to line

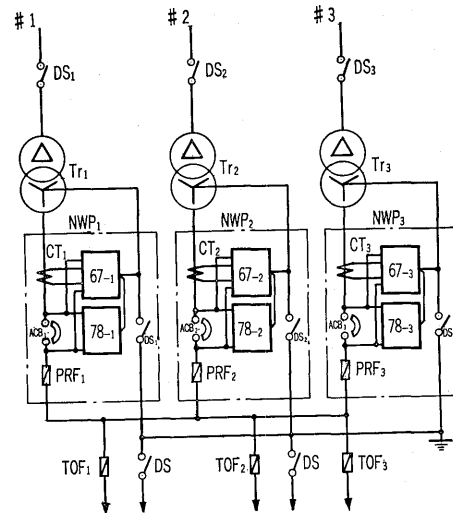
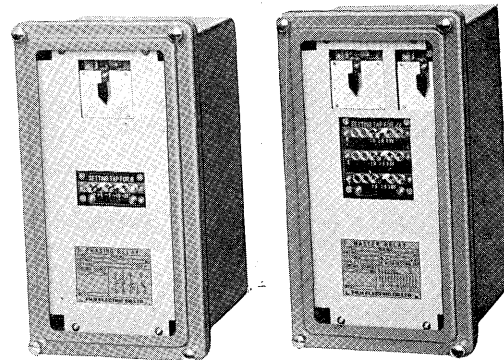


Fig. 1.



Phasing relay

Master relay

conditions to automatically isolate and reset the respective lines.

- Referring to the circuit in Fig. 1 in which the No. 1 line has failed, the network relay detects the reverse power and the line is disconnected from the  $Tr_1$  circuit.
- Since the power is supplied to the load through the network bus lines connected in the secondary circuit, the load circuits are free from power failure.
- When the voltage of the primary circuit of disconnected transformer  $Tr_1$  recovers and conditions are satisfied, the line is automatically connected by the network relay.