

Features

- Detects single-, two-, or three phase fuse failure in less than 8 ms
- Operates fast to block high-speed distance relay tripping in case of fuse failure
- Needs no auxiliary power supply
- Output contacts for alarm
- LED indicated operation

Application

The FFR relay operates for single phase, two- and three phase fuse failures in the supervised circuits and for an interruption in any of the cables or their associated fuses.

enough to inhibit the undesired operation of high speed distance relays that could otherwise occur.

When a fuse blows the relay operates fast

The FFR relay can be connected to a voltage transformer secondary as shown in the figure 1.

Design

FFR makes use of the principle of instantaneous amplitude comparison of two voltages. This is achieved with two voltages, one before the fuse and other after the fuse. These two are compared in a transformer having a common magnetic loop.

The common point of the two windings is connected to neutral through a series resistor.

FFR consists of three transformers and a common PCB mounted with rectifiers, reed relays and LEDs on RX4 base.

Under normal operating conditions, the two voltages give rise to zero resultant voltage, thus no operation of the relay. When the fuse blows out, the neutralising effect is lost, hence the relay operates.

The relay operation for blown fuse is indicated by LEDs. The blown fuse indication will be reset after replacing the fuse.

Advantages:

This operation is achieved by means of a special transformer which not only provides an isolation between the main PT circuit and electronic circuit, but also becomes an instantaneous amplitude comparator. It has two primary windings and one secondary stepped down to the required operating voltage of the aux. relay.

1. The operation of the relay is irrespective of the load and source impedances.

2. Instantaneous operation of the relay provides immediate blocking of distance protection.

3. Relay has steady operation irrespective of voltage fluctuations.

Type FFR
Fuse failure supervision relay

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Technical Data

Rated Voltage U_n	: 110 V phase-to-phase (63.5V phase to ground)	HFD test (type test)	
Rated frequency	: 50 Hz	Common Mode	: 2.5KV, 1 MHz, 2 secs.
Permissible voltage variation	: $\pm 20\%$ of U_n	Transverse Mode	: 1.0 KV, 1 MHz, 2 secs.
Permissible Ambient Temperature	: -25°C to 55°C	Contact Data	
Operating time	: ≤ 8 ms.	Contact Rating	: 10W DC/10VA AC
Burden	: 2.6 VA per phase	Max. Switched Current	: 0.5A DC/AC
Insulation test	: 2 KV, 50 Hz, 1 min.	Max. Carrying Current	: 1.0A DC/AC
Impulse test (type test)	: 5 KV, 1.2/50 μ secs. 0.5 Joule	Max. Switched Voltage	: 400 V DC/AC peak.
		Break down voltage	: 600V DC (Across contact)
		Size	: 4s, 12c
		Dimension	: L x B x H 83 X 162 x 145 mm
		Contact configuration	: 2 NO or 1 NO + 1 NC

Ordering Details

Fuse Failure Supervision Relay
 Specify

* Circuit Diag No: 1MYN563005CA

Mounting and Connection:

* See 1MDB14300-YN

Ordering No.	Contact Configuration	Rating	Size
1MYN563005-A	2 NO contacts	110V, 50 Hz	4s,12c
1 MYN563005-B	1 NO + 1 NC contacts	110V, 50 Hz	4s,12c

Terminal Diagram

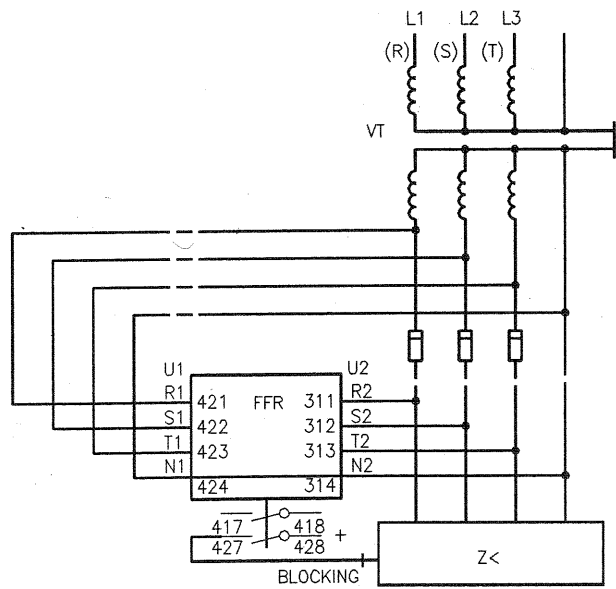


Fig. 1 : TYPICAL APPLICATION