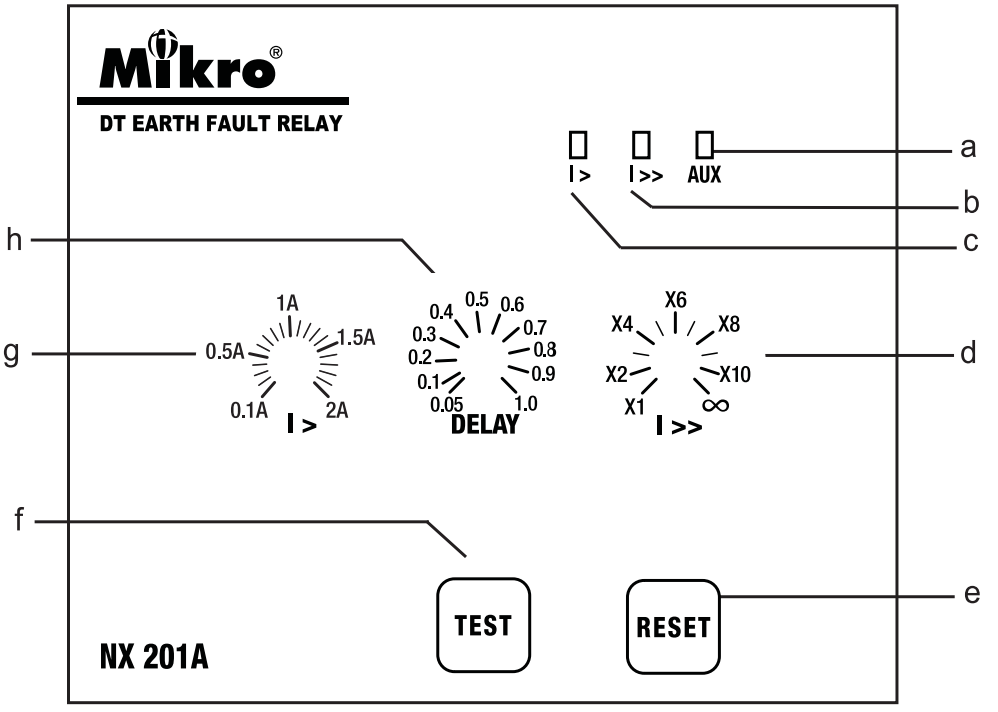
NX201A DT Earth Fault Relay User's Guide

A BRIEF OVERVIEW



a - Auxiliary power supply indicator

b - High-set start/trip status indicator

c - Low-set start/trip status indicator

d - Earth-fault high-set adjustment

e - Trip reset button

f - Test button

g - Earth-fault low-set adjustment

h - Delay time adjustment

TECHNICAL DATA

1. Current and Time Adjustments

Earth-fault Low-set Current (I>) Adjustment

- This adjustment is for setting the minimum earth-fault current for tripping. If the measured current exceeds this threshold value, tripping starts. After a prefixed delay time determined by the DELAY adjustment, the trip contacts will be activated.
- The setting range is from 0.1A to 2A.

Earth-fault High-set Current (I>>) Adjustment

- This adjustment is for setting the instantaneous tripping current due to an earth-fault.
- The setting range is from 1x to 10x of the earth-fault low-set setting value.
  I>> = a x I>, a = 1 to 10
- This high-set feature can be disabled by setting the tripping current to infinity (∞)

Time Delay (DELAY) Adjustment

- This time delay setting is for setting the delay time from the start of the earth-fault low-set tripping to actual tripping of the relay contact.
- The setting range is from 0.05 sec to 1.0 sec.

2. Light Indicators

The light indicators display the status of the system.

Indicator			Status
AUX	I>	I>>	
Off	Off	Off	No auxiliary power supply.
On	Off	Off	System normal mode. No tripping.
On	On	Off	Earth-fault low-set start.
On	Blink	Off	Earth-fault low-set tripped.
On	Off	On	Earth-fault high-set start.
On	Off	Blink	Earth-fault high-set tripped.

IMPORTANT

The setting for this relay is a potentiometer knob or analogue/mechanical in nature. User will need to confirm the accuracy of the settings by using a calibrated current injector and injecting a reference current and check the pick up value and the tripping timing during commissioning. To have a precise setting model, user can consider to switch to digital setting type protective relay.

3. Push Buttons

Reset Button

- The reset button is for resetting the light indicators (I> or I>>) after an earth-fault tripping has occured.
- To reset, press the reset button once.

Test Button

- Test button is for checking the relay operation.
- Press and hold test button for 3 seconds to simulate an earth-fault low-set and high-set trip condition.
- Relay will trip and indicators I> and I>> turn ON when the test button is pressed.
- To reset, press the reset button once.

4. Trip Contacts

There is one set of tripping contacts namely, R1.

R1 - Manual Reset Type

- This contact (R1) is activated during an earth-fault trip. the contacts remain activated regardless of the removal of fault current. This relay can only be reset by pressing the “RESET” button.

5. Electrical Specification

Auxiliary Supply
NX201A-240A.....198~265 VAC
NX201A-110A.....94~127 VAC
Supply frequency.....50Hz
VA rating.....3 VA typical

Trip Contact
Rated Voltage.....250 VAC
Continuous carry.....5A (cos φ = 1.0)
Expected electrical life.....100,000 operations
Expected mechanical life.....5 million operations

Setting Ranges
Low-set (I>).....0.1A to 2.0A
2% to 40%
Low-set delay time (DELAY).....0.05 sec to 1.0 sec
High-set (I>>).....I > to 10x I> or disable
High-set delay time (t>>).....instantaneous

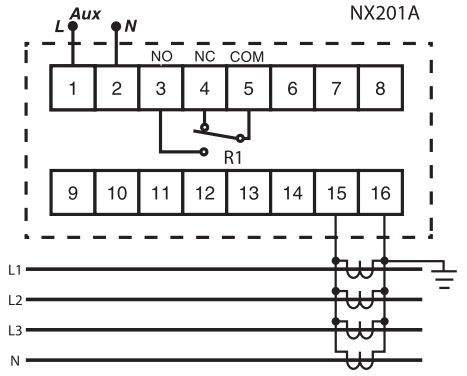
Indicators
Auxiliary supply.....Green LED indicator
Pick-up.....Red LED indicator
Trip.....Red LED indicator

6. Mechanical

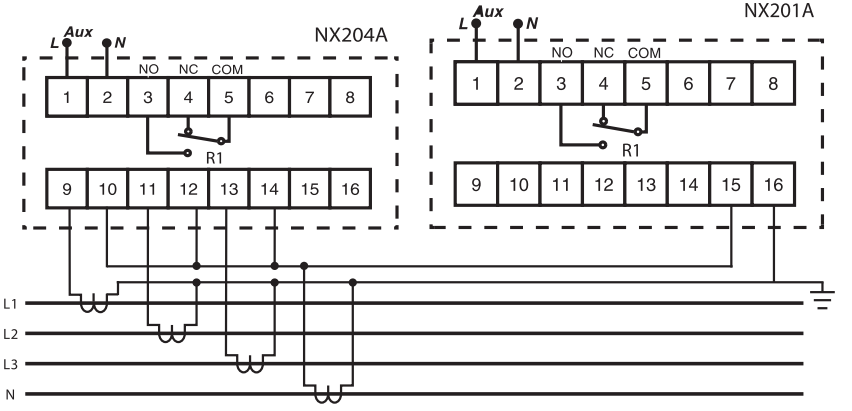
Mounting.....Panel mounting
Front panel.....Standard DIN 96x96 mm
Approximate weight.....0.6 kg

7. Connection Diagram

a) Earth fault relay



a) Combined overcurrent and earth fault relays



8. Case Dimensions