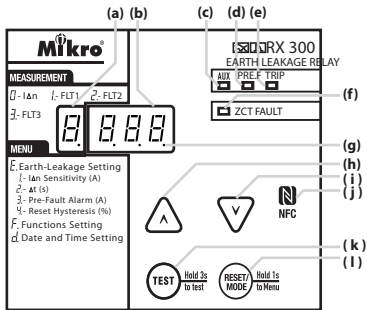


RX300 Earth Leakage Relay User Guide

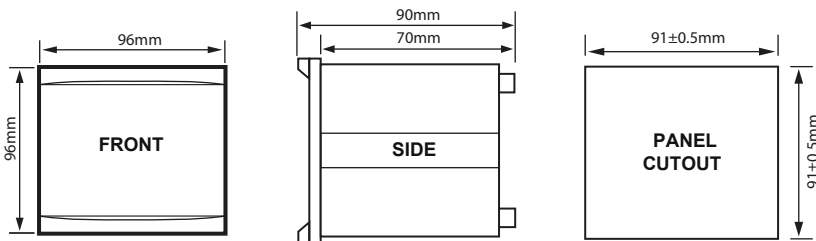


- (a) Function indication
- (b) Data indication
- (c) Auxiliary power supply indicator
- (d) Pre-fault indicator
- (e) Trip status indicator
- (f) ZCT fault indicator
- (g) mA indicator
- (h) Up button
- (i) Down button
- (j) NFC detection area
- (k) Test button
- (l) Reset/Mode button

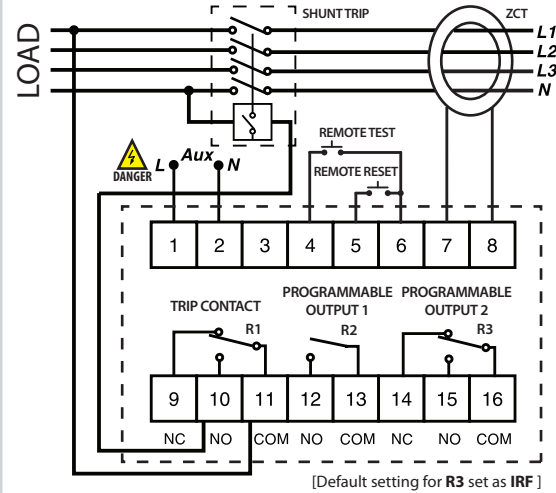
Features

- Built-in NFC for reading and setting parameters through mobile app
- Real-time monitoring of system condition
- Built-in self test and soft recovery watchdog
- Internal relay failure (IRF) alarm for system abnormalities
- Time stamp event record of power failure and setting changes up to 120 events
- Time-stamp record of up to 30 faults and 30 pickups
- Selectable 50 or 60 Hz frequency
- Selectable fundamental or true RMS measurement
- Programmable Output Contacts
- Detection of no connection to ZCT
- Protected against nuisance tripping
- Remote reset and test function
- Incorporated fail-safe feature into trip contact

Case Dimensions



Typical Application Diagram



Technical Data

Auxiliary Supply

Supply Voltage.....	198 ~ 265VAC
Supply Frequency.....	50 or 60Hz
VA Rating.....	3VA max

Accuracy

Protection Thresholds.....	-15% to 0%
Time Delay.....	±3% or 40ms whichever is greater

Setting Ranges

(i) Earth-leakage Setting	
I _{Δn} Sensitivity.....	20mA - 30.0A
Time Δt.....	INST - 10.0s
Pre-fault.....	10mA - 24.0A
Reset Hysteresis.....	2% - 10%

Output Contacts

Rated Voltage.....	250VAC
Continuous Carry.....	5A (Cosφ = 1.0)
Expected Electrical Life.....	10 ⁵ operations
Expected Mechanical Life.....	5 x 10 ⁶ operations

Environmental Conditions

Temperature.....	-10°C to 55°C
Humidity.....	5% to 95% non-condensing

Mechanical

Mounting.....	Panel mounting
Dimension (mm).....	96(w) x 96(h) x 90(d)
Enclosure Protection.....	IP54 at the panel IP20 at the body
Approximate Weight.....	0.5kg

Earth Leakage Protection Class

Type A

Zero-Phase Current Transformer

To operate with Mikro's ZCT series of current transformer

NFC Communication

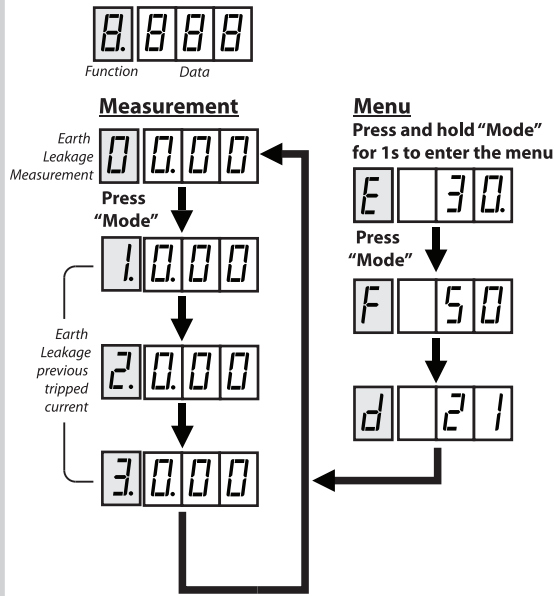


Relay provides NFC communication convenient for user to read parameter values or to change setting through Android phone with NFC feature. The Mikro RX app can be downloaded in the mobile with one of following Methods:

{Make sure phone NFC function is turned on}

- Scan the QR code or align the mobile phone NFC antenna on the NFC logo at relay front panel. This will take you directly to App store.





Parameter Settings

E	Earth Leakage Setting
1	I _{Δn} Sensitivity [DEF=0.30]
2	Time Δt [DEF=0.50]
3	Pre-fault [DEF=0.15]
4	Reset Hysteresis [DEF=5]

d	Date and Time Setting
1	Year
2	Month
3	Day
4	Hour
5	Minute
6	Second

[DEF=Default setting]

F	Functions Setting
1	Frequency [50Hz/60Hz] [DEF=50]
2	Measurement display [Fn=Fundametal, RnS=RMS][DEF=rnS]
3	Output R1 reset type [n-A=Manual, AU=Auto][DEF=AUt]
4	Output R2 reset type [n-A=Manual, AU=Auto][DEF=n-A]
5	Output R3 reset type [n-A=Manual, AU=Auto] [DEF=n-A]
6	Fail-safe into trip contact [Yes/No] [DEF=No]
7	Output R2 function [DEF=Alr] [Stc= Safety Contact, Alr= Alarm] Relay healthy : R2 energized Relay fault : R2 de-energized
8	Output R3 function [DEF=lrF] [lrF= Internal relay failure, Alr=Alarm] *IRF contact function Relay healthy : R3 energized Relay fault : R3 de-energized
9	Output R2 link element [Refer figure 1][DEF=07]
A	Output R3 link element [Refer figure 1][DEF=07]
b	NFC remote set [Yes/No] [DEF=No]

Push Button Operation

Trip Test	Press and hold "TEST" button for 3 seconds
Trip Reset	Press "RESET" button
Scroll Display	Press "MODE" button
Enter Menu Mode	Press and hold "MODE" button for 1 second
Set/Save Setting	Press "UP" and "DOWN" buttons simultaneously
Adjust Setting	Press "UP" or "DOWN" button
Display Off Mode	Press "RESET" button for 10 seconds to toggle the display off mode. The display will switch off after 6 minutes if no key is pressed.

* Enter NFC Setting = Press and hold "DOWN" button for 3 second
* Jump To Next Page = Press "DOWN" and "RESET"

LED Indicator

LED Indicator					Status
AUX	PRE.F	TRIP	ZCT	RECLOSE	
0	0	0	0	0	No Auxilliary power supply / * IRF trigger
1	0	0	0	0	Normal condition, no tripping
1	X	1	X	X	Leakage pickup
1	X	B	X	X	Leakage tripped
1	X	X	B	X	ZCT connection fault alarm
1	B	X	X	X	Pre-fault alarm

1 = ON 0 = OFF B = Blinking X = don't care

* Refer to IRF Alert Message table

IRF Alert Message

Function & Data Display	Alert Description
E E P	EEPROM memory malfunction
L o U	Low auxiliary voltage supply
r t C E	Clock IC malfunction
n F C E	NFC IC malfunction
A d c E	Measurement voltage reference unstable

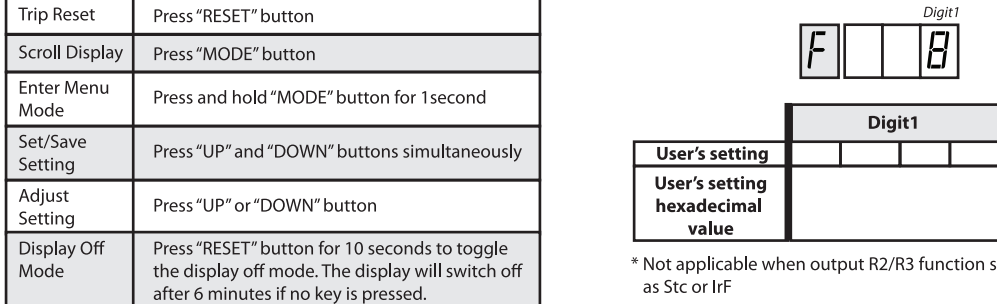


Figure 1: Link element in Hexadecimal value
0= Off, 1= On

LFA - Leakage Fault alarm
PFA - Pre-fault alarm
CFA - ZCT connection fault alarm
PLO - Persistent fault lockout alarm/Transient fault lockout alarm *Only applicable for RX330

Setting Ranges Step

(i) Earth-leakage Setting

I _{Δn} Sensitivity	20mA - 30.0A (<1.00A step 1mA, <10.0A step 0.01A, <30.0A step 0.1A)
Time Δt	INST - 10.0s (<10.0s step 0.01s)
Pre-fault	10mA - 24.0A (<1.00A step 1mA, <10.0A step 0.01A, <30.0A step 0.1A)
Reset Hysteresis	2% - 10% (<10% step 1%)