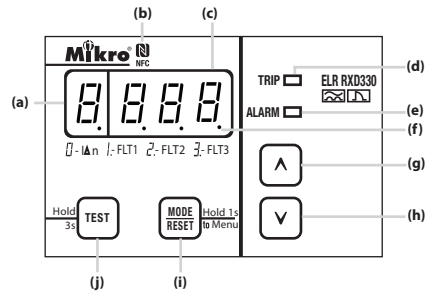


RXD330 Earth Leakage Relay User Guide

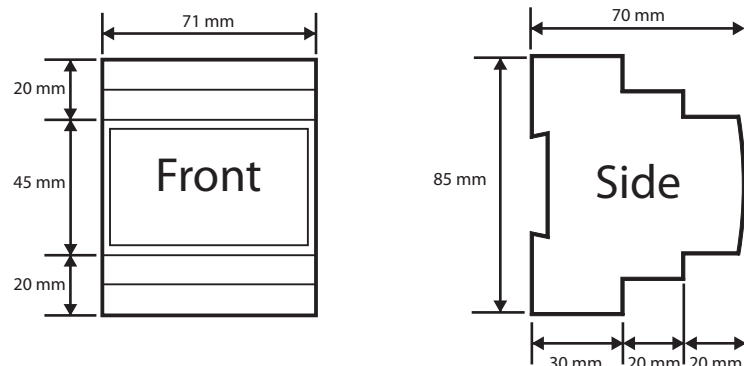


- (a) Function indication
- (b) NFC detection area
- (c) Data indication
- (d) Trip status indicator
- (e) Alarm status indicator
- (f) mA indicator
- (g) Up button
- (h) Down button
- (i) Reset/Mode button
- (j) Test button

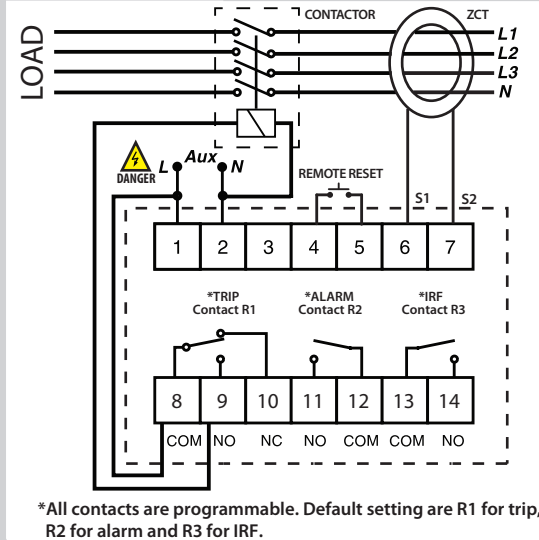
Features

- 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 detection
- Detection of no connection to ZCT
- Protected against nuisance tripping
- Remote reset function
- Incorporated fail-safe feature into trip contact
- Self-reclosing feature

Case Dimensions



Typical Application Diagram



NFC Communication



Relay provides convenient NFC communication for users to read parameter values or change settings through an Android phone with NFC feature and Android OS version above 10. The Mikro RX app can be downloaded on the mobile device using one of the following methods:

{Make sure phone NFC function is turned on}

- Scan the QR code or align the mobile phone NFC antenna with the NFC logo on relay front panel. This will take you directly to the app on Google play



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..... $\pm 3\%$ or 40ms whichever is greater

Setting Ranges

(i) Earth-leakage Setting

$I_{\Delta n}$ Sensitivity..... 20mA - 30.0A
Time Δt INST - 10.0s
Pre-fault..... 20% to 80% of $I_{\Delta n}$
Reset Hysteresis..... 2% - 10%

(ii) Self Reclosing Setting

Number of Shots..... OFF/1 - 30
Dead Time..... 1s - 500s
Persistent fault time..... OFF/1s - 500s
Reclaim Time..... OFF/1min - 500min
Lockout Self Reset Time..... OFF/1h - 200h

Output Contacts

Rated Voltage..... 250VAC
Continuous Carry..... 5A (Cos ϕ = 1.0)
Expected Electrical Life..... 10^5 operations
Expected Mechanical Life..... 5×10^5 operations

Environmental Conditions

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

Mechanical

Mounting..... DIN rail mounting
Dimension (mm) 71 (w) x 85 (h) x 70 (d)
Enclosure Protection..... IP54 at the panel
IP20 at the body
Approximate Weight..... 0.4kg

NFC Communication

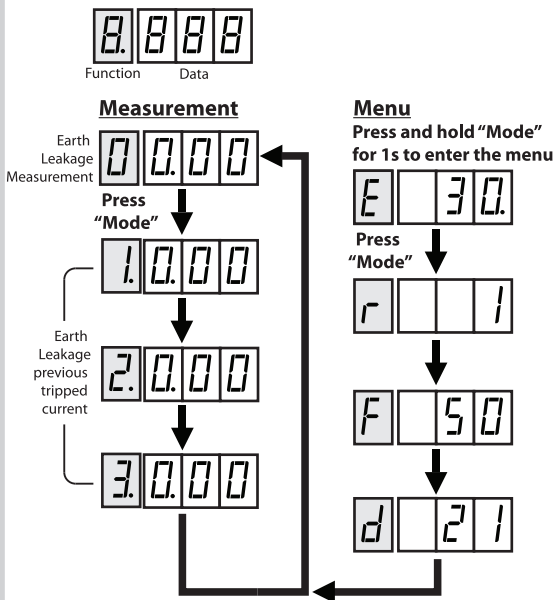
Operation System..... Android OS
Software Version Version 10 and above

Earth Leakage Protection Class

Type A

Zero-Phase Current Transformer

To operate with Mikro's ZCT series of current transformer



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.

Display Indicator

LED	TRIP	ALARM	Data Indication	Status
0	0	0	0	No Auxilliary power supply / * IRF trigger
0	0	0	X	Normal condition, no tripping
1	X	X	X	Leakage pickup
B	X			Trip value
X	1		Ct	ZCT connection fault alarm
X	B		X	Pre-fault alarm
X	B		PLo/Loc	Persistent/ Transient fault lockout alarm

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

* Refer to IRF Alert Message table

Parameter Settings

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

r	Self Reclosing Setting
1	Number of Shots [DEF=1]
2	Dead Time [DEF=100]
3	Persistent fault time [DEF=OFF]
4	Reclaim Time [DEF=OFF]
5	Lockout Self Reset Time [DEF=OFF]

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

F	Functions Setting
1	Frequency [50Hz/60Hz] [DEF=50]
2	Measurement display [Fn=Fundamental, RnS=RMS][DEF=rnS]
3	Output R1 reset type [n-A=Manual, AUt=Auto][DEF=AUt]
4	Output R2 reset type [n-A=Manual, AUt=Auto][DEF=n-A]
5	Output R3 reset type [n-A=Manual, AUt=Auto][DEF=n-A]
6	Fail-safe into trip contact [Yes/No] [DEF=No]
7	* ² Output R1 function [DEF=TrP]
8	* ² Output R2 function [DEF=Alr]
9	* ² Output R3 function [DEF=Irf]
A	Output R1 link element [Refer figure 1][DEF=0F]
b	Output R2 link element [Refer figure 1][DEF=0F]
c	Output R3 link element [Refer figure 1][DEF=0F]
d	NFC remote set [Yes/No] [DEF=No]

[DEF=Default setting]

*¹ When I_{Δn} ≤ 30mA, time Δt is fixed to instantaneous

*² Stc = Safety Contact

Alr = Alarm

Trp = Trip

Irf = Internal Failure

Stc & Irf contact function :

R1, R2 and R3 healthy = energized, fault = de-energized

User's setting	Digit1
User's setting hexadecimal value	

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

HEX	PLo	CFA	PFA	LFA
00	0	0	0	0
01	0	0	0	1
02	0	0	1	0
03	0	0	1	1
04	0	1	0	0
05	0	1	0	1
06	0	1	1	0
07	0	1	1	1
08	1	0	0	0
09	1	0	0	1
0A	1	0	1	0
0B	1	0	1	1
0C	1	1	0	0
0D	1	1	0	1
0E	1	1	1	0
0F	1	1	1	1

Figure 1:
Link element in
Hexadecimal
value

0= Off,
1= On

LFA - Leakage Fault alarm

PFA - Pre-fault alarm

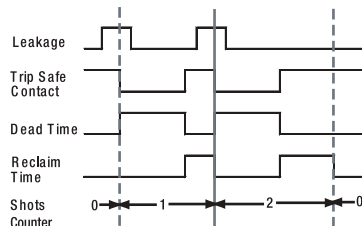
CFA - ZCT connection fault alarm

PLo - Persistent fault lockout alarm/Transient fault lockout alarm

Self Reclosing

Terms	Description
Shots	Nos of self-reclosing operation before the lockout.
Dead time	Trip safe contact is activated by the recloser when the trip safe contact is de-activated due to a leakage fault.
Persistent fault time	Fault detected immediately after the trip safe contact is activated by recloser.
Reclaim time	Time required by the recloser to reset back to reset shot count.
Lockout self reset	Time required to unlock and reset the self-reclosing module during lockout state. The unlock operation is carried out when no operators attended the relay during the lockout state.
Transient fault lockout	When the number of self-reclosing operations matches the number of shots set, further fault trips will perform the lockout
Persistent fault lockout	Relay lockout when the tripping is initiated by the persistent fault.

a) Shots, Dead Time and Reclaim Time



b) Persistent fault monitoring time

