

X20 Earth Fault Relay Quick Reference Guide

A Brief Overview



- a) Trip LED Indication
- b) Alarm LED Indication
- c) 2x16 LCD Display
- d) “ESC” Button
- e) “UP” Button
- f) “DOWN” Button
- g) “ENTER” Button
- h) “CLEAR” Button
- i) “RECORD” Button
- j) AUX LED Indication

Keypad

Up, Down, Enter and Esc are used to navigate through the menus and adjust the settings.

ESC : To exit from menus, submenus or to cancel setting value change. Press and hold for 1.5 seconds to return to default display from any submenu.

UP : Scroll up the menus or increase setting value.

Down : Scroll down the menus or decrease setting value.

Enter : To enter submenus or to confirm setting value change.

Clear : To reset tripping, reset latched relay. If “CLEAR” Scroll is enabled (under Configurations->Display menu) and during alarm status, it can be used to scroll through Earth Fault settings, and to return to default display from any submenu by pressing and holding for 1.5 seconds.

Record : To display alarm records or successive records just press Record button again.

LEDs

Trip LED : Indicates tripping

Alarm LED : Blinks to indicate non acknowledge alarm (or tripping). Steady on when the alarm is acknowledged by pressing any button.

1. General Description

Mikro X20 is designed to provide protection of one non-directional earth-fault element. This element is connected to protection current transformer that has 5A rated CT on secondary part.

Mikro X20 provides the user with 2x16 character LCD for displaying its various measurement parameter such as: Current Measurement, Fault Records, Event Records, Settings and others.

The relay extends its connectivity by adopting the Modbus-RTU protocol. Through the use of RS485 standard protocol, the user will be able to network the relay with other slave device that links to a central monitoring station.

Mikro X20 provides 2 configurable output relays that can be activated by any of the protection functions available in the relay. There is another output relay which is used for internal fault indication. Besides that, Mikro X20 also provides 1 configuration logic input for various functions.

2. Thing to be Caution



The X20 should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by the manufacturer for any consequences arising out of the use of this material.

a) Before power up the X20, make sure auxiliary voltage supply is not out of the range given in connection diagram (**85 - 265 VAC or 110 - 370 VDC**).

b) Make sure no high voltage inject into terminal 15, 16, 17, 18, 19 and 20.

c) If LCD display and AUX LED not turn On after power up X20, please stop using it and contact the manufacturer for service.

d) Anything crack on the casing, please stop using it and contact the manufacturer.

3. Things include in Packing Box

- a) 1 x X20 Protection Relay
- b) 2 x Black Brackets
- c) 1 x X20 Quick Reference Guide Hardcopy

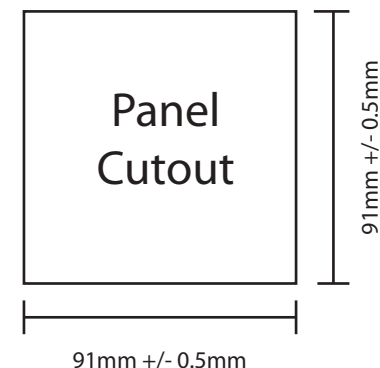
4. Installation Guide

Before installing the X20, please ensure that the environment meets the following conditions:

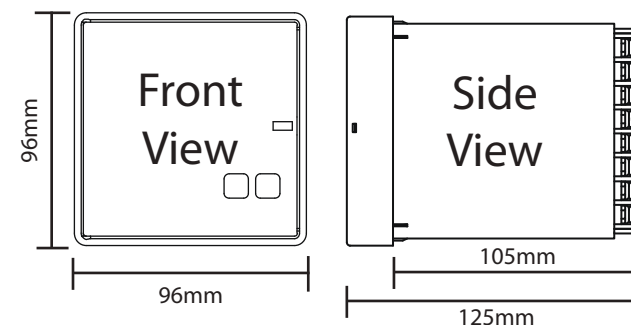
- Operating temperature: -5°C to +55°C
- Humidity: 56 days at 93%, 40°C non-condensing
- Dust free environment away from electrical noise and radiation.

5. Mounting

Insert the X20 through a 91mm x 91mm switch-gear panel as shown below:



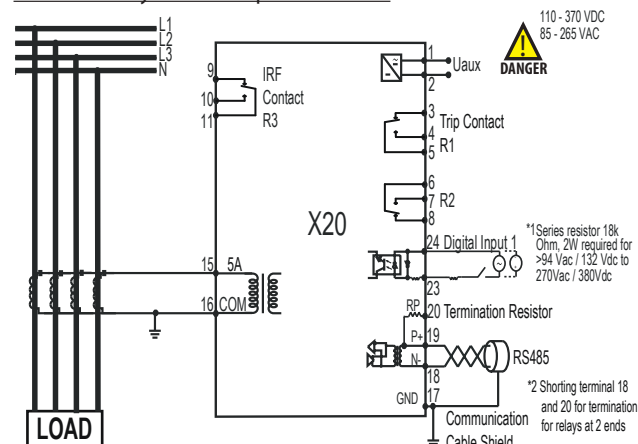
6. Dimension



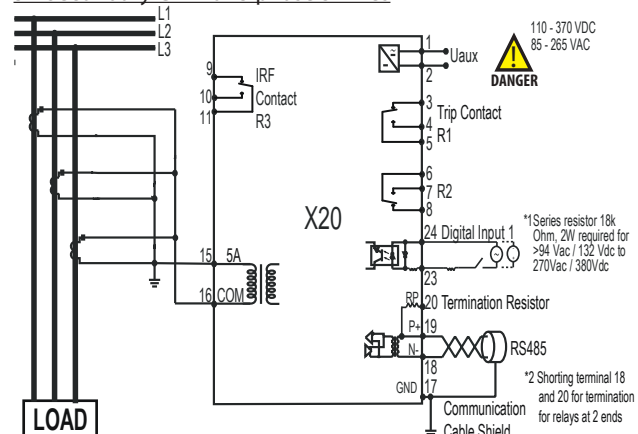
* For more detail information, please download full set of X20 user manual from <http://itmikro.com/Contents/view/122> website.

7. Connection Diagram

5A Secondary CT with 3 phase 4 wires



5A Secondary CT with 3 phase 3 wires



8. How to Change Setting in X20

There are two ways to change setting in X20 which are through RS485 Communication port.

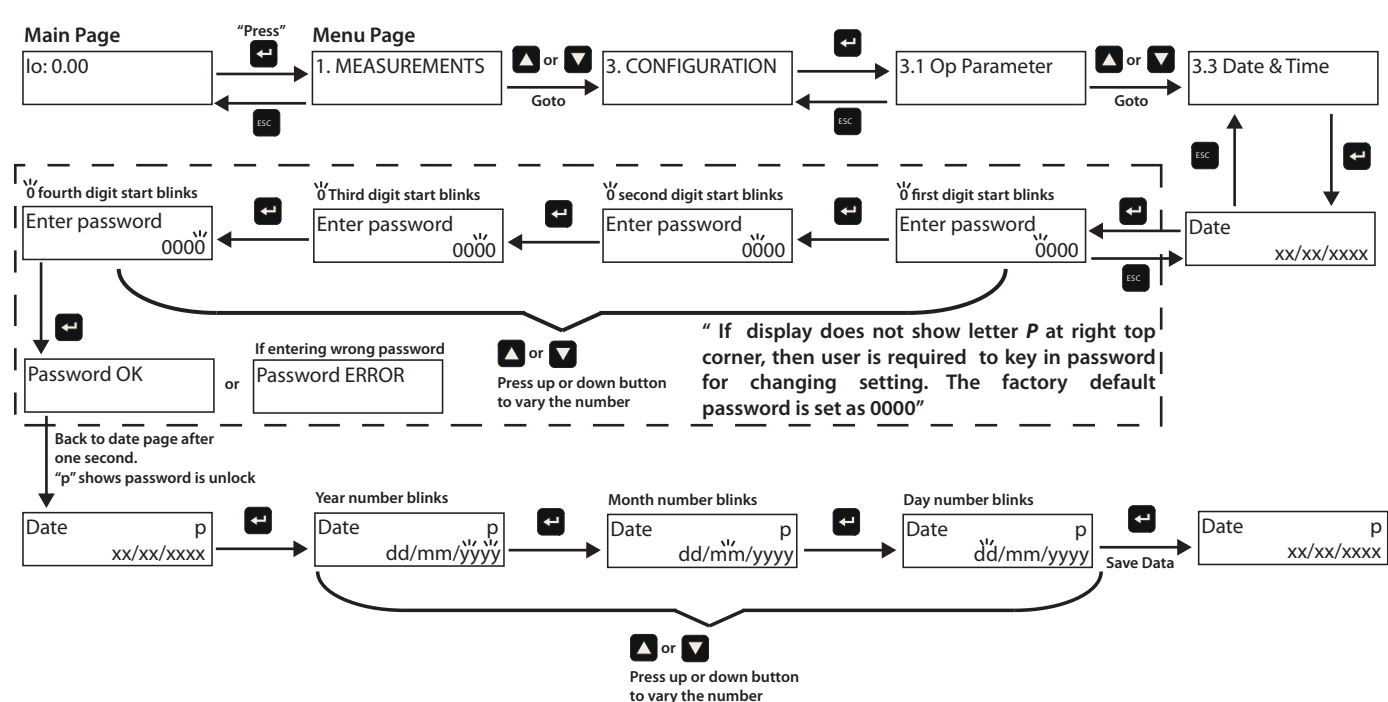
Change setting through RS485 communication port

User can use X-series toolkit software to change setting in PC. This X-series toolkit can be downloaded from website <http://itmikro.com/Contents/view/122>

Change setting through X20 front panel

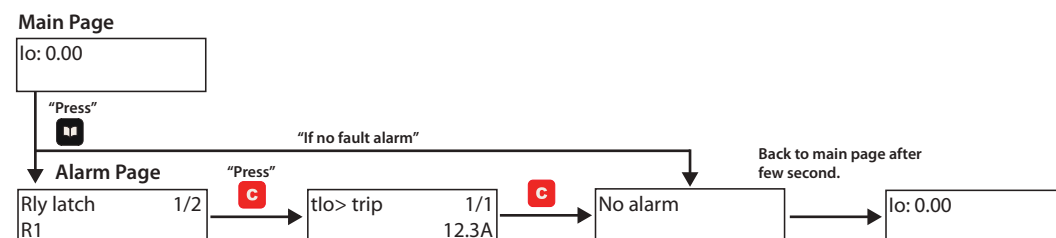
User must unlock the password first then only allow to change the setting. The default password for X20 is "0000". The following flow chart shown an example on how to change date:

Example of set date through X20 front panel



9. How to clear fault alarm

The following flow chart shown an example on how to clear fault alarm:



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