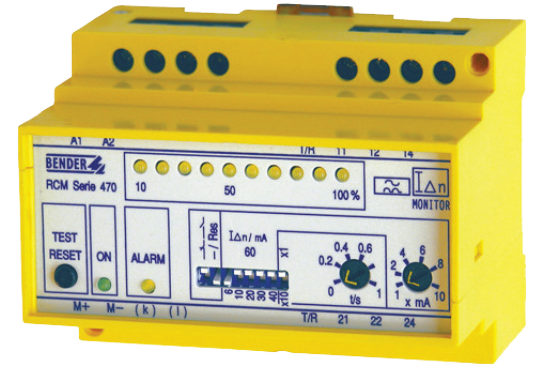


This document is intended as a reference guide for installing and using a BENDER RCM470LY ground fault monitor. This document includes installation, setup, and usage instructions. For complete details, including installation, setup, settings, and troubleshooting, refer to the RCM470LY user manual, document number TDP401003deen. This document is intended as a supplement and not a replacement to the complete user manual.

Only qualified maintenance personnel shall operate or service this equipment. These instructions should not be viewed as sufficient for those who are not otherwise qualified to operate or service this equipment. This document is intended to provide accurate information only. No responsibility is assumed by BENDER for any consequences arising from use of this document.



## Installation

### Mounting

RCM470LY series devices may be DIN rail mounted, or screw mounted using the clips located on the top and bottom of the device.

### Wiring - General

Refer to figure 1 for wiring the RCM470LY.

When routing the circuit through the current transformer, whether it is single-phase or three-phase, ensure all conductors are routed through, including the neutral if it is being used. Do not place the ground conductor through the CT.

Only the following BENDER current transformers may be used with an RCM470LY: W0-S20, W1-S35, W2-S70, W3-S105, W4-S140, W5-S210, W20, W35, W60, W120, W210, WR series, WS series. Current transformers with a part number ending in "8000" may not be used. Use AWG 22, shielded cable. The maximum length is 130 feet. Current transformers may be screw mounted with the included mounting feet. Refer to RCM470LY series user manual for complete technical details.

**⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Disconnect all power before servicing.
- Observe all local, state, and national codes, standards, and regulations.

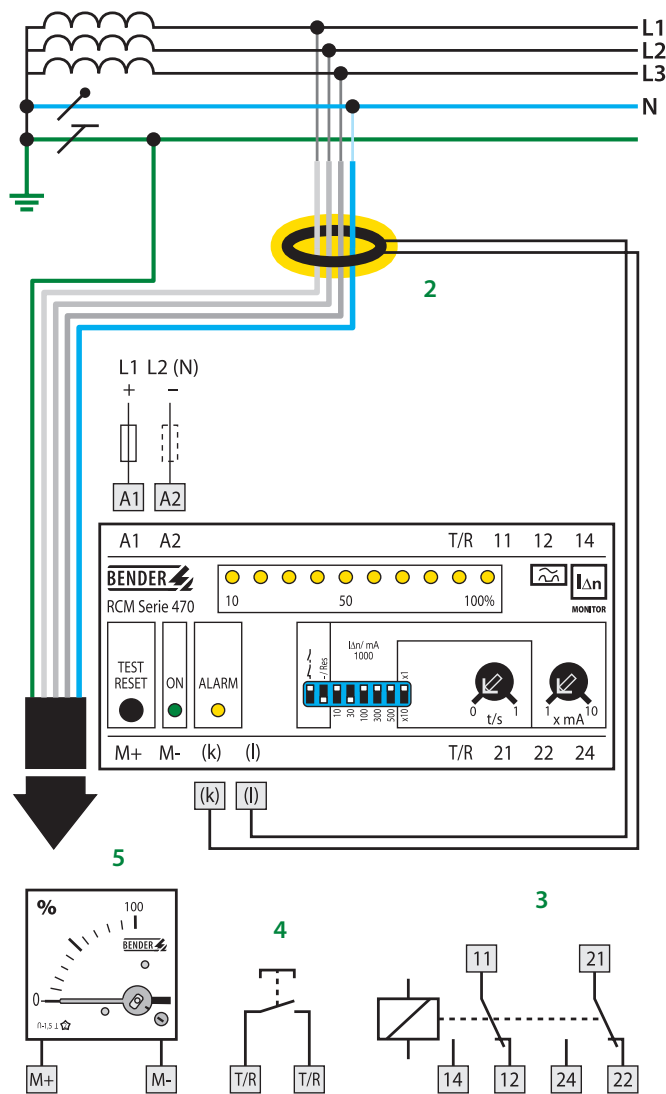


Figure 1 - RCM470LY wiring diagram

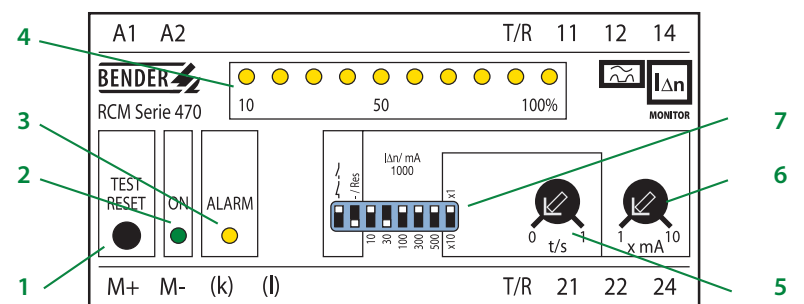
1. External supply voltage; 6A fuse recommended for internal device protection
2. Connection to current transformer. All phases, including the neutral if it is being used, must be routed through the CT. Do not route the ground conductor through the CT.
3. Alarm relay: DPDT contact
4. External test / reset terminal (N/O contact; momentary closure for reset, closure for > 1.5 s for test)
5. Optional external meter connection

## Wiring - Contacts

Using a normally closed or normally open contact utilizes two factors: wiring out of the proper terminal, and setting the respective contact to normally energized or deenergized operation. Refer to the chart below for relay conditions. For changing the energized state of the contact, refer to section "Front Panel Display" below.

Device Relay Conditions			
Relay Operation Setting	Device Alarm State	K1 STATE	K2 STATE
Normally deenergized mode (N/D) Non-failsafe mode "N/O" in device settings menu	Power ON, normal state (no alarms)	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN
	Power OFF	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN
Energized in the alarm state  Relay will switch when the alarm is activated.	Power ON, alarm state	11-12 OPEN 11-14 CLOSED	21-22 OPEN 21-24 CLOSED
	Power OFF	11-12 OPEN 11-14 CLOSED	21-22 OPEN 21-24 CLOSED
Normally energized mode (N/E) Failsafe mode "N/C" in device settings menu	Power ON, normal state (no alarms)	11-12 OPEN 11-14 CLOSED	21-22 OPEN 21-24 CLOSED
	Power OFF	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN
Energized in the normal state  Relay will switch when the alarm is activated, or when supply voltage to the device is lost.	Power ON, alarm state	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN
	Power OFF	11-12 CLOSED 11-14 OPEN	21-22 CLOSED 21-24 OPEN

## Front Panel Display



1. Combined test / reset pushbutton
2. Power LED
3. Alarm LED
4. LED bar graph: shows the currently read value relative to the alarm setpoint (0 - 100%)
5. Potentiometer, response delay
6. Potentiometer, alarm value multiplier (x1 - x10)
7. DIP switch settings (white = switch); see below for DIP switch instructions.

## DIP Switch Settings

Settings such as the trip level, contact behavior, and latching mode are set via the device's DIP switches. For setting the trip level, only one numbered DIP switch will be active (down) at any given time. This is the base level for the alarm setpoint. The "x mA" potentiometer may then be used as a multiplier to increase the trip level from x1 to x10. Below are sample switch positions:

