

This document is intended as a reference guide to installing and setting an MK2000CBM series remote indicator. This document includes installation instructions and typical front plate display indications of the device. For complete details, including installation, setup, settings, and troubleshooting, refer to the LIM2010 user manual, document NAE2025010.

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. This device series is intended for use only with the BENDER LIM2010 Line Isolation Monitor.



Applicable Devices

This document applies to MK2000CBM remote indicators only.

Installation

Mounting

Two-gang plates provide four holes (Two at the top, two at the bottom) for screw mounting. Use the provided screws for mounting. Refer to figure 1 for dimensions.

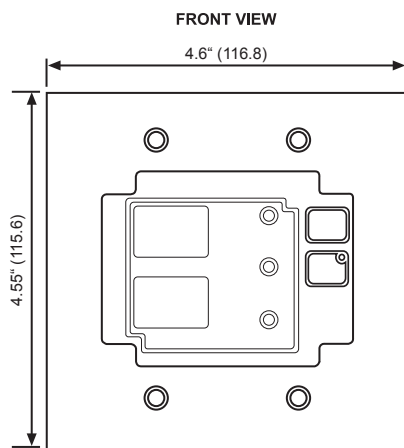


Figure 1 - Two-gang wall plate dimensions in inches (mm)

Wiring

MK2000CBM series remotes connect to a connector plate assembly utilizing a two-wire RS-485 connection. Ensure that the LIM2010 and corresponding connector plate have already been installed.

Refer to figure 2 below for wiring diagram. **The MK2000CBM may only be used with type LIM2010 line isolation monitor.**

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Disconnect all power before servicing.
- Reference NFPA 99 / CSA Z32 for Installation Standard.

Front Panel Display

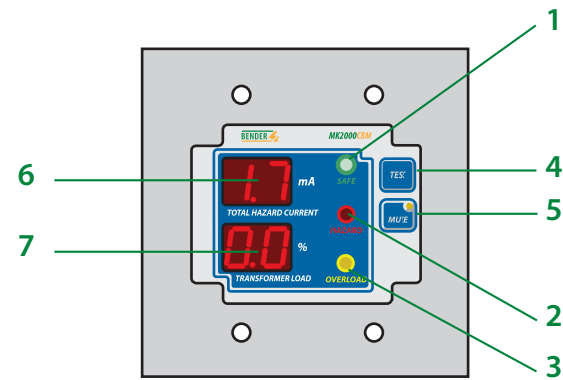
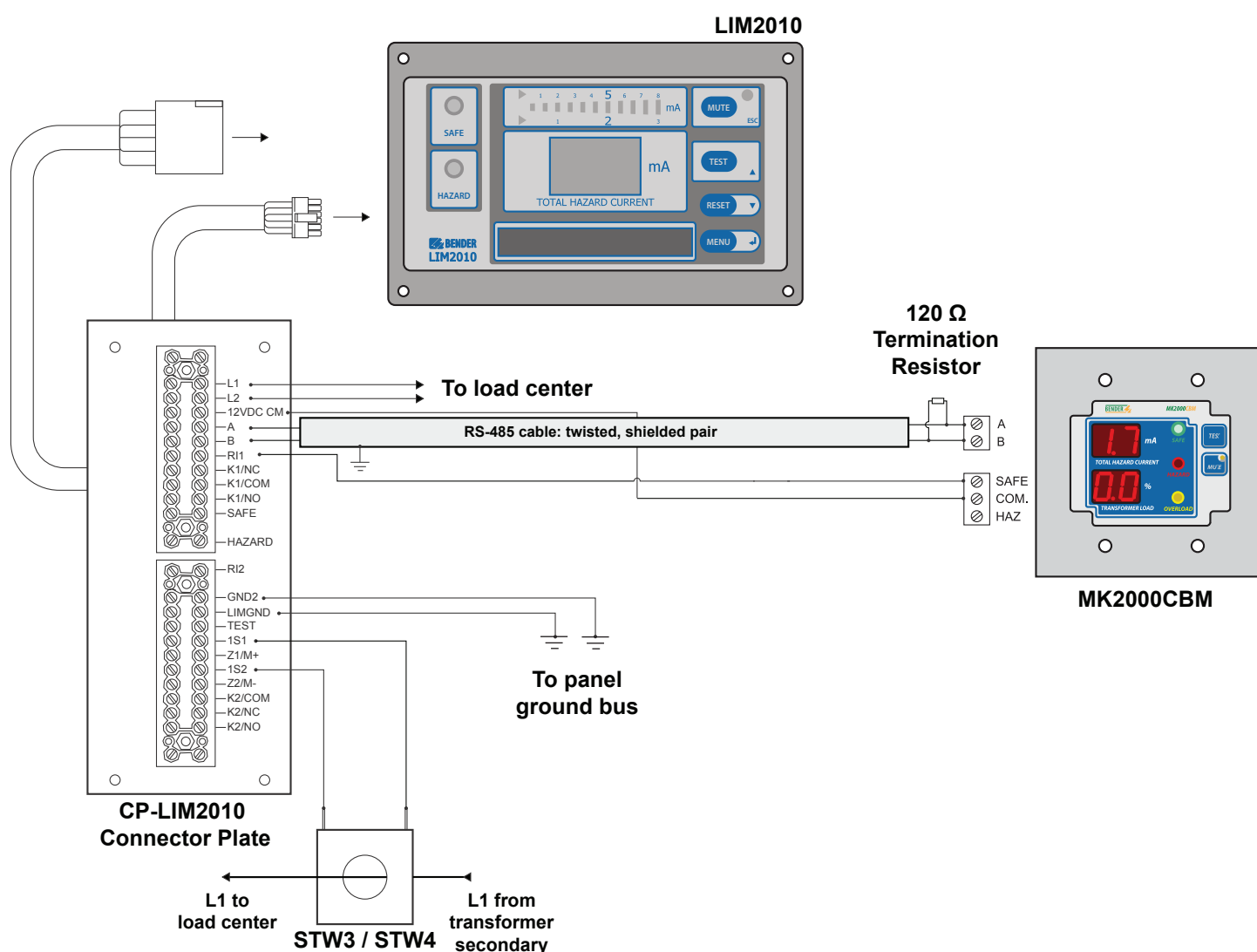


Figure 3 - MK2000CBM diagram

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Green "SAFE" LED. Illuminates when the connected LIM2010 is in the normal condition. 2. Yellow "HAZARD" LED. Illuminates when the connected LIM2010 is in the alarm condition. 3. Yellow "OVERLOAD" LED. Illuminates when the connected LIM2010's transformer overload alarm is active. 4. TEST button. Initiates a self-test of the connected LIM2010. | <ol style="list-style-type: none"> 5. MUTE button with amber LED. Mutes the audible alarm when in the alarm condition. The amber LED indicates that the audible alarm has been muted. 6. THC Digital Display. Shows the Total Hazard Current in real-time. 7. Overload Digital Display. Shows the transformer overload percentage in real-time. |
|---|--|

Figure 2: Wiring Diagram, MK2000CBM



Connecting Multiple Remotes to a Single LIM2010

Up to two (2) MK2000CBM remotes may be connected to a single LIM2010. MK2000CBM series remotes utilize a special RS-485 protocol for communication. **Each remote must be assigned a unique bus address for proper operation.** Follow the procedure below to change the address for each remote indicator.

NOTE: The connected LIM2010 will be assigned address 1. A single connected MK2000CBM will be assigned address 2. This is the factory default and will not require the below procedure. An additionally connected remote must be assigned address 3 and will require the following procedure.

Step 1: Wiring Modifications

All remotes and LIM2010 are wired in series with each other via each device's "A" and "B" terminals. ONLY devices at the beginning and the end of the chain require the termination resistor. For the LIM2010, this resistor is activated via a switch on the device. For MK2000CBM remotes, a 120 Ω resistor must be wired across the remote's "A" and "B" terminals. Refer to Figure 4 for a sample layout.

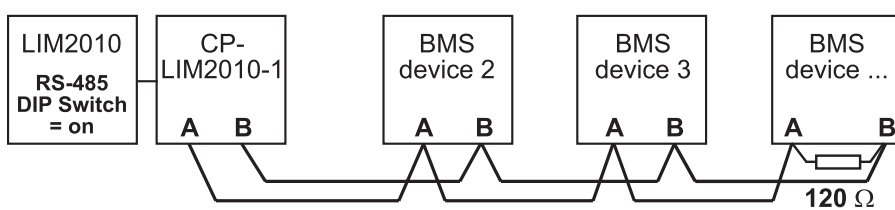


Figure 4 - Example communication bus layout

Technical Data

Operating voltage	12V DC or 12V AC
Max. current	100 mA
Operation class	continuous operation
Ambient temperature	
when operating	0° C to +50° C
when stored	-25° C to +70° C
Connection	screw terminal block
Conductor size	AWG 30...12
Tightening torque	5...7 lb-in.
Mounting	by screws
Weight	150 g

Step 2: Changing the Address of the MK2000CBM

Follow the below procedure for changing the communication address of the MK2000CBM.

1) Hold the TEST and MUTE buttons simultaneously for at least four (4) seconds. "SP" will display on both screens.




2) Push the TEST button until "Ad" is displayed in the top screen, and two numbers (factory default "02") is displayed in the bottom screen. This number is the communication address of the MK2000CBM remote.




3) Press the MUTE button. Press the TEST button until the desired address is displayed on the screen. Press the MUTE button to confirm this value.




4) Press the TEST button. "Ar" will display on the top screen, and two numbers (factory default "01") will display on the bottom screen. This is the address of the connected LIM2010 device. In most applications, this value will not need to be changed. If so, skip to step 5. Otherwise, press the MUTE button. Press the TEST button until the desired LIM2010 address appears, and press MUTE again to confirm this value.




5) Cycle power to the MK2000CBM to finish.