

## REMOTE CONTROL STATIONS

### ■ Applications

Remote Control and Monitoring Station for X-Ray / Laser Isolated Power Centers with Programmable Logic Controller (PLC)

### ■ Mounting

Available for flush or surface mounted applications

### ■ Options

Available with:  
- Bender LIM Remote Indicators

### ■ Standards

UL Listed Product (UL1047)

### ■ Warranty

Industry's first 5 year limited warranty



## Introduction

ISOTROL Type RCS Remote Control Station is designed for use with X-Ray/Laser Isolated Power Centers (Type XPC/LPC) that utilize a Programmable Logic Controller (PLC). An alternate design with mechanically interlocked pushbutton switches is available for systems without a Programmable Logic Controller.

The ISOTROL Type RCS offers the most current technology for monitoring the Type XPC/LPC and controlling the application of power to X-Ray/Laser Receptacle Modules (Type XRM/LRM).

## General

For local applications, the pushbutton selector assembly is directly mounted to the deadfront of the XPC/LPC Isolated Power Center. Each pushbutton is of the momentary contact type and has a built-in red LED except for the "RESET" button. The LED is ON when the circuit is in-use (energized). The assembly is also available in a group arrangement. Several XRM/LRM type receptacles are assigned to each group. Only one receptacle can be energized per group. The assembly can also be provided in a remote station with or without the BENDER MK2000 Series LIM remote indicator.

## Backbox

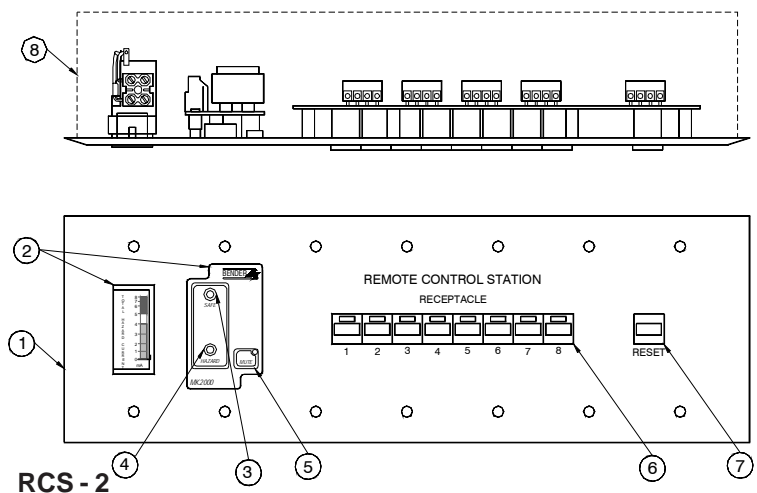
Components for the remote station are available mounted on a standard Stainless Steel wall plate that is compatible with standard contractor supplied electrical gang boxes with or without plaster ring. An alternative design is available with a galvanized steel backbox for flush mounting. Surface mounted enclosures are finished with a coat of hospital ivory, epoxy enamel and are also available in stainless steel. Outline drawings shown on the following pages of this brochure provide additional dimension and construction details.

## Face Plate

The Type RCS with a standard gang wall plate is fabricated from Type 304 Stainless Steel with a #4 brushed finish. The wall plate is secured by screws to a contractor supplied standard gang box with or without plaster ring. The alternative backbox design has a customized face plate which extends 1" on all sides of the backbox and is manufactured from 14GA Type 304 Stainless Steel with a #4 brushed finish. For surface mounted units the front trim shall exactly match the dimensions of the backbox.

## Outline Drawing for Remote Control Station with Stainless Steel Wallplate and LIM Remote Indicator

- 1 Stainless Steel Wall Plate  
#4 Brushed Finish, 7-Gang
- 2 Remote Indicator (MK2000M  
with analog meter shown)
- 3 Green "SAFE" Indication LED
- 4 Red "HAZARD" Indication LED
- 5 "MUTE" Button
- 6 Receptacle Selector Push Buttons  
with Red LED's
- 7 "RESET" Push Button
- 8 Wall Box (Provided By Others)



## Pushbutton Selector

The pushbutton selector consists of a printed circuit board (PCB) which accommodates as many as eleven (11) pushbuttons all arranged horizontally and adjacent to each other. Each pushbutton has a built-in red LED except for the "RESET" button. The LED illuminates when the circuit is in-use (energized). The pushbutton selector can be configured into as many as three groups not exceeding a total of eleven pushbuttons including the "RESET" buttons. The rightmost pushbutton for each group is assigned the "RESET" function. It is necessary to push the "RESET" button before activating a different circuit from the selected group.

## Line Isolation Monitor Remote Indicator

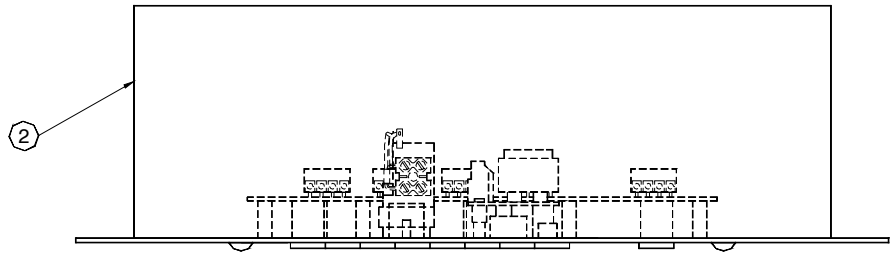
The Bender Series MK2000... LIM remote indicator duplicates the audible and visual alarm indications of the BENDER LIM2000plus™ Series Line Isolation Monitor (LIM) installed in the Isolated Power System. It is powered by a 12VDC signal from the LIM. There is a green LED which indicates a "SAFE" condition, a red LED which indicates a "HAZARD" condition, and a "MUTE" button with integral amber LED which indicates that the audible alarm has been placed in the "MUTE" mode. Optionally, a system muting function can be provided which causes the LIM at the panel location to also be silenced when the "MUTE" button is depressed.

The "SAFE" LED remains ON in the normal mode of operation until the Total Hazard Current, THC, exceeds the threshold limit of either 5 or 2mA. When this occurs, the "SAFE" LED goes OFF, the "HAZARD" LED illuminates, and the audible alarm can be heard from a distance of at least 25' from the unit. To prevent tampering, it is not possible to adjust the volume from the front of the unit. Depressing the "MUTE" button silences the alarm. Simultaneously, the integral amber LED illuminates to indicate this condition. The unit reverts back to the normal mode of operation when the THC level drops below the threshold limit.

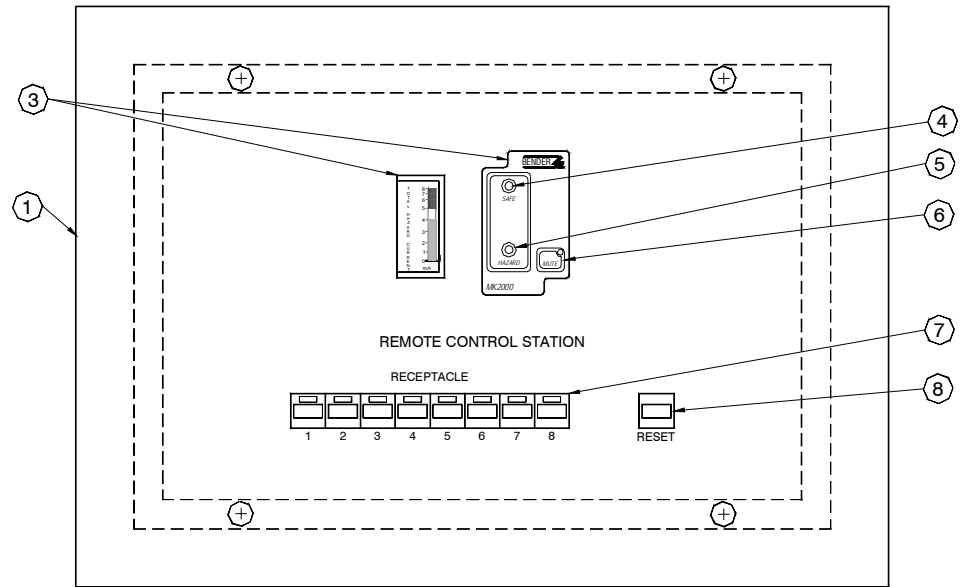
## Support and Services

- On-site installation inspection and certification services
- System design assistance provided upon request
- Technical support hotline: (800) 833-6834

## Outline Drawing for Remote Control Station with Customized Stainless Steel Face Plate and LIM Remote Indicator



- 1 Stainless Steel Face Plate (14"W x 10"H)
- 2 Backbox (12"W x 8"H x 4"D)
- 3 Remote Indicator (MK2000M with analog meter shown)
- 4 Green "SAFE" indication LED
- 5 Red "HAZARD" Indication LED
- 6 "MUTE" button
- 7 Receptacle selector push-buttons with red LED's
- 8 "RESET" push-button



## Selection Guide for Type RCS Remote Control Station

When selecting the Remote Control Station for your application, use the Product Code below. If you have any questions or need further assistance, please call us using our toll-free number: (800) 833-6834.

### Code A - Basic Designation

RCS: Remote Control Station

### Code B - Number of Circuit Groups

Any number between one (1) and three (3)

### Code C - Number of Circuits per Group

Depends on the number of groups

- Note:** - The maximum total number of circuits is nine (9) for two (2) groups and eight (8) for three (3) groups  
 - For multiple groups add multiple blocks of Code C

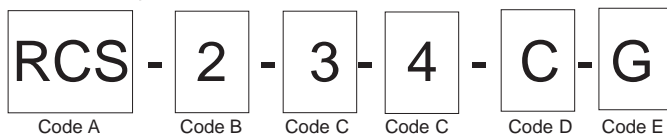
### Code D - Type of LIM Remote Indicators (All Remotes have "MUTE" button)

- A: MK2000-G1
- B: MK2000P-G1, w/ "TEST" button
- C: MK2000M-G2, w/ analog meter
- D: MK2000MP-G2, w/ analog meter, "TEST" button
- E: MK2000CBM-G2, w/digital display, "TEST" button, & overload indicator

### Code E - Type of Mounting

F: Flush (Backbox)    S: Surface (Backbox)    G: Gang Plate

### Example for ISOTROL Type RCS Product Code



**RCS - 3**

Call the factory for the significance of the letter "Q" if it appears at the end of the Product Code.

# Suggested Specification for ISOTROL Type RCS Remote Control Stations

Furnish and install ISOTROL Type RCS Remote Control Station in the locations shown on the architectural/electrical drawings. The RAS shall be UL Listed and labeled as an assembly. The Type RCS shall consist of the following:

## Backbox

Shall be flush mounted or surface mounted as indicated on the contract documents. Flush mounted units shall be fabricated from 16GA galvanized sheet steel. Surface mounted units shall be 16GA galvanized sheet steel and shall have a finish coat of hospital ivory, epoxy enamel. The dimensions of the backbox shall be 12"W x 8"H x 4"D.

## Face Plate

Shall be fabricated from 14GA Type 304 Stainless Steel, with #4 brushed finish. The face plate for flush mounted units extends 1" on all sides of the backbox. The face plate for surface mounted units shall exactly match the dimensions of the backbox. The face plate shall be attached to the backbox by means four (4) #10-32 x 1" Stainless Steel Truss Head Phillips machine screws.

## Pushbutton Selector

Shall be a printed circuit board (PCB) to accommodate as many as eleven (11) pushbuttons all arranged horizontally and adjacent to each other. For field wiring, each pushbutton shall have its own terminal strip also mounted on the PCB. Each pushbutton is of the momentary contact type and has built in red LED except for the "RESET" button. The LED will illuminate when the circuit is in use (energized). The right most pushbutton for each group shall be assigned the "RESET" function. It shall be necessary to push the "RESET" button before activating a different circuit from the selected group.

Please consult factory for other configurations.

## Remote Indicators for Line Isolation Monitors

The remote indicator which duplicates the audible and visual alarm indications of the LIM installed in the Isolated Power Panel. The remote indicator shall contain a green "SAFE" LED, a red "HAZARD" LED and a "MUTE" button with integral amber LED. The remote indicator shall function as follows:

- The green LED stays illuminated when the leakage current is within predetermined limits.
- The green LED extinguishes and the red LED illuminates when the predetermined limit is exceeded; an audible alarm also sounds.
- When depressed, the "MUTE" button shall mute the audible alarm signal. Actuation of this button shall cause the integral amber LED to illuminate, indicating that the audible alarm has been silenced.
- When the leakage current has returned to the acceptable limit level, the alarm indicators shall automatically reset.
- Optional THC meter or digital display.

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Specifications and other data subject to change without notice.

## Our Address

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