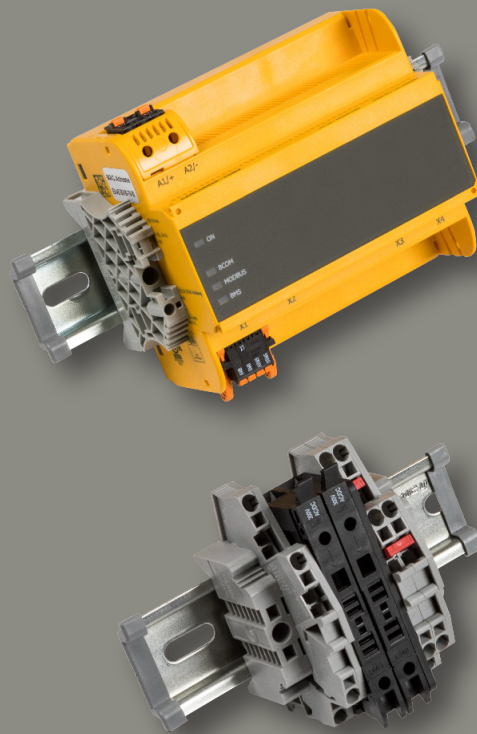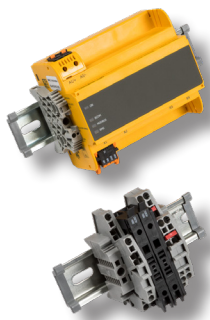# COM465IP-KIT

Ground Fault Location Kits for
Modular Isolation Power Panels

BENDER

COM465IP KIT - Communications Gateway

COM465IP KIT

Product Description

Compatible with Bender's line of Modular Isolated Power Panels; the COM465IP adds remote communication capabilities to Isolated Power Systems. The expansion kit can be added at the factory or post-installation with easy-to-install upgrade kits.

- Bender's COM465IP gives technicians and staff the ability to see the status of their Isolated Power Systems in real-time. An integrated web server can be accessed from any network-connected PC or smartphone.

Additionally, the COM465IP acts as a Modbus TCP gateway, providing integration capabilities into building management systems.

Features

- Web browser interface - fully-featured. easy-to-use interface; accessible from web browsers on connected devices.
- Connect Bender devices through ethernet or RS-485.
- Simple RS-485 communications connectivity between devices
- Can be pre-installed at factory or field upgraded
- Identify devices on network with custom names.
- E-Mail notifications in the event of an alarm or alert.
- Remotely configure device settings
- Datalog fault conditions - up to 1000 events.
- Pre-wired teminal block for easy wiring
- "Plug-n-play" installation
- Includes over-current protection with field replaceable fuses

Applications

- For use with Bender's line of Modular Isolation Power Panels

General Safety Information

Installation, connection and commissioning of electrical equipment shall only be carried out by qualified electricians. Particular attention shall be paid to:

- The current safety regulations
- The Safety and Installation instructions provided by Bender's Instruction Manuals for Modular Isolated Power Panels
- The operating manual(s) of any other connected Bender device including but not limited to: LIM2010, EDS441, CMS460, COM465IP, MK800 and others.

Prior to installation and before any work is carried out on the connecting cables,make sure that the <u>MAIN POWER</u> to the panel is disconnected. Failure to comply with this safety information may cause electric shock to personnel. Substantial damages to the electrical installation and destruction of the device may occur.

- Prior to installation and before any work is carried out on the connecting cables,
- make sure that the mains power is disconnected. Failure to comply with this safety
- information may cause electric shock to personnel. Substantial damages to the
- electrical installation and destruction of the device may occur.
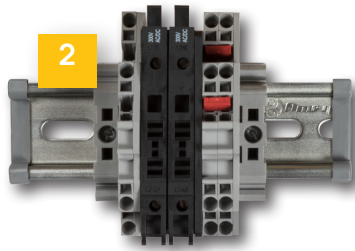

COM465IP Module
S43800007
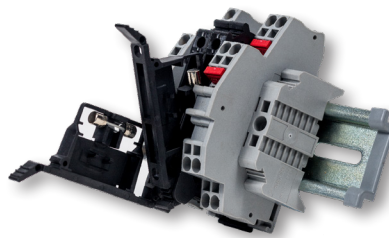
Accessory Terminal Block
S10200800

What's Included?

COM465IP Module
S43800007

1 COM465IP - Communications Gateway Module

2 Terminal Block Accessory pre-wired from factory along with fuses to provide power for all modular add-on accessories including: EDS441LNA Kits, CMS460 Kits, and COM465IP Kits.

Accessory Terminal Block - **S10200800**

- *COM465IP Kit shown
- *All mounting brackets & hardware are included

Ordering Information

Model #	Description	Article #
COM465IP KIT	Communications Module & Accessory Terminal Block	B571300003

Replacement Components

Model #	Description	Article #
COM465IP	One CMS Module w/ Din Rail Mounting	S43800007
Accessory Terminal Block	Pre-Wired & Fused Accessory Terminal Block	S10200800

Frequently Purchased with

Model #	Description	Number of Circuits Monitored	Article #
EDS441LNA-KIT 1	One EDS Module, CT Stripes, Harness, & Terminal Block	Up to 12	B561300003
EDS441LNA-KIT 2	Two EDS Modules, CT Stripes, Harness, & Terminal Block	Up to 16	B561300162
CMS460-KIT 1	One CMS Module, CT Stripes, Harness, & Terminal Block	Up to 12	B561300163
CMS460-KIT 2	Two CMS Modules, CT Stripes, Harness, & Terminal Block	Up to 16	B561300164
MK800-12RS	Central Monitoring Station, Flush Mount	NA	B521301094
MK2000CBM	Remote Annunciator available in Panel, or Wall Mount	NA	Various - Contact Factory

Technical Data

Supply voltage

Supply voltage U_S	24-240 VAC
Frequency range U_S	50-60 Hz
Power consumption	< 6.5 VA / < 4 W

Indications

LEDs:
ON	operation indicator
ETHERNET IP	data traffic Ethernet
MODBUS RTU	data traffic Modbus
BMS	data traffic BMS
Ethernet (terminal X2)	lights during network connection, flashes during data transfer

Memory

E-mail configuration (function module A only) and device failure monitoring
max. 250 entries
Individual texts (function module A only)
unlimited number of texts with 100 characters each
Number of data points for third-party devices on Modbus TCP and Modbus RTU 50
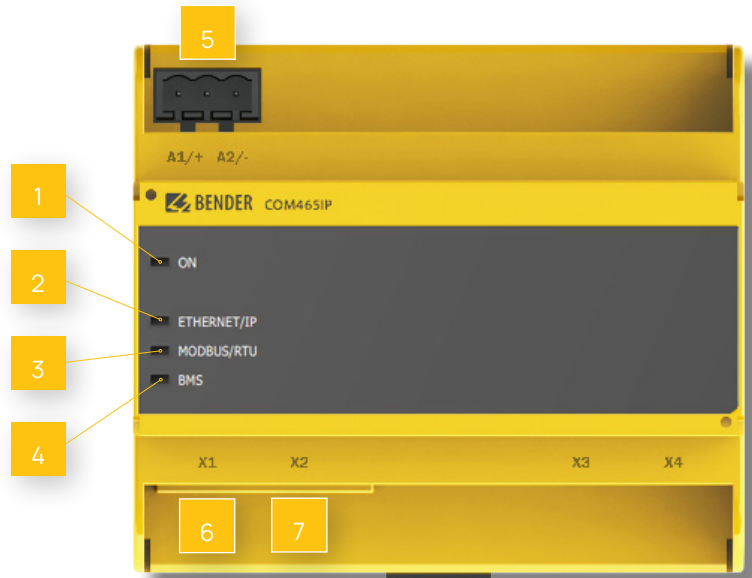
Interfaces

Ethernet
Port	RJ45
Data rate	10/100 MBit/s, autodetect
DHCP	on/off (on)*
t_{off} (DHCP)	5 - 60 s (30 s)*
IP address	nnn.nnn.nnn.nnn, can always be reached over: 192.168.0.254, (169.254.0.1)*
Subnet mask	nnn.nnn.nnn.nnn (255.255.0.0)*

Protocols (depending on the function module selected)
TCP/IP, Modbus TCP, Modbus RTU, DHCP, SMTP, NTP
SNMP
Versions	1, 2c, 3
Supported devices	Querying all devices (channels) possible (no trap functionality)

Environment/EMC

EMC	EN 61326-1

Ambient temperatures:
Operation	-25 - +55 °C
Transport	-40 - +85 °C
Long-term storage	-25 - +70 °C

Classification of climatic conditions acc. to IEC 60721:
Stationary use (IEC 60721-3-3) 3K5 (except condensation and formation of ice)
Transport (IEC 60721-3-2)	2K3
Long-term storage (IEC 60721-3-1)	1K4

Classification of mechanical conditions acc. to IEC 60721:
Stationary use (IEC 60721-3-3)	3M4
Transport (IEC 60721-3-2)	2M2
Long-term storage (IEC 60721-3-1)	1M3

Other

Operating mode	continuous operation
Mounting	front-oriented, cooling slots must be ventilated vertically
Degree of protection, internal components (IEC 60529)	IP30
Degree of protection, terminals (IEC 60529)	IP20
DIN rail mounting acc. to	IEC 60715
Screw fixing	2 x M4
Enclosure type	Flammability class UL94V-0
Dimensions (W x H x D)	107.5 x 93 x 62.9 mm
Documentation number	D00216
Weight	≤ 240 g

Operating and Display Elements

|	
1 The "ON" LED will flash until the device is ready for operation during power up. Solid during normal operation	**5** Supply Voltage Input Terminals
2 Ethernet/IP LED - Flashing LED indicates ethernet/IP interface is in operation.	**6** RS-485 Communications Wiring Terminals
3 Modbus/RTU LED - Flashing LED indicates Modbus/RTU interface is in operation.	**7** Ethernet port (RJ45) for connecting to ethernet netwrok and Bender Ethernet Bus (BCOM)
4 BMS LED - Flashing LED indicates BMS interface is in operation.	

COMTRAXXX ® Webserver

- Modern user web interface that is accessible by any networked computer, tablet, or mobile device. Featuring a response layout that is suitable for touch-screen devices, the webserver allows building and hospital staff to remotely monitor the real time conditions of Bender's LIM2010, EDS441, CMS460, and others.

- Use the webserver to configure device settings, in a clean grid format display. Alarms notifications can be set for device errors or alerts via email or text.

- Drill down into each individual connected device to configure addressing, naming, and monitor individual branch circuits for ground, and overcurrent faults.
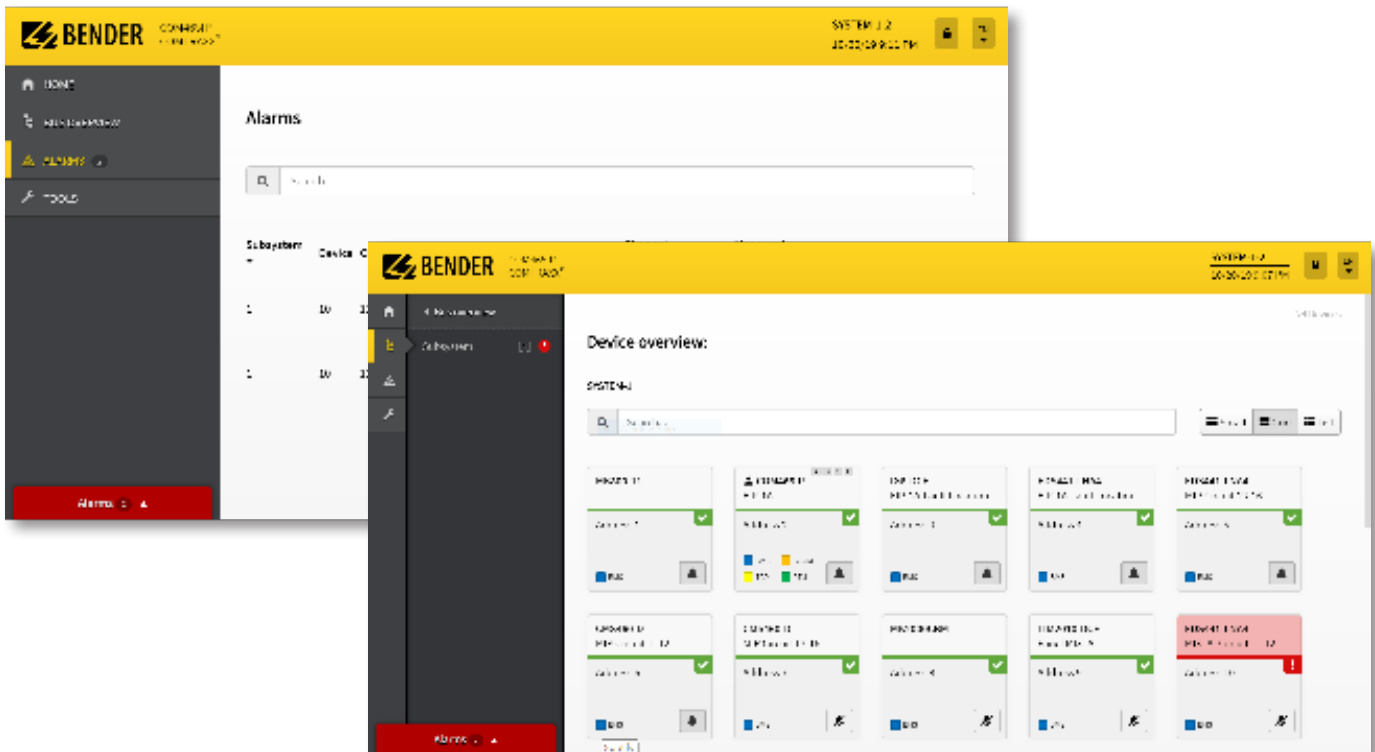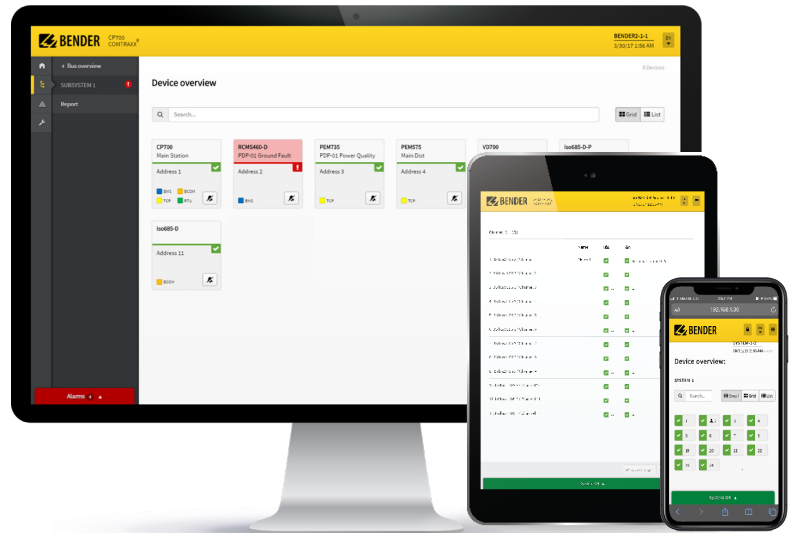
Function Packages

- Function pacakages are available for the COM465IP that unlock which ever features you would like. The COM465IP can be shipped with certain function packages pre-installed or can be downloaded and installed in the field using the web server. Descriptions of what each availavble function packages offer are below.
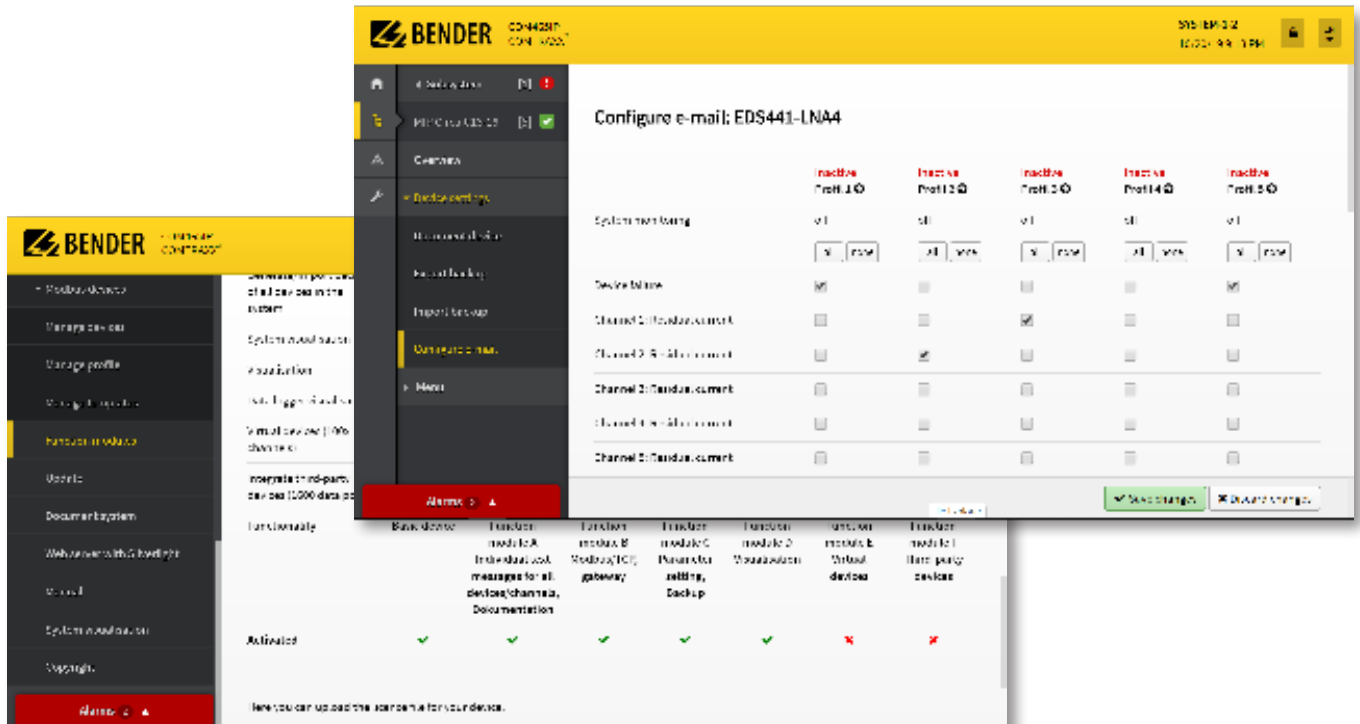
Function Package A - B575061011

- Create customer ID labels for devices and alarms
- Configure E-Mail notifications and reporting

Function Package B - B575061012

- Acts as a gateway to Modbus/TCP networks for all connected Bender devices
- Supports two-way communication: Read data, and control devices from Modbus master (PLC, software, etc)

Function Package C - B575061013

- Configure connected Bender devices remotely from the COM465IP's web interface
- Reporting function for importing/exporting saved settings and measured values for connected Bender devices

Function Package D- B575061014

- Fast comprehensive system visualizations, no programming required
- Device Status, alarms and measured values can be arranged and displayed on a system plan image, such as a room layout
- Customizable to specific facilities or customer requirements
- Reporting function for importing/exporting saved settings and measured values for connected Bender devices
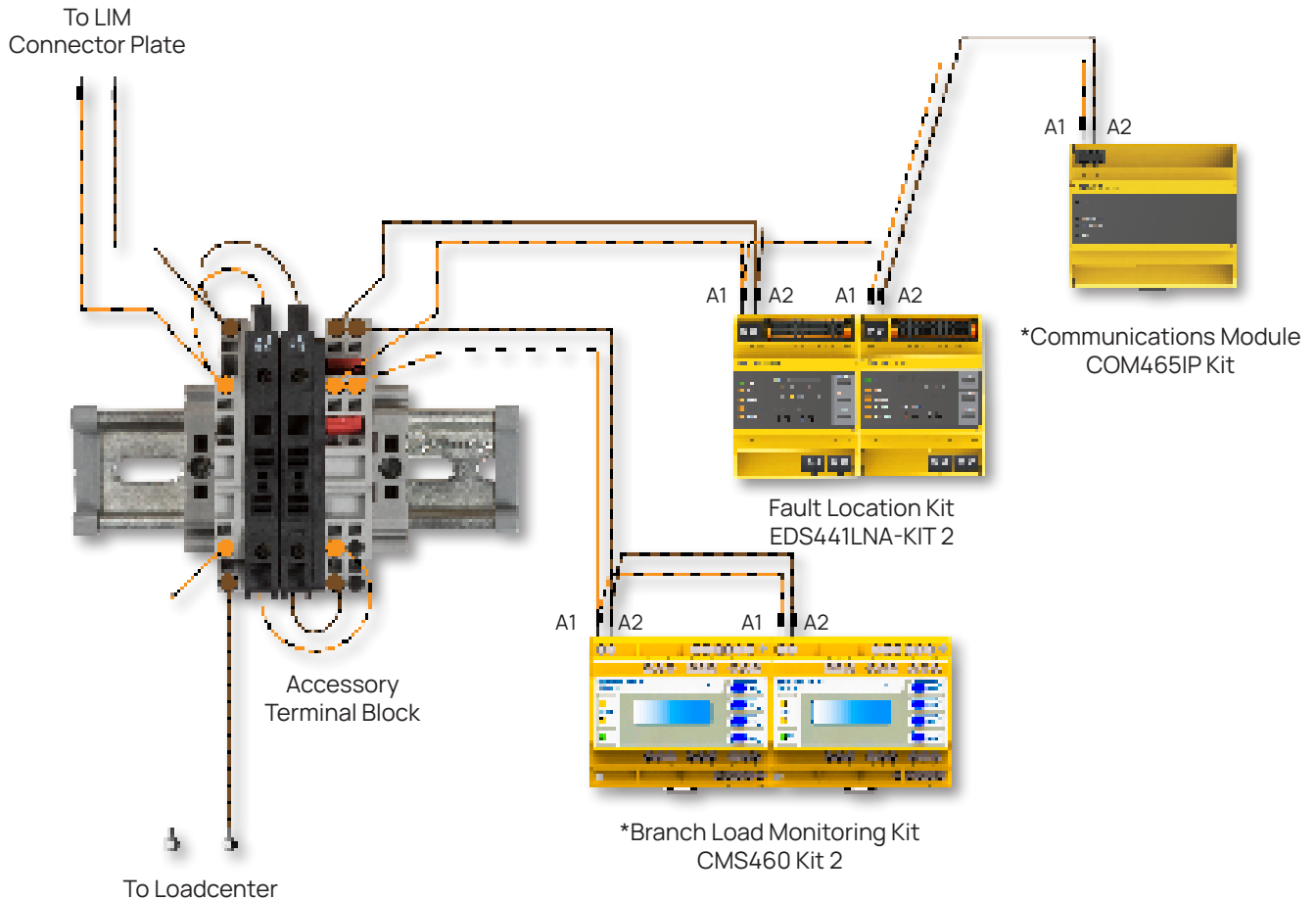
Function Package E - B575061015

- Create custom alarms using mathematical operations or combinations of mulitple devices / alarms
- Configure E-Mail notifications and reporting

Function Package F - B575061016

- Add up to 1600 data point form third-party Modbus devices and display them on web interface
- Configure E-Mail notifications and reporting

Accessory Terminal Block Power Wiring

To LIM
Connector Plate

A1 A2

*Communications Module
COM465IP Kit

A1 A2   A1 A2

Fault Location Kit
EDS441LNA-KIT 2

Accessory
Terminal Block

A1 A2   A1 A2

*Branch Load Monitoring Kit
CMS460 Kit 2

To Loadcenter

*Optional Components
*All unused wiring will be covered with wire nuts

Compatible Devices

LIM2010

EDS441-LNA

CMS460

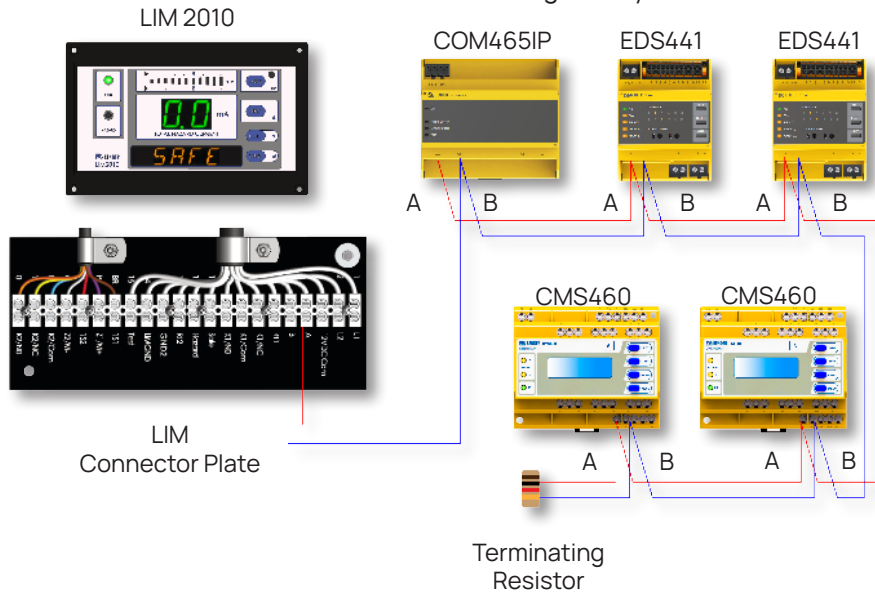## RS-485 Communications Wiring

All RS-485 equipment must be connected in a daisy-chain configuration. Star connections are not permitted. Devices within multiple panels / areas must also be connected in a serial manner. Refer to figure below for sample RS485 connection between multiple panels and a nurse's station with an RS-485 connected remote indicator.

Additionally, each device requires a unique RS-485 address. Duplicate addressing will cause communication collisions and network interference. Re-addressing may be required when integrating equipment into existing installations. RS-485 addresses are not required to be numerically sequenced in the order they are wired. However, do not skip any numbers when addressing. If the system has a communication gateway, it must remain address 1.

LIM 2010

COM465IP   EDS441   EDS441

A   B   A   B   A   B

LIM
Connector Plate

CMS460   CMS460

A   B   A   B

Terminating
Resistor

*Select Bender devices have a terminating resistors built into the device itselt. No external resistor required on these devices

MK2000CBM

MK800-12RS

Add-Ons and Accessories

EDS441-LNA Kit - Ground Fault Location

The EDS441LNA Fault Location Modules provide quick and efficient monitoring and detection of branch circuits in the event of a ground fault.

Once a ground fault is detected, the LIM2010 activates an alarm and sends out a pulse which will have the fault location system run fault detection. This will alert technicians and staff of the circuit with a resistive ground fault, thereby reducing tedious troubleshooting.

Fault location modules can be pre-installed at the factory or post-installation with easy-to-install upgrade kits. Kits are available to monitor up to 12 or 16 circuits simultaneously.
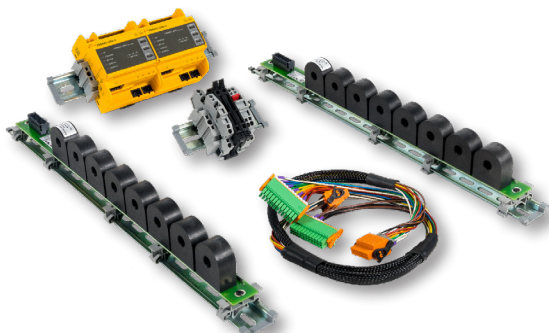
CMS460 Kit - Branch Circuit Current Monitoring

The CMS460 Modules provide quick and efficient monitoring and evalution of branch load circuits. Independant alarm values can be set for each branch circuit when a set threshold is met.

Kits are available to monitor up to 12 or 16 circuits simultaneously and interface via RS-485 communications. The CMS460 kit can be added at the factory or post-installation.

MK2000CBM - Remote Annunciator

MK2000CBM series remote indicator is designed for use with the BENDER LIM2010 Line Isolation Monitor. This remote indicator duplicates audible and visual alarm indications on the LIM. All remote indicators include a green "SAFE" LED, a red "HAZARD" LED, and a "MUTE" button with an integral amber LED. The "MUTE" button is used to silence the remote audible alarm. Optionally, it can also be used to silence all audible alarms in the system.

The MK2000CBM features a digital display which mimics the LIM hazard current display as well as total transformer load (STW3 Kit required). The display consists of two seven segment red LEDs that display between 0.1 mA to 9.9mA. The MK2000CBM version is only available in a two-gang configuration.

Add-Ons and Accessories

MK800-12RS - Alarm Indicating Station

The universal MK800-12RS remote alarm indicating Station and test combination is used for:

- Indication and visualization of Bender RS-485 communications compatible devices.
- Provides central operation and parameter setting of Bender devices
- Indication and visualization of operating status, alarm indications, circuit monitoring
- Indicatior light with 3 LEDs to differentiate between normal, warning, and alarm messages.
- Does not require networked PC for operation.

The MK800-12RS is available for flush and surface mounting.
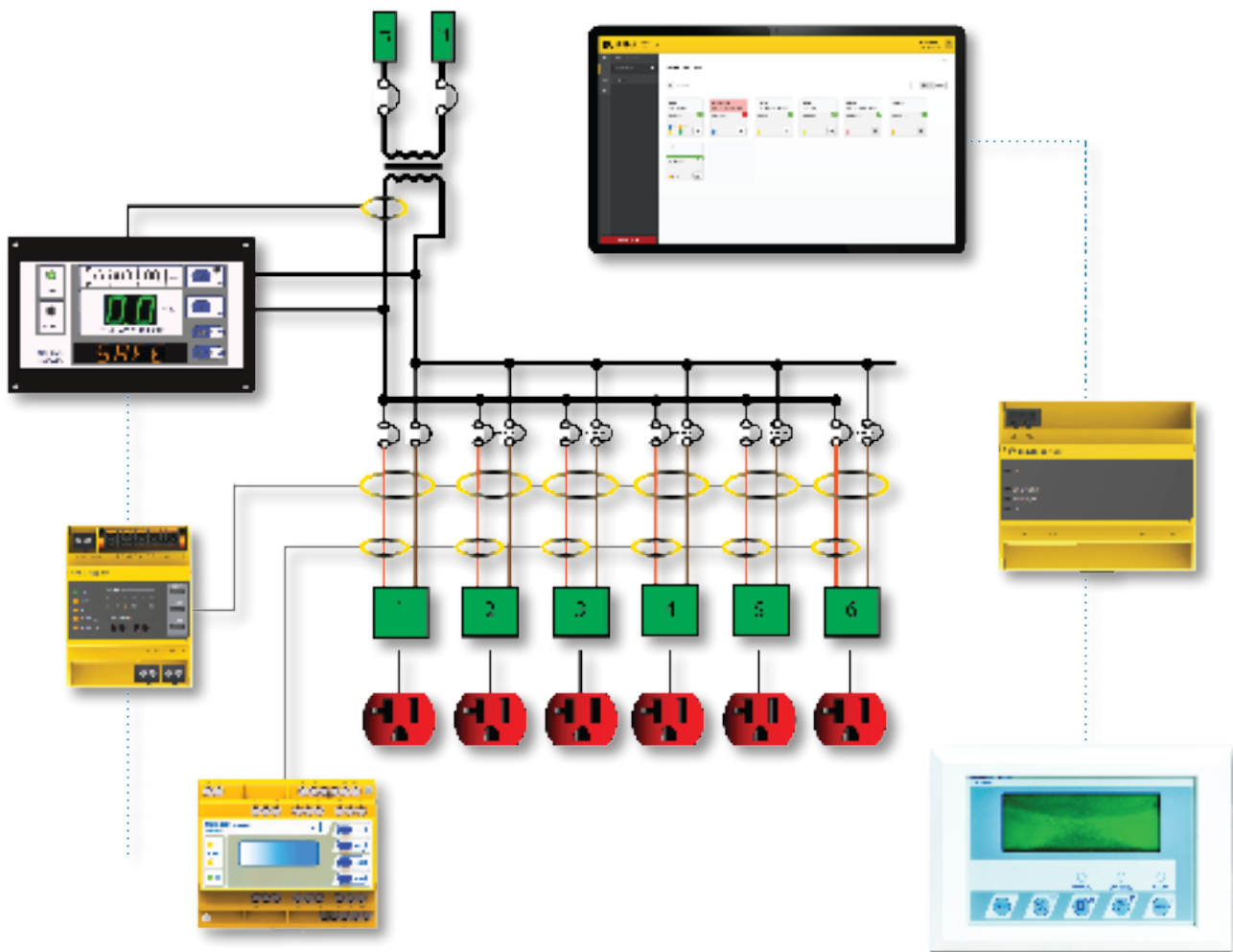
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