



- **BRANCH CIRCUIT MANAGEMENT (BCM)**
- **SUB FEED CIRCUIT MANAGEMENT (SFCM)**
- **MAIN FEED CIRCUIT MANAGEMENT (MFCM)**
- **NUMEROUS CONFIGURATIONS TO MEET YOUR NEEDS**
- **MODBUS RTU AND MODBUS TCP**
- **WEB SERVER**
- **SNMP TRAP MONITORING**

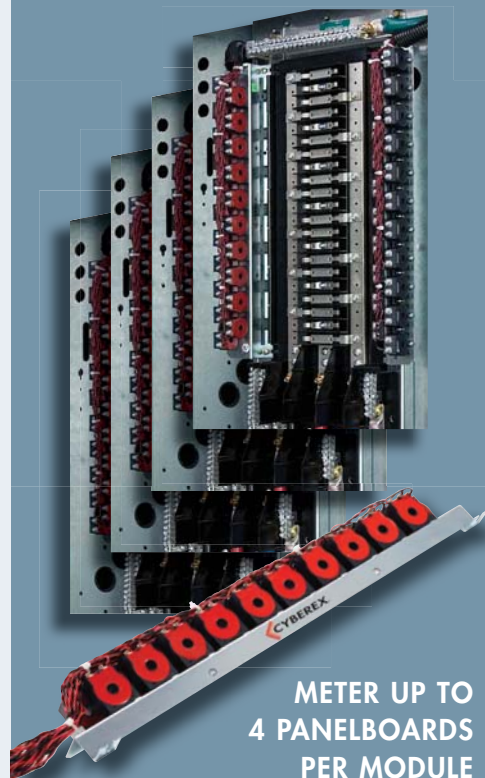
# CIRCUIT MANAGEMENT

## A SINGLE SOLUTION FOR ALL YOUR MONITORING NEEDS

Managing individual circuit loading is critical to the reliability of your center. The Circuit Management (CM) system provides accurate load management information and alerts you of potential problems before they affect your operation. User configurable set points allow you to know when each circuit is approaching a load threshold that could interrupt power to that device. This notification allows your staff to proactively maintain your critical operation.

### DESIGNED FOR PERFORMANCE, FLEXIBILITY AND RELIABILITY

- Factory integrated as an optional feature to your PDM or RPP; the Circuit Management system can be used for communicating valuable information to your central management system or to a local or remote display panel.
- The CM actively monitors the load current of each of your circuits and reports this information to you for cost allocation or load protection management.
- The Circuit Management system can be field maintained or upgraded to allow the addition or replacement of individual sensors. Others offer only a fixed component system carried on a PCB that must be abandoned within your panels and bypassed with an inelegant hardware configuration when upgraded or repaired.



**METER UP TO  
4 PANELBOARDS  
PER MODULE**



# CIRCUIT MANAGEMENT



## INNOVATION IN DESIGN

- Robust mounting of circuit sensors via wiring harness connection
- Snap and screw-on circuit sensors with integral protection resistor
- Fully enclosed electronics module

## BEST IN CLASS SERVICEABILITY

- Easily replace individual circuit sensors in the field, means only one circuit is effected, not the entire panel
- Only power down individual branch, not entire panel
- Minimize costs and downtime

## EASE OF CONFIGURATION

- User-friendly, intuitive graphical user interface
- Flexible configuration – By individual circuit or entire panelboard

## ADVANCED CONNECTIVITY

- Single system monitors up to 168 branch circuits – Can be panelboards or a combination of panelboards and subfeeds
- Monitor up to 2,688 circuits with one local display
- Both 2 and 4 wire modbus compatible
- Integrates with your building management system

## PANELBOARD COMPATIBILITY

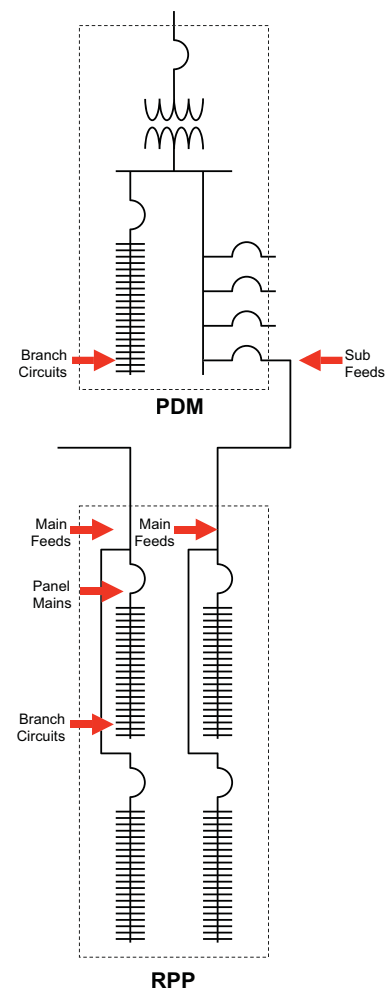
- Fits most panels: Square D, GE, standard and column width

## FLEXIBLE CONFIGURATIONS

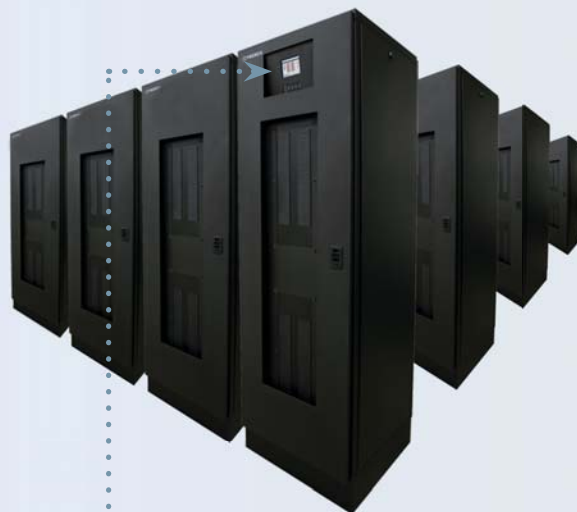
A single Circuit Management module can be configured to gather current, voltage\*, power\* and energy\* data in the following distribution devices:

- **BRANCH CIRCUIT MANAGEMENT** – Up to four (4), 42 circuit panel boards (168 poles)
- **SUB FEED CIRCUIT MANAGEMENT** – Up to twenty-four (24), 3 wire or 4 wire sub feed breakers
- **COMBINATION CIRCUIT MANAGEMENT** – Panelboard branch breakers and sub feed breakers can be combined in a single configuration
- **MAIN FEED CIRCUIT MANAGEMENT** – Up to four (4) sources in multi-fed RPPs can be monitored

(\*requires energy option)



## ETHERNET GATEWAY



A single local display can concentrate data from 16 Cyberex Circuit Management systems and send it to remote monitoring systems via Modbus TCP or the Web Server. Connects to your building management system or a standard web browser.



# WEB SERVER AND SNMP

## WEB ACCESSIBILITY

Our optional Web Server provides you the ability to remotely access your circuit management data from any computer using an ordinary web browser and an Internet connection. A single remote display device running our web server software can make data from up to 16 Cyberex Circuit Management modules available with just a few mouse clicks. Literally thousands of branch circuits and sub feed circuits in RPPs and PDMs can be monitored for current levels and user-settable warning and alarm conditions from anywhere in the world. Password-protected security levels within the software provide the ability to remotely configure all monitoring parameters.

## SNMP TRAP MONITORING

The Web Server also broadcasts SNMP traps to alert users of summary alarm conditions as they occur. Users' applications such as building monitoring systems can intercept these traps so that the alarms and warnings can be annunciated. The Web Server is also provided with a stand-alone Windows-based trap monitor applet that highlights alarmed equipment so the user can navigate directly to the source of the problem via a standard browser.



PDM Main



BCM Panel Overview



BCM Panel Individual

## WEB SERVER FEATURES

- Provides instant snapshot of current or power levels on any circuit in your data center from a remote location.
- Provides web page access to a maximum of 16 Cyberex Circuit Management devices interconnected via Modbus and/or Ethernet.
- Allows up to 2,688 individual circuits to be monitored remotely on the web for current, voltage\*, power\*, energy\*, alarm status and set-point configuration. (\*requires energy option)
- Provides SNMP summary alarm traps for use with the customer's monitoring system.
- When integrated with your building management system the circuit data can be used to create a load profile over time to help you better plan capacity.
- Secure, multi-level password-protected environment.

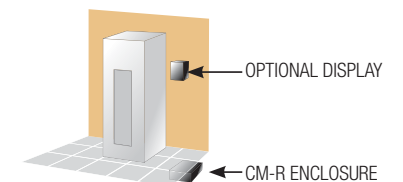
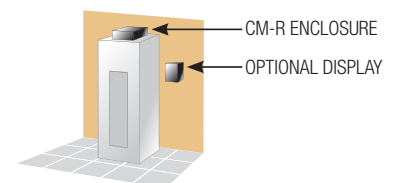
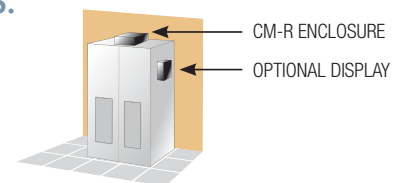
# RETROFIT – FOR CIRCUIT MANAGEMENT

## CIRCUIT MANAGEMENT – RETROFIT SOLUTIONS

Cyberex offers a complete Circuit Management Retrofit Solution available to any RPP, PDM or other panelboard or subfeed application. Our field service team can assess your facility's exact needs and configure a solution that provides Circuit Management capability equal in performance to our factory integrated system without interruption to your loads. Because of the diversity in today's facilities, Cyberex Circuit Management retrofit products were designed to offer a broad range of mounting options without the use of drilling or intrusions into your existing equipment beyond the introduction of split core current transformers (CTs). The split core CTs are clamped onto energized branch circuits without interruption to your critical loads.



## CIRCUIT MANAGEMENT RETROFIT ENCLOSURES CAN BE SEPARATED TO MEET A VARIETY OF INSTALLATION SITUATIONS.



Enclosure mounting options include equipment side mount, equipment top, wallmount and in-floor mount

Display enclosure can be mounted directly on Circuit Management enclosure, side of equipment, or wall

## LOCAL DISPLAY

- Available Standard on PDM
- Optional on RPP

**Panel Config (View)** BCM Id:  Panel No:

|                | Limit |         | Delay |         |
|----------------|-------|---------|-------|---------|
|                | Alarm | Warning | Alarm | Warning |
| Over Current:  | 80 %  | 70 %    | 10 S  | 5 S     |
| Under Current: | 1 %   | -       | 10 S  | 5 S     |
| Over Voltage:  | 120 % | 110 %   | 10 S  | 5 S     |
| Under Voltage: | 80 %  | 90 %    | 10 S  | 5 S     |
| Over kW:       | 80 %  | -       | 10 S  | -       |
| Low PF:        | 0 %   | -       | 10 S  | -       |

Status: Off  444 V 32.5 A 60 Hz

**Branch Config (View)** BCM Id:  Panel No:

| Br. No | Rating | OC Limit |         | UC Limit |         | Delay |    | Status |
|--------|--------|----------|---------|----------|---------|-------|----|--------|
|        |        | Alarm    | Warning | Alarm    | Warning |       |    |        |
| 1      | 25 A   | 65 %     | 85 %    | 5 %      | 7 S     | 5 S   | On |        |
| 2      | 25 A   | 65 %     | 85 %    | 5 %      | 7 S     | 5 S   | On |        |
| 3      | 25 A   | 65 %     | 85 %    | 5 %      | 7 S     | 5 S   | On |        |
| 4      | 25 A   | 65 %     | 85 %    | 5 %      | 7 S     | 5 S   | On |        |
| 5      | 25 A   | 65 %     | 85 %    | 5 %      | 7 S     | 5 S   | On |        |
| 6      | 25 A   | 65 %     | 85 %    | 5 %      | 7 S     | 5 S   | On |        |

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**Branch Metering** BCM Id:  Panel No:  Br. No:

Status: **OC Alarm**

|         |          |       |                  |
|---------|----------|-------|------------------|
| Current | Max:     | 30 A  | State: <b>On</b> |
|         | Present: | 24 A  |                  |
|         | Min:     | 5 A   |                  |
|         | kW:      | 2.8   |                  |
|         | PF:      | 1     |                  |
|         | kWh:     | 117.0 |                  |
|         | MD:      | 2.8   |                  |
|         | kVA:     | 2.8   |                  |

**PDU Metering** PDU Id: 444 V

☐ Voltage ☐ Current ☐ Power ☐ Harmonics ☒ Others

|          | Load | Crest Factor | Demand |
|----------|------|--------------|--------|
| Phase A: | 75   | 1.5          |        |
| Phase B: | 75   | 1.5          |        |
| Phase C: | 75   | 1.5          |        |
| Total:   | 225  |              | 200    |

Frequency: 60 Hz Phase Sequence: A B C

## SYSTEM FEATURES

- Monitors Panel Branch Circuit or Subfeed Current
- User Configurable Pre-Alarm & Alarm Set Points
- Field Replaceable Individual Current Transformers
- Single System Electronics Module can Monitor up to 168 Circuits (4 panels)
- Electronics Modules can be Networked to Monitor up to 2,688 Circuits
- Factory Installed Option or Retrofit to PDM or RPP
- Energy metering – Including voltage sensing, KW and kVA (optional)

## PRODUCT SPECIFICATIONS

### Electrical

|                              |                     |
|------------------------------|---------------------|
| Circuits                     | 42 – 168 per System |
| Voltage                      | 120V                |
| Frequency                    | 60hz                |
| Branch Current Rating        | 60amps or 100amps   |
| Accuracy                     | +/- 2%              |
| Max. Branch Conductor (60A)  | #6 THHN (6.4mm OD)  |
| Max. Branch Conductor (100A) | #4 THHN (8.4mm OD)  |

### Configurable Alarms Include

- Overcurrent warning
- Overcurrent alarm
- Undercurrent alarm
- Current warning delay time
- Current alarm delay time
- Overvoltage warning
- Overvoltage alarm
- Overvoltage warning delay time
- Overvoltage alarm delay time
- Over KW alarm

### Communications

|            |                                  |
|------------|----------------------------------|
| Protocol   | Modbus RTU (RS-485); Modbus TCP  |
| Web Server | Works with Standard Web Browsers |
| SNMP       | Alarm Summary Trap Monitoring    |

### Polling Intervals

|              |                                   |
|--------------|-----------------------------------|
| 168 Circuits | Less than or equal to 2.5 seconds |
|--------------|-----------------------------------|

### Options

- Local LCD Display w/audible alarm
- Energy Monitoring

For more information go to [www.cyberex.com](http://www.cyberex.com)

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2.14.10/CM/2.5k

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