

# DIRIS Digiware BCM

Branch-circuit monitoring strip with integrated current sensors



DIRIS Digiware BCM 21 circuits, 1 in. pitch



DIRIS Digiware BCM 21 circuits, 3/4 in. pitch

## The solution for

- > Data center
- > High rises
- > Commercial Buildings



## Strong points

- > 3x quicker to install than standard solutions
- > 2x quicker to configure than standard solutions
- > Minimal footprint
- > Maximum reliability

## Conformity to standards

- > UL 61010-1  
CSA-C22.22 No. 61010-1  
Guide FTRZ/PICQ  
File E257746
- > ANSI C12.20
- > IEC 61557-12



## Integrated technologies



For more information see our website  
[www.socomec.us](http://www.socomec.us)

## Create your project

- > Find the best DIRIS Digiware configuration:  
[www.meter-selector.com](http://www.meter-selector.com)  
**METER SELECTOR**  
DIGITAL TOOL AVAILABLE

## Function

The DIRIS Digiware BCM is a multi-circuit metering strip with 21 integrated sensors and allows individual circuit monitoring within any of any electrical panelboard (Remote Power Panel, lighting panel, power panel etc.). The DIRIS Digiware BCM is also equipped with three RJ12 channels connected to TE/TR/ITR/TF current sensors and ΔIC zero sequence CTs.

## Advantages

### 3x quicker to install than standard solutions

- The integrated current sensors do not require any wiring: they are directly integrated to the BCM meter strip.
- Quick RJ45 connection between modules.
- RJ12 connection for external current sensors.
- AutoCorrect technology detects wiring errors, even off-load.

### 2x quicker to configure than standard solutions

Easy Config System Software - free of charge – enables the configuration of multiple identical panels with a “duplication” function and also provides time-saving configuration templates enabling the initial design to be adapted with ease.

### Minimal footprint

- No additional CT leads required - and therefore less cabling required.
- VirtualMonitor technology indicating breaker status eliminates the need to install auxiliary contacts.
- Connection to TE/TR/ITR/TF current sensors and ΔIC zero sequence CTs to mutualize power metering and earth leakage monitoring.

### Maximum reliability

- A robust protective plastic cover safeguards the electronic components and reduces the risk of breakage. By not simply being an exposed PCB, the unit can, therefore, be handled manually.
- PreciSense technology ensures accurate and reliable measurements over a wide measurement range: class 0.5 accuracy for active energy according to IEC 61557-12 and ANSI C12.20 standards.
- Integrated VirtualMonitor technology to access individual breaker status remotely and in real-time.

## General Characteristics

- 21 integrated current sensors.
- Measures up to 120 A.
- 3/4-in and 1-in pitch versions
- Configurable as 21 single-phase circuits, 7 three-phase circuits or a mix of single-phase, two-phase and three-phase circuits.

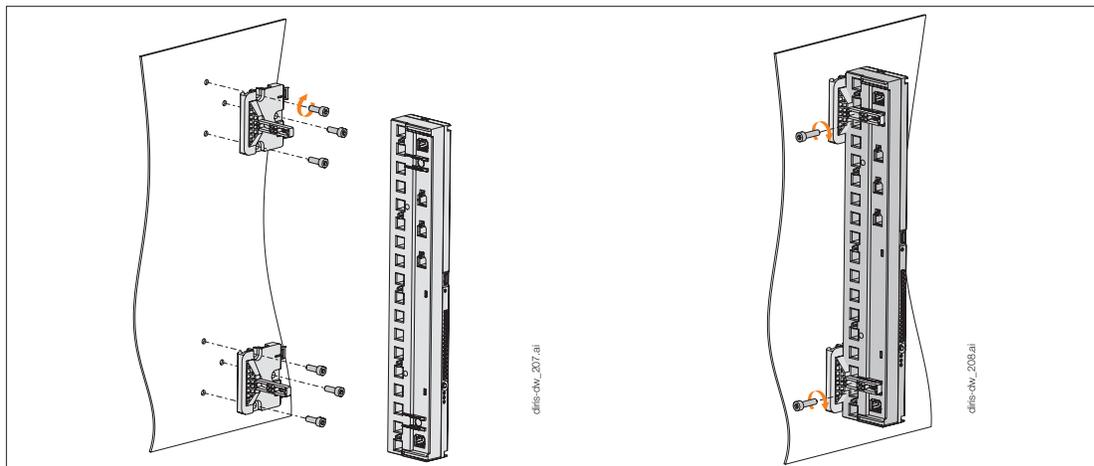
| DIRIS Digiware BCM   | BCM-2119  | BCM-2119VM  | BCM-2125  | BCM-2125VM  |
|--|---|---|---|---|
|  |  |  |  |  |
| Number of current inputs   | 21 + 3x RJ12  | 21 + 3x RJ12  | 21 + 3x RJ12  | 21 + 3x RJ12  |
| Nominal current I <sub>n</sub> / Maximum current I <sub>max</sub>  | 32...63A/80A  | 32...63A/80A  | 40...100A/120A  | 40...100A/120A  |
| Load type accepted   | 1P+N<br>2P<br>2P+N<br>3P<br>3P+N  | 1P+N<br>2P<br>2P+N<br>3P<br>3P+N  | 1P+N<br>2P<br>2P+N<br>3P<br>3P+N  | 1P+N<br>2P<br>2P+N<br>3P<br>3P+N  |
| <b>General</b>   |   |   |   |   |
| Number of integrated sensors   | 21  | 21  | 21  | 21  |
| Maximum current for integrated sensors   | 80 A  | 80 A  | 120 A   | 120 A   |
| Number of external RJ12 sensor inputs (allows to connect TE, TR/iTR, TF sensors)                                 | 3   | 3   | 3   | 3   |
| Breaker pitch / center spacing   | 19 mm   | 19 mm   | 25 mm   | 25 mm   |
| <b>Metering</b>  |   |   |   |   |
| ± kWh, ± kvarh, kVAh   | •   | •   | •   | •   |
| ΣP (kW), ΣQ (kvar), ΣS (kVA), PF   | •   | •   | •   | •   |
| P (kW), Q (kvar), S (kVA), PF per phase  | •   | •   | •   | •   |
| Predictive Power   | •   | •   | •   | •   |
| Load curves / demand profiles  | •   | •   | •   | •   |
| Peak Demand  | •   | •   | •   | •   |
| Multi-tariff (max 8)   | •   | •   | •   | •   |
| <b>Multi-measurement</b>   |   |   |   |   |
| I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>n</sub>  | •   | •   | •   | •   |
| I system   | •   | •   | •   | •   |
| Current unbalance (I <sub>nba</sub> , I <sub>dir</sub> , I <sub>inv</sub> , I <sub>hom</sub> , I <sub>nb</sub> ) | •   | •   | •   | •   |
| Phi, cos Phi, tan Phi  | •   | •   | •   | •   |
| <b>Power Quality</b>   |   |   |   |   |
| THD I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>n</sub>  | •   | •   | •   | •   |
| Individual harmonics I (up to 63rd)  | •   | •   | •   | •   |
| Crest factors I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>n</sub>                                  | •   | •   | •   | •   |
| K Factor   | •   | •   | •   | •   |
| Ground leakage current monitoring  | •   | •   | •   | •   |
| <b>Alarms</b>  |   |   |   |   |
| Overcurrents   | •   | •   | •   | •   |
| Measurement thresholds   | •   | •   | •   | •   |
| System alarms  | •   | •   | •   | •   |
| Protective device  |   | •   |   | •   |
| <b>History</b>   |   |   |   |   |
| Average values   | •   | •   | •   | •   |
| <b>Advanced features</b>   |   |   |   |   |
| VirtualMonitor technology  |   | •   |   | •   |
| AutoCorrect technology   | •   | •   | •   | •   |
| Earth leakage monitoring   | •   | •   | •   | •   |
| Reference  | 4829 0167   | 4829 0168   | 4829 0169   | 4829 0170   |

# DIRIS Digiware BCM

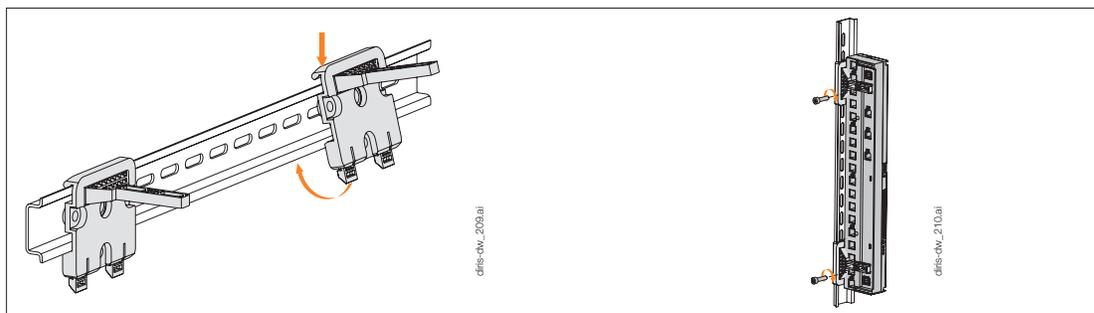
Branch-circuit monitoring module with integrated current sensors

## Mounting accessories

### Back plate mounting

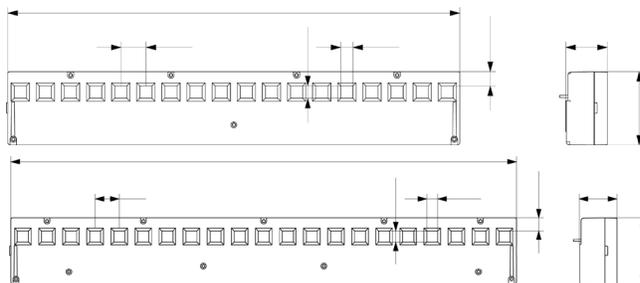


### DIN rail mounting



(1) 2x mounting brackets along with 2 x CHC M5 x 20 screws are included with the DIRIS Digiware BCM modules.

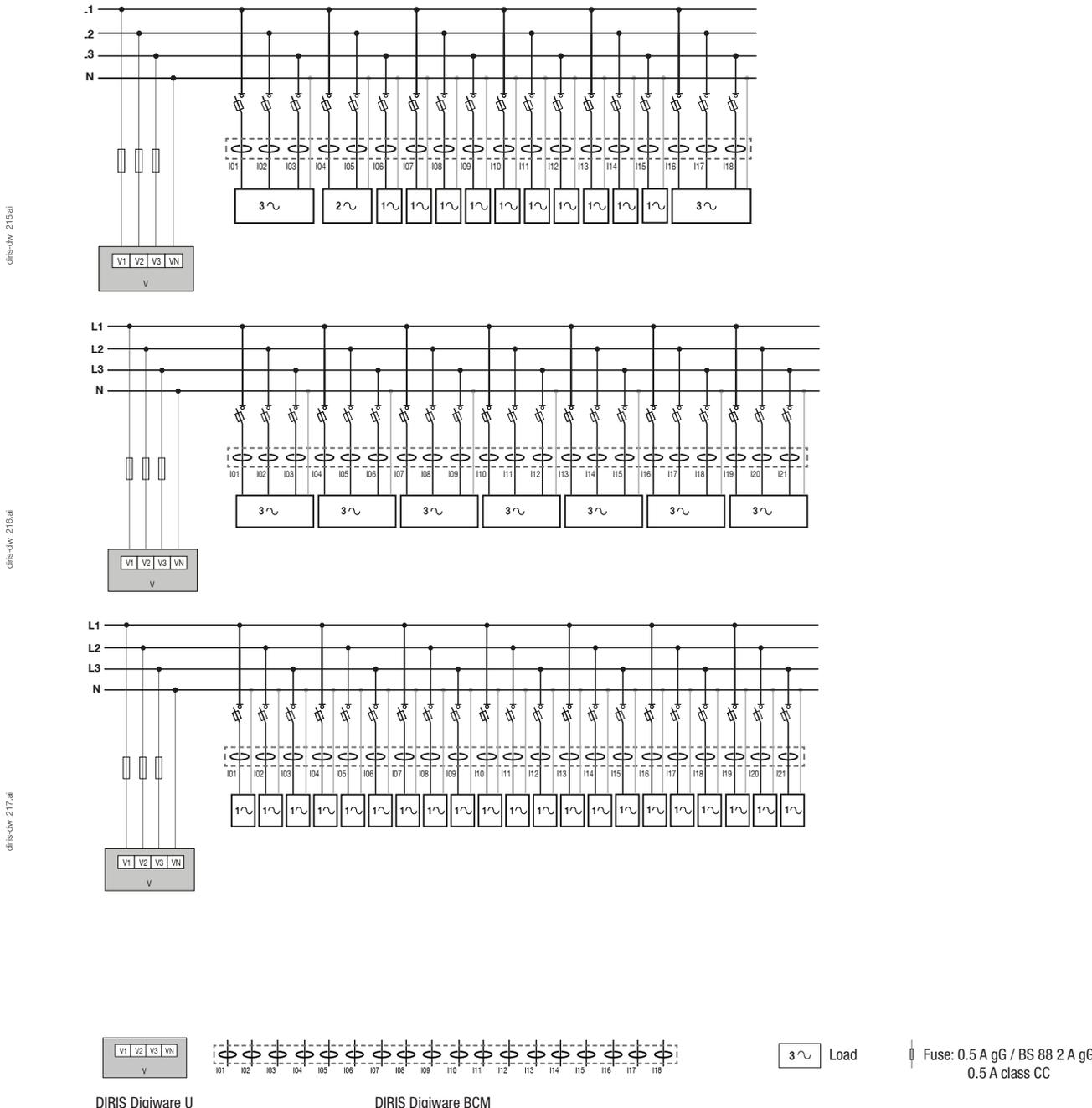
## Dimensions (in/mm)



| Model                            | A     |       | B    |      | C    |      | D    |      | E    |      | F    |      | G    |      |
|----------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                  | (in)  | (mm)  | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) | (in) | (mm) |
| DIRIS Digiware BCM-2119 / 2119VM | 15.75 | 400   | 0.75 | 19   | 0.35 | 8.8  | 0.34 | 8.6  | 0.39 | 10   | 1.18 | 30   | 2.09 | 53   |
| DIRIS Digiware BCM-2125 / 2125VM | 20.98 | 533.5 | 0.98 | 25   | 0.55 | 14   | 0.54 | 13.6 | 0.75 | 19   | 1.26 | 32   | 2.68 | 68   |

Connections

**DIRIS Digiware BCM-21xx**



# DIRIS Digiware BCM

Branch-circuit monitoring module with integrated current sensors

## Technical Characteristics

### Mechanical characteristics

|                    |                        |
|--------------------|------------------------|
| Mounting type      | DIN-rail or back plate |
| Ingress Protection | IP20                   |

### Measurement characteristics

| Current measurement                                       | DIRIS Digiware BCM-2119   | DIRIS Digiware BCM-2125 |
|---|---|-------------------------|
| Number of integrated current inputs                       | 21  | 21                      |
| Nominal current - integrated current sensors              | 32 ... 63 A   | 40 ... 100 A            |
| Maximum current - integrated current sensors              | 80 A  | 120 A                   |
| Number of RJ12 current inputs                             | 3   | 3                       |
| Associated current sensors (RJ12 current inputs)          | Solid-core TE, split-core TR/ITR, flexible TF current sensors   |                         |
| Connection type   | Socomec RJ12 cables   |                         |
| Current measurement accuracy - integrated current sensors | Class 0.5   |                         |
| Current measurement accuracy - RJ12 current inputs        | Class 0.2 DIRIS Digiware BCM alone<br>Class 0.5 with TE, ITR or TF sensors<br>Class 1 with TR sensors |                         |
| <b>Energy measurement</b>                                 |   |                         |
| Active Energy accuracy - integrated current sensors       | Class 0.5   |                         |
| Active Energy accuracy - RJ12 current inputs              | Class 0.2 DIRIS Digiware BCM alone<br>Class 0.5 with TE, ITR, TF sensors<br>Class 1 with TR sensors   |                         |
| Reactive Energy accuracy - integrated current sensors     | Class 1   |                         |
| Reactive Energy accuracy - RJ12 current inputs            | Class 1 with TE, ITR, TF sensors<br>Class 2 with TR sensors   |                         |

### Communication characteristics

| Digiware bus    |   |
|-----------------|---|
| Connection type | Socomec RJ12 cable                        |
| Function        | Proprietary bus connecting Digiware units |
| USB             |   |
| Connection type | USB Type Micro-B                          |
| Protocol        | Modbus RTU over USB                       |
| Function        | Firmware upgrade and configuration        |

### Environmental characteristics

|                       |   |
|-----------------------|---|
| Storage temperature   | -40 ... +158°F / -40 ... +70°C                |
| Operating temperature | +14 to +131 °F / -10 to +55°C                 |
| Humidity              | 0% to 97% RH / +131°F / +55°C, non condensing |
| Operating altitude    | ≤ 6560 ft / 2000 m                            |

### References

| DIRIS Digiware BCM |  | Reference |
|--------------------|--|-----------|
| BCM-2119           | 21 current inputs (19 mm / 3/4 in pitch)                   | 4829 0167 |
| BCM-2119VM         | 21 current inputs (19 mm / 3/4 in pitch) + Virtual Monitor | 4829 0168 |
| BCM-2125           | 21 current inputs (25 mm / 1 in pitch)                     | 4829 0169 |
| BCM-2125VM         | 21 current inputs (25 mm / 1 in pitch) + Virtual Monitor   | 4829 0170 |

| Accessories   |  | Reference |
|---|--|-----------|
| BCM-2119 DIN-rail brackets (2 pieces) <sup>(1)</sup>                              |  | 4829 0197 |
| BCM-2115 DIN-rail brackets (2 pieces) <sup>(1)</sup>                              |  | 4829 0198 |
| Digiware Bus terminating resistor (already supplied with DIRIS Digiware C, M & D) |  | 4829 0180 |
| 6.5-ft USB Cable for configuration - Type A to Type Micro-B                       |  | 4829 0050 |

<sup>(1)</sup> 2 DIN-rail brackets are already supplied with the DIRIS Digiware BCM meter

| Digiware bus cables <sup>(2)</sup>     |                         | Reference |
|--|-------------------------|-----------|
| RJ45 cables for Digiware Bus           | Length 0.20 ft / 0.06 m | 4829 0189 |
|  | Length 0.32 ft / 0.10 m | 4829 0181 |
|  | Length 0.66 ft / 0.20 m | 4829 0188 |
|  | Length 1.64 ft / 0.50 m | 4829 0182 |
|  | Length 3.28 ft / 1 m    | 4829 0183 |
|  | Length 6.56 ft / 2 m    | 4829 0184 |
|  | Length 9.84 ft / 3 m    | 4829 0190 |
|  | Length 16.4 ft / 5 m    | 4829 0186 |
|  | Length 32.8 ft / 10 m   | 4829 0187 |
| 164.04 ft / 50 m reel + 100 connectors |                         | 4829 0185 |

<sup>(2)</sup> To guarantee the proper operation of the DIRIS Digiware system, do not substitute Socomec Digiware bus cables with standard Ethernet RJ45 cables.

| Commissioning                 |  | Reference  |
|-------------------------------|--|------------|
| 1/2 day remote commissioning  | Remote commissioning including installation verification, programming and communication testing  | 9230100027 |
| 1/2 day on-site commissioning | On-site commissioning including installation verification, programming and communication testing | 9230100004 |

### Expert Services

Our service engineers are an essential part of our team, and they are dedicated to ensuring your power monitoring system provides accurate and reliable measurements to your EPMS software or SCADA system.

Our services include:

- > Site audits to verify the proper wiring of your system
- > Personnel training on how to configure, operate and maintain power monitoring equipment and associated software
- > Remote and on-site commissioning to ensure that your system is up and running quickly, with peace of mind.

For further information, please contact your nearest SOCOMEC branch.

