BCM-0000-B Battery controller module

The BCM-0000-B Battery Controller Module monitors the power supply of the entire control panel. It controls the charging of up to four batteries (12 V/24 Ah to 12 V/26 Ah or 12 V/36 Ah to 12 V/45 Ah). The charging is actuated by temperature and time.

The key has three functions, depending on the state of the battery controller module:

- The LED test of the module is activated by pushing the key.
- The key starts the charging of the batteries if the battery voltage is between 18 V and 21 V. A mains power supply is required.
- The reset of the 24 V outputs. If an error occurs, the output is deactivated.

Two voltage outputs of 2.8 A at 24 V each
Temperature-controlled charging and monitoring of batteries according to EN 54-4:1997/A2:2006
Plug-and-play technology and pluggable terminal blocks

System overview

Description

24V +/-

Connector

Output max. 2.8 A (battery buffered)
Fire Alarm Systems - BCM-0000-B Battery controller module

24V +/-  Output max. 2.8 A (battery buffered)
MAIN +/-  Power supply unit UPS
MAIN FAULT  Input fault, mains
BAT1 +/-  Battery pair 1
BAT2 +/-  Battery pair 2
FAULT AC -  Main power fault signal output
FAULT BAT-  Battery fault signal output
FAULT Σ-  Collective fault signal output
FAULT +  Signal output +

Installation/configuration notes
• Do not use the 24V outputs in parallel wiring.
• For FPA-5000 systems with the MPC xxxx A Panel Controller, the BCM 0000 A Battery Controller Module must be employed.

Configuration specifications for Battery Controller Modules
• With 1 to 4 BCM modules:
  – max. 2 modules at the start of the first panel rail
  – max. 2 modules at the end of the last panel rail

• With 5 to 8 BCM modules:
  – 2 modules at the start of the first panel rail (BCM 1 and 2)
  – 2 modules at the end of the last panel rail (BCM 3 and 4)

Current consumption of the BCM modules must not exceed 10 A in Area 1.
Current consumption of the BCM modules must not exceed 10 A in Area 2.
This only applies to the current consumption for consumer loads of the outputs (1) 24 V and (2) 24 V.

Calculation of the standby current according to EN 54-4

\[
\begin{align*}
I_{\text{max,Standby}} & = \frac{C_{\text{Batt}} \times I_{\text{Alarm}} \times 0.5h}{t_{\text{Standby}}} \\
I_{\text{max,A}} & = 6A - \frac{C_{\text{Batt}}}{18h} \\
I_{\text{nom}} & = \min[I_{\text{max,Standby}}, I_{\text{max,A}}]
\end{align*}
\]

Formula (1) gives the maximum panel current required to provide a specific buffering time \( I_{\text{max,Standby}} \).
Formula (2) gives the maximum panel current with simultaneous consideration of the battery charge \( I_{\text{max,A}} \).
According to formula (3), the required standby current of the panel \( I_{\text{nom}} \) is based on the smaller value of the two maximum current values of the panel.
Parameter:
• \( t_{\text{Standby}} \) = buffering time in hour
• \( I_{\text{Alarm}} \) = maximum alarm current \( I_{\text{max,B}} \)
• \( C_{\text{Batt}} \) = battery capacity in Ah
The following capacities are feasible:
• 24 – 26 Ah and 36 – 45 Ah for 2 batteries
• 48 – 52 Ah and 72 – 90 Ah for 4 batteries

Parts included

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BCM-0000-B Battery Controller Module</td>
</tr>
</tbody>
</table>
Fire Alarm Systems

**BCM-0000-B Battery controller module**

### Technical specifications

#### Electrical

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>20.4 V DC to 30 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption</td>
<td></td>
</tr>
<tr>
<td>• Standby</td>
<td>25 mA</td>
</tr>
<tr>
<td>• Fault</td>
<td>40 mA</td>
</tr>
<tr>
<td>Voltage outputs</td>
<td></td>
</tr>
<tr>
<td>• 2 outputs, switchable</td>
<td>+24 V (20.4 - 30 V)</td>
</tr>
<tr>
<td></td>
<td>2.8 A</td>
</tr>
<tr>
<td></td>
<td>battery-buffered (programmable)</td>
</tr>
<tr>
<td>Capacity of the outputs</td>
<td>0 V / 0 to 20 mA</td>
</tr>
<tr>
<td></td>
<td>BAT FAULT, AC FAULT and collective FAULT</td>
</tr>
<tr>
<td>Maximum current of the module</td>
<td>Max. 6 A</td>
</tr>
<tr>
<td>• to the panel rails (PRS 0002 C/PRD 0004 A)</td>
<td>Max. 6 A</td>
</tr>
<tr>
<td>• of the outputs</td>
<td>Max. 5.6 A (2 x 2.8 A, not in parallel wiring)</td>
</tr>
<tr>
<td>Maximum battery resistance (fault threshold)</td>
<td>430 mΩ</td>
</tr>
</tbody>
</table>

#### Mechanics

<table>
<thead>
<tr>
<th>Operating/display elements</th>
<th>Power ON</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trouble mains/batt. 1/batt. 2</td>
</tr>
<tr>
<td>• 1 green LED</td>
<td></td>
</tr>
<tr>
<td>• 3 yellow LEDs</td>
<td></td>
</tr>
<tr>
<td>• 1 key</td>
<td></td>
</tr>
<tr>
<td>Batteries charge at V &lt; 21 V and central units start with battery current</td>
<td></td>
</tr>
</tbody>
</table>

### Housing material

ABS plastic, Polylac PA-766 (UL94 V-0)

### Housing color

Satin finish, anthracite, RAL 7016

### Dimensions

Approx. 127 x 96 x 60 mm (5.0 x 3.8 x 2.4 in.)

### Weight

• Without packaging Approx. 195 g (6.9 ounces)
• With packaging Approx. 340 g (12 ounces)

### Environmental conditions

| Permitted operating temperature | -5°C to 50°C (23°F to 122°F) |
| Permitted storage temperature   | -20°C to 85°C (-13°F to 185°F) |
| Permitted relative humidity     | 95%, non-condensing |
| Protection class as per IEC 60529 | IP 30 |

### Ordering information

**BCM-0000-B Battery controller module** monitors the power supply of the fire panel and the charging of the batteries

Order number **BCM-0000-B | F.01U.081.384**

---

**Notice**

If the batteries are placed in a power supply housing, the cable set CBB 0000 A is required (cable length for BCM/battery 180 cm).

---

**Representation by:**

Europe, Middle East, Africa:

Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: +31 40 2577 284
www.boschsecurity.com/en/contact/

Germany:

Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Gräfratzen
Tel.: +49 (0)89 6290 0
Fax: +49 (0)89 6290 1020
de.securitysystems@bosch.com
www.boschsecurity.com

North America:

Bosch Security Systems, LLC
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
onlinehelp@us.bosch.com
www.boschsecurity.com

Asia-Pacific:

Robert Bosch (SEA) Pte Ltd. Security Systems
11 Blash Street 21
Singapore 573943
Phone: +65 6571 2608
Fax: +65 6571 2669
www.boschsecurity.com/en/contact/
www.boschsecurity.com

---

© Bosch Security Systems 2022