

About

The BP3M is a backplane designed to host up to three Qontrol motor modules, providing power, serial communications, and six pluggable terminal block CABM6 motor outputs.

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Description

The BP3M provides wiring and connectors to facilitate the connection of the six motor output channels of three Qontrol motor control modules to six CABM6 motor cables. It receives power for the connected modules and provides USB-to-RS232 conversion to enable communication with the PC.

Power

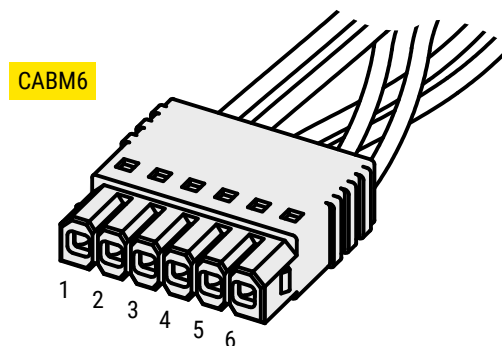
One power receptacle is provided: a barrel connector for 24-V controller input. Note that all other module voltages are derived from this input, and no other supply is required.

Table 1: Barrel connector properties

Maximum current	5 A
Barrel diameter	6.3 mm
Pin diameter	2.1 mm & 2.5 mm
Polarity	Centre positive

CABM6 motor cable connections

The CABM6 cable provides a field re-wireable connection for a single bipolar stepper motor with a single switch-type interlock. It comprises six conductors. A pinout diagram of the CABM6 connector (BP3M side) is shown below.



Communications

A standard mini-USB port is provided to communicate with the modules in the backplane. This port converts to and from the internal RS-232 bus using genuine FTDI parts¹. Communicate with the first module by using these virtual COM port settings:

¹ Drivers for all major operating systems can be found online at ftdichip.com/drivers/vcp-drivers/.



Baud rate	115200
Bits per symbol	8
Stop bits	1
Flow control	None

Test the connection with a universal command like “ID?”. For more information on the communications protocol of each module, consult that module’s documentation.

Indicator LED

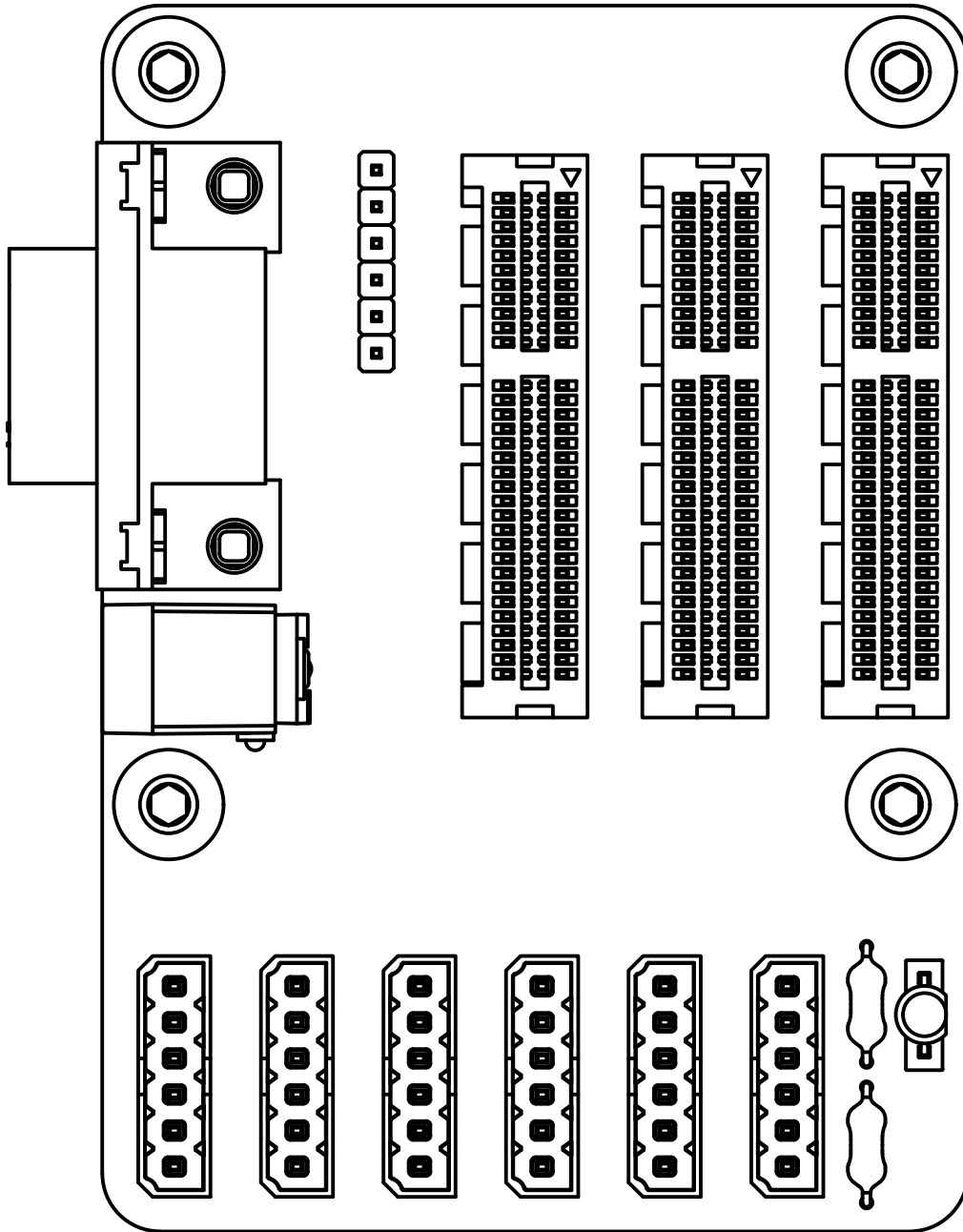
The BP8 includes a bi-colour LED indicator. This backplane indicator is simply an OR of the “device active” (green) and “error” (red) indicator signals of any connected modules—no logic is done on the backplane itself.

Populating the backplane

Insert the first module into Slot 0 of the backplane. The inserted modules must form a *continuous chain* from the first slot, to allow the modules to communicate with each other. If your application calls for some slots to remain empty, Qontrol offers the BLANK8 blank module which you can insert in place of a full module to achieve this effect.



Mechanical





Notes and disclaimer

If you find an error in this document, or have suggestions for how we could make it better, please do get in touch with us at support@qontrol.co.uk with your ideas and feedback.

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Revision history

1.0 (this version)	2021-04-08
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