PDM30 - POWER DISTRIBUTION MODULE

MoTeC's 30 output Power Distribution Module is designed to provide electronically switched power to the various electrical systems in the vehicle such as motors, lights, solenoids, and electronic devices such as ECUs and data acquisition systems.

The module replaces conventional relays, fuses and circuit breakers to simplify wiring and switch requirements, while increasing reliability.

FEATURES

- Each output is over-current, short circuit and thermal overload protected
- Outputs programmable in 1 A steps and controllable via a combination of switch inputs, CAN messages and logic functions
- Performs up to 200 logic operations and functions that can be used to selectively turn off systems
- Provides full diagnostic information via CAN

SOFTWARE

PDM Manager software is used for:

- Configuring all inputs, outputs, CAN messages and conditions
- Monitoring all channel values
- Output testing
- Firmware updating

SPECIFICATIONS

Inputs

- 16 x switch inputs: range 0 to 51 V, resolution 0.2 V

Outputs

- 8 x 20 A outputs: 20 A continuous, 115 A transient (typical)
- 22 x 8 A outputs: 8 A continuous, 60 A transient (typical)

Communications

- 1 x CAN

Operating Voltage

- 30 V max

Ingress Protection (IP) Rating

- Conformal coating on PCB

Physical

- 1 x 34 and 1 x 26 pin waterproof connectors, 1 x M6 stud
- Case size 107.5 x 127.5 x 38.7 mm
- Weight 270 grams

COMPATIBILITY

MoTeC ECU Models

- M1 Series
- Discontinued: M84, M400, M600, M800, M880

MoTeC Dash/Logger Models

- C125, C127, C1212, C185, C187, C1812, CDL3, L120, L180
- Discontinued: SDL, SDL3, ADL, ADL2, ADL3, ACL

ACCESSORIES

MoTeC UTC #61059

(UTC is required, not compatible with MoTeC CAN cable)

WIRING

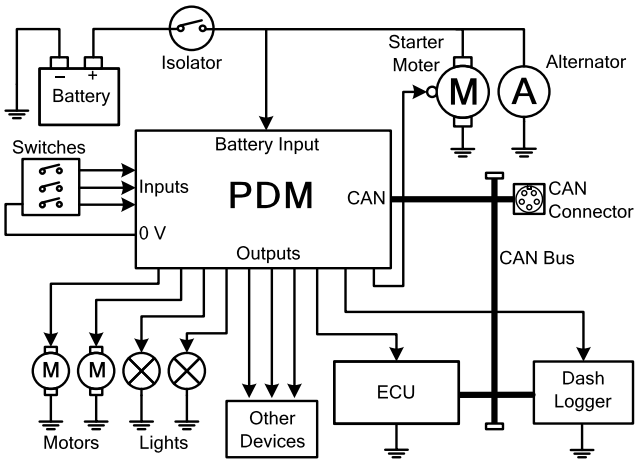
CAN Wiring

The PDM is wired onto the CAN bus. Please ensure wiring is according to CAN requirements and the CAN bus has at least one 100R terminating resistor.

To communicate to the PC, a CAN connector must be wired into the CAN bus. To connect the PDM directly to the CAN connector, wire according to the following table.

PDM Pin	PDM Name	CAN Connector Pin	CAN Connector Wire
B25	CAN Lo	4	Green
B26	CAN Hi	5	White
A28	0 V	1	Black

Example Wiring



Wire Gauges

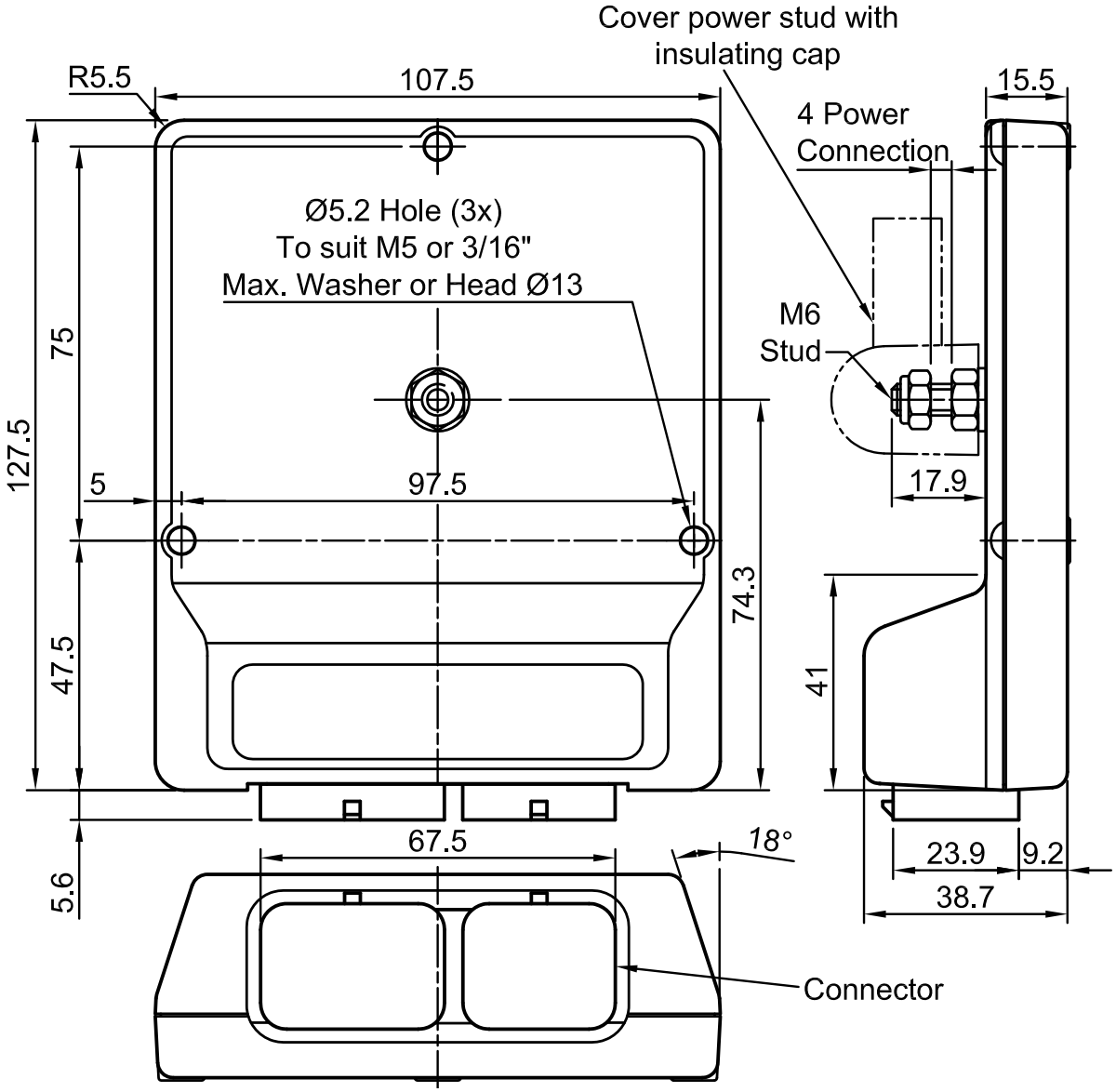
Suitable wire gauges are 24# to 20# for the 8 A outputs and 20# to 16# for the 20 A outputs. The wire gauge must be chosen to suit the current consumed by the connected device and to ensure that the voltage drop is acceptable. In a long run it may be necessary to use a heavier gauge wire to minimise voltage drop. The wire gauge must also be compatible with the connector pin; using a smaller than recommended wire gauge may result in a poor crimp.

DIMENSIONS AND MOUNTING

Measurements in mm.

The product provides through holes for mounting. See drawing for details.

Recommended mounting torque value is 5 Nm. The torque value must not exceed 5.5 Nm.



PINOUT

Connector A

34 pin waterproof connector, mating connector #65044

Pin	Name	Function
A1	OUT1	20 A Output 1 (with A10)
A2	OUT9	8 A Output 9
A3	OUT2	20 A Output 2 (with A12)
A4	OUT10	8 A Output 10
A5	OUT3	20 A Output 3 (with A14)
A6	OUT11	8 A Output 11
A7	OUT4	20 A Output 4 (with A16)
A8	OUT12	8 A Output 12
A9	OUT5	20 A Output 5 (with A17)
A10	OUT1	20 A Output 1 (with A1)
A11	OUT13	8 A Output 13
A12	OUT2	20 A Output 2 (with A3)
A13	OUT14	8 A Output 14
A14	OUT3	20 A Output 3 (with A5)
A15	OUT15	8 A Output 15
A16	OUT4	20 A Output 4 (with A7)
A17	OUT5	20 A Output 5 (with A9)
A18	OUT16	8 A Output 16
A19	DIG2	Digital/Switch Input 2
A20	OUT17	8 A Output 17
A21	DIG4	Digital/Switch Input 4
A22	OUT18	8 A Output 18
A23	DIG7	Digital/Switch Input 7
A24	OUT19	8 A Output 19
A25	OUT20	8 A Output 20
A26	VBATT-	Battery Negative
A27	DIG1	Digital/Switch Input 1
A28	GND	0 V
A29	DIG3	Digital/Switch Input 3
A30	DIG5	Digital/Switch Input 5
A31	DIG6	Digital/Switch Input 6
A32	DIG8	Digital/Switch Input 8
A33	DIG9	Digital/Switch Input 9
A34	DIG10	Digital/Switch Input 10

Connector B

26 pin waterproof connector, mating connector #65045

Pin	Name	Function
B1	OUT21	8 A Output 21
B2	OUT22	8 A Output 22
B3	OUT6	20 A Output 6 (with B9)
B4	OUT23	8 A Output 23
B5	OUT7	20 A Output 7 (with B11)
B6	OUT24	8 A Output 24
B7	OUT8	20 A Output 8 (with B13)
B8	OUT25	8 A Output 25
B9	OUT6	20 A Output 6 (with B3)
B10	OUT26	8 A Output 26
B11	OUT7	20 A Output 7 (with B5)
B12	OUT27	8 A Output 27
B13	OUT8	20 A Output 8 (with B7)
B14	OUT28	8 A Output 28
B15	DIG13	Digital/Switch Input 13
B16	OUT29	8 A Output 29
B17	DIG15	Digital/Switch Input 15
B18	VBATT-	Battery Negative
B19	OUT30	8 A Output 30
B20	DIG11	Digital/Switch Input 11
B21	DIG12	Digital/Switch Input 12
B22	GND	0 V
B23	DIG14	Digital/Switch Input 14
B24	DIG16	Digital/Switch Input 16
B25	CAN Lo	CAN Low
B26	CAN Hi	CAN High

Connector C

M6 stud, mating: eyelet and M6 nut

Pin	Name	Function
C1	VBATT+	Battery Positive

PRODUCT INFORMATION

Compliances

This product is designed for use in a vehicle. As such, this product complies with the following standard:

- Directive 2014/30/EU: Electromagnetic Compatibility; by application of UNECE Regulation No.10 (R10) Rev 5.

Installation

IP Rating (dust or water ingress)

This product should be installed in a protected location where only occasional water splashing occurs and where the exposure to dust does not exceed conditions typical for vehicle installations.

Operating Temperature Range

This product is designed for an internal operating temperature range of -40 °C to 85 °C.

It should be installed in a location with sufficient air circulation and be shielded against thermal emissions from surrounding components.

Vibration Statement

This product is designed to withstand vibrations typical for normal vehicle installations.

It should not be exposed to severe and lasting vibrations. For example, the product should not be installed in solid connection to vibrating components like engines or undamped vehicle structures.

Safety

- For safe operation, use only undamaged.
- Minimal force should be exerted to plug in connectors.
- These devices may output voltages which may constitute a risk to human safety. Appropriate precautions must be taken:
  - At no time operate the device with faulty, bare or exposed wiring.
  - Adhere to the normal supply voltage limits as listed in the **Basic Specifications** section
  - Adhere to wire gauges as listed in **Wiring and Connecting**.

Repair

Do not attempt to open and/or repair the device.

For repairs, contact your local MoTeC representative and return the product via an Authorised MoTeC Dealer.

Disposal

This product should be disposed of in accordance with relevant national regulations for disposal of electronic waste.
It does not contain hazardous materials which might be subject to specific materials regulations.

Manufacturer Information

MoTeC Pty. Ltd.

121 Merrindale Drive, Croydon South,
VIC 3136, Australia.
Phone: +61 3 9761 5050
Website: *www.motec.com.au*
Email: *admin@motec.com.au*