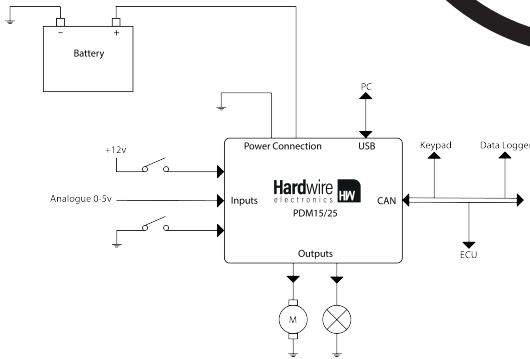# Power
Distribution
Module

A PDM (Power Distribution Module) is a device used to replace conventional relays and fuses in a car electrical system.

The Hardwire Electronics PDM takes inputs in the form of physical switches, analogue voltages, or CAN bus messages, and provides power to different electronic devices - such as radiator fans, fuel pumps, ECUs and headlights.

The current being drawn from each connected device is continuously monitored. If the measured current is too high due to a fault, the PDM switches off the respective output to prevent further damage to the wiring loom or the connected device. The PDM can then retry the output to see if the fault has cleared.

www.**hardwire-electronics**.co.uk

Hardwire
e l e c t r o n i c s **HW**

Features

General

Size	200x160x54mm
Weight	PDM 25 - 660g ｜ PDM 15 - 615g
Operating Temperature	-55 - 125°C [-67 - 257°F]
Construction	Glass Fibre reinforced plastic
IP Rating	IP67 Water and dust ingress protection
Connectors	4x Deutsch DT 12-pin
Update Rate	Up to 800Hz input and output update rate

Inputs

Type	16 analogue inputs which can also serve as digital inputs.
Measurement Range	Each input can measure voltages between 0-6V
Measurement Resolution	10-bit or 0.01V
Protection	Fully protected for input voltages between -24V to 40V
Added Features	Current sourcing for ground switch detection. Configure as active high or low. Configurable Hysteresis voltage. Latching or momentary operation.

Outputs

Type	15/25 High side outputs 80A peak, 20A continuous.
Combined	180A combined output maximum current
Output current control steps	100mA
Protection	Each output is overcurrent, overtemperature, load dump and reverse polarity protected.
5V	1x 5V 500mA output for supplying external sensors/ Hardwire Electronics CAN Keypad
Added features	Outputs can be configured to stay on for a specified time after the input is removed, useful for thermo-fans. Outputs can be retried multiple times after an over-current event is detected.

CAN bus

Interface	1x CAN2.0A/B
Bus Speed	50, 100, 125, 250, 500, 1000 kbps
Input Stream	15x inputs, fully customisable variable parsing with bit masking and math functions
Output Stream	15x Outputs, Fully customisable CAN frame construction with math functions

Logging

Storage	128Mb of onboard flash storage for logging PDM data
Speed	0.1Hz to 50Hz
Viewing	Data can be downloaded and graphed via the Hardwire Electronics PDM configurator software.

Functions

Output Functions	Each Output can be switched with a user defined function.
Logical operators	AND, OR, NOR, XOR, NAND, NOR, >, >=, <, <=, Equal, Not Equal.

Other

Gyroscope	2000°/s 3-axis measurement
Accelerometer	-8g to 8g 3-axis measurement
PCB temperature	PCB temperature measured between -40°C to 100°C

Bluetooth

Version	Bluetooth v4.0 enabled for future app.

USB

Type	USB 2.0 compliant with Mini-B
Driver	Integrated driver with Windows 10

PC App

Name	Hardwire Electronics PDM configurator software.
Compatibility	Windows 10 machines
Connectivity	Easy connection to the PDM with USB and windows integrated drivers. No unreliable USB-serial converted needed.