

Boostec halfbridge controller

—
bi-directional DC motor driver
pinout

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1 Overview

The Boostec halfbridge controller is a motor driver module that lets any Boostec controller, or any other ECU, run a reversible DC motor from one PWM output plus one plain on/off output for direction. Typical uses are electric throttle bodies, turbocharger actuators, transfer case motors and similar bi-directional loads.

All connections are made through a single 8 position connector.

Operating frequency	100–5000 Hz
Supply voltage	8–19 V, protected against reversed polarity
Operating temperature	–40 to +85 °C
Current rating	25 A peak for 1 second, 8 A continuous
Duty cycle ceiling	90 % (module shuts off above this)
Size (l/b/h)	90 × 60 × 31 mm
Channels	single, or dual channel build option

2 Wiring

2.1 Pin numbering

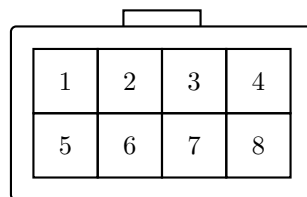


Figure 1: The 8 position connector on the module and its pin numbering, viewed looking into the face of the module's header. The mating half is numbered as a mirror image of this view. Confirm the position of pin 1 against the marking on the connector body before crimping a harness.

2.2 Connector pin-out

Pin	I/O	Function
1	OUT	Motor output A. Positive in the forward direction, negative in reverse
2	OUT	Motor output B. Positive in the reverse direction
3	IN	Ground
4	IN	Ground
5	IN	Direction input. Reverse when grounded, forward otherwise
6	IN	PWM input, active low
7	IN	+12 V supply
8	IN	+12 V supply

Pins 3 and 4 are joined internally, as are pins 7 and 8. Where the load will stay under 8 A at all times, one ground wire and one supply wire are enough. Above that, run both pins to get the current sharing across two conductors.

2.3 Connecting to the controller

Both inputs are driven low to become active, so they are wired to ordinary low-side switching outputs on the ECU:

Module pin	Controller output
6 (PWM)	A PWM capable low-side output, set inside the 100–5000 Hz window
5 (direction)	Any low-side switching output, no PWM needed
7, 8 (+12 V)	Fused supply, sized for the motor, not the ECU accessory feed
3, 4 (ground)	Power ground, back to the battery negative or an equivalent point

Do not plug the connector into the module until the outputs have been set up correctly in the controller, or the driver and the motor are both at risk.

The module ships with the matching connector housing and crimp terminals.