

Boostec canhacker controller

multi purpose CAN bus controller and logger
pinout

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1 About this controller

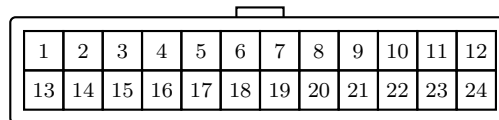
The Boostec canhacker controller is the tool for working on CAN networks. It will route data between two networks that do not otherwise speak to each other, sit in the middle of a single network and intercept or rewrite selected packets on the way past, read speed and analog sensors and publish the values onto CAN, or drive tachometers, speedometers, relays and PWM loads from data it receives over CAN. It will do any combination of those jobs at the same time.

On top of that there are user configurable logic functions, general purpose PID controllers and lookup functions.

Everything lands on one 24 circuit connector.

2 Wiring

2.1 Pin numbering



Connector A, 24 circuits

Figure 1: Circuit numbering of the connector, viewed looking into the face of the header on the controller. The mating half is numbered as a mirror image of this view. Confirm the position of circuit 1 against the marking on the connector body before crimping a harness.

2.2 Connector A

Pin	I/O	Function	Note
1	OUT	5 V supply for sensors	200 mA max
2	IN	Analog 0	51 k Ω pull up to 5 V
3	IN	Analog 1	51 k Ω pull up to 5 V
4	OUT	Ground return for sensors	
5	IN	Analog 4	0–5 V, 51 k Ω pull up to 5 V
6	IN	Analog 5	0–5 V, 51 k Ω pull up to 5 V
7	IO	CAN 1 high	120 Ω termination on board
8	IO	CAN 1 low	120 Ω termination on board
9	OUT	Output 1	Low-side, 5 A max

Pin	I/O	Function	Note
10	OUT	Output 2	Low-side, 5 A max
11	IN	Analog 7	51 k Ω pull up to 5 V
12	IN	Power ground	
13	IN	Analog 6	51 k Ω pull up to 5 V
14	IN	Analog 2	51 k Ω pull up
15	IN	Analog 3	51 k Ω pull up
16	IO	CAN 2 high	120 Ω termination on board
17	IO	CAN 2 low	120 Ω termination on board
18	IN	Digital in 1	6 k Ω pull up to 5 V. Tolerant of 12 V and AC, so VR speed sensors are fine
19	IN	Digital in 2	6 k Ω pull up to 5 V. Tolerant of 12 V and AC, so VR speed sensors are fine
20	IN	Digital in 3	6 k Ω pull up to 5 V. Tolerant of 12 V and AC, so VR speed sensors are fine
21	OUT	Output 4	Low-side, 5 A max
22	OUT	Output 3	Low-side, 5 A max
23	IN	Digital in 4	6 k Ω pull up to 5 V. Tolerant of 12 V and AC, so VR speed sensors are fine
24	IN	Switched +12 V supply	

Each low-side output is rated 5 A on its own, but the four of them together must not draw more than 6 A.

3 Notes

3.1 Both CAN networks

CAN 1 and CAN 2 are both terminated on board at 120 Ω . That is the right answer when the controller sits at the end of a bus, and the wrong answer when it sits in the middle of one that is already terminated at both ends. Count the terminations on the network before wiring it in.

3.2 Splitting a network

For filtered routing, an intact network gets cut into two segments with the controller between them, and the controller decides what crosses over. Set both routing parameters to unfiltered first, power cycle, and confirm the network still works end to end before any filter rules go in. Then switch the direction you want to police over to filtered.

3.3 Speed sensor inputs

All four digital inputs take 12 V and AC signals, so variable reluctance speed sensors land on them directly with no conditioning.

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