

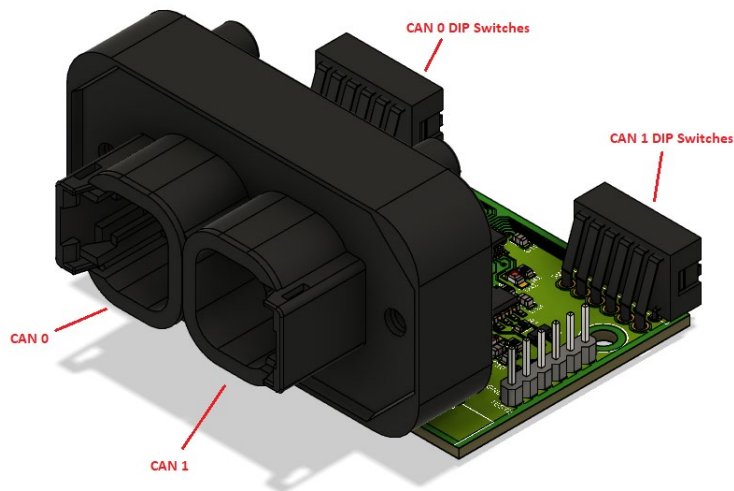


CAN Gateway REV A User Guide

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Layout



DIP Switches

Each CAN port has its own control DIP switches that can modify the outgoing CAN messages. Each switch is clearly labelled 1 through 6 and is OFF when down and ON when up (as labelled on the switch).

The switches are designated as described below:

Switch #	Function	Description
1	+/- 100	When set to ON, the 100 (decimal) will be added or subtracted to each outgoing CAN packet.
2	+/- 10	When set to ON, the 10 (decimal) will be added or subtracted to each outgoing CAN packet.
3	+/- 1	When set to ON, the 1 (decimal) will be added or subtracted to each outgoing CAN packet.
4	Add or Subtract	When set to OFF, the id modifier will be added to each CAN packet. When set to ON, the id modifier be subtracted to each CAN packet.
5	Speed B	Sets the bus speed for this CAN port. See speed modifier table for usage.
6	Speed A	

Note, switch 1,2 & 3 accumulate. For example if switch 1,2 & 3 are all ON, then any outgoing packet ids will have $100 + 10 + 1 = 111$ added to them.

Switch 5	Switch 6	Bus Speed
ON	ON	125 kbps
ON	OFF	250 kbps
OFF	ON	500 kbps
OFF	OFF	1000 kbps or 1Mbps

Operation

The CAN Gateway acts as a bridge between the two CAN ports. All messages received on CAN 0 will be transmitted out of CAN 1 (albeit modified) and vice versa.

The device responds to changes to the DIP switches on the fly, and does not need to be power cycled for changes to take effect. There will be a delay between messages received on one port and sent out the other but for the most part is minimal.

Important: The device will not operate correctly if CAN 0 and CAN 1 are plugged into the same bus. This is because any CAN message going into CAN 0 will come out of CAN 1 modified and go back into CAN 0, causing an infinite loop of messages.

Examples:

Lets say CAN 0 should be at 1Mbps and CAN 1 should be at 500kbps, but the CAN ids should otherwise remain unchanged:

- Set switches 1,2 & 3 to OFF.
- Switch 4 has no impact in this scenario.
- On CAN 0 set switch 5 & 6 to OFF to set CAN 0 bus speed to 1Mbps.
- On CAN 1 set switch 5 OFF and switch 6 ON to set CAN 1 bus speed to 500kbps
- Message will now flow between the two can ports at different speeds.

Lets say all message going into CAN 0 should come out of CAN 1 with an id +10 higher. Both buses operate at 1Mbps:

- CAN 0: Set switch 1,2 & 3 to OFF
- CAN 1: Set switch 1 & 3 to OFF and switch 2 to ON
- Both: Set switch 4 to OFF
- Both: Set switch 5 & 6 to OFF