RaceGrade

Specification

Document Number		RG_SPEC-0123	
Title		RG.KT.0352 Mercury OTC-M Serial to CAN GPS Gateway Kit	
Revision	**Date**	**Prepared By**	**Change History**
1.0	3/19/25	KM	Initial Release
1.1	5/16/25	CA	CAN term resistance updated and Tune 1.5 instructions added

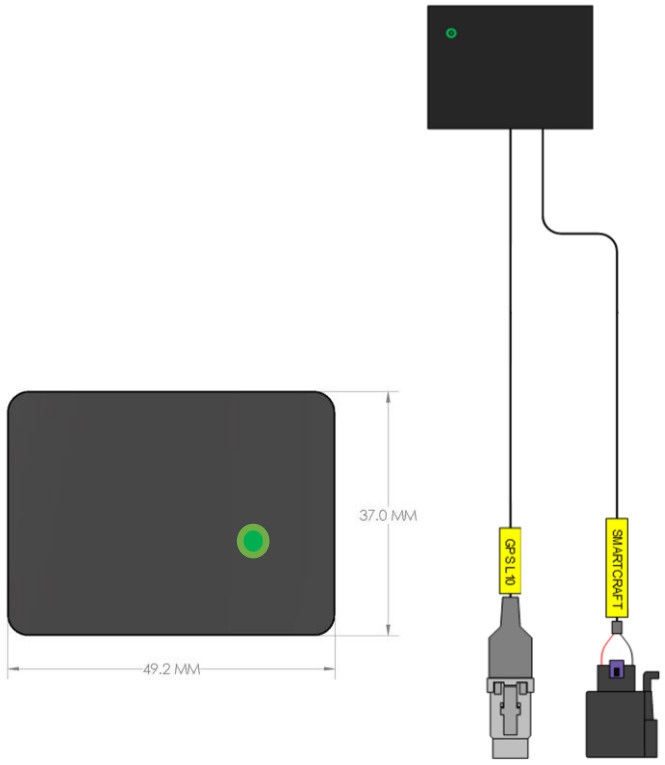
OTC-M Part # RG.DV.0326

Description:

This kit includes parts to add GPS to a MoTeC ECU equipped Mercury watercraft. The RaceGrade OTC-M converts serial data stream from a MoTeC L10 GPS into the M1 CAN Decode format. The serial connection will directly connect to a MoTeC L10 GPS device. This serial GPS data is converted onto CAN starting at base message ID 0x680 for decode by an M1 ECU. Additionally, the OTC-M provides the correct 5v power supply for these GPS devices.

OTC-M Technical Specifications

Voltage:	9.0v – 18.0v
Current:	100 mA max draw
LED output:	Green = CAN and Serial operational Red = Serial bus fault Blue = CAN bus fault Purple = Serial and CAN bus fault
CAN communications:	CAN information sent on base ID 0x680 250kb/s
CAN termination:	120ohm
Serial data:	Baud rate: 38400 Data length: 8 bit Parity: None Stop Bits: 1 bit
Operating temp:	-40°C to 70° C
Size:	1.94in X 1.45 in X 0.64 in 49.25 mm x 36.8 mm x 16.3 mm
Weight:	90 grams
Mounting:	Double sided Velcro or similar
Harness:	150 mm wire lead for each leg



Smartcraft: M 12-0116 (10 Pin)

PIN	DESCRIPTION
B	GROUND
F	POWER
J	CAN HI
K	CAN LO

GPS: DTM04-4S

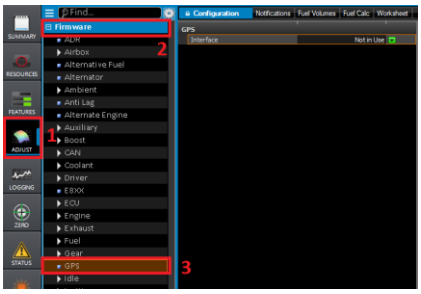
PIN	DESCRIPTION
1	GROUND
2	SERIAL RX
3	N/C
4	5v

*Only the populated pins on the connector are shown in the connector pinout

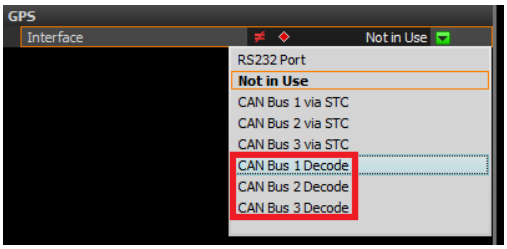
GPS Part # M GPS-L10

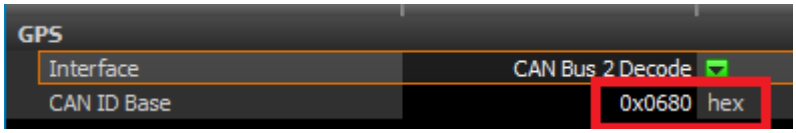
Tune 1.5 Instructions :

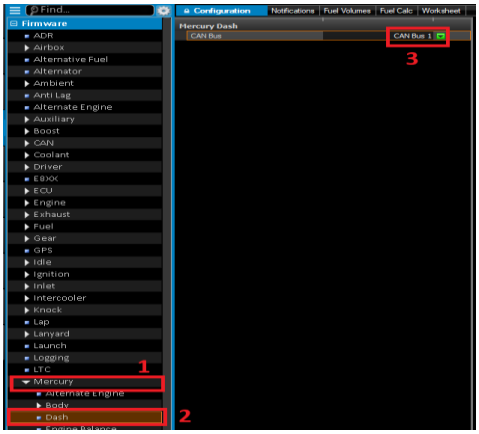
1. Locate the GPS group under Adjust (1)-> Firmware (2) ->GPS (3).



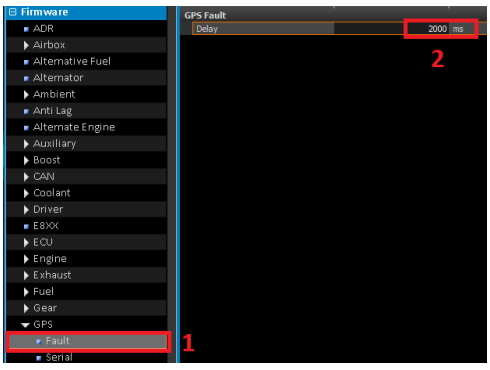
2. Under the Interface option in the GPS group, select the CAN Bus Decode that correlates to whichever CAN Bus the OTC-M is connected to. If you do not know which Bus this is, start with whichever Bus is populated under Mercury (1)->Dash (2)->CAN Bus (3). If that does not work, try the other two options. Make sure that the CAN ID Base is 0x0680.

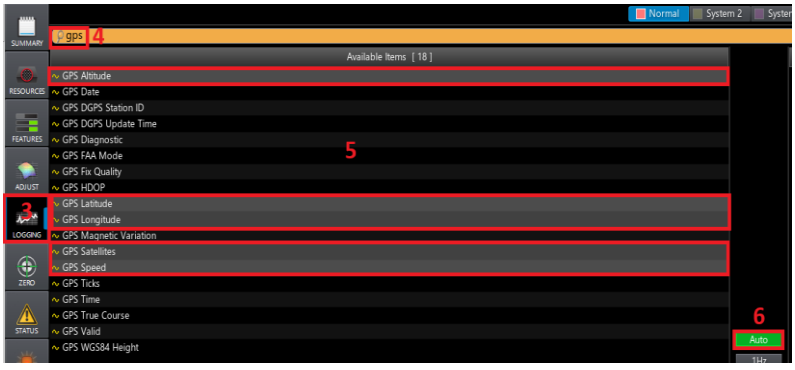






3. Under the GPS group, select Fault (1) and change the delay to be 2000ms (2). Select the Logging tab (3), search "gps" (4), CTRL click GPS Altitude, GPS Latitude, GPS Longitude, GPS Satellites, and GPS Speed (5), and finally click Auto (6).





4. CTRL + S to save changes.