

# BULLETIN

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## FLGB 1300 & FLGB F4

All cars on track must compete with the below mentioned ECU only as identified by the manufacturer for the 2019 season. No changes are permitted to the ECU. Only the manufacturer has the right to change the mapping on the ECU. Any car found with the ECU/map tampered with will lead to disqualification.

### Ecumaster - EMU classic

#### General Specifications:

Enclosure protection	IP 60
Temperature range	AECQ100 GRADE3 (-40 to +85C)
Reverse battery protection	Yes, internal
Operating voltage	6-20V, immunity to transients according to ISO 7637
Operating current (ECU)	< 0.5A
Size (mm)	155x120x45
Weight (g)	500
Connectors	2 x 24 FCI Automotive connector
Communication	USB (with PC client software), serial or CAN

#### Outputs:

Injector outputs	6 protected outputs 5A, low side
Ignition outputs	6 outputs 7A(15A peak) (passive&active coils supported)
Aux outputs	6 protected outputs 5A, low side
Stepper outputs	Full bridge up to 0.8A, can be used as separate outputs

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WBO heater	Protected low side up to 5A
+5V	1
CAN BUS	Yes, with additional module
Serial	Yes

**Inputs:**

Analog inputs	7, 10Bits, 0-5V, 4 additional analog inputs with CAN module
EGT inputs	2 for K-Type thermocouple
Knock sensor	2
Oxygen sensor	LSU 4.2 or Narrow band
Trigger inputs	3 (primary, 2 cams) Hall / VR software selectable
VSS	1 (Hall / VR)
Flex Fuel	Using CAM#2 or VSS






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**ECU to Engine all components connection**

Sl.no	Component name	Connection source	No. Of pins	Images
1	Manifold air pressure	ECM Classic	3	
2	Throttle position sensor	ECM Classic	3	
3	Distributor	ECM Classic	2	

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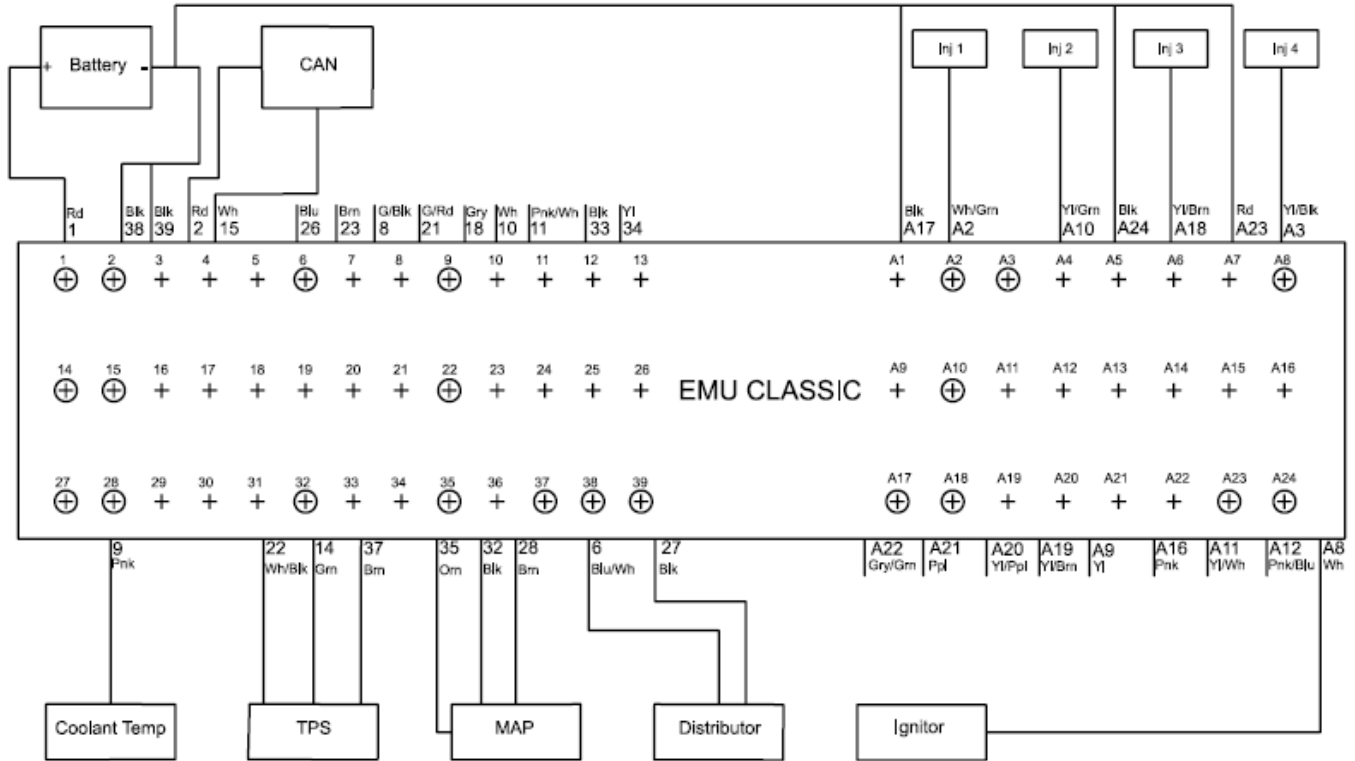



4	Ignitor	ECM Classic	4	
5	Coolant temperature Sensor	ECM Classic	3	
6	Injectors	ECM Classic	2	

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## Circuit Diagram



Drawn By	Raghav J		
Date	08/05/19		
Material			
Checked By		Part Name	EMU CLASSIC
Release Date	08/05/19	Part No.	

Note: Pins are circled to denote that they are connected to one of the many automotive components.

## EcuMaster EMU Classic Pin Index

Pin No.	Wiring colour code	Sensor/Actuator
1	Red	Battery (+)
2	Red	CAN
6	Blue/White	Distributor
9	Pink	Coolant Temp
14	Green	TPS
15	White	CAN

Pin No.	Wiring colour code	Sensor/Actuator
37	Brown	TPS
38	Black	Battery (-)
39	Black	Battery (-)
A2	White/Green	Injector 1
A3	Yellow/Black	Injector 4
A8	White	Ignitor

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22	White/Black	TPS
27	Black	Distributor
28	Brown	MAP
32	Black	MAP
35	Orange	MAP

A10	Yellow/Green	Injector 2
A17	Black	Battery(-)
A18	Yellow/Brown	Injector 3
A23	Red	Battery(-)
A24	Black	Battery(-)

**C.V. Srinath**

Technical Head FMSCI

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