

The FCR-22 engine management system redefines possibilities for 1-2 cylinder applications in both industrial and recreational sectors. It integrates cutting-edge technology, offering advanced features at an affordable price point. This innovation empowers OEMs to access top-tier engine management without a premium price point, making it a game-changer in the market.

the **Engine Specialists**



Applications

Designed for 1-2 cylinder spark ignited engines that require ultra high reliability.

At CSI, our engineers understand the demands of industrial and recreational applications and develop engine controls to suit.

Hardware Requirements

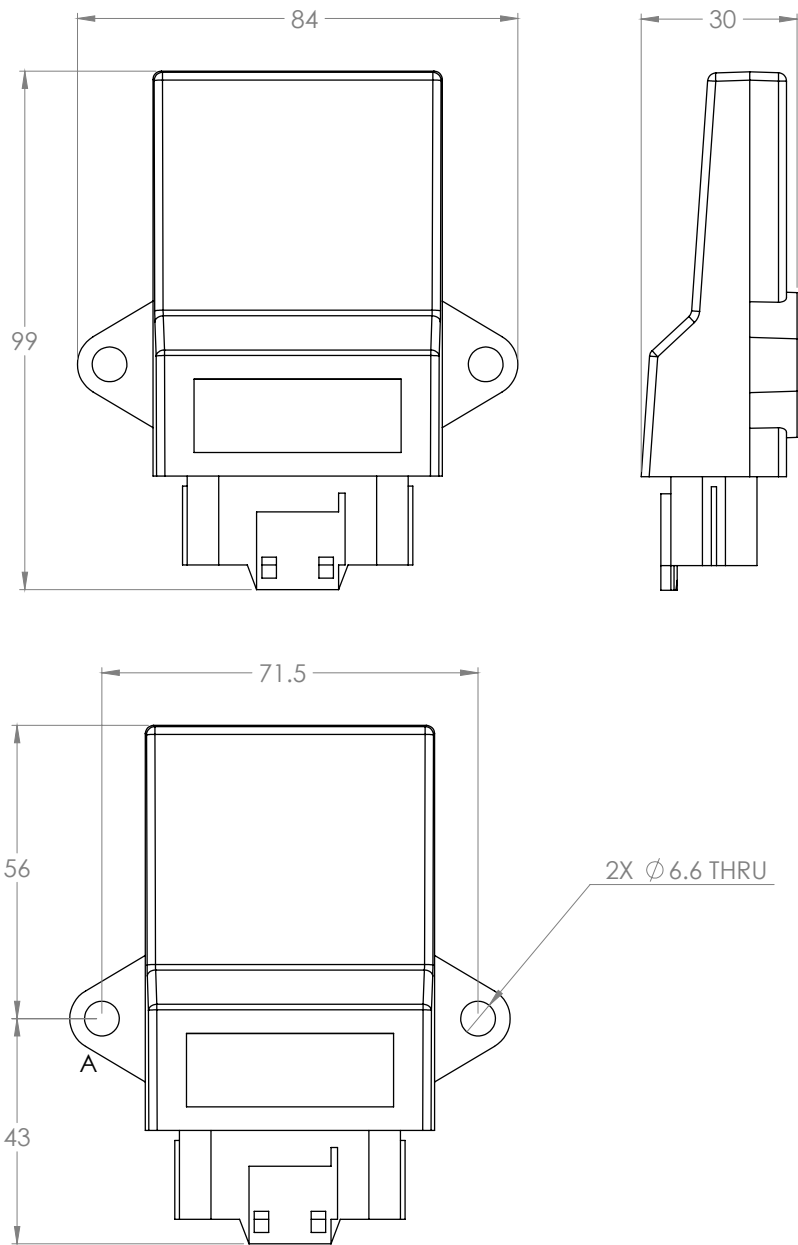
General

Attribute	Value/Data
Ambient Temperature	-40 to 60 deg C
Voltage Supply	13.7V (±3V)
Weight	N/A
Protection class	IP67 when mated
Plug connector	MX23A26SF1
Communication interface	UART XCP calibration interface

Engine Characteristics

Attribute	Value/Data
Engine Speed	300 RPM to 10000 RPM
Power	Up to 100 hp
Speed Sensor	Hall Sensor
Encoder Type	Gear wheel with missing tooth (i.e. 24-1)
Motor configuration	1-2 Cylinder
Injection system	High impedance injectors, Port injected, 1 injector per cylinder (Qty 2x)
Ignition system	Inductive ignition coil (Qty 2x)
Throttle control	Drive-by-wire via servo PWM signal
Fuel pump control	Mechanical pressure regulation or ECU controls power to Fuel Pump
AFR control	Closed-loop control

FCR-22 Overall dimensions & Pin Layout



FCR-22: Pin Layout	
Application: General Purpose Connector, JAE 26 Pin	
PN: MX23A26NF1	
Pin	Destination
1	5V Sensor
2	ANA -
3	0-5V Desired Engine Speed
4	RPM Signal (Kill Lead)
5	Battery +
6	Engine / Battery Ground
7	Malfunction Indicator Lamp
8	Engine / Battery Ground
9	Injector 2 Low Side
10	Oxygen Sensor Heater
11	Injector 1 Low Side
12	Fuel Pump Low Side
13	Ignition Coil Driver 1 Low Side
14	MAP Sensor Signal
15	Oxygen Sensor Signal
16	Fuel Pressure Signal
17	Air Temperature Signal
18	Engine Temperature Signal
19	Crankshaft Position Trigger
20	UART RX
21	UART TX
22	PTO Input
23	Servo Signal
24	Servo -
25	Servo +
26	Ignition Coil Driver 2 Low Side

Control Systems Inc. (CSI) offers a full range of Engine Control Modules (ECMs) for various industries including industrial, marine, off-road, defense, and heavy-duty. Our engineers deliver quick product customization to meet customer needs. CSI provides full-service support including calibration, durability and emissions testing to assist from concept to Manufacturer of Record (MOR).

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