



G4X MonsoonX WireIn ECU Specifications

The MonsoonX has been upgraded to provide 512 megabytes of data logging, meaning you can log much more data at a faster sample rate. Control loops are also more precise compared to its G4+ predecessor, along with advancements such as single precision floating point format fuel tables, better resolution within ignition timing and faster communications. These upgrades make the G4X Monsoon a true powerhouse in a small shell.

Engine Configurations

- 1-12 Cylinder Distributed
- 2-8 Cylinder Wasted Spark
- 1-4 Cylinder Direct Spark
- Odd Fire Engines
- 2-Stroke Engines
- Configurable Firing Order
- Configurable TDC Points (for odd fire)

Fueling Adjustments

- Up to 440 Zone Fuel Table with configurable load and RPM centers. Configurable X and Y Axis Parameters
- Multiple Fuel Tables
- Up to 6D Fuel Mapping (3D Fuel Table + 3x3D Overlay trim tables)
- Injection Rate Control for Group Injection Modes
- Master Enrichment for Traditional Fuel tuning
- Pre-Crank Prime
- First Crank Prime
- Crank Enrichment
- Post Start Enrichment
- Warm Up Enrichment
- Acceleration Enrichment
- IAT Fuel Correction
- Injector Deadtime Compensation
- Injector Short Pulse Width Compensation
- Injector Timing Control with Beginning / End Injection Definable
- AFR Table Correction
- Dual Closed Loop Lambda
- Individual Cylinder Fuel Trims
- Overrun Fuel Cut
- Idle Load Trims
- Fuel Temperature Correction

Ignition Adjustments

- Up to 440 Zone Ignition Table with configurable load and RPM centers. Configurable X and Y Axis Parameters
- Maximum Advance
- Spark Duration





- Dwell Time Table. Configurable X and Y Axis Parameters
- Multiple Ignition Tables
- Up to 6D Ignition Mapping (3D Ignition Table + 3x3D Overlay Trim Tables)
- Individual Cylinder Ignition Trim
- IAT Trim
- Voltage Correction
- ECT Trim
- OEM Compatibility
- CDI Compatibility

Limits

- Engine Temperature Dependent Progressive Limiting
- Vehicle Speed Limit
- System Voltage Limit
- User Configurable RPM Limits based on external input

Triggering

- Digital Trigger Decoding
- Reluctor, Optical Proximity or Hall Sensors
- Programmable filtering and arming thresholds
- Configurable trigger patterns or preset triggering options.
- Supports nearly all OEM trigger patterns and custom trigger arrangements

Motor-Sport Features

- Gear Shift Control (by digital inputs only)
- Launch control
- Anti Lag
- VVT Control

Communications

- via mini USB

Auxiliary Output Options

- Each Output independently configurable
- Unused ignition and Fuel outputs available as auxiliary outputs
- General Purpose Outputs
- General Purpose PWM Outputs
- Fuel Pump Control
- Fuel Pump Speed Control
- Engine Fan Control
- Air Con Clutch Control
- Air Con Fan Control
- Intercooler Spray Control
- Tacho Control
- Speedo Control





- Check Engine Light
- Purge Solenoid
- Oxygen Sensor Heater
- Switched Cam Solenoid Control
- VVT Cam Solenoid
- Boost Control Solenoid
- ECU Hold Power Control
- Shift Light Control
- Starter Control

Processing

- 150 MHz Specialised Engine Management Microprocessor
- Ignition control to 0.1 degree, fuel to 0.01 ms
- 32 Bit Floating Point Calculation
- 12 Bit ADC Resolution
- 20000+ RPM
- 4Gb Non Volatile Flash

Inputs/Output

- 4 Saturated Injector Drives (suits high impedance injectors)
- 4 Ignition Channels
- 6 Auxiliary Outputs
- 4 Digital Inputs
- +5V Out
- 2 Temperature Inputs
- 4 0-5V Analog Inputs
- 2 Trigger Inputs (Reluctor, Optical or Hall Sensors)
- On Board Baro Correction (Real Time)
- On Board 4Bar MAP Sensor

Analog Inputs

- Each channel independently configurable with preset or custom calibrations
- Wide-band O2 (from external controller e.g. Innovate LC1)
- Boost Adjust Signal
- Configurable Fault Detection Settings
- Throttle Position
- Pressure (External MAP, BAP, general purpose, fuel, oil)
- On Board Barometric Pressure Sensor
- Air Flow Meter
- Temperature (coolant, IAT, general purpose)
- Gear Detection through Analog input, CAN or RPM/Speed Calculation





Digital Inputs

- Each channel independently configurable with pull-up resistors and active state control
- All digital inputs capable of reading frequencies of up to 10kHz
- Duty Cycle measuring on all digital inputs
- Turbo speed
- Ethanol Sensor Control
- Wheel Speed Detection on all digital inputs with additional general purposed speed inputs
- Anti-Theft control through digital inputs, over CAN or both

Programmable Math Processing

- Eight individually controllable math channels with up to four parameters in each
- Math channels can be used as table axis's and as digital or analog inputs

Boost Control

- Engine Temp Correction
- IAT Correction
- Multiple Boost Tables
- External Adjustment
- Open and Closed Loop Options

Idle Control

- Solenoid Control Only

Reliable and accurate user configurable Closed Loop Control

- Air Con, Engine Fan, Power Steer, Drive Idle Ups
- Idle Ignition Control

Environment

- Internal Temperature Range -10 - 85oC
- Ambient Temperature Range -30 - 90oC
- Voltage 8 - 22V
- Operating Current 200mA
- Electrical protection on all inputs and outputs
- Onboard Barometric Pressure Sensor

Physical

- Length: 79 mm
- Width: 126 mm
- Height: 42 mm
- Weight: 360 grams
- Connector : 34 Pin Waterproof Automotive





PCLink

- Adjust ALL parameters in real time
- Mouse or keyboard operation
- Tuning
- QuickTune - automated fuel self tuning
- Logging Analysis
- Diagnostic Information
- Built In Help
- Definable Screen Layouts
- View over 300 possible runtime parameters

Package Contents

- G4X MonsoonX ECU
- Mounting Bracket
- Wiring and Installation Instructions
- 2 large Link Stickers
- 2 small Link Stickers

Manufacturing Standard

- ISO 13485

Additional Accessories (purchased separately)

- Intake Air Temperature Sensor
- 3/8 NPT (Aluminium or Steel Mounting Bosses to suit)
- 3 Channel Link Igniter
- Throttle Position Sensor
- 3 Channel Link Igniter
- Wideband O2 Controller & Sensor
- Injector Ballast Resistor Packs

