Engine Control Unit MS 6.2

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BOSCH
Invented for life

▶ Optimized for low pressure injection

▶ Full number of low pressure control functions

▶ Full number of engine functions

▶ Measurement with 41 analog inputs

▶ Multiple Software options available

The MS 6.2 engine control unit manages gasoline engines up to 12 cylinders. As a member of our MS 6 family it features a powerful digital processing core with floating point arithmetic and a high-end FPGA for ultimate performance and flexibility. The MS 6 family utilizes a new software development process based on MATLAB/Simulink which significantly speeds algorithm development by using automatic code and documentation generation. Custom functions can be quickly and easily generated. The flexible hardware design allows the MS 6.2 to support complex or unusual engine or chassis configurations.

Application

Low pressure injection	Max. 12 cylinders up to 12,500 rpm, high impedance injectors only

Physical engine model for fast application
- determine engine load by throttle position or air pressure signals
- mixture control and basic ignition guided by main signal relative load rl
- Subsystems pit speed-, launch-, rpm-limiter and ASR are integrated inside torque control
- Separated power cut functions to assist several gear cut systems
- Diagnostics
- Integrated safety strategy for 2 electronic throttle controls

Integrated support of manual gearshift	
Electronic throttle control	
VVT	
Turbo control	
Traction control	
Launch control	
Internal logger	Partition 1, 1 GB memory, diagnostic channels, 50 free configurable channels, fastest sampling 50 Hz, digital filter respecting sampling theorem
Logger options	See Software Options (not included)

Technical Specifications

Mechanical Data

Aluminum housing	
2 Bosch connectors, 196 pins in total	
Size	226 x 181 x 44 mm

Weight	1,086 g
Protection Classification	IP54
Temp. range (at internal sensors)	-20 to 80°C

Electrical Data

Power supply	6 to 18 V
CPU	Dual Core 667 MHz, FPGA

Communication

2 Ethernet
3 CAN
1 LIN
1 USB
1 RS232
1 Time sync synchronization Ethernet
3 Network screens

Inputs

Analog inputs	41
Internal measurement	1 triax acceleration 1 ambient pressure 2 ECU temperature 2 ECU voltage
Thermocouple	2 K-type
Lambda	2 LSU 4.9
Knock	4
Digital inputs	9
Digital switch Engine ON/OFF	1
Power supplies	4 sensor supplies 5 V, 50 mA 3 sensor supplies 5 V, 150 mA 7 sensor grounds 2 sensor screens

Outputs

Low pressure injection	Max. 12 cylinders up to 12,500 rpm, high impedance injectors only
Ignition	Max. 12 cylinders, coils with integrated amplifier
Further outputs	2 x 4 amp pwm lowside switch 2 x 4 amp pwm lowside switch for Lambda heater 4 x 3 amp pwm lowside switch 8 x 2.2 amp pwm lowside switch 2 x 1 amp pwm lowside switch 2 x 1 amp pwm lowside switch low dump resistant
	3 x 8,5 amp H-bridge (2 reserved for electronic throttle) 12 x low pressure injection for high impedance injectors 8 x high pressure injection for magnetic injectors 12 x ignition control
Outputs signals	1 x flywheel 1 x trigger wheel 1 x engine rpm
Application	Configurable flywheel- and trigger disc geometries Selectable links between functions and in- or outputs
Function documentation	Automatically created during code generation
MatLab code generation	Support for customer own MatLab function development

Software Tools (free download)

Data Analysis tool WinDarab 7 Light
Data Application tool Modas Sport
System Configuration tool RaceCon

Environment (not included)

Programming interface MSA-Box II	F 02U V00 327-03
Powerbox PBX 90	F 02U V01 794-05
Display DDU 9	F 02U V02 300-02

Mating Connectors (not included)

Mating Connector 91 pins	F 02U B00 711-01
Mating Connector 105 pins	F 02U B00 712-01

Software Options (not included)

Logger Package I	Extension for Partition 1: up to 720 channels, fastest sampling 1,000 Hz or 1 synchro, (max number of 1,080 channels to respect)
Logger Package II	Partition 2: 720 channels, 1 GB memory, fastest sampling 1,000 Hz or 1 synchro, long-term recording, own data protection code (max number of 1,080 channels to respect)

Logger Package III	Copy data of partition 1 to USB data stick, USB-port unlocked • Incl rugged USB flash drive • Incl. adapter cable to USB-port • Incl. adapter for wiring harness
Gear Control Package I	Gear control Mega-Line functionality, has to be used with Mega-Line components
Gear Control Package II	Gear control Bosch Motorsport functionality
Gear Control Package III	Gear control coordination to external GCU systems
Customer Code Area	Enable Customer Code Area
Ethernet Telemetry	Communication via Ethernet Telemetry Modem

Installation Notes

Inspection services	Recommended after 220 h or 2 years, no components to replace

Depending on your experiences with calibration of ECUs we recommend calibration support from Bosch Motorsport.

Please remember that the mating connectors and the programming interface MSA-Box II are not included and must be ordered separately.

Ordering Information

Engine Control Unit MS 6.2
Order number **F 02U V01 867-06**

Software Options

Logger Package I
Order number **F 02U V01 993-01**

Logger Package II
Order number **F 02U V01 998-01**

Logger Package III
Order number **F 02U V02 082-01**

Gear Control Package I
Order number **F 02U V02 107-01**

Gear Control Package II
Order number **F 02U V02 108-01**

Gear Control Package III
Order number **F 02U V02 109-01**

Customer Code Area
Order number **F 02U V02 137-01**

Ethernet Telemetry
Order number **F 02U V02 138-01**

Innovation License Device
Order number **F 02U V02 510-01**

Innovation Package Project
Order number **F 02U V02 511-01**