

Motronic MS 2.9

The MS 2.9 engine management system contains 12 ignition power stages and 24 independent injection power stages. All internal power stages are designed with a diagnosis interface. Various engine and chassis parameters can be measured and logged in the integrated flash card memory. Eight vibration sensor inputs allow knock detection and knock control. Four independent wide range lambda circuits allow lambda closed loop engine control.



Functionality

- Injection timing
- Ignition timing
- Lambda control
- Boost control (option)
- Knock control
- Data acquisition
- Telemetry

Mechanical data

- Dust and waterproof aluminium housing
- Connectors in military technology
- Each pin individually filtered
- Vibration damped circuit boards
- Flexible housing fixation points
- Size 194 x 245x 71 mm
- Weight 2280 g

Conditions for use

- ECU temperature -40 ... 75°C
- Max. power consumption 18 W at 14 V
- Max. vibration 15 g sinus at 20 Hz ... 2 kHz for t < 5 h

Electronic data

In general

- 9 microcontrollers with 16 bit organisation, calculator capacity 70 MIPS
- Real time clock

Inputs

- 4 inputs for Ni-Cr-Ni exhaust gas temperature sensors
- 4 lambda LSM 11 interfaces
- 4 inputs for inductive wheel speed sensors (Hall optional)
- 42 universal inputs 0 ... 5 V
- 6 differential inputs ± 5 V
- 1 input for inductive or Hall crankshaft sensor
- 1 input for inductive or Hall camshaft sensor
- 8 knock sensor inputs

Outputs

- All power stages short circuit protected
- 12 peak and hold injection power stages with diagnosis interface
- 12 switched injection power stages with diagnosis interface
- 12 ignition power stages with diagnosis interface
- 3 high current power stages (12 A)
- 12 high speed power stages (2 A)
- 3 sensor supply 5 V/100 mA
- 3 sensor supply 10 V/200 mA

Communication interfaces

- 2 RS232 interface for telemetry and laptrigger
- 1 2-Mbaud interface for memory and data read out or high speed telemetry
- 3 CAN interfaces

Memory

- Compact Flash Card memory for data acquisition