

## ECU MS 15.2

The MS 15.2 is an ECU for Diesel engines with up to 6 cylinders. It is developed for use with Bosch piezo injectors.



Application	
Engine layout	up to 6 cyl.
Injector type	piezo injectors
Control strategy	quantity based
Injection timing	2 pilot injections 1 main injection 1 post injection
Turbo boost control	single or Bi-Turbo
Lambda measurement	✓
Traction control	optional
Gear cut for sequential gearbox	✓
Speed limiter	✓
Optional function packages available	
Interface to Bosch Data Logging System	
Max. vibration	Vibration profile 1 (see Appendix or <a href="http://www.bosch-motorsport.com">www.bosch-motorsport.com</a> )

Mechanical Data	
Aluminium housing	
4 connectors in motorsports technology with high pin density, 187 pins	
Vibration damped circuit boards	
8 housing fixation points	
Size	210 x 36 x 199 mm
Weight	1,780 g
Temperature range	-40 ... 75 °C

Electrical Data	
Power consumption w/o inj.	approx. 5 W at 14 V
Power consumption	approx. 140 W at 14 V
Inputs	
2 inputs for thermocouple exhaust gas temp. sensors	
2 lambda interfaces LSU	
4 inputs for wheel speed sensors; basic design for inductive sensors	
4 inputs for turbo speed sensors; basic design for inductive sensors	
1 input for inductive crankshaft sensor	
1 input for Hall-effect camshaft sensor	
3 system inputs 0 ... 5 V	
13 universal inputs 0 ... 5 V, fixed pullup	
27 universal inputs 0 ... 5 V, switchable pullup	
3 digital inputs	
Outputs	
6 injection power stages	
12 power stages (low side)	
2 power stages for lambda heater	
2 H-bridges	
2 sensor supply 5 V/ system use	
3 sensor supply 5 V/300 mA	
3 sensor supply 10 V/100 mA	
Communication interfaces	
3 CAN interfaces (dash, application, customer use)	
2 firewire interfaces for external communication	

Piezo Specific Functions
<b>Voltage Control</b>
Rail pressure dependent precontrol of the voltage difference between cut off voltage and stationary actuator voltage.
Closed-loop voltage control, injector individual.
Voltage precontrol to improve dynamic behavior.
<b>Discharging Time Control</b>
Voltage dependent precontrol of discharging current.
Closed-loop discharging time control, injector individual.
Discharging time precontrol to improve dynamic behavior.
<b>IVA Injector Voltage Adjustment</b>
Determination of injector voltage demand at reference rail pressure during injector inspection in plant before IQA-measurement.
Injector assignment of voltage setpoint curves within the ECU according to injector's IVA class.
<b>Temperature Compensation</b>
Determination of the temperature dependent changes of voltage demand.
Definition of a temperature dependent correction factor.
Multiplicative correction of the voltage setpoint.

Connectors	
Mating connector I	
AS 6-16-35 SA	F 02U 000 467-01
Mating connector II	
AS 6-16-35 SB	F 02U 000 468-01
Mating connector III	
AS 6-16-35 SC	F 02U 000 469-01
Mating connector IV	
AS 6-12-35 SD	F 02U 000 445-01

Software	
Modas Sport Calibration Software	inclusive
WinDarab Analysis Software	on request

Accessories
MSA-Box II
Data logger C 55
Modular Sensor Interface MSI 55
Display DDU Sport (incl. logger)
Display DDU 4
Display DDU 6

Software Upgrades	
Traction control	F 02U V00 778-01
Chassis	F 02U V00 779-01
Two bank hydraulic control	F 02U V00 949-01

Application Hints
Internal battery for data preservation included.
Required service interval 12 months (internal battery is replaced).
Depending on your experiences with calibration of Diesel ECUs we recommend calibration support from Bosch Motorsport.

Part Number	
MS 15.2 Piezo injector	<b>F 01T A20 023-01</b>