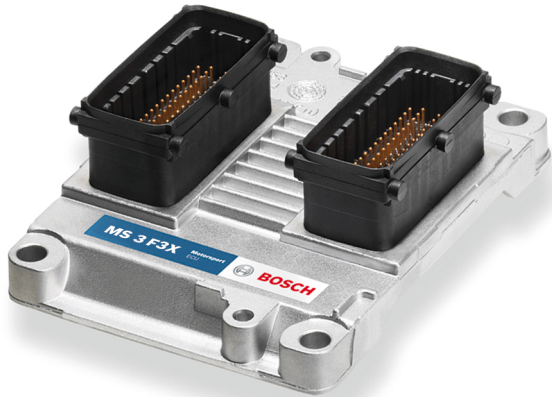


Engine Control Unit MS 3 F3X

www.bosch-motorsport.com



- ▶ Free and full access to the ECU software
- ▶ No wiring modifications necessary
- ▶ Traction Control
- ▶ Launch Control

The engine control unit MS 3 F3X is a direct replacement for former FIA Formula 3 cars. The F3X software gives the user full access which allows the mapping to be adapted to any hardware changes. Traction Control and Launch Control have also been enabled and are freely configurable. Furthermore the ECU can easily be connected to a C50 data logger or a DDU 7 display/logger.

Application

Engine layout	4 cyl., in line
Control strategy	Torque structure based
Lambda control	
Speed limiter	
Gear cut for sequential gear box	
Map switch corresponds to 3 different target lambda maps.	
Fuel cut off	
Knock control	
Traction control	

Launch control

Max. vibration Vibration Profile 3 (see Appendix or www.bosch-motorsport.com)

Technical Specifications

Mechanical Data

Extremely small and flat aluminum pressure casting housing	
4 mounting points on housing	
2 connectors with high pin density	
Extremely shock and vibration proof hybrid technology	
Size	120 x 90 x 40 mm
Weight	250 g
Temperature range	-40 to 125°C

Electrical Data

Max. power consumption	10 W at 14 V
Power supply	
Full operation	9 to 16 V
Recommended	11 to 14 V

Inputs

- 1 lambda interface LSU
- 4 inputs for Hall-effect wheel speed sensors
- 1 input for inductive crankshaft sensor
- 1 input for Hall-effect camshaft sensor
- 22 analog inputs 0 to 5 V
- 2 knock sensor inputs

Outputs

- 4 injection power stages
- 4 ignition power stages (7.5 to 8.0 A)
- 8 power stages (1 A/2 A; low side; PWM)
- 1 power stage for lambda heater
- 2 sensor supplies 5 V/100 mA

Software Tools

- Modas Sport Calibration Software Inclusive
- WinDarab Analysis Software Inclusive

Environment (not included)

- Programming interface MSA-Box II F 02U V00 327-03
- Data logger C 50 F 02U V01 164-04
- Display DDU 7 F 02U V01 130-04
- Yaw rate sensor YRS3 0 265 005 838
- 12 steps switch for Traction Control F 02U V01 921-01

Switch definition

Position	Resistance [Ohm]
0	9,3
1	30,7
2	56,1
3	88,6
4	129,9
5	181,7
6	253,7
7	354,8
8	522,5
9	823,5

10	1500,7
11	4988,0

Mating Connectors (not included)

Mating Connector I	D 261 205 139-01
Mating Connector II	D 261 205 140-01

Communication

1 K-line serial interface	For application only
1 CAN interface	For data logging and displaying

Ordering Information

Engine Control Unit MS 3 F3X
 Order number **F 02U V01 893-01**

Represented by:

Europe:

Bosch Engineering GmbH
Motorsport
Robert-Bosch-Allee 1
74232 Abstatt
Germany
Tel.: +49 7062 911 9101
Fax: +49 7062 911 79104
motorsport@bosch.com
www.bosch-motorsport.de

North America:

Bosch Engineering North America
Motorsport
38000 Hills Tech Drive
Farmington Hills, MI 48331-3417
United States of America
Tel.: +1 248 876 2977
Fax: +1 248 876 7373
motorsport@bosch.com
www.bosch-motorsport.com

Latin America:

Robert Bosch Ltda
Motorsport
Av Juscelino Kubitscheck de
Oliveira 11800
Zip code 81460-900
Curitiba - Parana
Brasilia
Tel.: +55 41 3341 2057
Fax: +55 41 3341 2779

Asia-Pacific:

Bosch Engineering Japan K.K.
Motorsport
18F Queen's Tower C, 2-3-5 Minato Mirai
Nishi-ku, Yokohama-shi
Kanagawa 220-6218
Japan
Tel.: +81 45 650 5610
Fax: +81 45 650 5611
www.bosch-motorsport.jp

Australia, New Zealand and South Africa:

Robert Bosch Pty. Ltd
Motorsport
1555 Centre Road
Clayton, Victoria, 3168
Australia
Tel.: +61 (3) 9541 3901
motor.sport@au.bosch.com