

AiM InfoTech

Bosch Motorsport
ABS M4 kit 500kbs/1Mbs
ABS M5 kit 500kbs/1Mbs

Release 1.00



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Models

This document explains how to connect third party CAN expansion modules to AiM devices CAN2 bus. Supported models are:

- Bosch Motorsport M4 ABS kit at 1Mbs
- Bosch Motorsport M4 ABS kit at 500kbs
- Bosch Motorsport M5 ABS kit at 1Mbs
- Bosch Motorsport M5 ABS kit at 500kbs

Bosch ABS M4 and M5 kits can communicate with a standard CAN protocol already preloaded in the AiM software database.

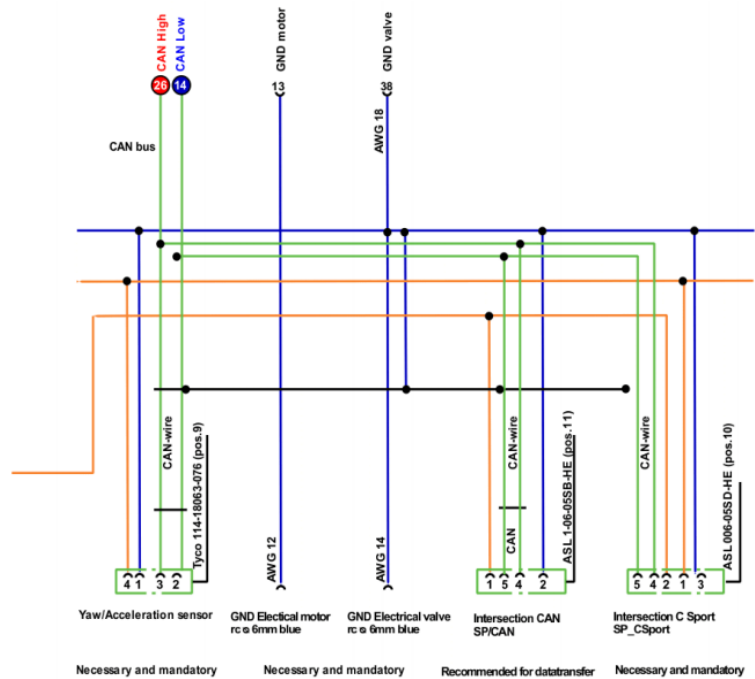
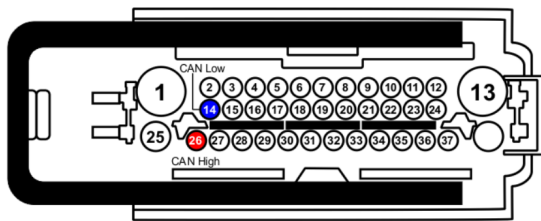
If any change is brought to the ABS CAN stream setup, the driver here documented will not work.

Please note: In case this module is going to be used with different parameters, the user can set up a custom driver from the **CAN Protocols** section of the AiM configuration software Race Studio 3. Check the dedicated manual from the AiM website www.aim-sportline.com, Documentation – Firmware/Software area.

2 Wiring connection

These modules feature a bus communication protocol based on CAN, this data stream is accessible through the 38-ways main connector on the ABS module, or through the optional 6-ways connector (ASL 106 05SB-HE) on the wiring loom.

Here pictured both connectors with the manufacturer's wiring diagram and the connection table.



| ABS Module Connector Pin nr | Intersection CAN Connector Pin nr | Function | AiM wire label (optional harness) |
|-----------------------------|-----------------------------------|----------|-----------------------------------|
| 26 | 4 | CAN-H | CAN2 + |
| 14 | 5 | CAN-L | CAN2 - |

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AiM device configuration

Before connecting the kit to the AiM device set this up using AiM Race Studio software. The parameters to select in the device configuration are:

- ECU manufacturer: **BOSCH**
- ECU Model:
 - ABS M4 1Mbit** (Only RS3 – CAN2 Stream and RS2)
 - ABS M4 500kbits** (Only RS3 – CAN2 Stream and RS2)
 - ABS M5 1Mbit** (Only RS3 – CAN2 Stream)
 - ABS M5 500kbits** (Only RS3 – CAN2 Stream)

If there is only the AiM device connected to this module, enable the CAN Bus 120 Ohm Resistor.

| | |
|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | Enable the CAN Bus 120 Ohm Resistor |
| <input type="checkbox"/> | Silent on CAN Bus |

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Protocols

Channels received by AiM devices change according to the selected protocol.

4.1

“Bosch – ABS_M4_1Mbit/500kbits” protocols

Channels received by AiM devices configured with “BOSCH – ABS_M4_1Mbit/500kbits” protocols are:

| CHANNEL NAME | FUNCTION |
|---------------------|----------------------------------|
| M4 WH1 FL | Wheel speed sensor 1 Front Left |
| M4 WH1 FR | Wheel speed sensor 1 Front Right |
| M4 WH1 RL | Wheel speed sensor 1 Rear Left |
| M4 WH1 RR | Wheel speed sensor 1 Rear Right |
| M4 WH2 FL | Wheel speed sensor 2 Front Left |
| M4 WH2 FR | Wheel speed sensor 2 Front Right |
| M4 WH2 RL | Wheel speed sensor 2 Rear Left |
| M4 WH2 RR | Wheel speed sensor 2 Rear Right |
| M4 BRAKE PRESS | Brake pressure |
| M4 ACC X | Longitudinal acceleration |
| M4 ACC Y | Lateral acceleration |
| M4 YAW RATE | Yaw rate |
| M4 YAW ACC D/s2 | Yaw acceleration (°/s2) |
| M4 SWITCH ST | ABS map switch position |
| M4 BRAKE SW | Brake switch |
| M4 ABS ACTIVE | ABS control active bit |
| M4 EBD LAMP | EBD fault bit |
| M4 ABS LAMP | ABS fault/off/race bit |

4.2

“Bosch – ABS M5 1Mbit/500kbits” protocols

Channels received by AiM devices configured with “BOSCH – ABS M5 1Mbit/500kbits” protocols are:

| CHANNEL NAME | FUNCTION |
|---------------------|---|
| M5 WH1 FR | Wheel speed sensor 1 Front Right |
| M5 WH1 FL | Wheel speed sensor 1 Front Left |
| M5 WH2 FL | Wheel speed direct Front Left |
| M5 WH2 FR | Wheel speed direct Front Right |
| M5 WH2 RL | Wheel speed direct Rear Left |
| M5 WH2 RR | Wheel speed direct Rear Right |
| M5 WH1 RL | Wheel speed sensor 1 Rear Left |
| M5 WH1 RR | Wheel speed sensor 1 Rear Right |
| M5 ACC X | Longitudinal acceleration |
| M5 ACC Y | Lateral acceleration |
| M5 YAW RATE | Yaw rate |
| M5 BRAKE PRESS F | Brake pressure front |
| M5 BRAKE PRESS R | Brake pressure rear |
| M5 BRK BAL AT50 | Calculated brake balance at 50bar |
| M5 BRK BAL AT50A | Recommended brake balance at 50bar |
| M5 BRK BAL PCT | Brake balance percentage on the front |
| M5 BRK BAL PCTA | Recommended Brake balance percentage on the front |
| M5 DIAG YRS | Yaw rate sensor fault bit |
| M5 ABS FAULT INF | ABS fault bit |
| M5 DIAG FL | Wheel speed sensor Front Left fault bit |
| M5 DIAG FR | Wheel speed sensor Front Right fault bit |
| M5 DIAG RL | Wheel speed sensor Rear Left fault bit |
| M5 DIAG RR | Wheel speed sensor Rear Right fault bit |
| M5 ABS MALFUNCTI | ABS control deactivated bit |
| M5 BREMSE 53 CNT | |



| | |
|------------------|---|
| M5 DIAG ABS UNIT | ABS error on hydraulic unit bit |
| M5 DIA FUSE VALV | ABS valves error on fuse/power supply bit |
| M5 FUSE PUMP | ABS pump error on fuse/power supply bit |
| M5 DIAG P FA | Front sensor fault bit |
| M5 DIAG P RA | Rear sensor fault bit |
| M5 YAW ACC D/s2 | Yaw acceleration (°/s ²) |
| M5 SWITCH ST | ABS map switch position |
| M5 BLS | Brake light switch |
| M5 ABS ACTIVE | ABS control active bit |
| M5 EBD LAMP | EBD fault bit |
| M5 ABS LAMP | ABS fault/off/race bit |