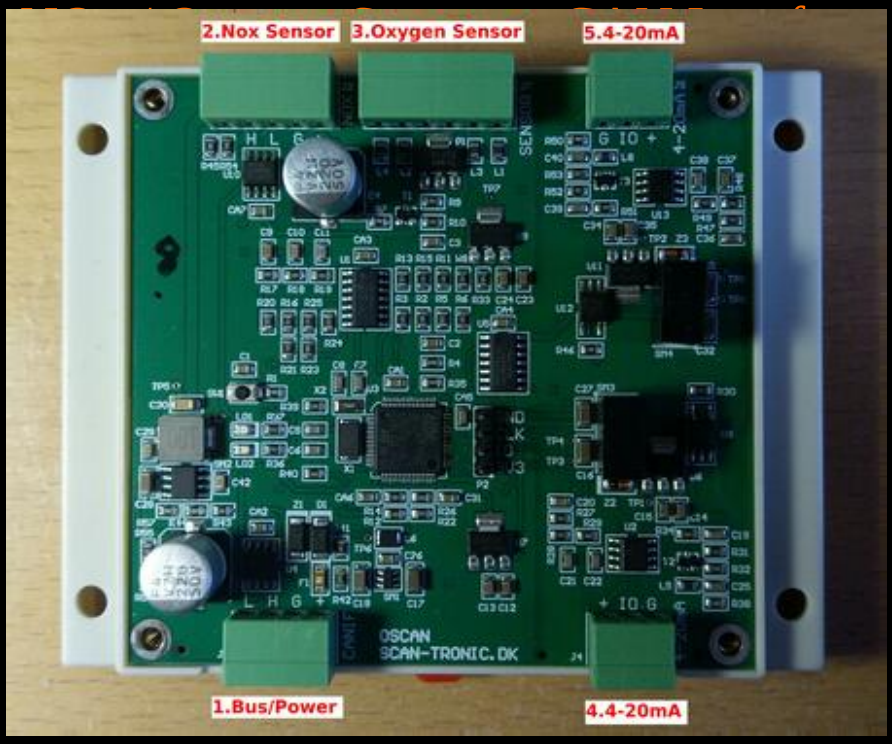
SCAN TRONIC
COMBUSTION OPTIMIZING

OSCAN HW



Technical Information and Installation Guide

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COMBUSTION OPTIMIZING

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OSCAN Hardware Overview

OSCAN is a hardware interface for connecting one exhaust sensor to a CAN based system. The interface can be used with either a NOx/Oxygen sensor or an LSU4.9 oxygen sensor. Only one sensor type is connected to one OSCAN interface at a time.

Technical data

Function	NOx / Oxygen sensor to CAN interface
Board size	115 x 90 mm
Mounting holes	105 x 70 mm
Power input	12 - 24 V DC, polarity protected by correct wiring
Recommended supply	24 V DC, 3 A supply for demo / service setup
CAN bus	CAN_H, CAN_L and common 0V through connector 1
Sensor input 1	Connector 2: NOx / Oxygen sensor
Sensor input 2	Connector 3: LSU4.9 oxygen sensor
Analog output 1	Connector 4: Oxygen 0 - 21%, 4 - 20 mA
Analog output 2	Connector 5: NOx 0 - 3012 ppm, 4 - 20 mA

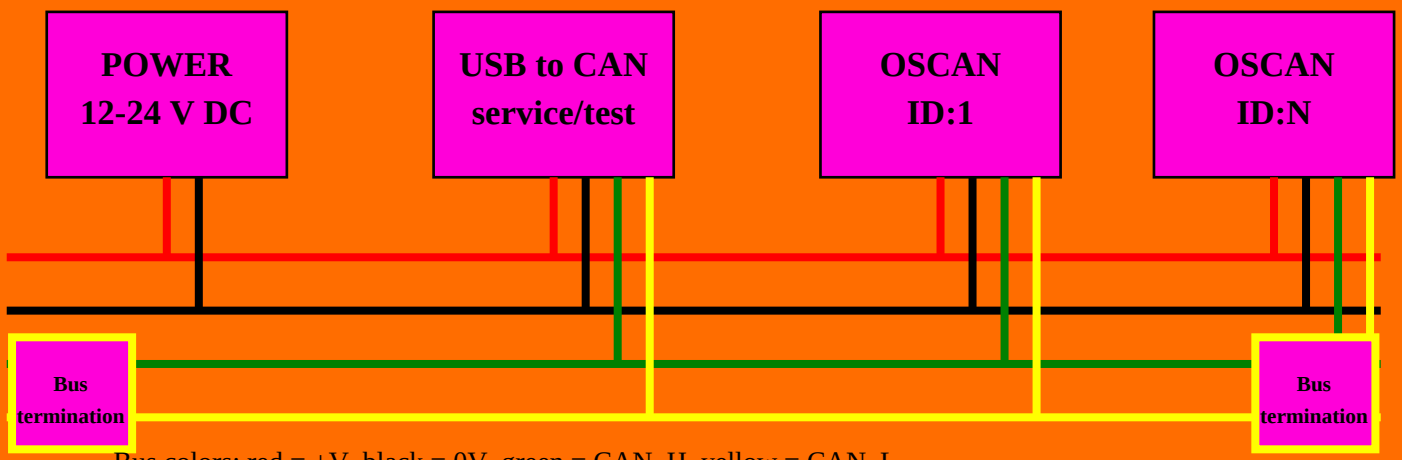
Connector positions

1. Bus / Power: +12-24 V DC, 0 V, CAN_H and CAN_L.
2. NOx / Oxygen sensor input.
3. LSU4.9 oxygen sensor input.
4. 4-20 mA output for Oxygen 0-21%.
5. 4-20 mA output for NOx 0-3012 ppm.

Note

- Connector 2 and connector 3 must not be used at the same time.
- Connector 4 is always used as the oxygen 4-20 mA output.
- Connector 5 is used for NOx 4-20 mA output in NOx mode.

OSCAN System Wiring



Bus colors: red = +V, black = 0V, green = CAN_H, yellow = CAN_L

Connection sequence

1. Connect connector 1 to the system bus: +V, 0V, CAN_H and CAN_L.
2. Use a stable 12-24 V DC supply. For service/demo setup use 24 V DC / 3 A.
3. Install CAN bus termination at both physical ends of the bus.
4. Connect only one sensor to one OSCAN interface: connector 2 or connector 3.
5. Use connector 2 for NOx / Oxygen sensor operation.
6. Use connector 3 for LSU4.9 oxygen sensor operation.
7. Connect connector 4 if a 4-20 mA Oxygen output is required.
8. Connect connector 5 if a 4-20 mA NOx output is required.
9. Verify polarity and wiring before power is applied.

Hardware operating modes

LSU4.9 mode: LSU4.9 sensor connected to connector 3. Oxygen 0-21% is available on the CAN bus and through 4-20 mA output.

NOx mode: NOx / Oxygen sensor connected to connector 2. Oxygen 0-21% and NOx 0-3012 ppm are available through the OSCAN outputs.

LED indication: one LED indicates active mode and the other LED blinks when new measurement data is transmitted.

Important hardware notes

- Do not connect both sensor inputs at the same time.
- Keep CAN wiring short and use twisted pair for CAN_H/CAN_L when possible.
- Route sensor wiring away from mains wiring, ignition cables and high-current loads.
- Do not service wiring while power is applied.

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