DSH-RX

Quickstart guide

Electrical Characteristics

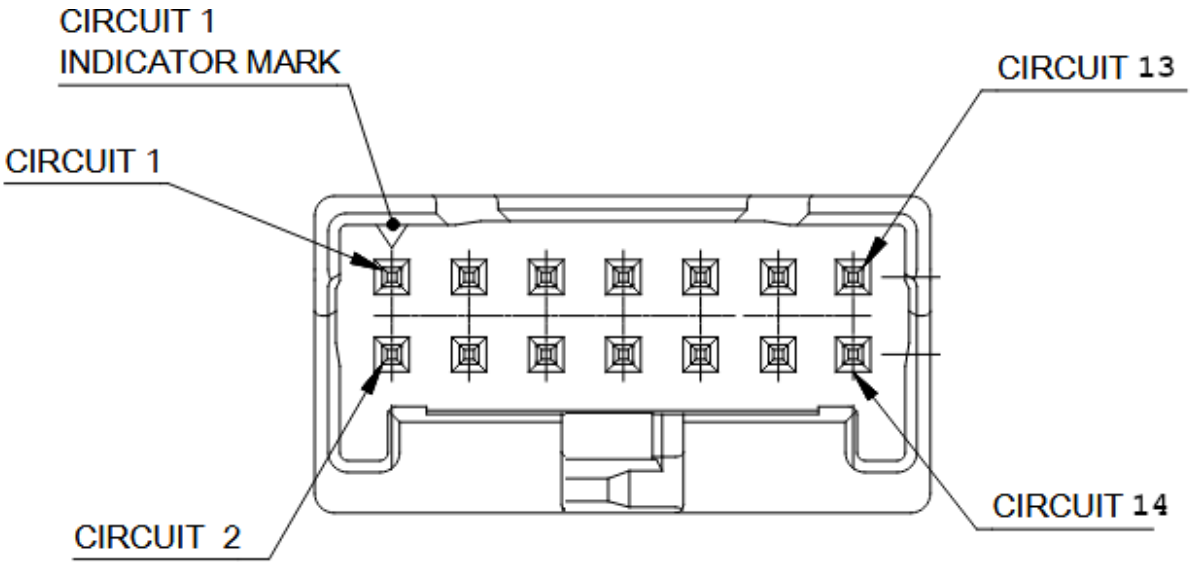
- Vin: 9 ~ 18 Volt
- Current: 300mA@12V
- Inputs: 2 0-5V,1 Termistori NTC, 1 Sonda K

INPUTS

- Max voltage: 5 Volt
- Max current: 20mA
- Max output current 5V: 1A

WIRING

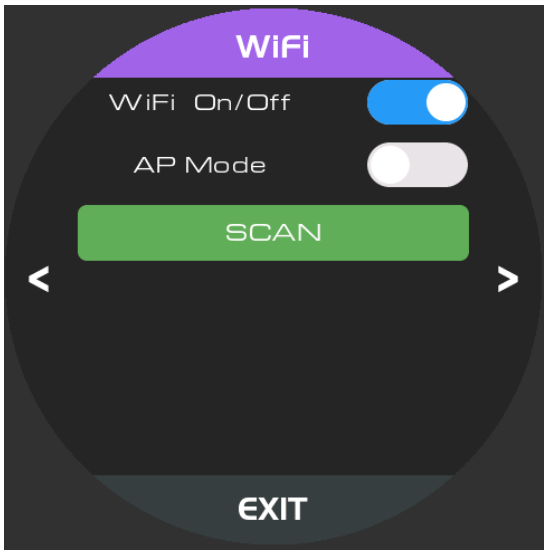
Vista dall'alto DSH-RX



1)	CANL	2)	Sonda K(-)
3)	CANH	4)	Sonda K(+)
5)	+5V Sensori	6)	Gnd Sensori
7)	+5V Sensori	8)	Gnd Sensori
9)	Gnd Sensori	10)	Ingresso 0-5V #1
11)	Gnd Power	12)	Ingresso 0-5V #2
13)	Vin (9-18V)	14)	Ingresso NTC

To change the settings you need a device with a WiFi connection and an Internet browser (Firefox, Chrome, IE, etc.)

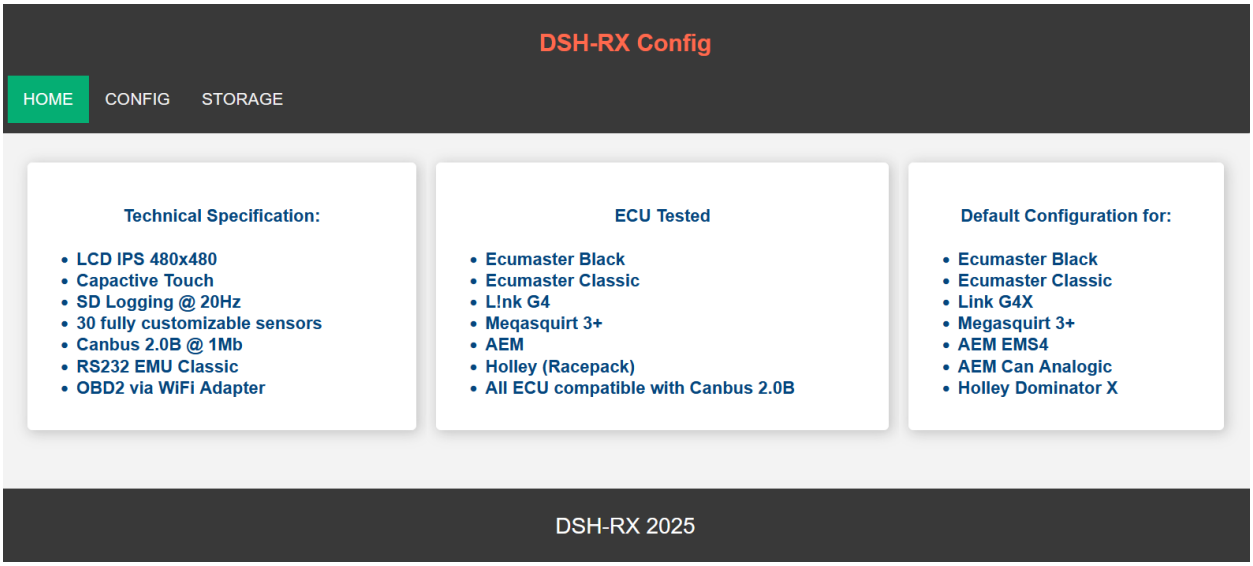
- Enbale the WiFi.



Connect to an existing network or activate the access point and connect.

The IP address will be displayed on the dashboard.

In access point mode, the IP address is always http://192.168.4.1. If you're using a mobile phone to connect, you'll need to disable "data mode."



CONFIG

GENERAL CFG

Canbus Speed: Bus speed (irrelevant if CAN functionality is not used)

LCD Background Color: background color

OBD WiFi SSiD: OBD KEY WiFi SSID

OBD WiFi PWD: OBD KEY WiFi Password

OBD WiFi PORT: OBD KEY WiFi Port (most common is 35000)

OBD Protocol: Most common is ISO 15765-4 CAN 29B 500Kb

SENSORS CFG

Sensor List : Sensor list

Sensor Name: Sensor name (es: CLT, IAT, RPM)

Unit: Sensor measurement unit (es: Km/h, Bar, Kpa)

Operator: Used in calculating the alarm (< o >)

Min Val: Minimum sensor value

Used as a reference for analog skins

Used to calculate the value of external sensors on the 0-5V analog inputs

Max Val: Sensor Maximum Value

Used as a reference for analog skins

Used to calculate the value of external sensors on the 0-5V analog inputs

Warning Val: Alarm value

Log: Enable/disable sensor logging

Alarm: Enable/disable sensor alarm

Float: Enable commas on value display

Example: Pressures in bar, AFR, etc.

Imperial/metric: If the input value is in imperial and you want to convert it to metric and vice versa

Assign only one of the following options; if the sensor is taken from the CANBUS line set all 3 options to NONE

Analog Input: Analog channel to assign to the sensor

- Input Refresh (ms): Measurement refresh time

  The default value is 0 (no delay).

  If the value fluctuates too quickly, increase the refresh time.

OBD PID: OBD channel to assign to the sensor

EMU ID: EMU channel to assign to the sensor (ECUMASTER CLASSIC SERIAL ONLY)

ANALOG SENSOR CONFIGURATION

TERMISTORE NTC (temperature sensor)

The input is optimized for sensors below 40K ohms; above that value, the reading will be

extremely inaccurate.

To set up an NTC sensor, follow these steps:

- Connect the sensor to the instrument
- Select a sensor from the list
- Set the sensor's general values (Name, Min. Val., Max. Val., Warning Val.)
- Set "Analog Input" to NTC Sensor
- Set "Function" to NTC
- Use "THERMISTOR CALCULATOR" and enter the 3 coefficients.

Reading Ohm: Reading in Ohms of the connected sensor.
To calculate the 3 coefficients, you need the resistance at 3 different temperatures.

SENSORE 0-5V

To correctly set up a 0-5V sensor, follow these steps:

- Connect the sensor to the instrument
- Select a sensor from the list
- Set the sensor's general values (Name, warning value, etc.)
- Set Min and Max values to the sensor's minimum and maximum values.
  Ex: 10 Bar Sensor → Min Value: 0.0 – Max Value: 10.0
  Ex: AFR 7 – 21 → Min Value: 7.0 – Max Value: 21.0
- Activate the "Float" button if the measurement requires values with a decimal point.
- Set "Analog Input" to "0~5V Signal #1 or #2"
- Set "Function" to "MAP"
  - Set MAP (min) to the minimum voltage.
  - Set MAP (max) to the maximum voltage.
    Ex: 0-10 Bar Sensor | 0.5 volts – 4.5 volts
    Map min: 0.5 – Map max: 4.5
    Ex: AFR 7-21 | 0.0 volts – 5.0 volts
    Map min: 0.0 – Map max: 5.0

SENSORE SONDA K

To set up the K-Probe correctly, follow these steps:

- Connect the sensor to the instrument, paying attention to polarity.
- Select a sensor from the list.
- Set the sensor's general values (Name, Min. Val., Max. Val., Warning Val.)
- Set "Analog Input" to "K-Probe."

DASH SETTINGS

Buzzer: Activates the buzzer when an alarm is triggered, it remains on as long as the alarm is active.

Logging: Off, Selected, or All. When set to

- "Selected," records only sensors with active logging.
- "All" records all sensors (including unused ones).

It is recommended to always use the "Selected" option.

Reset: Performs a configuration reset (hold to execute)

OBD: Enable OBD WiFi (if active, the WiFi used to configure the device is disabled)

CANBUS: Enable canbus

CAN SPEED: CAN bus speed

SERIAL: Enable Ecumaster Classic serial

ANALOG: Enable analog inputs (1 NTC, 2 0-5v, 1 K probe)

To display the values, the sensors must be configured with the respective channels;

e.g., if I want to display the rpm via OBD and the MAP via analog input, I will have to assign the RPM channel to the RPM sensor under "OBD PID," and the analog input to the MAP sensor.

PROTO: Protocol to use to connect to the OBD port

ADP MODE: Timing mode

ADP TIME: Timeout time after a request in ms. Works only when ADP MODE is set to “MANUAL”

RPM ms: Interval between requests for the RPM sensor (sensor must be named RPM)

SENSORS ms: Interval between requests for other sensors

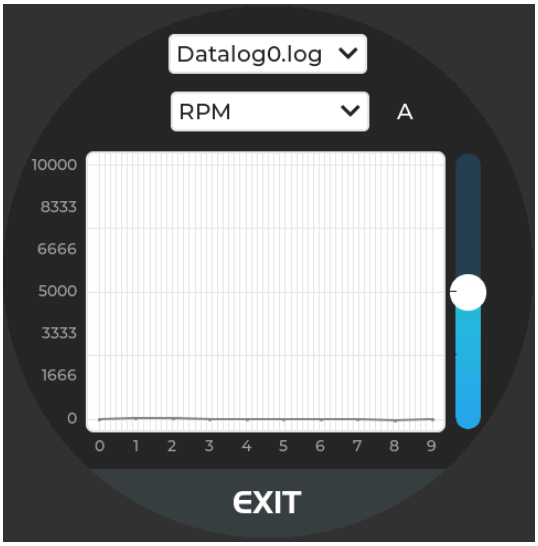
HOW TO CONNECT THE OBD KEY

- Set the OBD dongle's port (default is 3500)
- Press SCAN and select the OBD dongle's SSID (usually WiFi_OBDII) and wait for it to connect.
- The OBD dongle's settings are now saved and you can activate OBD mode under the settings menu.

Or

- enter the SSID, PWD, and port directly from the web page under "General CFG."

LOGVIEWER



Select the file from the first drop-down menu, and the sensor from the second.
The slider on the right increases or decreases the delta time.
A tap displays the value, while a swipe scrolls through the log file's time span.
You can download log files and use the dshX-Config program to view them.

FUNCTIONALITY

- Logging @ 20HZ
- 30 Configurable sensors
- Built-in accelerometer
- 1 input for NTC thermistor
- 2 input 0-5v
- 1 input K probe
- Canbus 2.0b
- RS232 for Ecumaster Classic
- Configurable via Web
- Alarm can be set on all sensors with activable audible warning

Warning

The maximum voltage for the analog inputs is 5V.
Never short-circuit the 5V output.
Never connect negative signals to the analog inputs.
Do not use the 5V output for any purpose other than powering the sensors.
Never exceed the device's input voltage.