



# USER MANUAL

## EGT to CAN

Document version: 2.1

Software version: 1.000

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# 1. Device description

The EGT to CAN device is used to monitor up to 8 temperatures from K-type thermocouples. The device can work either as a standalone unit or as an expansion unit for an ECU, transmitting via CAN communication.

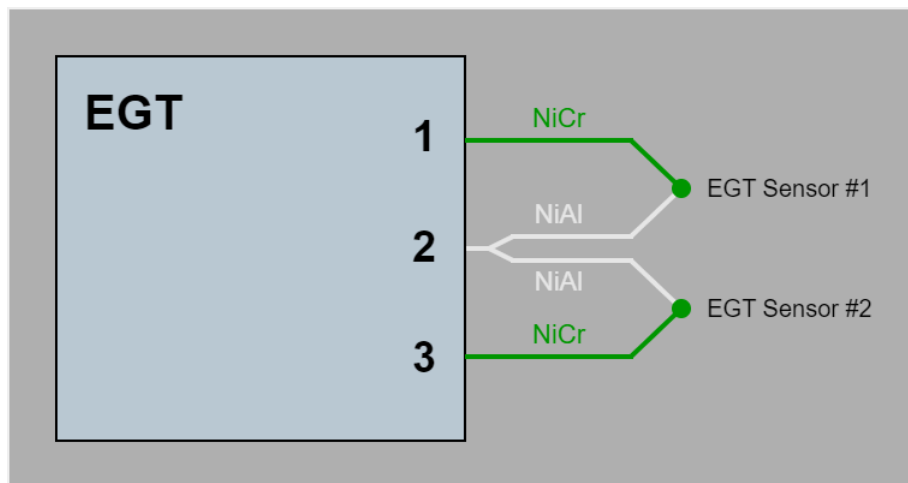
## Device Characteristics:

- 8 K-type thermocouple inputs
- USB type A programming port
- CAN-BUS network output
- Free software (<http://www.ecumaster.com/products/egt-to-can/>)

## What's in the box?:

- Ecumaster EGT to CAN device
- USB A to A Cable
- NC 4 pin plug
- EGT DESGON 12 pin plug

EGT sensor connection diagram

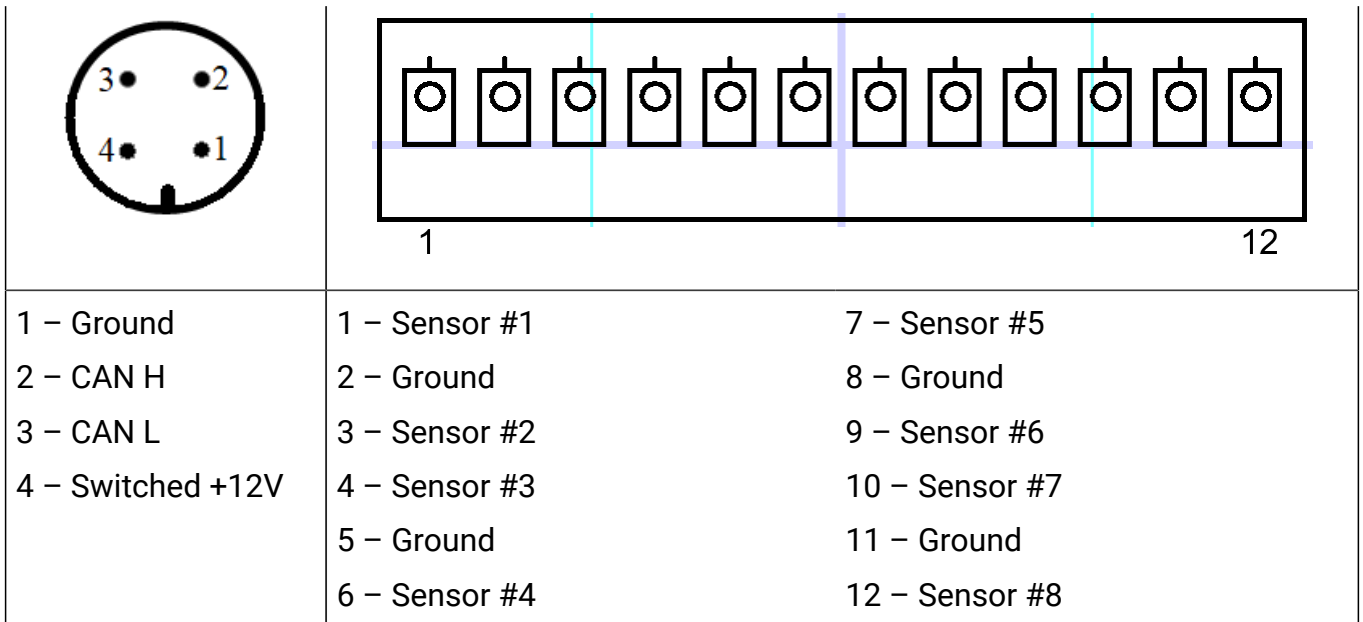


For EGT sensor probes from Ecumaster, the wire colors (shown in the diagram) are: green for the positive pin and white for the negative pin.

For other sensors, the colors might be different. Please check the correct colors and connect them to the positive and negative terminals as shown in the diagram.

## Pinout

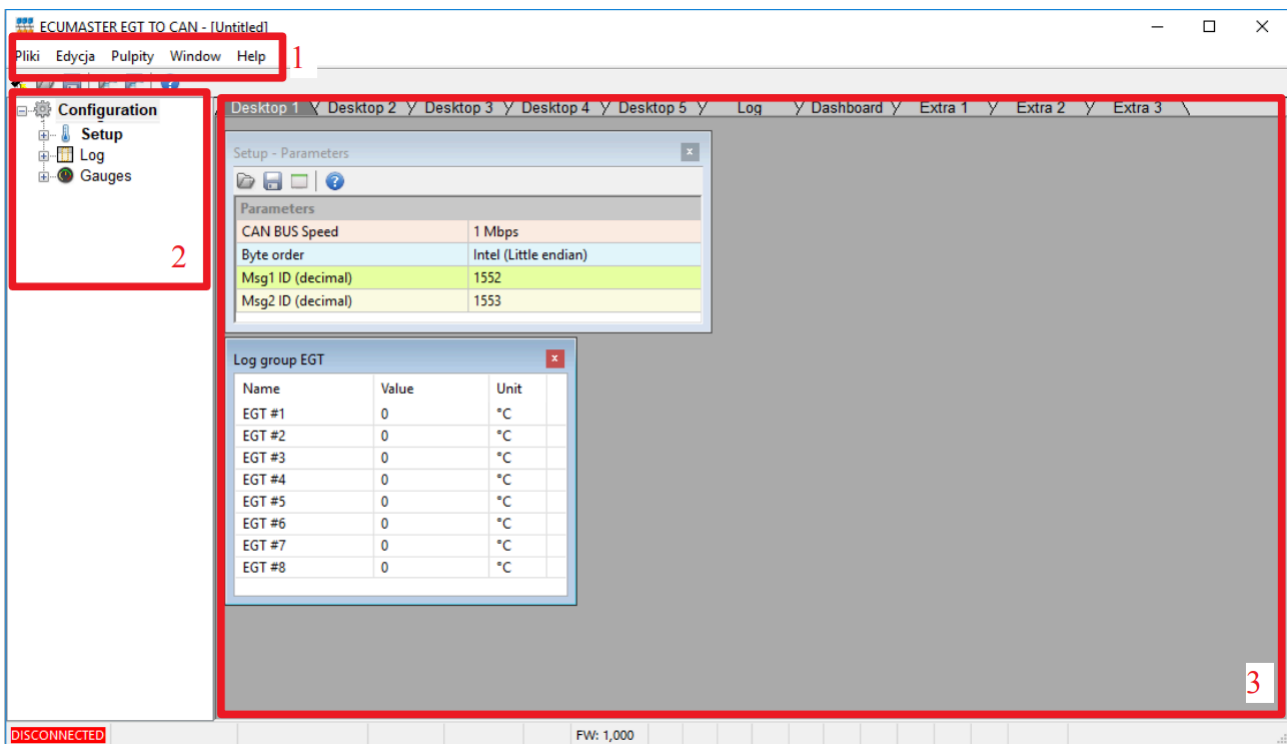
NC plug	DESGON 5EDGK-3.81-12P
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## 2. Software description

Software can be downloaded from [www.ecumaster.com/products/egt-to-can/](http://www.ecumaster.com/products/egt-to-can/) website and is free of charge.

The following figure shows the software at start-up

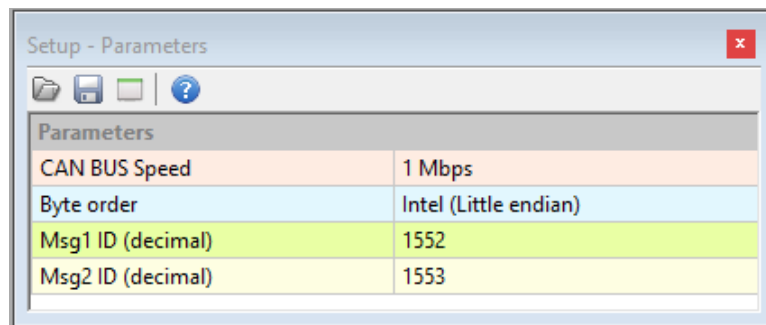


The interface consists of 3 main areas:

- Menu (1)
- Tree view with application parameters(2)
- Desktop (3)

At the bottom left corner of the software, a green "CONNECTED" icon will appear when a device is connected, and a red "DISCONNECTED" icon will show when a device is not detected.

### 3. Setup window



**CAN Bus speed** – The speed of the CAN bus transmission

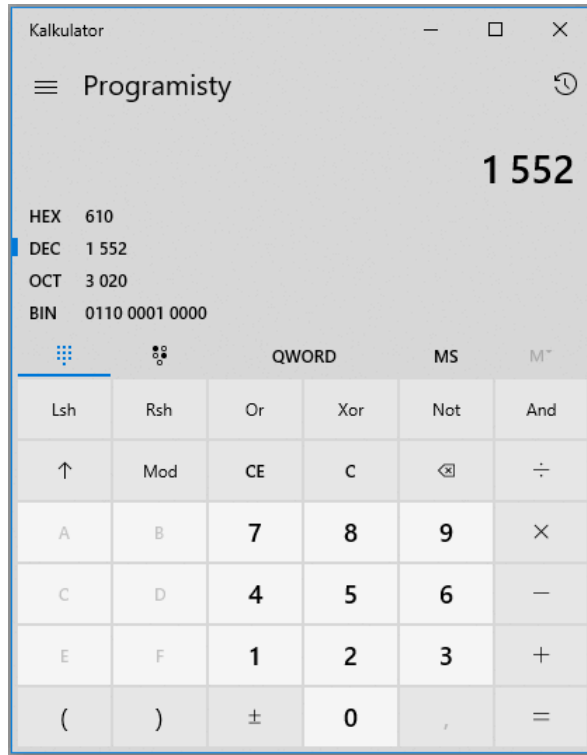
**Byte order** – The order of the bytes in CAN frame

**Msg1 ID** – Message identifier containing temperatures from thermocouples 1 to 4 (decimal)

**Msg2 ID** – Message identifier containing temperatures from thermocouples 5 to 8 (decimal)

Some systems require the user to describe frame ID's in hexadecimal. To convert numbers from hexadecimal to decimal values use the Windows calculator app and change to "programmer" type to make the conversion. Select "**DEC**" and enter number.

1552 in decimal is 610 in hexadecimal.



**EMU CLASSIC** receives temperatures from the EGT to CAN device on ID **1552** and **1553** (610h and 611h).

**EMU BLACK** receives temperatures from the EGT to CAN device on ID **1632** and **1633** (660h and 661h).

**!** **Important:**  
**The lowest temperature indicated by EMU and EMU BLACK is 200°C!**

Byte order for Black and Classic is **Motorola** (big endian)

Devices from other manufacturers may expect the information on different ID's with different byte order and CAN speed. Check the user manual for your device for more information.

CAN MESSAGE ID DESCRIPTION					
ID	LEGTH	DATA			
Msg1 ID	8	EGT #1	EGT #2	EGT #3	EGT #4
Msg2 ID	8	EGT #5	EGT #6	EGT #7	EGT #8

**Important:**

The CAN bus topology is very important. Incorrect wiring may cause abnormal operation.

**Always use twisted pair wiring for CAN networks!**

**Always use termination resistors on both ends!**

## 4. Graph log

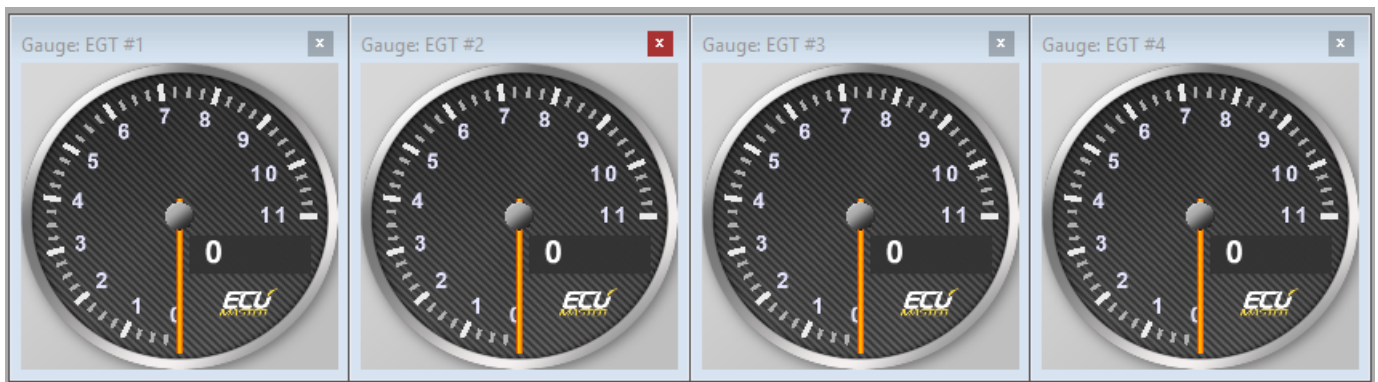
Graph log is a tool for observation and analysis of EGT temperatures. The data is presented in the form of a graph, and an accurate reading of this data can be obtained by hovering over the desired point on the graph.

**Displaying analog values:**

- As a table:

Name	Value	Unit
EGT #1	0	°C
EGT #2	0	°C
EGT #3	0	°C
EGT #4	0	°C
EGT #5	0	°C
EGT #6	0	°C
EGT #7	0	°C
EGT #8	0	°C

• As gauges:



## 5. Document history

Version	Date	Changes
1.0	2019.05.08	First version of the document
2.0	2024.01.05	New Ecumaster standard layout applied
2.1	2024.07.29	Added description of EGT sensor probes connection