
METERING

# ECOCom NG

## Data Handling System for railways application

ECOCom NG is a Data Handling System compliant with the requirements of the reference standard EN50463:2017.

Through an Ethernet interface ECOCom receives energy data from the ECOMeter. The data of energy transferred to the ECOCom is combined with the time and localisation data to create and store Compiled Energy Billing Data (CEBD). The Compiled Energy Billing Data is prepared and sent with defined intervals to the ground system DCS like ECOLogic NG that deal with the management of energy consumption.

The ECOCom implements mechanisms of protection and security able to ensure both the integrity of the transmitted data to ground system and the management of data loss due to lack of connectivity.

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## Characteristics

| Mechanical Characteristics | Value | Reference |
|---|---|---|
| Weight | < 2,000 kg | |
| Fire and smoke class | HL3 | EN45545-2 |
| Protection class | IP 50 | EN60529 |
| **Insulation Coordination** | Value | Reference |
| Over Voltage Degree | OV2 | EN 50124-1 |
| Pollution degree | PD2 | |
| **Auxiliary Power Supply** | Value | Reference |
| Nominal supply voltage | 24÷110 Vdc | |
| Power supply interruptions | Class S2 | EN50155 |
| Power supply change over | Class C2 | |
| Power consumption | <10W | |
| **Environmental Conditions** | Value | Reference |
| Ambient temperature | OT4 range | EN 50155<br>EN 50125-1 |
| Temperature yearly average | 45°C | |
| Temperature variation | ±3°C/s | |
| Altitude | Class AX - Up to 1800 m | EN50125 |
| Average yearly relative humidity | h<75% | EN 50125-1 |
| Continuous relative humidity | 30 days 75% < h < 95% | |
| Absolute maximum humidity | 30 g/m3 | |
| Shocks and vibrations | Cat. 1 – Class B | EN 61373 |

## Inputs/Output

### Digital Input

ECOCom provide 4 digital inputs at battery voltage. One digital input is used as shout down command. The shutdown command should remain active until the power supply cut-off. The power supply cut-off should occur not before 60 seconds from the shout down command. The shutdown command level is high when activated.

### Ethernet Communication

Ethernet communication port is available and dedicated to the data transfer from the ECOMETERs and TCMS communication. Mechanisms of protection and security can ensure both the integrity of the transmitted data to DHS and the management of data loss.

### RS485/RS232 Serial Communication (Optional)

The serial communication interface is used to communicate to TCMS, the messages must be defined according with the Customer.

### CAN Communication (Optional)

The Can interface is used to communicate with TCMS, the messages must be defined according with the Customer.

### MVB Communication (Optional)

The MVB interface is used to communicate with TCMS, the messages must be defined according with the Customer.

## Wi-Fi (Option)

Wi-Fi antenna interface is available as optional configuration.

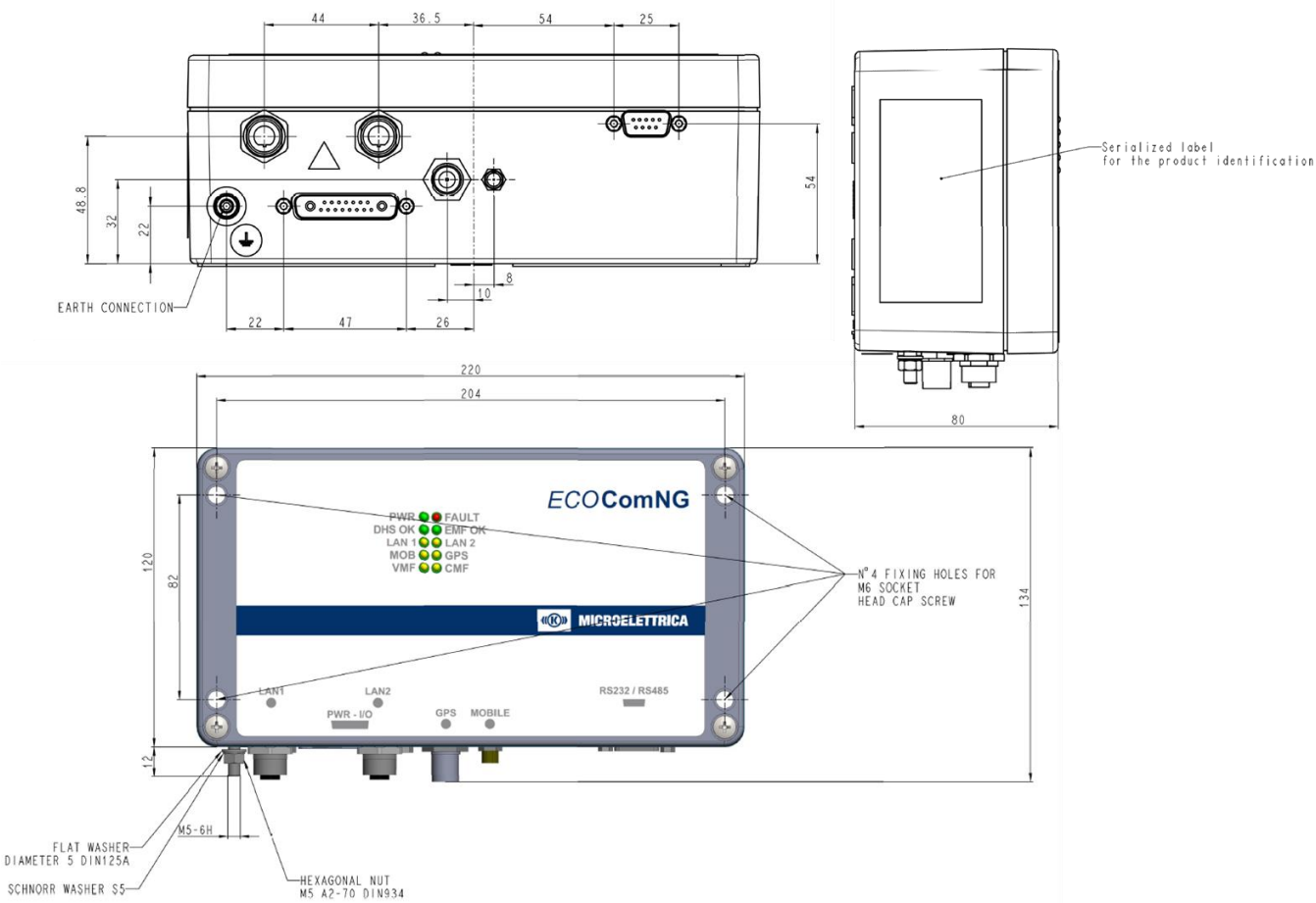
## Relay and Solid-State Digital Output

ECOCom provide two solid state digital output with MOSFET technology and one relay digital output. The relay digital output is used as fault detection. Relay is driven in safety way, it means that when is driven the system is in “no error condition”, when is not driven is in “fault condition”.

## DHS to Ground Communication

Through an internal 4G GSM module LTE Cat.1 or the train Mobile Router, the ECOCom NG sends information about voltage, current, energy and timestamps to single or multiple ground server such as Microelettrica ECOLogic NG.

# Dimension

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