



- Real time process monitor
- OBD reading
- Tachograph data reading
- Light vehicle CAN support
- J1708 interface
- Min. 16000 records on internal storage

## PHYSICAL PROPERTIES

|                |                              |
|----------------|------------------------------|
| Dimensions, mm | 111 x 75 x 25                |
| Connectors     | IO 1 - 10pin<br>IO 2 - 14pin |
| Indication     | 3 LEDs                       |
| Housing        | Plastic                      |

## PRODUCT FAMILY

- ◆ ECO4/ECO4+
- ◆ ECO3
- ◆ PRO4
- ◆ PRO3
- ◆ TCO4
- ◆ **TCO3**

## CONTACTS

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## Electrical specification

|   |                                     |
|---|-------------------------------------|
| Power supply  | 10 - 32 V DC                        |
| Battery   | Li-Po 3.7 V 680 mAh                 |
| Power consumption:                                  |                                     |
| Deep sleep mode min. value                          | 20 mA*                              |
| Normal mode   | 110 mA                              |
| <b>Storage</b>                                      | SD card: up to 32 GB Internal: 2 MB |
| <b>Protections</b>                                  |                                     |
| Short circuit protection                            |                                     |
| Reverse polarity protection                         |                                     |
| Electrostatic discharge protection on USB           |                                     |
| Electrostatic discharge protection on 1-wire data   |                                     |
| Over-current protection on 1-Wire power             |                                     |
| Electrostatic discharge protection on sim card slot |                                     |

\* Depends on configuration. For firmware lower than 2.23, consumption might be different

## Telecommunication, Positioning

|                           |                      |
|---------------------------|----------------------|
| <b>GPS\GLONASS module</b> | Ublox MAX-7C         |
| Internal                  | 56 channel           |
| Sensitivity               | -161 dBm             |
| Cold start                | 29 s                 |
| Aided start               | 5 s                  |
| Reacquisition             | 1 s                  |
| <b>GPS antenna</b>        | External             |
| Frequency                 | 1575.42 ± 3 MHz      |
| <b>GSM modem</b>          | SIM900 or SIM900r    |
| Internal                  |                      |
| GSM850\GSM900\            | GSM900\GSM1800       |
| DCS1800\DCS1900           |                      |
| <b>GSM antenna</b>        | Internal             |
| GSM850\GSM900\            | GSM900\GSM1800       |
| DCS1800\DCS1900           |                      |
| <b>Accelerometer</b>      | 3-axis; 2g/4g/8g/16g |

## I/O Characteristics

|                |                              |
|----------------|------------------------------|
| 4 x DIN        | Digital inputs               |
| Threshold      | 4 V                          |
| 2 x DOUT       | Digital outputs              |
| Max output     | Open collector 32 V, 1 A max |
| 2 x AIN        | Analog inputs                |
| Input range    | 0 - 30 V                     |
| Resolution     | 12 bit                       |
| 1 - Wire       | 1-Wire peripherals           |
| Output current | 80 mA                        |
| 2 x RS232**    | TX, RX                       |
| 1 x RS485**    | PortA 485 -; PortB 485 +     |
| OBD interface  | K-line and L-line            |
| CAN interface  | CAN H, CAN L                 |
| 3.5mm TRRS     | Microphone connection***     |
| USB            | Configuration interface      |

\*\* 2x RS232 or 1x RS232 and 1x RS485

\*\*\* Adapter needed (Please contact your agent)

## Environmental data, reliability, certification

|                             |           |
|-----------------------------|-----------|
| Storage temperature         | -40 - +65 |
| Operating temperature       | -35 - +55 |
| When operating from battery | -20 - +40 |

## Essential requirements Confirmed standards

|   |                        |
|---|------------------------|
| Safety  | EN 60950               |
| R&TTE, Article 3.1(a)   | 1:2006+A11:2009        |
| EMC   | EN 301 489-1 V1.6.1    |
| R&TTE, Article 3.1(b)   | EN 301 489-7 V1.3.1    |
| Radio Spectrum  | EN 301 511 (v9.0.2)    |
| R&TTE, Article 3.2  |                        |
| Environmental testing. Part 2-64. Tests – Test Fh: Vibration, broadband random and guidance | LST EN 60068-2-64:2008 |
| (IEC 60068-2-64:2008)   |                        |

## Peripherals available

| Available on 1-wire                     | Available on DOUTs  | Available on RS232\RS485         |
|---|---------------------|----------------------------------|
| 4 x Temperature sensors DS18B20/DS18S20 | 1 x Buzzer\LED      | Up to 10 LLS digital fuel sensor |
| 1 x iButton DS1900 with passive socket  | 1 x Eco-drive panel | Garmin                           |
|   | 1 x Ignition lock   | ThermoKing support               |