# Technical Specifications:

# tinyBlack GNSS Data Logger

## Product Overview

The **tinyBlack** is a compact, robust GNSS data logger with integrated computer and 4-channel switching function for industrial applications in extreme temperature conditions.

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## Technical Data

### General Specifications

- **Device Type**: GNSS data logger with integrated computer
- **Enclosure**: Aluminum housing (not waterproof)
- **Dimensions**: 190 × 85 × 110 mm (W×H×D)
- **Weight**: 1200 g

### Power Supply

- **Operating Voltage**: 9-32 V DC
- **Connector**: XLR connector
  - Pin 1: +VIN (Supply voltage)
  - Pin 3: Ground (GND)
- **Reverse Polarity Protection**: Yes

- **Power Consumption**: approx. 5 Watts

## GNSS Receiver

- **GNSS Systems**: GPS, GLONASS, Galileo, BeiDou
- **Receiver Type**: Multi-GNSS
- **Can be equipped with different Receiver-Boards (OEM)**
    - **Javad TR-2S**
    - **Septentrio Mosaic X5**
    - **U-Blox F9P**
    - **Swiftnav Piksi (eol)**

## Computer Unit

- **Beaglebone Black industrial**
- **Memory**: 512 MByte
- **Internal Storage**: 4 GByte
- **Expansion Storage**: MicroSD card (32 GByte)

## Switching Functions

- **Channels**: 4 independent channels, one of them internally
- **Switching Voltage**: Input voltage (9-32 V DC)
- **Switching Current**: max. 4 A per channel

## Communication Interfaces

- **Serial Interfaces**: 2 × RS232 (freely configurable)
- **USB**
- **Additional Interfaces**: Optional GPIOs on request

## Environmental Conditions

- **Operating Temperature**: -40°C to +85°C
- **Storage Temperature**: -40°C to +85°C
- **Humidity**: 5% to 95% non-condensing

## Mechanical Specifications

- **Housing Material**: Aluminum
- **Protection Rating**: Not waterproof
- **Mounting**: Flange mounting with integrated mounting brackets

### Data Logging

- **Logging Intervals**: Configurable
- **Data Formats**: proprietary binary format, NMEA, RTCM

# Pin Configuration

### XLR Connector:

- **Pin 1**: +VIN (9-32 V DC)
- **Pin 2**: [not connected]
- **Pin 3**: Ground (GND)

# Key Features

- Extreme temperature optimized (-40°C to +85°C)
- Robust aluminum construction
- Easy installation via XLR connector
- Flexible switching functions with high switching power
- Two freely configurable RS232 interfaces
- Free access to the internal computer