

RET4000 Series

Rugged Vehicle Sensor Data Processing Solution with isolated Digital and Analog I/O and Real-Time Triggering

The **ALGOL RET (Realtime Event Triggered)** range of products allow distributed time-and position-accurate data sampling and processing. RET4000 units includes isolated industrial digital and precision analog inputs as well as digital and audio outputs for alarming, among other interfaces depending on type. Measurement processes can be triggered via local or remote signals. The ALGOL solution includes mobile measurement technology, wireless communication and Edge / Cloud functionality to configure and supervise measurement clusters and measurement tasks, as well as to download and process data.



GENERIC FEATURES

- Fully supervised EN50155 compliant hardware
- Power Supply 12/24/36/48/110V
- Fanless Design, power consumption nom. 8W
- Operating Temperature -40 - 70°C
- Ignition pin for low power functionality
- Voltages/Current/Power monitoring
- Quad Arm Cortex™-A35 1.2GHz
- LTE Class 4 modem (RX MIMO/Dual SIM/eSIM)
- Integrated 3*concurrent GPS/GNSS
- WiFi / WiFi Mesh networking (Time synchronized)
- Optional: local LoRaWAN Gateway
- Security Hardened Linux Operating System
- Software Container Architecture for Applications
- Configurable Routing and Firewall
- Supercap backed Real Time Clock

APPLICATIONS

- Railway / Infrastructure Monitoring
- Energy Optimization
- Driver Supervision
- Predictive Maintenance
- Vibration Monitoring
- Temperature and Fan Supervision
- Alarming (Visual or Audio)
- KPI Supervision

DATA INTERFACES / SENSORS

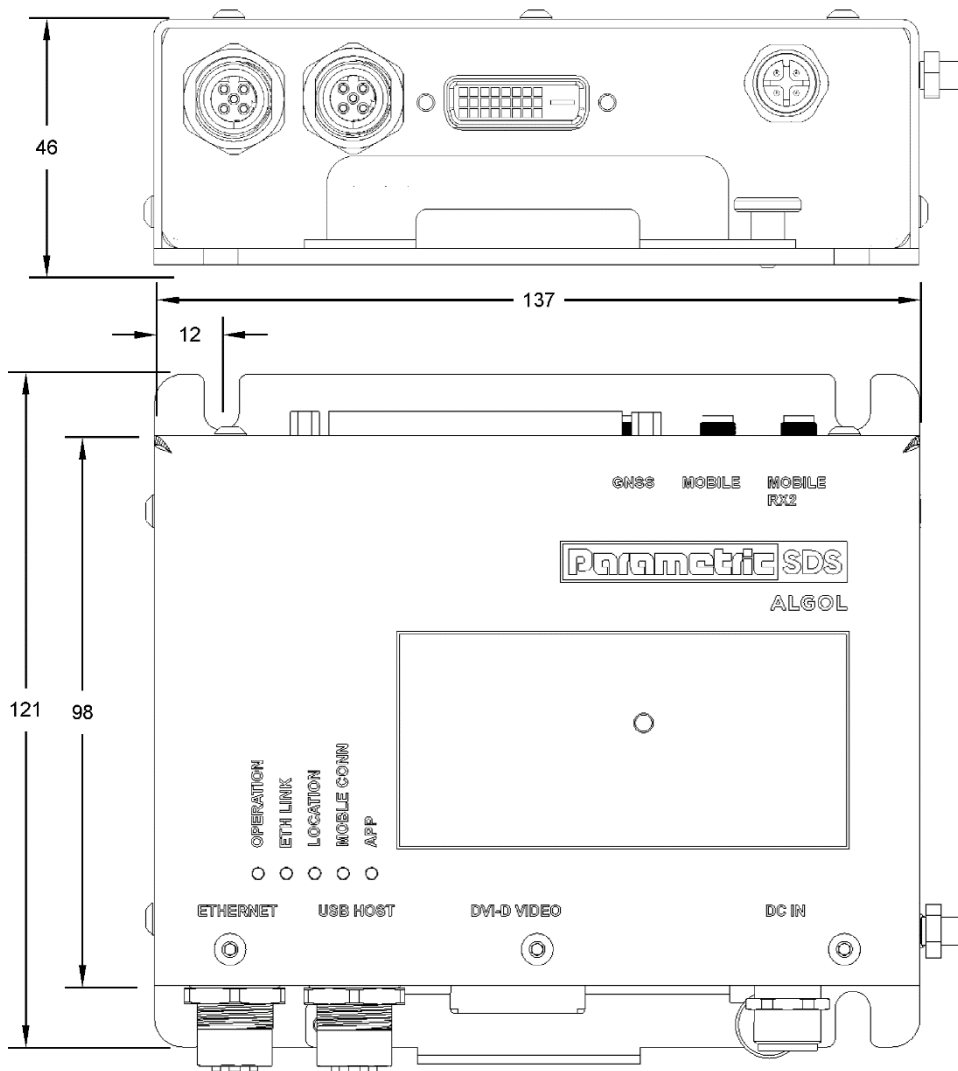
- 4 channel-isolated digital/PWM inputs 3-48V
- 2 isolated digital/PWM outputs capable of driving relay coils Rated up to 2A
- 8 Isolated precision analogue inputs ± 10 or $\pm 2.5V$
- Analog Signals sampled with 16 Bit / up to 500kSPS
- Ethernet 100Mbit and USB Host
- Single Pair Ethernet (SPE) Master
- Analog Audio Out and Microphone IN
- Internal Microphone
- Internal Acceleration Sensor
- Mobile and GNSS Antenna Connectors (SMA)
- 2 SIM Card Slots for Main Modem, 1 SIM Slot for aux modem
- Vibration proof SD-Card Slot
- USB-C serial console with protection

MEASUREMENT DATA

- GPS accurate Timestamps
- Position, Speed, Heading
- Digital Input State or Frequency
- Analog In state / frequency
- Mobile RSSI/RSRP/Cell Info
- Internal and External Triggers
- Additional Data from Software Application
- Mesh Network Status
- CPU Supervision Data and memory usage
- Mesh Network Status (if available)

This measurement node is designed to work in a time synchronized distributed RET measurement setup. For information about other measurement nodes and our RET system visit www.parametric-sds.com

PHYSICAL DIMENSIONS (EXAMPLE, INTERFACES DEPENDING ON CONFIGURATION)



DISCLAIMER

We make every effort to keep our data sheets and specifications complete and accurate. However, we cannot guarantee that they are completely error-free and therefore accept no responsibility for any errors, omissions or consequences arising from the information contained in this document or any other document supplied with the equipment described herein. Parametric GmbH reserves the right to make changes to its products or specifications at any time without notice.

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