XTREME - Smart Data Logger

Class A compliant Data Logger as per IEC61724-1:2021 and IEC61400-12-1:2022



XTREME is a robust family of smart dataloggers adept at acquiring measurements from multiple sensors through diverse analog and digital interfaces. Ensuring secure data transmission to the cloud, this powerful device is designed for precision data acquisition in a wide range of applications.

DESCRIPTION

The XTREME series comprises advanced and intelligent data loggers designed to capture measurements from diverse sensors through various analog and digital interfaces. With a sampling frequency of 1 Hz and a logging frequency of at least 1 second, the device adheres to the high-precision Class A standards for sampling and recording intervals according to IEC 61724-1:2021 and IEC 61400-12-1:2022. Secure data transmission to the cloud is facilitated through Ethernet, Wi-Fi, or LTE, while real-time monitoring with SCADA systems is achieved via RS485 Modbus RTU and Modbus over TCP/IP.

Powered by a robust 32-bit, 900 MHz processor architecture, and an industry leading ADC, boasting a 24-bit resolution, the XTREME data logger offerhigh precession data acquisition and supports edge computing capabilities for Artificial Intelligence (AI)-based Industrial Internet of Things (IIOT) applications.

The data logger features an onboard memory of 8GB, complemented by a micro-SD card slot expandable up to 32GB, ensuring data storage and retention for over 5 years in operational settings. Accessing logged data is convenient through a dedicated webpage accessible in both local and remote networks. Additionally, data retrieval is facilitated through direct download from the webpage or by inserting a pen drive into the device, providing flexibility and ease of use for diverse data management needs.

PRODUCT FEATURES

Compliance

The device complies with Class A sampling and logging intervals as per the IEC61724-1:2021 and IEC61400-12-1:2022 standards.

24 Bit ADC Resolution

The data Logger features a 24-bit ADC (>20 ENOB), ensuring precise data acquisition, and measures voltage levels <10µV for accuracy.

Multiple Input Channels

Supports 16/8 single-ended or 8/4 diffeential analog channels for 0-100µV, 0-5V, 4-20mA, PT100, and PT1000 inputs.

Multiple Interfaces

The device offes various interfaces including SDI12, RS232, Modbus RTU (RS485 master/slave), and Modbus TCP/IP.

Communication

The data logger enables web server communication through WiFi, 4G (LTE), GPRS, and Ethernet connections.

Time Synchronization

The device ensures precise time synchronization via built-in GPS, supplemented by NTP and RTC methods for accuracy and reliability.

Memory

The device stores data for over 5 years on 8GB internal memory in .csv format. It supports up to 32GB micro SD card for extra storage

Environment Protection

Housed in an IP65 enclosure, ensuring durability and sustained performance in challenging environments.

Power Consumption

The device functions as an energy-eficient data logger, operational within a voltage range of 9 to 28 V DC.

APPLICATIONS

- Solar WMS
- Environment Monitoring
- Wind Metmast
- Energy Management and Process Monitoring

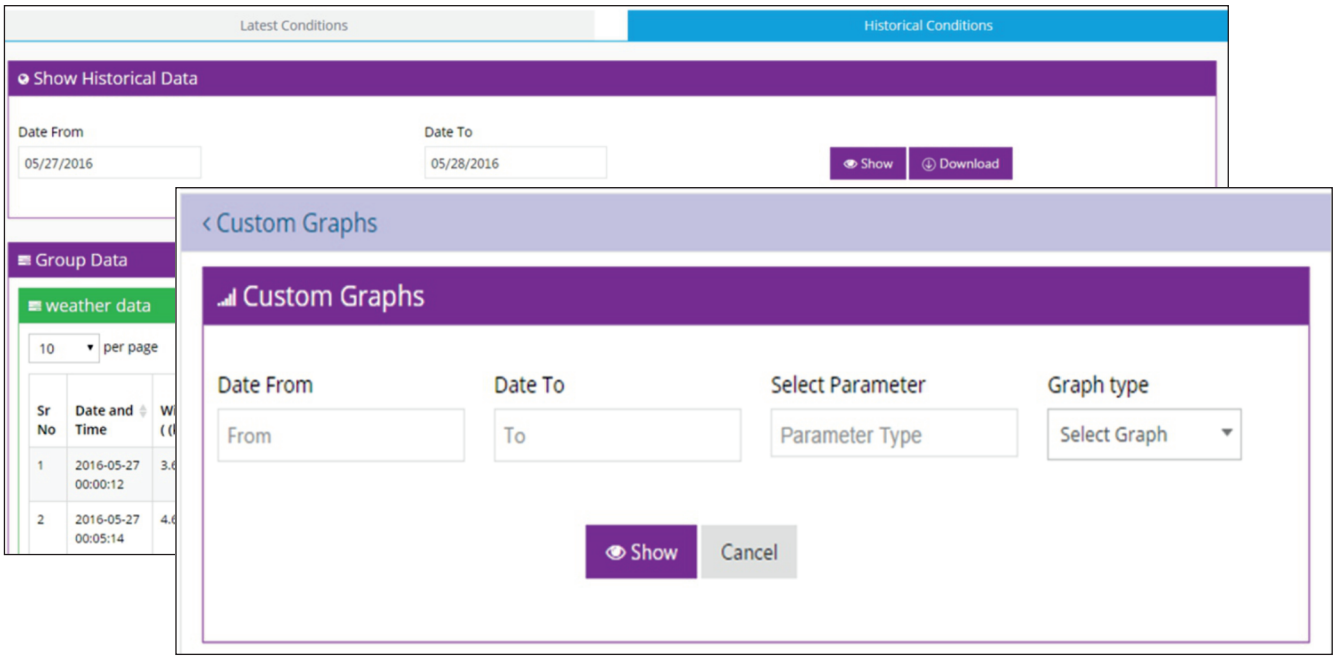
TECHNICAL SPECIFICATIONS

XTREME	XTM XG920	XTM XG930
ANALOG INPUT		
Channels	4 diffeential or 8 single ended	8 diffeential or 16 single ended
Range	0 - 5 V 0 - 1 V 0 - 100 mV 0 - 20 mA 80 - 200 Ω (PT 100) 800 - 2000 Ω (PT 1000)	
Resolution	24 bit	
Accuracy	±0.01 % of FS at 30 °C ±0.03 % of FS over the entire temp range	
DIGITAL INPUTS		
Digital Input	4	
Digital Output	2	
Max Input Frequency	1 kHz	
SERIAL INPUTS		
Interfaces	RS232(x2), RS485(x2), SDI12	
Protocols	RS232(1) : NMEA (O/P) / MODBUS (slave) RS232(2) : MODBUS (master) RS485(1) : MODBUS (master) RS485(2) : MODBUS (slave)	
Baudrate	RS232 / RS485 : 9600, 38400, 19200, 57600, 115200, SDI12: 1200	
ADDITIONAL CHANNELS		
Sensor Inputs	Rain Bucket (Davis® Make) Anemometer (Davis® Make) Air Temp Humidity (Aeron and Davis® Make) OPC particle sensor (Alphasense® Make)	
On-board Sensors	Temperature Sensor	
NETWORK INTERFACES		
Interfaces	Ethernet, Wi-Fi, Bluetooth and LTE	
Protocols	Ethernet / Wi-Fi / Bluetooth / LTE: BNEP, SFTP, FTP, HTTP, HTTPS TCP: MODBUS IEC 60870-5-101, IEC 60870-5-104	
Frequency Band	FDD LTE: B1/B3 | TDD LTE: B38/B39/B40/B41 TDSCDMA: B34/B39 | WCDMA: B1 | CDMA2000 1x/EVDO: BC0 GSM: 900/1800 | Wi-Fi: IEEE 802.11 a/b/g/n, 2.4 GHz Bluetooth: V2.1 / V3.0 / V4.0, 2.4 GHz	

MEASUREMENT PARAMETERS	
Simultaneous Parameters	1000 parameters including sensor and calculated parameters
Sampling interval	1 Hz (IEC 61724:1-2021 and IEC 61400-12-1 complaint)
Average data logging	User selectable from 1 minute (min.) to 24 Hrs (max.)
Instantaneous data logging interval	1 second for all parameters
Parameter data types	Instantaneous, Average, Standard Deviation, Minimum and Maximum 3 - second Wind Gust with Wind direction 1 - minute Wind Gust with Wind direction
Time Synchronization	GPS / Cellular / NTP / Manual
STORAGE	
Internal Backup Memory	8 GB
SD Card Memory	8 GB (Expandable upto 32 GB)
USB	Data retrieval on a Pen Drive
OTHER SPECIFICATIONS	
Micro-processor	32-bit
LED Indicators	Power, Internet USB data download
RTC	Onboard with 3 V coin cell
ELECTRICAL	
Voltage Input	+9 V to +28 V DC
Power Consumption	<10 W
Batteries	Additional accessory, needs to be purchased separately
Reverse voltage protection	30V DC
ENVIRONMENT	
Operating Temperature	-40 °C to +70 °C
Protection	IP65
Housing	PC UV Protected
Dimensions	231 (L) x 125 (W) x 90 (H) mm
Weight	<1 kg
EMI/EMC Compliance	As per EN61326-1:2013
In built Surge Protection	± 2 KV on Power line & ± 1KV on signal lines

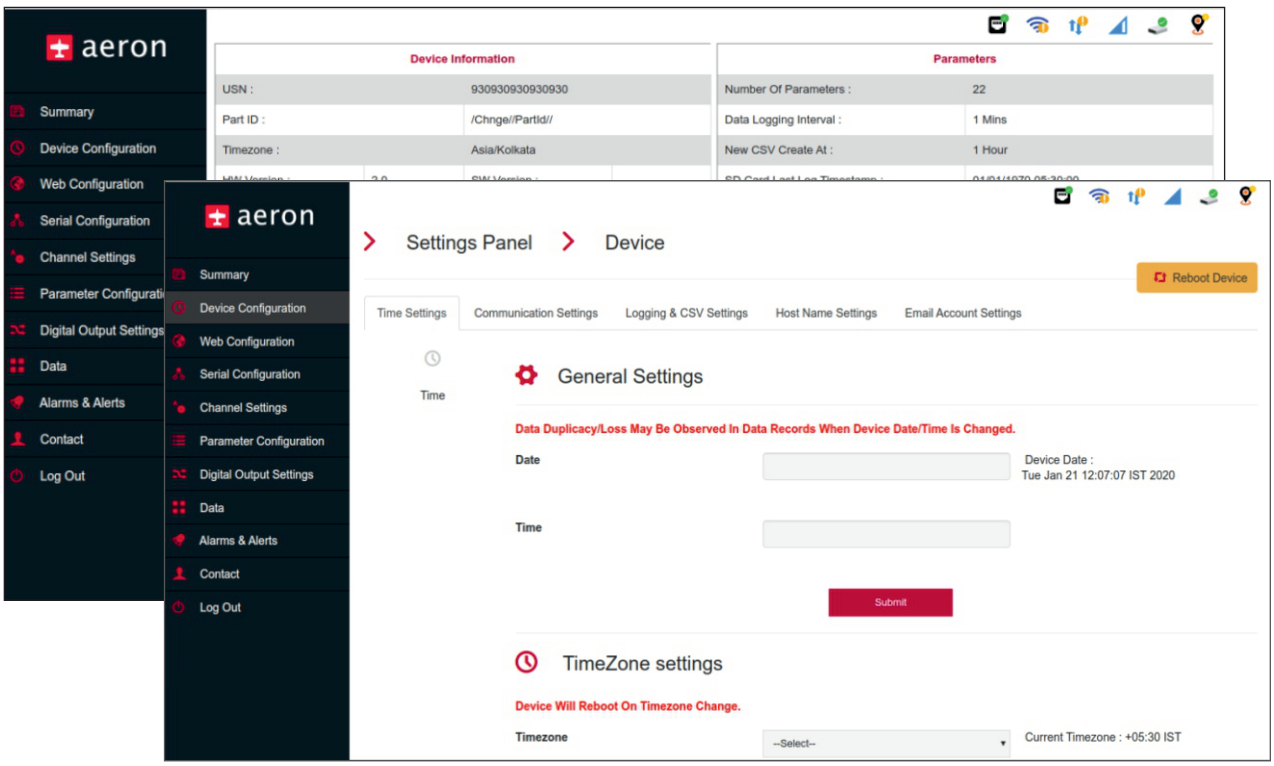
AERON LIVE

Aeron Live3 Cloud Platform a user-friendly cloud service from Aeron, for 24x7 data storage and analysis.



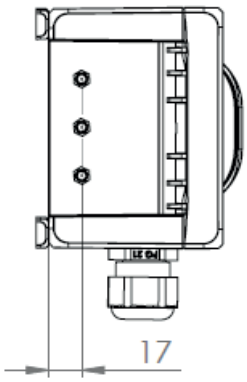
EMBEDDED WEBPAGE

Configuration made easy through the embedded web page running inside the logger accessible using the IP address of the data logger.

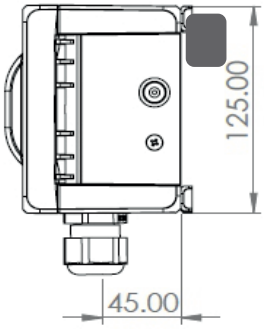


MECHANICAL DIMENSIONS All dimensions in mm.

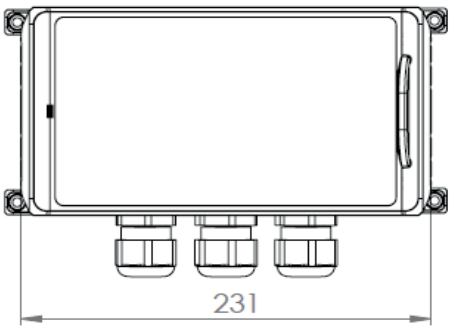
LHS View



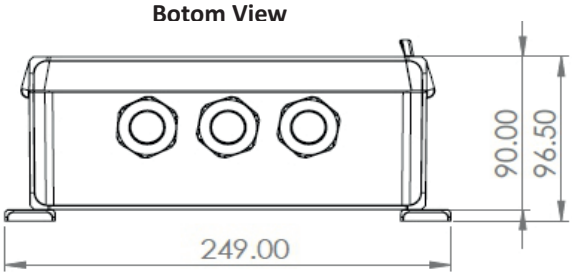
RHS View



Front View



Botom View



ORDERING INFORMATION

XTM - XG9**X**0

2 : 8 Analog Channels (Product Code: 24008)

3 : 16 Analog Channels (Product Code: 24009)