DEAWARE

DW-SMART **EcoLog**

FEATURES

- Ultra-low power consumption and enhanced security
- Multi Internet Communication Support LTE Cat 1 and LoRaWAN
- Supports RS485(Modbus RTU) and M-Bus (Master/Slave)
- 14-bit Analog to Digital Converter (4-20mA and 0-10 Volt)
- High Speed Precision Pulse Counter
- Up to 300,000 records with date and times stamps
- Can transmit data up to 3,000 time without external power
- Fault tolerant firmware OTA
- E-Ink display
- IP 67 Protection

DW-Smart EcoLog

Introducing our state-of-the-art Low Power Transmitter and Data logger, a versatile and robust device designed to meet the demanding needs of modern IoT applications. Equipped with the advanced microcontroller, this device ensures top-tier security, exceptional power efficiency, and unparalleled performance. It seamlessly integrates multiple communication technologies and features to offer a comprehensive solution for data collection, transmission, and monitoring.

Key MCU Features

Advanced microcontroller : 32 bits Ultra-low power consumption and enhanced security features, ensuring reliable and secure operation in diverse environment

The secure, Ultra-low power series MCUs, Advanced power-saving microcontrollers, based on the Arm Cortex M33-core, It embeds, innovative, proprietary ultra-low power features that reduce typical MCU power consumption by 90% in application in applications where peripherals need to regularly acquire data.

Multi-Communication Support

LTE Cat1 and 3G Connectivity
Provides high-speed data transmission, ensuring real-time data updates and remote monitoring capabilities.

LoRaWAN
Enables long-range, low-power wireless communication, ideal for remote and hard-to-reach locations.

Multi Sensor Collection

RS485 Interface

Allows for robust and long-distance wired communication, commonly used in industrial applications.

M-Bus Compatibility

Supports M-Bus protocol for reliable metering and sensor data collection.

Pulse Counter

Integrated pulse counting functionality for precise monitoring of pulse-based sensors, such as flow meters or energy meters.

Analog / Digital Input Support

Supports 14-bit 0-10 Volt and 4-20 mA signals for versatile sensor integration, along with digital bus communication such as I2C.

Data Logging and Storage

Features extensive data logging capabilities with support for various sensor inputs, ensuring accurate and comprehensive data collection.

E-Ink Display

Equipped with an energy-efficient E-Ink display, providing clear and readable information while maintaining low power consumption, perfect for outdoor and direct sunlight conditions.

Rugged and Durable

IP67 Rated Enclosure: Ensures complete protection against dust and water ingress, making it suitable for harsh environmental conditions and prolonged outdoor use.

Supports multiple power sources

Including an internal battery or solar panels, with efficient power management functionality.

Applications

- Smart Agriculture: Monitor soil moisture, weather conditions, and irrigation systems to optimize water usage and improve crop yields.

- Environmental Monitoring: Track air quality, water levels, and pollution in remote areas with minimal maintenance.

- Industrial Automation: Enhance process control and efficiency by integrating with existing industrial systems and sensors.

- Utility Metering: Efficiently manage and log data from various utility meters, including water, gas, and electricity.

Benefits

- Low Power Consumption: Designed to operate for extended periods on battery power, reducing the need for frequent maintenance and battery replacements.

- Enhanced Security: Advanced microcontroller provides robust security features, ensuring data integrity and protection against cyber threats.

- Versatile Communication: Multiple communication options offer flexibility and reliability for different application needs.

- Rugged Design: Built to withstand tough environmental conditions, ensuring long-term reliability and performance.

Our Low Power Transmitter and Datalogger is the ideal choice for businesses and organizations looking to enhance their data collection and monitoring capabilities while ensuring security and efficiency. Embrace the future of IoT with a device that combines cutting-edge technology, robust communication options, and a durable design.

SPECIFICATION :

CPU	32 bit ARM Architecture 2 Mbytes of Flash
Enhanced Security	- PSA level 3 and SESIP level certified - Arm® TrustZone® and securable I/Os, memories, and peripherals - AES and PKA, side-attack resistant
Dual Bank Storage Feature for CPU :	- **Fault Tolerance :** With dual bank storage, the CPU ensures fault tolerance minimizing the risk of data loss due the unexpected system failures or power outages. - **Efficient Software Updates:** Facilitates seamless and efficient software updates by enabling the system to switch between banks, ensuring continuous operation during the update process.
Display	E-INK 1.9 inch
Dual-Channel Analog Input	**14-bit Resolution** Supports a voltage range from 0-10 volts and a current range from 4-20 milliamps(mA)
RS485	1 Channel
M-Bus	1 Channel Support Mode - M-Bus Master - M-Bus Slave

SPECIFICATION :

Multi-Communication Support	LoRAWAN AS923
	Support external and internal antenna LoRaWAN Class A and Class C Performs 10,000 times using an internal battery **Efficient Payload Compression :** Utilized advanced compression techniques to optimize the payload size for LoRAWAN transmission
	LTE Cat 1 Support SIM card Perform 3,000 operations using internal battery
Power	**Solar Cell Supports** External Power Supply Compatibility Voltage Measurement Capability
Battery	Battery Type : Lithium Thionyl Chloride (Li-SOCL$_2$) Battery Size : AA
Enclosure and Protection Rate	IP67 PCB conformal Coating with Urethain
Environmental	Temperature Range : 0-60ºC Humidity Range : 5% - 95%
Maintenance mode	**Reed Switch Activation :** Incorporates a reed switch mechanism to enable maintenance mode, allowing for manual activation to wake the device from low power mode, update screen and send data **USB Type C :** Firmware Upload and Parameter Configuration

Items Included in Packaging :

- 1 x Device
- 1 x User Manual
- 1 x Screw
- 1 x Mounting Hardware
- 2 x Li-SOCL$_2$ Battery