Battery operated, ultra-low power wireless telemetry unit and data logger for remote applications
The IP68-rated rugged construction, exceptional battery life and compact footprint mean the Seprol S2000nano remote telemetry unit is ideal for demanding applications in the harshest and most remote environments.

The S2000nano:

- WITS and Native DNP3 based, can be configured in minutes and seamlessly interfaces with existing networks.
- Accurately logs and transmits data wirelessly, year after year without charging or replacing.
- Engineered to deliver accurate data monitoring, where reliability is paramount and access is limited.
Servelec Technologies’ Seprol S2000nano is a powerful self-contained data logger and transmitter which provides real-time access to important data for a limitless range of controlling, sensing and monitoring devices. The S2000nano’s IP68 rugged design allows it to operate in extreme environments, where traditional devices fall short.

- Up to 12-year battery life (depending on usage)
- Waterproof casing (IP68, 4 metres at 4 days)
- Wide operating temperature range (-40°C – +70°C)
- Tough, rugged casing
- Chamber, pole and wall mounting options

Built within our products is Servelec Technologies’ 30 years of experience in the telemetry industry. Seprol products can provide everything you need to create high-performing yet economical telemetry applications for critical functions. The Seprol range of scalable products also includes state-of-the-art, user-centric software packages and additional hardware to transform your measurement and control aspirations into time and cost saving solutions.

Typical applications

The cost-effective S2000nano is engineered to collect, log and transmit data from diverse and dispersed assets where access is difficult and infrequent. The S2000nano is currently being used by utility companies for:

- Light monitoring
- Temperature monitoring
- Water level monitoring
- Flow monitoring
- Pressure monitoring

WITS Verified

The S2000nano is a fully WITS (Water Industry Telemetry Standards) compliant device proving its interoperability with other WITS-approved master stations and field devices. WITS certification ensures the device has:

- A single protocol to support multiple vendors
- Secure authentication between RTUs and master stations
- Common configuration and application program
- Flexible configuration options

Features

The wide range of S2000nano features include:

- Replaceable (on site) battery
- Fully Native DNP3 and WITS compliant
- Highly configurable alarms with choice of actions, fixed limit values and daily/weekly limit profiles
- Embedded web server
- Straightforward configuration and operation, configurable in minutes
- Fully programmable with flexible input/output range
- Multiple wireless communications options
- User application support via IsaGraf IEC61131-3
- Four digital inputs, two analogue inputs and one digital output
- Report/fault log facility
- Dynamically configurable period and event logging for up to 100,000 records

Extensions to the S2000nano’s key features include an external battery pack for even greater battery life, which simply connects via a custom lid supplied with the external battery.

While the primary functions of the S2000nano are data logging, transmitting and alarm notification each device is capable of operating as a low power RTU with the capability of site specific functionality via IsaGraf applications.

Configuration and user interface

The configuration tool allows each S2000nano to be configured using a PC or laptop. All the RTU’s features, inputs and outputs can be managed through any web browser using the embedded web server. The S2000nano configuration tool:

- Provides a standard method of configuring commonly used features
- Reduces the possibility of configuration problems
- Enables consistent configuration across all devices
- Requires secure authentication of critical commands from a master station
- Is fully compliant with SCOPE configuration tools
Specification

GENERAL
Type of Processor: Kinetis K66 (ARM Cortex M4) with encryption accelerator
Environment: IP68 (4m depth for 4 days) Operating Temp. -40°C to 70°C 96MHz
Processor Speed: 4 Mb SRAM, 10 Mb FLASH, ½ Mb FRAM
Memory (Onboard): Up to 32Gb
RTC Backup period (No PSU): > 1 day
Dimensions: Width: 142mm Height: 197mm Depth: 115mm
Programming Languages: IEC61131-3 Sequential Function Chart, Function Block, Ladder, Structured Text, Instruction List
Data Logging: 100,000 records (DNP Mode)

I/O SPECIFICATION
2 Multiplexed Analogue Inputs
Type of Input: 0-5V/0-20mA
Resolution: 20 bits
Accuracy (-40°C to 70°C): 0.15% (Voltage)
Loop supply: 24Vdc

4 Digital / Counter Inputs
Type of Input: Volt Free Contacts
Contact Wetting Voltage: 5Vdc nominal
Input Pulse Frequency: 0-20Hz

1 Digital Output
Type of Output: Solid state relay (Photo MOSFET)
Maximum Switching Voltage: 16 Vac / 35Vdc
Maximum Switching Current: 200 mA (per channel)
On Resistance (Typical): 1 Ohms
On Resistance (Maximum): 10 Ohms

COMMUNICATIONS
Data types supported: GSM CSD, 2G/4G IP
Data rate: 115Kbs
LED Indication: Indicates registration & call active