SETEBOS-2S

Ethernet/GSM/RS232/485/IO/TH control and measurement center with automation control functions

- 1x 10/100Mbit/s Ethernet, GSM - management/ monitoring
- *1-wire* interface for external sensors, temperature, humidity, other measured values, dew point calculation or multi-point external temperature monitoring
- Control of relay outputs, *NO/NC connectors*
- dry optocoupling contact
- *2xRS232 and 1xRS232/RS485/RS422* interfaces with galvanic separation, for transferring the RS contact of external device management or for communication with sensors, including virtual -com, SSH console
- Controlling building automation with the cooperation of an external mobile application (tablet, phone) or a PC application
- Possibility of connecting expansion modules: additional inputs, outputs,
- Remote reading of device parameters and states via the Modbus /TCP protocol
- Management of *HTTP/HTTPS, SNMP/SNMPv3, TELNET/SSH, SNTP, Syslog*
- *USB CLI OTG*
- Operating temperature from *-40 to +70°C*
- Rugged metal housing *IP-30 DIN*
- *DC* Power Supply

Opis urządzenia

Functionality

SETEBOS-2S device in its basic functionality is a control and measurement center designed for monitoring and controlling facilities, recording environmental parameters such as temperature and humidity. Additionally, events of space violation, flooding, etc. can be recorded through appropriate inputs. In addition, the device enables remote control of devices placed on the monitored facility through two relay outputs.

RS232 and RS232/485/422 interfaces allow for communication with external devices via Ethernet/IP network or for connecting other peripheral devices that extend measurement or monitoring functions. Thanks to the serial interface, Setebos-2S can also be equipped with additional external modules that allow for the expansion of the device's functionality.

SETEBOS-2S can be equipped with wireless communication interfaces allowing for the control and monitoring of elements present in the facility that are not connected to the device's wired interfaces, as well as monitoring using the user's mobile devices (tablet, mobile phone, other) by installing the appropriate monitoring application.

Management

HTTP/HTTPS server , *TELNET/SSH server and SNMP/SNMPv3* agent allow for free configuration of device parameters via a standard *WWW browser* and constant monitoring of the device status from any management platform equipped with the *SNMP protocol* .

Remote reading of device parameters and states via Modbus /TCP protocol

It is possible to freely configure the content of messages sent by the device via *the SNMP (TRAP)* and *syslog protocols* .

For dedicated applications, we can provide an application that, depending on the installed modules, can be used to control and monitor facilities as well as to control building automation according to pre-defined algorithms.
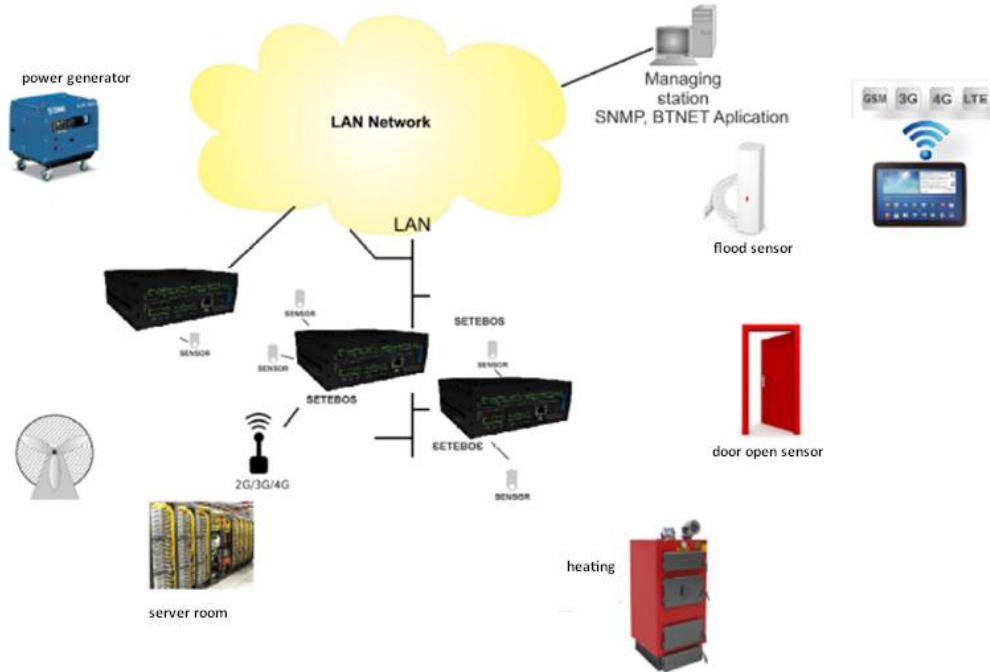
Fig. 1. Sample application illustrating the connection of peripheral devices to measure the sensor status or environmental conditions at unattended stations.

One possible application is the control and monitoring of the server room environment. An example of such an application is shown in the figure below.
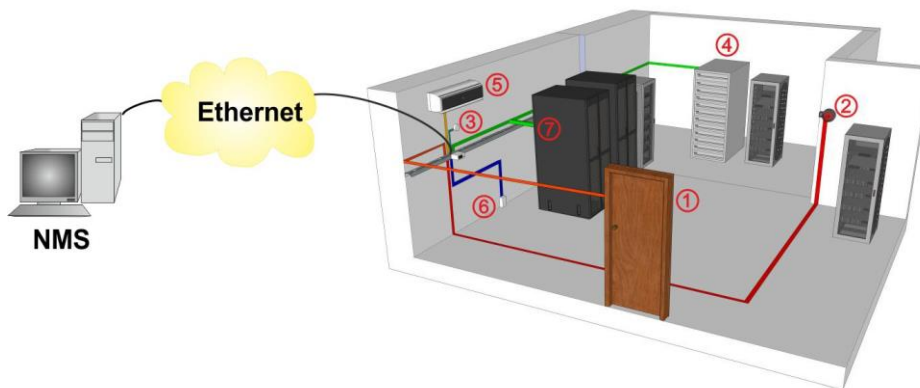

Fig. 2. One of the examples of using the devices is monitoring server rooms.

Sensor group:
1.   Door opening sensor
2.   Alarm siren
3.   Gas sensor
4.   Temperature sensor
5.   Air conditioning switched on by means of a relay
6.   Flood sensor
7.   Telecom power plant controlled by a virtual RS232 console

    A group of control units can be connected into one control and measurement system supervised from the BTNET application or other management applications (e.g. via the SNMP protocol).
    BTNET software enables collecting alarms, monitoring the operation of a group of devices and visualizing measurements.
    SETEBOS is powered by a direct current in the range of 11-36 V DC or 30-60 V DC. The total power consumption of the device does not exceed 9 Watts.

Specyfikacja techniczna

Ethernet interfaces :
- 1x RJ45 10/100Mbps – management / monitoring

Temperature and humidity measurement interface
- Temperature measurement range: -40 - +125 °C
- Temperature measurement accuracy: +/- 0.2°C for 25°C
- Humidity measurement range: 0-100% RH
- Humidity measurement accuracy: +/- 2% RH
- Maximum number of sensors T=6, and T/H=2
- Connector: screw crimp connections

RS232/485/422 interface
- Transmission speed:
- 0-115.2 kbps for RS232
- 0-230 kbit /s for RS 485 or RS 422
- Interface type configuration:
- RS422 – 4 wire
- RS485 – 2 wire
- RS232
- Connection: screw

RS232 interface
- Transmission speed:
- 0-115.2 kbps for RS232
- Connection: screw

GSM modem
- 1x GSM 2/3G/(4G LTE) Modem
- CDMA/HSPA/UMTS/EDGE/LTE standards
- Radio frequencies: 800/900/1800/2100/ 2100 MHz
- 1(2)x SIM card
- 1(2) x SMA connector antenna
- Indication of operating states and signal quality
- Automatic login and establishment of a packet session in APN, after unsuccessful attempts the device hardware restarts

Management:
- SNMP v1/2c/3, TELNET, SNTP, Syslog
- HTTP/HTTPS protocol – management via web browser
- SSH
- Remote reading of device parameters and states via the Modbus /TCP protocol

Power supply:
- In the range of 11-36V DC or in the range of 30-60V DC
- Screw connection

- Power consumption up to 9W

1-wire interface
- Transmission speed 0 - 16.3 kbit /s
- Range ≤ 100m
- Connector: screw crimp connections

Digital outputs
- Number of outputs – 4/8
- Output type – " relay" contact "
- Maximum switching current – 0.5A, 48VDC
- One output (option 2/3 for Gx) max. switching current – 8A, 250VAC, 8A 24VDC
- One output (option 2/3 for Gx) max. switching current – 8A 24VDC
- Connection: screw

Digital inputs
- Number of inputs – 2/6
- Galvanically isolated inputs
- Input type – dry contact
- Connection: screw

Physical characteristics:
- Possibility of mounting on a DIN rail
- Metal housing IP-30
- Dimensions: 135x120x145mm (with GSM module)
- Weight: 1.2 kg

Environmental work requirements:
- Standard operating temperature: -40 to +70°C
- There are no active cooling/heating elements in the device and no external sources are required
- Standard operating humidity: 0 to 95% (non-condensing)
- Location type: class C according to PN-EN 60870-2-2 - sheltered locations
- Degree of protection in accordance with IP-30

USB Host
- 1x USB CLI OTG

Oznaczenie

SETEBOS–2S–(X)–(IO)–U

Power supply
4 – 30 – 60V DC
5 – 11 – 36V DC

I/O module
IO[1] – router equipped with an I/O module

[1] - Available IO modules in the table below

GSM/RF module:

No symbol [2] – basic version without modules
GSM[1] – router equipped with a GSM modem (modules available in the table below)
RF[1] – router equipped with a radio module (modules available in the table below)
GSM-GSM[1] – router equipped with two GSM modems with redundancy
GSM-RF[1] – router equipped with a GSM module and a radio module

[1] - When completing the symbol, the module designation must be provided. Available modules in the table below.

[2] - The device cannot be expanded with RF and GSM modules.

List of available SETEBOS-2S modules:

Module designation	Description	Comments
GSM3	GSM 2/3G modem - **built-in**	
GSM4	GSM 2/3G/4G LTE modem - **built-in**	
RF	RF module - WIFI - 802.11* - **built-in**	Offer and availability upon agreement with R&D
RFBL	RF module - BLUETOOTH* - **built-in**	Offer and availability upon agreement with R&D
(IO)		
IO3	Module 4x digital inputs, 4x relay outputs, 12V 100mA power output and controlled 12V 100mA power output for external sensors - **built-in**	

Accessories:

- T/H-2 sensor T/H sensor – cable length 2m (possibility of connecting up to two sensors)
- REL48 External relay with DIN rail mounting bracket for controlling 230V devices (48V coil)
- REL230 External 230V voltage detection relay with DIN rail mounting bracket
- Sensor-Z Flood sensor
- Sensor-O Side reed switch - magnetic sensor

List of suggested power supplies for BITSTREAM devices

Power supply designation	Output voltage range	Nominal output power	Operating temperature C-standard T-industrial
	DC	IN	
ZAS-24-25-WC	24V	25	0°C ~ +50°C
ZAS-48-25-WC	48V	25	0°C ~ +50°C
ZAS-24-25-SC	24V	25	0°C ~ +50°C
ZAS-48-25-SC	48V	25	0°C ~ +50°C
ZAS-24-20-RT	24V	20	-20°C ~ +70°C
ZAS-24-40-RT	24V	40	-20°C ~ +70°C

Legend of markings: W – plug-in; S – standalone ; R – for DIN rail