

SB1

A compact, cost-effective and flexible remote telemetry unit for the utilities market.



Overview

The SB1 has been designed to meet the needs of small to medium sized telemetry sites. It provides a wide range of inputs and outputs and a number of communications ports to connect to external systems.

It inherits many of the features from its larger sibling, the DB1 RTU, and offers the same ease of use and reliability. Its lower cost and built-in support for an external screen make it suitable for smaller sites, but it also provides the flexibility and power to handle more complex requirements.

Key Benefits

Low Cost Telemetry

The unit cost of the SB1 is comparable to other telemetry units used in the gas networks and forms a complete solution without the need for additional extras.

Ease of Configuration and Installation

The site configuration for the SB1 is created using the same intuitive, easy-to-use application as the DB1, and the configuration is loaded to the RTU either using a USB memory stick or over a serial link from a laptop.

Flexible

The SB1 can be installed in many configurations to match your specific, individual requirements and use a variety of communications options to suit every situation.

User-Friendly

Every step of the way, the SB1 system has been designed with the user in mind, from installation and configuration through to diagnosing faults and updating the site configuration. The user interface can be accessed through a laptop connected to the unit.

Simplified User Interfaces

In addition to supporting the touchscreen HMIs running the Point Monitor application, the SB1 has a graphics interface to which can be connected monitors of various sizes, including 7", 10" and 15" touchscreens.

The SB1 controls the information displayed on the screen providing an easy to use interface for smaller sites. This means that the site details can be displayed on the screen with no user effort needed to configure the display. In addition to the tabular displays of information provided as standard, a site-specific schematic can be created and loaded onto the RTU to display the site information relating to the site process. The SB1 also works with the existing Local Display Unit (LDU) and, as with the DB1 RTU, will work without any user interface at all.

Where is the SB1 most appropriate?

The SB1 is particularly suitable for use in two key situations:

- The low cost and ease of configuration of the SB1 provides an RTU solution for sites on which it had not previously been viable to install telemetry. For you, that means remote monitoring becomes practical in many more locations.
- The self-contained nature of the SB1, and, in particular, the ability to operate without an external barrier system, means the SB1 is ideal for a range of telemetry applications, including Gas to Grid and biomethane sites.

Technical Details

Inputs and Outputs

The SB1 can monitor inputs and control outputs from a number of sources:

1. It provides the following built in I/O:
 - 16 x 4 to 20mA analogue input channels.
 - 24 x opto-isolated volt free contact digital input channels.
 - 4 x relay output channels, capable of switching a 60W resistive load, a maximum switching voltage of 48V and a maximum current of 1A.
 - 2 x 4 to 20mA analogue outputs.
 - 2 x voltage analogue outputs in the range 1V to 5V.
2. It can communicate with the Pepperl and Fuchs LB barrier system using the Modbus protocol to the LB8107H gateway module.
3. It can take its inputs from a range of external systems, such as PLCs, connected on a communications link (serial or network).

Specifications

Power

Input Specification: 10 – 30v DC
Power: 7.5 W (approx. 300mA @ 24v)

Environmental

Storage Temperature: -20°C to +85°C
Operating Temperature: -30°C to +45°C

Dimensions

250mm by 215mm by 100mm, including mounting brackets (this allows it to fit within the footprint of a Ulysses RTU). Allow a further 100mm at either end for cables and connectors.

Approvals

The optional wireless modem used by the SB1 all have full regulatory approval from the appropriate agencies.

EMC tests of the SB1 enclosure have shown that the RF emissions of the unit are below standard international EMC limits and that it is unlikely to contribute significantly to the RF emissions spectrum of any system in which it is used.

The SB1 carries the CE mark.

Communication Ports

The SB1 supports a total of 5 serial ports, of which 4 are RS-232 and 1 is RS485/422. The serial ports can be used for connecting to a range of remote devices, such as a radio, engineer's laptop, touchscreen HMI and power supply unit. The SB1 also has two 10/100 Base-T network ports.

GPRS Modem

The SB1 supports an optional internal modem that allows connection to the mobile telephone network.

IEC-61131-3 Programming

The SB1 provides support for all 5 of the standard languages via an ISaGRAF runtime engine, so can handle all the internal calculations and logic that is required of it.

Protocol Support

The SB1 supports the Modbus protocol in both Master and Slave configurations, across serial and network communications links, and so can interface with a range of systems.

