

# DB1

A versatile and cost-effective remote telemetry unit for the utilities market.



## Overview

The DB1 supports the Modbus communications protocol, over both serial and TCP/IP connections, as both a Master and Slave unit. This provides comprehensive and flexible integration with existing systems. It can communicate via a wide range of media including satellite, leased line/private wire, radio, PSTN dial-up modem and the mobile telephone network (supporting both GSM and GPRS).

The ability of the DB1 to communicate via the mobile telephone network now provides a flexible and low cost option for installing telemetry at small to medium sized sites, which may not have previously justified the cost of installing radio antennae or satellite dishes.

## Key Benefits

### Flexible

The DB1 can be installed in many configurations to match your specific, individual requirements and use a variety of communications options to suit every situation.

### Compatible

Fully compatible with the existing Ulysses telemetry system used by the gas networks, including the Point Monitor application and existing PAK files, the DB1 enables you to quickly and easily replace any failed Ulysses units with minimum disruption. The DB1 also physically fits within the footprint of a Ulysses RTU, meaning the enclosure does not need to be modified.

### User-friendly

Every step of the way, the DB1 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.

### Cost effective

The initial capital cost of each DB1 unit compares very favourably with equivalent systems, with a price point of approximately 50% of a comparable Ulysses unit. Installation costs are also low due to its fast configuration and, particularly when communicating via the mobile telephone network, installation costs are minimal.

## Where is the DB1 most appropriate?

The DB1 is particularly suitable for use in two key situations:

- Where an existing Ulysses RTU is damaged, faulty or obsolete, the DB1 provides a value-for-money replacement that is easy to install and configure.
- Due to its low cost and ease of configuration, the DB1 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.

## Technical Details

### Inputs and Outputs

The DB1 can obtain its input values from, and send output values to, a range of sources, including Profibus devices, remote Modbus slaves and a variable number of on-board I/O (please contact Brightwell for the specification of the on-board I/O).

The DB1 also supports peer to peer communication across the mobile telephone network, allowing one of the units to act as a hub, collecting data from the remote devices, and being the communications interface to the wide area telemetry system.

### Communication Ports

The DB1 supports a total of 8 serial ports, of which 4 are RS-232, 1 is RS485/422 and 3 are RS485/RS422/RS232. The serial ports can be used for connecting to a range of remote devices, such as the radio, HMI and slave devices. The DB1 also has two 10/100 Base-T network port and a USB port.

### GPRS Modem

The DB1 supports an optional internal modem that allows connection to the mobile telephone network.

### IEC-61131-3 Programming

The DB1 provides support for all 5 of the standard languages via an ISaGRAF runtime engine.

### Protocol Support

The DB1 supports the Modbus protocol in both Master and Slave configurations, across serial and network communications links. When acting as a Modbus master, the DB1 can scan multiple slave devices on the same communications links at configurable frequencies.

## Specifications

### Power

Input Specification: 10 – 30v DC  
Power: 9.6 W (approx. 400mA @ 24v)

### Environmental

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

### Dimensions

250mm by 215mm by 125mm, including mounting brackets. Allow a further 100mm at either end for cables and connectors.

### Approvals

The optional wireless modems catered for by the DB1 all have full regulatory approval from the appropriate agencies.

EMC tests of the DB1 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 DB1 carries the CE mark.

