



TEKBOX
DIGITAL SOLUTIONS

TBSL1-LO LoRa WAN Telemetry Unit

WiFi Remote Telemetry Unit (RTU)

The TBSL1-WF allows you to connect any SDI-12 compatible sensor to an on site WiFi network. This brings truly open connectivity to all those users of SDI-12 sensors.

The TBSL1

The TBSL1 is a general purpose telemetry unit built around an alloy enclosure, with waterproof connectors used to connect to the sensors. A breather vent prevents moisture from building up inside the case.

Power comes from an on board Lithium ion battery which is charged using an external 12V solar cell (2W or 5W).

The TBSL1 includes a DC to DC converter which generates a stable 12V power supply for the SDI-12 sensors.

In addition to the SDI-12 input, the TBSL1 carries two analogue inputs that can be configured for either 0-2.5V or 4-20mA, as well as a pulse counter input (for connection to flow meters or rain gauges). It has 16MB of on board storage.

Users can set alarms based on the value of any of the sensors.

The WiFi modem module can be switched for a 4G or LoRa WAN modem board.



Tekbox TBSL1 Console

Any telemetry device must be programmed with a number of parameters. Tekbox provides the TBSL1 Console GUI (graphical User Interface) for this purpose. The TBSL1 can be configured to work on any 2.4GHz network.

After connecting the TBSL1 to a PC via a USB adaptor, users can set all of the WiFi parameters and test connectivity to the WiFi network.

The TBSL1 uses the MQTT protocol to send data to the Tekbox IoT broker, although users can develop their own packet parser to decode the sensor data.

Similarly the GUI allows users to send commands direct to the attached SDI-12 sensor for configuration, address changing and making test measurements.

Configuration files can be saved for each device you install.

Specifications

Power Supply	3.6V 3AH Lithium ion battery and 12V 2W 5W solar cell
Transmission range	Up to 1 km depending on terrain and antenna height
Operating Temperature range	-40 to + 85 °C
SDI-12	V1.3; up to 20 addresses / measurements, 12V DC supply
Analogue	2 off 0-2.5V or 4-20mA
Pulse	1 off Pulse input (closed contact to ground)

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Telemetry Over Internet Protocols