TEKBOX
DIGITAL SOLUTIONS

TBSL1-LO LoRa WAN Telemetry Unit

4G Remote Telemetry Unit (RTU)

The TBSL1-4G is a remote telemetry unit with SDI-12, Analogue and Pulse inputs, which sends its data over the 4G mobile data network.

The TBSL1

The TBSL1 is a general purpose Remote Telemetry Unit (RTU) which features a removable RF board. On the TBSL1-4G, the unit is fitted with a 4G mobile (Cellular) modem board. Users can swap this for a LoRa WAN module to convert it into a LoRaWAN telemetry unit.
The TBSL1 is 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 an analogue voltage input (0-2.5V or 4-20mA) and a pulse counter input (for connection to flow meters or rain gauges). It has 16MB of on onvolatile memory for   board storage of readings. Users can set alarms based on the value of any of the sensors. For maximum flexibility the TBSL1 sends data to a server using the open "MQTT" protocol.

Tekbox TBSL1 Console

Any RTU device must be programmed with a number of parameters. Tekbox provides the TBSL1 Console for this purpose.
After connecting the TBSL1 to a PC via a USB adaptor, users can set all of the cellular communications parameters.
Command buttons allow users to check network connectivity, checking network registration and send test messages. Similarly the Console 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 35 km depending on terrain and antenna height
Operating Temperature range	-40 to + 85 ^{o}C
Supported Bands	4G 700 MHz
SDI-12	V1.4; up to 10 addresses / measurements, 12V DC supply
Analogue Input	0 to 2.5V or 4-20mA (link selectable)
Pulse	Single pulse input (closed contact to ground)

TOIP Pty Ltd
Telemetry Over Internet Protocols