TBSL1 LoRa WAN to SDI-12 Bridge

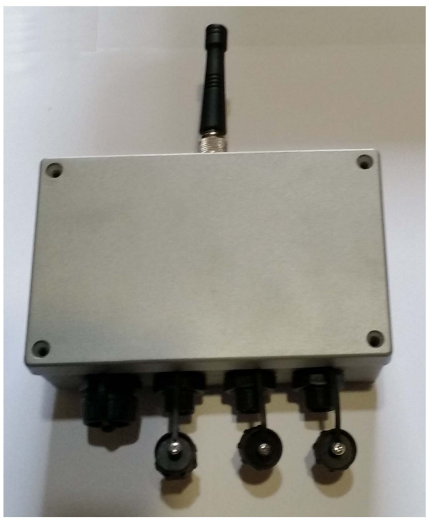
The TBSL 1 LoRa WAN to SDI-12 Bridge provides a mechanism for connecting any SDI-12 compatible sensor to a LoRa WAN network. This brings truly open connectivity to all those users of SDI-12 sensors.

LoRa WAN Connectivity

LoRa WAN networks are being rolled out in both open (public) and closed (private) formats and offer an alternative to traditional cellular or mobile phone based telemetry systems. Whilst cellular systems are designed to cope with the high data rates demanded by applications such as video streaming, LoRa WAN has been designed with low data rates and minimal power consumption in mind. Making it the ideal choice for environmental monitoring.

The TBSL1

The TBSL1 is a general purpose SDI-12 to LoraWAN Bridge. It is built around a vented enclosure, with cable glands used to connect to external devices. Power comes from an on board Lithium ion battery which is charged using an external solar cell (6V 2W or 6V 5W).
The TBSL11 includes a DC to DC converter which generates a stable 12V power supply for the SDI-12 sensors.
Sensors are connected to the interface using lever action cage clamps.



TBSL1/TBS12 GUI

Any LoraWAN device must be programmed with a number of parameters. Tekbox provides the TBSL1/TBS12 GUI (graphical User Interface) for this purpose.
After connecting the TBSL1 to a PC via an FTDI to USB adaptor, users can set all of the LoraWAN parameters. A direct command mode allows users to send commands to the LoraWAN modem. Similarly the GUI allows users to send commands direct to the attached SDI-12 sensor for configuration, address changing and testing.

Specifications

Power Supply	3.6V 3AH Lithium ion battery and 6V 2W or 6V 5W solar cell
Transmission range	5 to 15 km depending on terrain and antenna height
Operating Temperature range	-40 to + 85 ^{o}C
LoraWAN Compatibillity	Class A, ABP & OTA, multiple frequency plans (US, Australia, Europe etc.), User configurable device parameters: address, Dev EUI, NwkSKey and AppSKey
SDI-12	V1.3; up to 20 addresses / measurements, 12V DC supply

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