SattBus Serial Units (SBSU) can bridge two or more SattBus networks. By splitting networks and combining them by means of SBSU, the performance improves by transferring only the traffic between nodes located on opposite sides of the bridge. This also has the advantage that the maximum bus cable length can be increased or, by means of simple RS-to-fibre-optic modems, can be very significantly increased. The use of fibre optics also makes the communication immune to electrical noise.

Another use of the SBSU is to connect a computer via a standard RS channel to a SattBus network. Any control or operator system with SattBus application layer messages implemented may be connected.

SattBus employs a token passing technique allowing all stations to initiate transmission, i.e. to operate as a master. Up to 120 stations can be connected.

SBSU has the following main features:

- Improves performance on SattBus networks.
- Increases the total cable length.
- Reliable fibre optic links for network over long distances.
- Connects any control or operator system with SattBus implemented.
- All adjustments by switches.
- Available with RS-232 or RS-485 interface.
- A special protocol ensures data integrity on the serial channel.
- SattBus supervising functions.
- Error detection by cyclic redundancy checksum (CRC).

**Installation**

SBSU is mounted close to the system served by means of four screws or a DIN rail. Installation instructions are supplied with each unit.

**System connection**

SBSU is equipped with a serial channel, RS-232 or RS-485 (two-wire RS-485 communication is not possible).

Connection to the system is performed through a 25-pole metallic D-type connector.

**SattBus connection**

The SattBus network is connected to the SBSU through a 4-pole jackable screw terminal block.

Two jumpers make it possible to disconnect the SBSU without interrupting other network communication.

**Power supply**

SBSU requires 24 V DC (19–32 V DC) from an external source, connected through a 3-pole jackable terminal.

**Identity**

In bridge configuration, the SBSU is transparent for a range of consecutive SattBus addresses set by means of four hexadecimal switches.

Each SBSU has a SattBus address in the range 5 to 125, which gives the unit a unique network node identity. The address is set using two hexadecimal switches.
**Serial channel**

RS-485 or RS-232 data format, 1 stop bit, 8 data bits, selectable baud rate, parity and modem delay.

**SattBus network**

Token passing, frequency shift keying at 62.5 kHz, 3 kbytes/s effective transmission rate, up to 120 nodes, galvanic isolation, non-polarized connection.

**SattBus cable**

Single twisted pair (at least 3 twists/metre), unscreened. Characteristic impedance 80–120 Ω. Area ≥0.20 mm², AWG 24. Note! Use the same type of cable in the entire SattBus installation. Suitable type of cable is Belden 8442.

External termination resistor: 100 Ω.

**Cable length (SattBus)**

Up to 2000 m; drop cables less than 0.4 m need not be included in the total cable length. Permitted drop cables:
- max. 115 between 0.4 and 2 m.
- max. 3 between 2 and 20 m.
- max. 2 between 20 and 30 m.

**Power supply/power consumption**

19–32 V DC, 5 W

**Cable for power supply**

2 x 1.5 mm²

**Protection class**

IP40

**Ambient temperature**

Normal operation
- 0 to +55°C
- -25 to +70°C

Storage
- 10–95% relative humidity, non-condensing

**Electrical environment**

Fulfils ElectroMagnetic Compatibility, EMC, Directive 89/336 EEC.

**Dimensions**

H187 x W138 x D46 mm

**Order codes**

SBSU485
SBSU232
SBSU OP INST

SBSU RS-485 unit
SBSU RS-232 unit
SBSU User’s Manual

* The end nodes must be fitted with a terminal resistor of 100 Ω.