SATEL BT-RS232 Adapter

User Guide

IMPORTANT NOTICE

RESTRICTIONS ON USE

This product complies with relevant international standards.
Product is currently type approved for EU, USA and Canada. On these countries there are no restrictions for its use. Using this product in other countries is prohibited.

WARRANTY AND SAFETY INSTRUCTIONS

Read these safety instructions carefully before using the product:

- Warranty will be void, if the product is used in any way that is in contradiction with the instructions given in this manual, or if the radio modem housing has been opened or tampered with.

- The product must be operated at frequencies allocated by local authorities, and without exceeding the given maximum allowed output power ratings. SATEL and its distributors are not responsible, if any products manufactured by it are used in unlawful ways.

- The devices mentioned in this manual are to be used only according to the instructions described in this manual. Faultless and safe operation of the devices can be guaranteed only if the transport, storage, operation and handling of the devices is appropriate. This also applies to the maintenance of the products.

- To prevent damage both the device and any terminal devices must always be switched OFF before connecting or disconnecting the serial connection cable. It should be ascertained that different devices used have the same ground potential. Before connecting any power cables, the output voltage of the power supply should be checked.

NOTE!
When selecting a suitable location for the product direct sunlight is to be avoided. It is not recommendable to install the product on a strongly vibrating surface. Suitable dampening and/or isolation materials should be used in cases where the installation surface will be subjected to vibration.

TABLE OF CONTENTS

INTRODUCTION

SATEL Oy is a Finnish electronics and telecommunications company specialising in the design and manufacture of wireless data communication products. End users of SATEL products include both public organisations and private individuals.

SATEL BT-RS232 is an IP66-rated robust and waterproof Bluetooth to RS-232 serial port adapter. SATEL BT-RS232 is equipped with long range Bluetooth 2.1, that offers connection distances up to 400 meters.

Product's integrated antenna saves space and makes it possible to install the adapter into a tight installation place. SATEL BT-RS232 offers a compact and easily integrable solution for devices that needs to communicate without a cable connections.

SATEL BT-RS232 adapter is a versatile Bluetooth RS-232 serial adapter that provides a compact and flexible solution for many different wireless applications.

1 SATEL BT-RS232 ADAPTER TECHNICAL SPECIFICATIONS

Available model and product code:
YI0232 - SATEL BT-RS232

GENERAL		
Operating voltage	+9 ... +27.5 Vdc	Device supply input chaining to sensor supply output may restrict voltage range i.e. sensor smaller +12...+30 Vdc range shall be considered.
Fuse requirement	2A	External fuse required to supply wire
Typical power consumption	Adapter < 1 W Supply to sensor: 15 W max	(Bluetooth 0.5 W peak)
Inrush current, power turned ON	< 12 A, duration < 50 µs	RX-mode
Temperature range	-20 °C …+55 °C -40 °C …+70 °C -40 °C …+85 °C	Type approval conditions Functional Storage
Vibration	Up to 5G	ISO 9022-3:2015 (Severity class 09)
IP rating	IP66	
Construction	Polycarbonate case	
Size L x W x T	151 x 66 x 43 mm	
Weight	192 g	
Values are subject to change without a notice.		

BLUETOOTH DATA MODULE	
Electrical interface	RS-232
Interface connector	Phoenix 7-pin
Data speed of serial interface	115200 bps
TX power	Max +12 dBm
RX sensitivity	-96 dBm
Operation mode	Slave mode
Frequency	2402 – 2480 MHz

2 SATEL BT-RS232 SETUP GUIDE

1) Cable Connections

Before connector assembly, pull cables thru the (PG9) cable glands.
Pull power cable wires separate for approx. 10 cm length and pull each wire end separately thru its own hole on gable gland sealing with two small holes in it.
Pull sensor cable thru cable gland with bigger single hole in it.
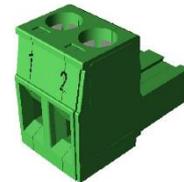Stripping length for each conductor insulation is 7 mm.

7mm

a. Power supply (9-27.5 VDC)

POWER SUPPLY- CON1

Wire Colour	Pin	Signal
RED	1	VIN+
BLACK	2	GND (VIN-)

NOTE: Tightening torque 0.5 - 0.6 Nm

b. Sensor / Data Interface (7-pin connector)

SENSOR CABLE - CON2

Wire Colour	Pin	Signal
PINK	1	SUPPLY OUT+
WHITE	2	SUPPLY OUT GND
YELLOW	3	SIGNAL GND
n/a	4	CTS (in)
n/a	5	RTS (out)
GREEN	6	RD (in)
BROWN	7	TD (out)

NOTE: Tightening torque 0.22 - 0.25 Nm
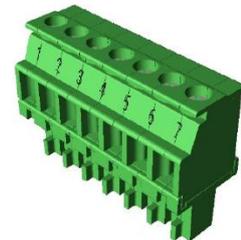
2) Fuse

Use external fuse protection on device supply wire.
2A slow blow fuse is required.

3) Device Assembly

After cables are connected and connectors plugged in, make sure that rubber sealing is properly inserted into bottom part and there is no dirt or on it.

Insert 4 screws into inner corner holes on bottom part, attach cover and tighten up the screws. Recommended tightening torque is 2.5 lbf-in / 0.3 Nm.

Recommended mounting direction is cable glands downwards.

4) RS-232 Data Port Settings

Device data speed is 115200 bps.

5) Bluetooth Pairing

This Bluetooth on device is in slave mode and pairing is activated automatically when power is connected into device (pairing is possible only while blue led is blinking).

User application is needed to open RFCOMM serial port connection to SATEL BT-RS232 device separately after Bluetooth pairing.

Device Bluetooth name: **SATEL BM10**

6) LED Indicator

Blue blinking	Pairing mode is active
Blue constant	Bluetooth connection is established/active
Green	Device is on with no Bluetooth connection established
Red	Error

3 SATEL BT-RS232 MECHANICAL SPECIFICATIONS

Product mechanical dimensions: