Pssystec GmbH
Heinbergstr. 27
86356 Neusäß
www.pssystec-gmbh.de

SMARTbox Modbus

Smartbox Modbus, based on the Telit Chipset HE910 is a ready to use solution for connecting Modbus devices to the Cumulocity. It provides a Master Slave Communication on RS485 for connecting up to 20 devices. Easy configure the configuration of building automation fielddevices like pumps, chillers, E-meters, Airhandling units in Cumulocity – the Smartbox Modbus will take care of it! by automatically picking up the coils and registers and sending alarms, measurements and status back to Cumulocity.

Pssystec GmbH is specialized in building automation. With SMARTbox Modbus we developed a slim Line M2M device, fully integrated in the HVAC market.

SMARTBox Modbus

Tested on modbus building automation devices


EMeter


AirHandlingUnit


Cold Room Control

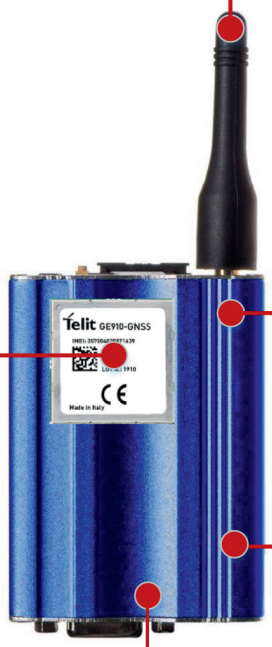

AirConditioning


Chiller/ Heatpumpsystem


Compressorracks Showcases

Cumulocity

Developed for **Cloud Fieldbus**
- Flexible Device database
- Alarming
- Events
- Measurments
- Value/Operations
- SetUp Modbus MasterCommunication
- Remote restart



General Features
- Offline Buffer for Alarms and measurements up 24hours
- m2M Locate on cellular network
- Full Smartrest Support (low data traffic)
- Sending cycle defined by sms during runtime

Montage

Small Housing
70mm x 50mm
Mounting by Magnet or Switchboard clips

SMARTBox Modbus

OutOfBox Modbus Solution

Betriebsspannung 12-24V

Modbus RTU RS485
- Modbus Master
- Frames: Parity/Even/ODD
- Stoppbits: 1/2
- Baudrate: 4800, 9600, 19200, 38400
- FunctionCodes; F1/F2/F3/F4/F5/F6
- Up to 20 Devices on Modbus Line
- Sum: 1000 datapoints

SMARTbox Modbus Datasheet

Change **APN**	Send SMS with APN to the Terminal, > 10 seconds after Power On e.g. GPRS = public4.m2minternet.com			
Send cycle Defines when a Request is initiated	Values	On Change		
	Alarms	On Change		
	Events	On Change		
	Measurements	5s....6hours		
	Signal strength	Is sent every 10 Min as a measurement		
	Location	Identification by cellular network		
Realtime Clock	Updating Realtime clock from timeserver at startup			
Offline Buffering	Alarm, Events, Measurements, ≈24hours			
Interface	Combined RS232/RS485 Interface After StartUp (≈ 60sec) the RS232 is switched to RS485 Mode, half duplex			
	Table of DB9 pins:  			
	Pin DB9	**RS232**	**Full Name**	**RS485 - Modbus**
	Pin 3	TD	Transmit Data	
	Pin 2	RD	Receive Data	
	Pin 7	RTS	Request To Send	
	Pin 8	CTS	Clear To Send	
	Pin 6	DSR	Data Set Ready	DATA+
	Pin 5	SG	Signal Ground	GND
	Pin 1	CD	Carrier Detect	
	Pin 4	DTR	Data Terminal Ready	
	Pin 9	RI	Ring Indicator	DATA-
Modbus	Type	Modbus RTU		
	Baudrate	4800, 9600, **19200**, 38400 (Change during Runtime possible)		
	Parity	Even, ODD, **NONE** (Change during Runtime possible)		
	Stoppbits	2,**1** (Change during Runtime possible)		
	Functioncodes	Funct. 1 (Read Single Coils) Funct.2 (Read Input Status) (set offset 10000 in Addr in CC) Funct.3 (Read Holding Registers) Funct.4 (Read Input Registers) (set offset 10000 in Addr in CC) Funct.5 (Write Coil) Funct.6 (Write Holding Register)		
	Datapoints	Max. 1000 datapoints per device		
Cloud Fieldbus Cumulocity	Changing the DeviceDatabase or adding/deleting childdevices in CC is interpreted from the terminal as new Modbus Layout. The Smartbox will automatically load the new Configuration from Cloud Fieldbus. This can be also down by restoring the Smartbox or Power off and on.			
Dimensions	72 x 53.5 x 26 mm (w/o connectors) 83 x 53.5 x 26 mm (w/ connectors)			
Weight	89g			
GSM Antenne	SMA Connector			
Power Supply	Nominal voltage range: 5..30 V, 10% Maximum continuous (average) supply power: 2.5 W Maximum continuous (average) supply current: 200 mA at 12V, 100 mA at 24V			
Ambient temperature	-20..60°C			
Mounting	Via DIN Rail Adapter or Adapter for Wall Mounting			
SIM Card Format	2FF			
Communication to Cumolocity	SmartRest protocol for low data traffic			
Polling Rate	500ms			
Change tenant	Send an SMS DELETE during run to the terminal, after >10 seconds, power off and on again, Now you can register again			