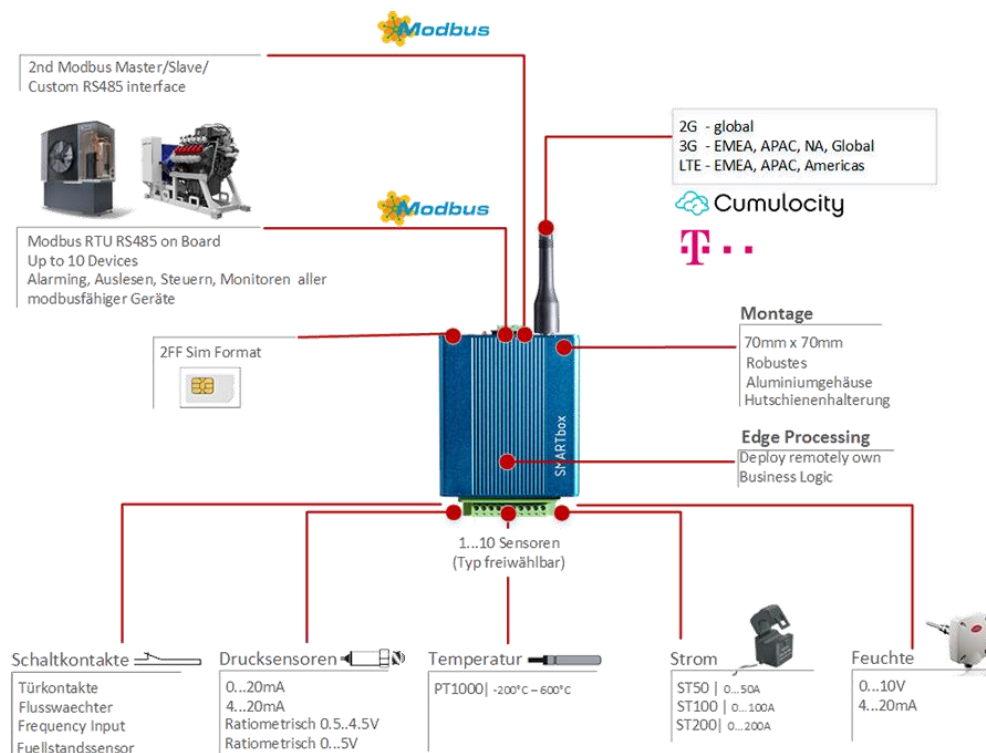


SMARTBox CubelO

Overview

- [get the Agent](#)
- [PSSystec Downloads](#)

Smartbox, based on the Telit Chipset HE910 is a ready to use solution for connecting Modbus devices to the Cumulocity Fieldbus Cloud. It provides a Master Slave Communication on RS485 for connecting up to 10 devices as well as 10 Sensors (Current ,Temperature, Pressure). Easy configure the SetUp of building automation fielddevices like pumps, e-meters, Airhandling units in the Cumulocity Fieldbus cloud or connect different sensortypes to the box. Using the MQTT protocol the terminal comes up with a low traffic solution for decentralized applications.



Datasheet

- Radio
- Connectivity/ Features
- Cloud Connector
- Edge Processing (Agent > 2.4.x)
- General

Radio

| Radio | | | — | — | | 4G LTE |

- LTE Cat 4 (incl. 3G/2G)
- LTE Cat 1 (incl. 3G/2G)
- LTE Cat M1
- NB-IoT (Cat NB1)

| | 3G |

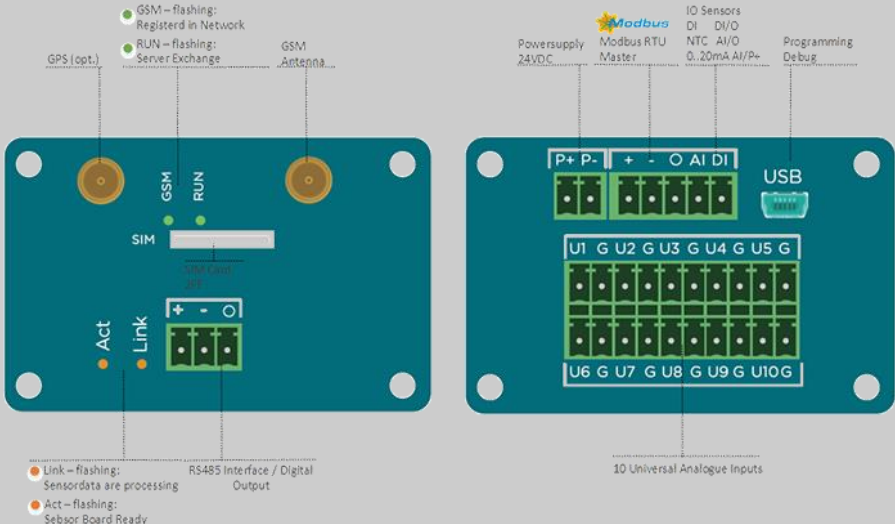

- UMTS | HSPA+ (incl. 2G)
- UMTS | HSPA (incl. 2G)

| | 2G | GSM | GPRS | | Regions | EMEA / APAC / Latinamerica / NorthAmerica /

Australia / Global (3G / 2G) | | GPS | Supported by 2G and 3G Variances | | Production |

The selected Region, Technology and GPS can be defined during Production. The default assembly is 3G with supported regions EMEA / APAC |

Connectivity/ Features

Connectivity/ Features		
<p>Layout</p>  <p>The diagram shows two views of the device. The left view shows the top surface with components: GSM (flashing: Register in Network, RUN - flashing: Server Exchange, GSM Antenna), GPS (opt.), SIM, Link, Act, and an RS485 interface. The right view shows the bottom surface with: Powersupply 24VDC, Modbus RTU Master, 10 Sensors (DI, DI/O, NTC, AI/O, 0..20mA AI/P+), Programming Debug, and 10 Universal Analogue Inputs (U1-G, U2-G, U3-G, U4-G, U5-G, U6-G, U7-G, U8-G, U9-G, U10-G).</p>		
<p>Fieldbus Modbus</p> 	<p>Type</p>	<p>Modbus RTU Master</p>
	<p>Baudrate</p>	<p>4800, 9600, 19200, 38400, 57600, 115200</p>
	<p>Parity</p>	<p>Even, ODD, NONE</p>
	<p>Stopbits</p>	<p>2,1</p>
	<p>Functioncodes</p>	<p><input type="checkbox"/> Funct.1 (Read Single Coils)</p>

		<input type="checkbox"/> Funct.2 (Read Input Status) <input type="checkbox"/> Funct.3 (Read Holding Registers) <input type="checkbox"/> Funct.4 (Read Input Registers) <input type="checkbox"/> Funct.5 (Write Coil) <input type="checkbox"/> Funct.6 (Write Holding Register)
	Datapoints	Max. 10 Modbus Slaves, with 100 datapoints per device or 1000 datapoints with 1 device
Sensors	12 Universal Inputs	
	U1/U2	DIN NO [voltage free] / DIN NC [voltage free] /0..20mA/4..20mA/0..10V/2..10V/0..5V
	U3/U4/U5/U6	DIN NO [voltage free] / DIN NC [voltage free] /0..20mA/4..20mA
	U7/U8/U9/U10	PT1000
	Output	24VDC Digital Output. Note: Either the Output or the 2nd Fieldbusinterface can be selected during production
	DIN/O	DIN [voltage free]
	AIN/O	NTC (selectable by Hardwarejumper, either NTC or 0..20mA)
	AIN/P+	0..20mA (selectable by Hardwarejumper, either NTC or 0..20mA)
2nd Fieldbus	RS485	Customized Interface for Modbus RTU Master/Slave,, Custom Interface. 24VDC Digital Output. Note: Either the Output or the 2nd Fieldbusinterface can be selected during production
LEDs	GSM	Flashing- connected to mobile network
	RUN	2xflashing/pause: StartUp Phase 3xflashing/pause: Connected to Server, Data exchange
	Act	Flashing: Sensor Board Power
	Link	Flashing: Sensor Board is ready to process data
USB	For programming, Logging and Trace the device	

Cloud Connector


Cloud Connector		
Availability	All Cumulocity Based systems, Cloud der Dinge Deutsche Telekom	
Realtime Clock	Updating Realtime automatical from #NTP timeserver	
Application	CloudFieldbus (CFB Integrated in Devicemanagement) For SetUp connected field devices	
Online Operations	Remote Restart Fieldbus Configuration Cloud-Device Change Transmitinterval from device to Cloud Change Communication. Baudrate, Databits, Parity, Stopbits Operate the connected Field device: Registervvalues (R/W) Operate the connected Field device: Change CoilValues (R/W) Operate the device with AT Commands in the shell	
Communication	MQTT	
Security	TLS-Security 1.0 / TLS 1.2 (ab Version 2.4.x)	
Notifications	Realtime and Pending Operations	
Shell	Operate the device with AT Commands in the shell	
Location	Identification by cellular network or GPS Signal (selected- see Radio)	
Tracking	Location Route by cellular network or GPS Signal	
Info	Operator, Cell ID, LAC, MNC, MCC, Signal strength	
Device Database	Device database Support: Measurements, Event, Alarms, Values, Read,Read/Write, Signed/Unsigned, Decimal Places, Multiplier, Divisor, No of Bits, StartBit	
OTA	RemoteUpdate Software	
Data-Exchange	Values	On Change
	Alarms	On Change
	Events	On Change
	Measurements	Default 900
	Signal strength	Is sent every 20 Min as a measurement
	Offline Buffering	Alarms, Events, Measurments ≈ 72h

SMS	For Troubleshooting you can operate the device by SMS: Reboot Change tenant FOTA/OTA
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Edge Processing

Edge Processing	
FUP Plan	Supporting, 3 x PID Control, And, XOR, NOR, NAND, Multiplexer, Conversion, up to 500 Signals
Deploy Remote	Deploy remotely by Cloud (SW Download)

General

General	
Dimensions	70 x 70 x 45 mm
Weight	89g
GSM Antenna	SMA Connector
Power Supply	Nominal voltage range: 12-24 VDC, 10% Maximum continuous (average) supply power: 2.5 W Maximum continuous (average) supply current: 200 mA at 12V, 100 mA at 24V
Mounting	Via DIN Rail Adapter or Adapter for Wall Mounting
SIM Card Format	2FF
Operating temperature	-20..60°C
Storage temperature	-40..85°C
Operating humidity	Max. 85%
Storage humidity	Max. 85%
IP Class	IP20/IP54 (opt.)
Approvals	

Conformity Declarations	2014/53/EU (Radio Equipment Directive - RED) Radio EN301511 v12.5.1 for GSM 900 and 1800 MHz EN301908 v11.1.1 for UMTS band 1 and 8 EMC EN 301489-1 v2.1.1 general part EN 301489-52 v0.0.7 for GSM and UMTS Safety EN60950-01
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