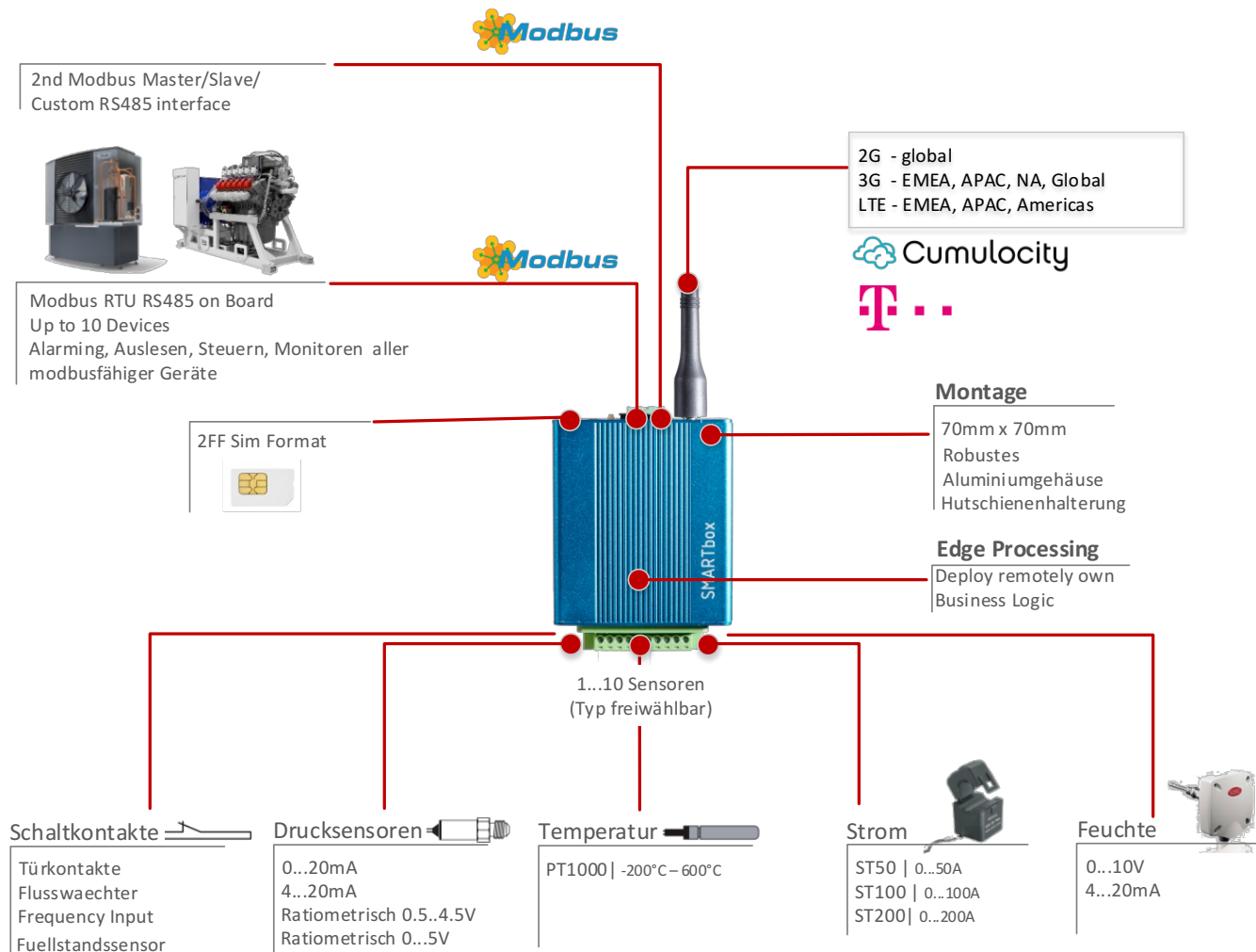


SMARTbox CubelO

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.



SMARTbox IO Datasheet



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

Layout	<p> ● GSM – flashing: Register in Network ● RUN – flashing: Server Exchange ● Link – flashing: Sensor data are processing ● Act – flashing: Sensor Board Ready </p>																	
Fieldbus Modbus	<table border="1"> <tr><td>Type</td><td>Modbus RTU Master</td></tr> <tr><td>Baudrate</td><td>4800, 9600, 19200, 38400, 57600, 115200</td></tr> <tr><td>Parity</td><td>Even, ODD, NONE</td></tr> <tr><td>Stopbits</td><td>2,1</td></tr> <tr><td>Functioncodes</td><td>Funct.1 (Read Single Coils) Funct.2 (Read Input Status) Funct.3 (Read Holding Registers) Funct.4 (Read Input Registers) Funct.5 (Write Coil) Funct.6 (Write Holding Register)</td></tr> <tr><td>Datapoints</td><td>Max. 10 Modbus Slaves, with 100 datapoints per device or 1000 datapoints with 1 device</td></tr> </table>	Type	Modbus RTU Master	Baudrate	4800, 9600, 19200, 38400, 57600, 115200	Parity	Even, ODD, NONE	Stopbits	2,1	Functioncodes	Funct.1 (Read Single Coils) Funct.2 (Read Input Status) Funct.3 (Read Holding Registers) Funct.4 (Read Input Registers) Funct.5 (Write Coil) Funct.6 (Write Holding Register)	Datapoints	Max. 10 Modbus Slaves, with 100 datapoints per device or 1000 datapoints with 1 device					
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USB	For programming, Logging and Trace the device																	




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: Registervalues (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 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, Measurements ≈ 72h
SMS	For Troubleshooting you can operate the device by SMS: Reboot Change tenant FOTA/OTA	

	Edge Processing (Agent > 2.4.x)	
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

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 temp.	-20..60°C		
Storage temp.	-40..85°C		
Oper.humidity	Max. 85%		
Storage humidity	Max. 85%		
IP Class	IP20/IP54 (opt.)		
Approvals 	America	Europe	Australia
	FCC /IC, PTCRB /GCF	R&TTE / GCF / RED	RCM, Telstra
Conformity Declarations	EMC-Directive 2014/30/EU EN 55022:2010 EN 55024:2010 IEC 61000-6-1:2005 IEC 61000-6-3:2011 R&TTE-Directive 2014/53/EU EN 301 511 V9.0.2 EN 301 908-1 V6.2.1 EN 301 908-2 V6.2.1 RoHS-Directive 2011/65/EU EN 50581:2012		