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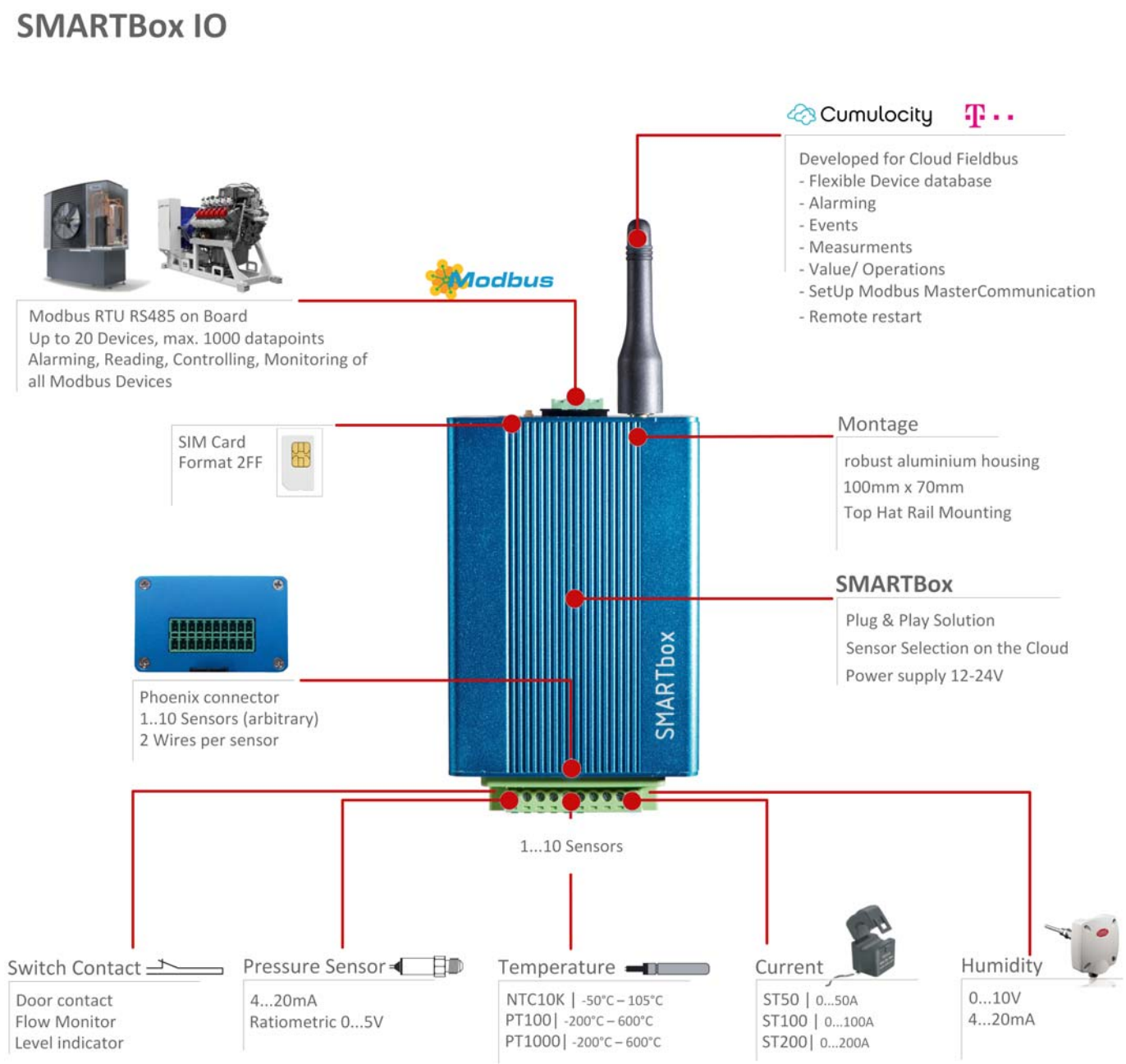
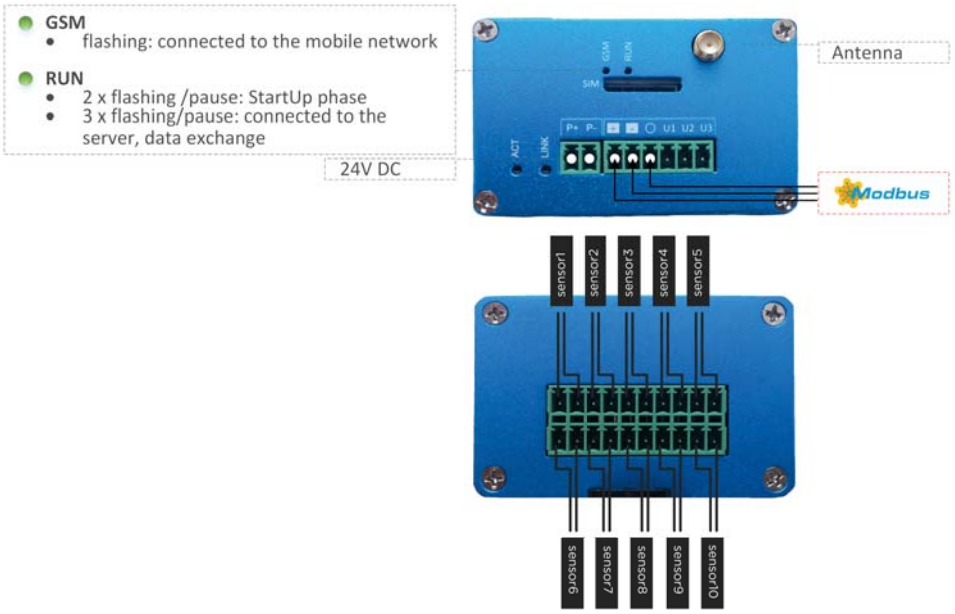
SMARTbox IO

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 20 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 Smartrest protocol the terminal comes up with a low traffic solution for decentralized applications. For the Smartbox there is a customized user interface available made for easy handling the sensors and showing graphs for consumption and temperatures.



SMARTbox IO Datasheet

Operate the device by SMS	Change **APN**	Send SMS with APN to the Terminal: GPRS=<APN>, <User>, <Pass> e.g. if no user and pass is needed you have to set GPRS=<APN>,,
	Change **Tenant**	Send SMS with Tenant to the Terminal: DELETE and register new in Device Registration
	RESTART	Send SMS with Tenant to the Terminal: RESET
Realtime Clock	Updating Realtime during StartUp from timeserver by NIST Server	
Connectivity	2G/3G (4G optional)	
GPS	Optional available	
Interface		
Interface USB	MiniUSB to operate the device with AT commands	
Fieldbus Communication Modbus	Type	Modbus RTU, ASCII (Master)
	Baudrate	4800, 9600, 19200, 38400, 115200 (Change during Runtime possible)
	Parity	Even, ODD, NONE (Change during Runtime possible)
	Stopbits	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. 10 Slaves with each 100 datapoints
	Polling Rate on Bus	300ms

Sensors	Type	**Type A**		**Type B**		**Type C**		**Type D**		**Type E**		**Type F**
	NTC	10		-		-		5		-		-
	PT1000	-		-		2		-		-		2
	4..20mA (supply by Smartbox)	-		8		6		5		-		8
	0..10V	-		-		2		-		-		-
	DIN (supply by Smartbox)	-		-		-		-		6		-
	Fast DIN	-		2		-		-		4		-
Universal Interface	Relais Output	max. 1	•	max. 1	•	max. 1	•	max. 1	•	max. 1	•	max. 1	•
	Fieldbus2 - IEC62056-21		a. A.		a. A.		a. A.		a. A.		a. A.		a. A.
	Fieldbus2 - Modbus		a. A.		a. A.		a. A.		a. A.		a. A.		a. A.
	Fieldbus2 - Generic		a. A.		a. A.		a. A.		a. A.		a. A.		a. A.

CoT Support	User	Cloud FIeldbus
	Security	TLS
	Operations	Reboot device Add childdevice and reload device database Change Transmit interval for measurements (Events, alarms, values are updated OnChange) Change Baudrate, Databits, Parity, Stopbits Change Modbus Register values Change Modbus Coil Values Operate the device with AT Commands in the Shell
	Communication	SmartRest protocol (all operations and requests) Self Registration SmartRest Templates
	Notifications	Realtime Notifications (+ pending every 12 minutes)
	Shell	Operate the device with AT Commands in the Shell
	Info	Sending operator, Cell ID, Lac, MNC, MCC, Signal strength
	Sending Values	On Change
	Sending Alarms	On Change
	Sending Events	On Change
	Sending Measurements	Settable 1s..6h in Modbus Configuration tab Default 900 seconds
	Sending Signal strength	sent every 10 Min as a measurement
	Sending Location	Identification by cellular network, sent at startUp
	Offline Buffering	Alarm, Events, Measurements, max. ≈ 24 hours
	Device database	Device database Support: Measurements, Event, Alarms, Values, Read, Read/Write, Signed/Unsigned, Decimal Places, Multiplier, Divisor, No of Bits, StartBit
	Update Database on Device	Load new Modbus Database automatically by reboot or adding childdevices
	FOTA	Remoteupdate Software
Dimensions	100 x 70 x 45 mm	
Weight	89g	
GSM Antenna	SMA Connector	
Power Supply	Nominal voltage range: 24VDC, 10% Maximum continuous (average) supply power: 2.5W Maximum continuous (average) supply current: 100mA at 24V	
Operating temperature	-20..60°C	
Storage temperature	-40..85°C	
Operating humidity	Max. 85%	
Storage humidity	Max. 85%	
Mounting	Via DIN Rail Adapter or Adapter for Wall Mounting	
IP Class	IP20/IP54 (optional)	
SIM Card Format	2FF	
Certifications	FC CE	
Conformity Declarations	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	