



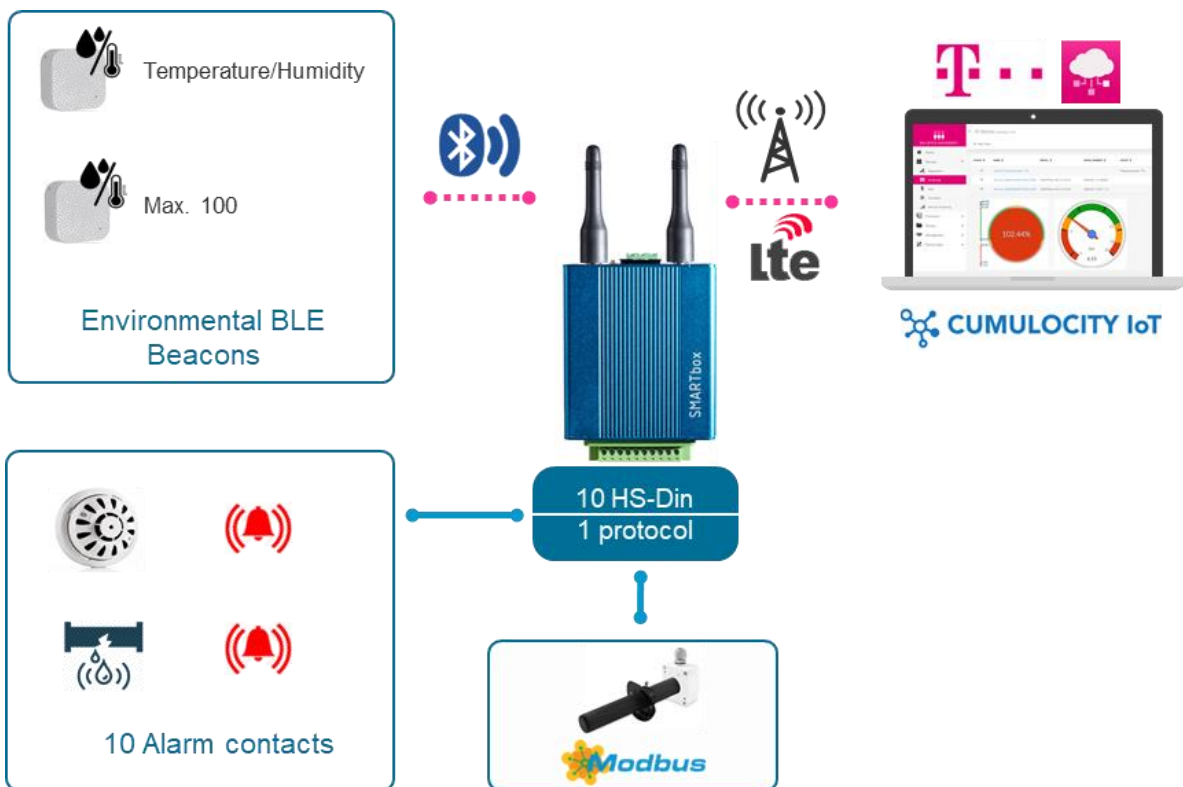
# SMARTbox BLE

RollOut ready IoT Gateway for environmental Monitoring

SMARTbox BLE is a fully integrated cellular gateway with BLE5.0 support for environmental Monitoring with BLE Beacons. Designed to work in industrial environments, it is the ideal solution for companies looking to add remote monitoring. SMARTbox BLE leverages the IoT Cloud of Cumulocity and Cloud of Things.

## Ready2Use – Key parameters

- ✓ Max. 100 BLE Beacons for environmental Monitoring
- ✓ 10 digital HS Inputs, Modbus protocol support
- ✓ DIN Rail Switchboard installation
- ✓ Telekom Cloud of Things
- ✓ LTE cellular technology
- ✓ SIM - free selection



## Industry

Agriculture



Refrigeration



Environmental



# Specification

Radio	
4G LTE	LTE Cat 1 B1(2100) B3(1800) B7(2600) B8(900) B20(800)
2G	GSM   GPRS B3(1800) B8(900)
NBIOT / LTE-M	optional
Regions	EMEA / Optional Regions NA,LATAM,APAC

Bluetooth	Bluetooth version 5.0 Band support 2.4 GHz, 40 channels Typical conducted output power +4 dBm Radiated output power (EIRP) +7 dBm (with approved antennas) Sensitivity (conducted) -95 dBm
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Location Service	
GNSS	72-channel u-blox M8 engine GPS/QZSS L1C/A, GLONASS L1OF, BeiDou B1I, Galileo E1B/C, SBAS L1C/A: WAAS, EGNOS, MSAS,GAGAN

Tracking	Tracking by ✓ By PowerUp device ✓ selectable time cycle
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## Sensors - Fieldbus

**Layout**

● GSM – flashing: Registered in Network  
● RUN – flashing: Server Exchange

● Link – steady: Communication established  
● Act – flashing: Profibus Board Ready

Modbus	Type	Modbus RTU Master RS485 / RS232 (optional)
	Baudrate	4800, 9600, 19200, 38400, 57600, 115200
	Parity	Even, ODD, NONE
	Stopbits	2,1
	Functions	✓ Funct.1 (Read Single Coils) ✓ Funct.2 (Read Input Status) ✓ Funct.3 (Read Holding Registers) ✓ Funct.4 (Read Input Registers)




		<ul style="list-style-type: none"> <li>✓ Funct.5 (Write Coil)</li> <li>✓ Funct.6 (Write Holding Register)</li> </ul>
	Datapoints	Max. 10 Modbus Slaves, with 100 datapoints per device or 1000 datapoints with 1 device

<b>Sensors</b>	12 I/O's	12 IOs -10 digital Input + 1 fix selectable analog Input + 1 fix selectable digital Input
	U1..U10	✓ Digital Input, Fast (High-Side = PNP, 10..24VDC): NO / NC
	DIN	Selectable by hardware jumper (either Low-Side or High-Side): <ul style="list-style-type: none"> <li>✓ Digital Input (Low-Side = NPN, GND): DIN NO / DIN NC</li> <li>✓ Digital Input (High-Side = PNP, 24VDC): DIN NO / DIN NC</li> <li>✓ Digital Input: Push-Pull</li> </ul>
	AIN	Selectable by hardware jumper (either NTC or 0..20mA) <ul style="list-style-type: none"> <li>✓ Temperature: NTC10K (-40°C .. 105°C, Res.: 0,1K)</li> <li>✓ Current Input: 0..20mA / 4...20mA (Res.: 0,1mA)</li> </ul>



<b>Beacon</b>	Beacon- support: <ul style="list-style-type: none"> <li>✓ Temp/Humidity/Light: iB004N Plus SHT LT</li> <li>✓ Temp/Humidity: iB003N-SHT</li> <li>✓ Max. 100 Beacons in parallel</li> <li>✓ For more beacons to be integrated ask Pssystemec</li> </ul>
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<b>LED</b>	Net/Run	Cloud connection state
	lot/GSM	Sensor processing data state

<b>USB</b>	USB 2.0 HS - programming, Logging and Trace the device
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 <b>Management Platform</b>	
<b>Platform</b>	 Telekom Cloud der Dinge
	 Cumulocity IoT

<b>Protocol</b>	MQTT over TLS1.2
<b>Access</b>	Bi-directional communication
<b>OTA</b>	yes

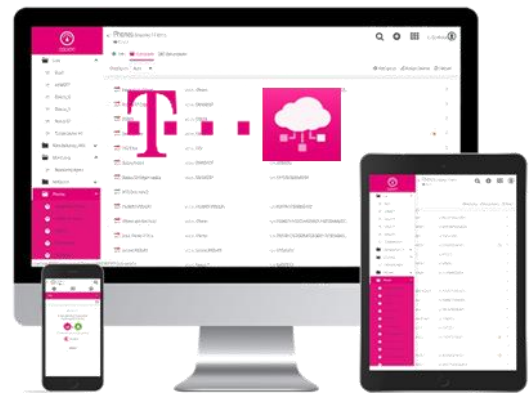
 <b>General</b>	
<b>Dimensions</b>	72 x 53,5 x 26 mm
<b>Weight</b>	89g
<b>Antenna</b>	SMA Connector
<b>Supply</b>	Nominal voltage range: 12-30 VDC, +/-10% Maximum continuous (average) supply current: 300 mA at 12V, 150mA at 24V
<b>Mounting</b>	Via DIN Rail Adapter
<b>SIM Card</b>	2FF
<b>Operate T/H</b>	-40..85°C / Max. 85%
<b>Storage T</b>	-40..85°C / Max. 85%
<b>IP Class</b>	IP20
<b>Approvals</b>	
<b>Conformity</b>	2014/53/EU (Radio Equipment Directive - RED)  Radio EN301511 v12.5.1 EN301908 v13.1.1  EMC EN 301489-1 v2.2.0 General Part

	<p>EN 301489-52 v1.1.0          DIN EN 61326-1 - 2018-09          EN 301489-17 v3.1.1 for Bluetooth Low Energy</p> <p>Safety          DIN EN 61010-1:2020-03;VDE 0411-1:2020-03</p>
<b>Warranty</b>	2 years







# Remote Manager

## Capabilities







- ✓ Fleetmanagement:
  - ✓ Activate, monitor and diagnose your mission-critical devices from a single point — on your desktop or mobile app – Telekom Cloud of Things
  - ✓ Configure your Modbus devices in Cloud by Cloudfieldbus application
  - ✓ Monitor the health of your connected facility by taking graphs from a repository of different widgets
- ✓ Cockpit:
  - ✓ Creating threshold monitoring, events, critical alarms ,warnings and reports
- ✓ Open API:
  - ✓ Create Notifications or simply use the REST API from the Cloud platform to feed your third party system with all the data



## Platforms

Telekom Cloud of Things	
Cumulocity IoT	
Siemens Mindsphere	
Telia IoT Hub	
A1 Digital	
Ooredoo IoT Hub	

# Ordering Codes

IoT Gateway	Ordercode						
BLE RS485	BB201301FXX	12-36VDC, IP30		2 x RS485, Modbus RTU Master / RS485 Modbus Slave	LTE Cat1, 2G Fallback		BLE 4.2, 1..100 Beacons, 1 x TempSensor NTC, 11x DI
BLE RS485 GPS	BB201321FXX	12-36VDC, IP30		2 x RS485, Modbus RTU Master / RS485 Modbus Slave	LTE Cat1, 2G Fallback	GPS, Glonass	BLE 4.2, 1..100 Beacons, 1 x TempSensor NTC, 11x DI

Accessoires	Ordercode	
PowerSupply 24V TypC	70400	Powersupply 24VDC/1A for mini and cube series, with 2pole 3,81 connector
GSM HQ SMA	70624	Antenna adjustable, Covering Worldwide LTE Bands, 3G/2G Fallback, SMA
GSM HQ SMA 5m cable	70622	Antenna, Covering Worldwide LTE Bands, 3G/2G Fallback, SMA
iB003N-TH	70518	BLE Beacon Temperature/Humidity Temperature Range: -40°C to 60°C Relative Humidity Range: 0% - 100% RH Power: CR2477 coin battery