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LTE Industrial Router

SmartStart SL304

USER MANUAL

B+B SmartWorx

Powered by ADVANTECH

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Used symbols

Danger – Information regarding user safety or potential damage to the router.

Attention – Problems that can arise in specific situations.

Information, notice – Useful tips or information of special interest.

GPL licence

Source codes under GPL licence are available free of charge by sending an email to:

cellularsales@advantech-bb.com.

Advantech B+B SmartWorx s.r.o., Sokolska 71, 562 04 Usti nad Orlici, Czech Republic
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1. Safety Instructions

Please, observe the following instructions:

- The router must be used in compliance with all applicable international and national laws and in compliance with any special restrictions regulating the utilization of the router in prescribed applications and environments.
- To prevent possible injury and damage to appliances and to ensure compliance with all relevant provisions, use only the original accessories. Unauthorized modifications or the use of unapproved accessories may result in damage to the router and / or a breach of applicable regulations. Unauthorized modifications or use of unapproved accessories may void the warranty.
- The router can not be opened.
- Turn off the router and disconnect it from power supply before handling the SIM card.
- **Caution!** The SIM card could be swallowed by small children.
- Input voltage must not exceed 36 V DC max.
- Do not expose the router to extreme ambient conditions. Protect the router against dust, moisture and high temperature.
- The router should not be used in locations where flammable and explosive materials are present, including gas stations, chemical plants, or locations in which explosives are used. We remind users of the duty to observe the restrictions concerning the utilization of radio devices at such places.
- Switch off the router when traveling by plane. Utilization of the router on a plane may endanger the operation of the plane or interfere with the mobile telephone network, and may be unlawful. Failure to observe these instructions may result in the suspension or cancellation of telephone services for the respective client and / or may result in legal sanctions.
- When using the router in close proximity to personal medical devices, such as cardiac pacemakers or hearing aids, you must proceed with heightened caution.
- The router may cause interference when used in close proximity to TV sets, radio receivers or personal computers.
- It is recommended that you create an appropriate copy or backup of all important settings that are stored in the memory of the device.

2. Product Disposal Instructions

The WEEE (Waste Electrical and Electronic Equipment: 2002/96/EC) directive was introduced to ensure that electrical/electronic products are recycled using the best available recovery techniques in order to minimize impact on the environment. This product contains high quality materials and components which can be recycled. At the end of it's life this product MUST NOT be mixed with other commercial waste for disposal. Check the terms and conditions of your supplier for disposal information.

3. Router Description

Cellular router SmartStart is designed for wireless communication in the mobile networks that make use of traditional cellular technologies. The primary purpose of this router is its use in the newest Category 4 (Cat.4) services on the cellular LTE network.

3.1 LTE Category 4 (Cat.4)

LTE Category 4 (Cat.4) is the next step in 4G LTE device capability. Cat.4 rated SmartStart routers are capable of achieving better typical speeds in 4G coverage areas where the network is enabled with 20 MHz of contiguous spectrum. The peak downlink data rate for a Category 4 is approximately 150 Mbps. Also in the uplink, LTE Category 4 provides a peak data rate of 50 Mbps.

3.2 Basic HW Information

As a standard, the SmartStart router is equipped with one Ethernet 10/100 Mbit/s, one serial interface RS232, one binary input and one output. SL304 also contains two readers for 3 V and 1.8 V SIM cards, which are placed on the rear panel of the device. The router can be equipped with a WiFi module, but this must be part of the initial configuration – it cannot be added to the router at some point in the future. The SmartStart router is supplied in a plastic casing.

3.3 Configuration and Diagnostics

The router can be configured using a password-protected Web interface. The web interface provides (after logging in) detailed statistics about the router activities, signal strength, detailed system logs etc. This device supports the creation of VPN tunnels using technologies IPSec, OpenVPN and L2TP for secure communications. There are also supported functions such as IPv6 (the latest revision of the Internet Protocol), DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, primary connection backups and many other functions are also supported.

Other diagnostic functions ensuring continuous communication include automatic inspection of PPP connection offering an automatic restart feature in case of connection is lost, or hardware watchdog which monitors the status of the router. Using a special window (start up script window) you may insert Linux scripts for various actions. For some applications is the key possibility to create several different configurations for one router which can be switched as needed (e.g. using SMS or status of the binary input). Cellular routers may automatically update configuration and firmware from server. This allows mass reconfiguration of many routers in one time.

The router also supports additional software such as R-SeeNet for permanent traffic monitoring of routers.

Examples of possible applications

- mobile office
- smart meters for utilities
- fleet management
- security systems
- telematic
- telemetric
- remote monitoring
- vending and dispatcher machines

3.4 Usage of the Router

The router is primarily intended for these four basic situations:

I. Access to the Internet from LAN

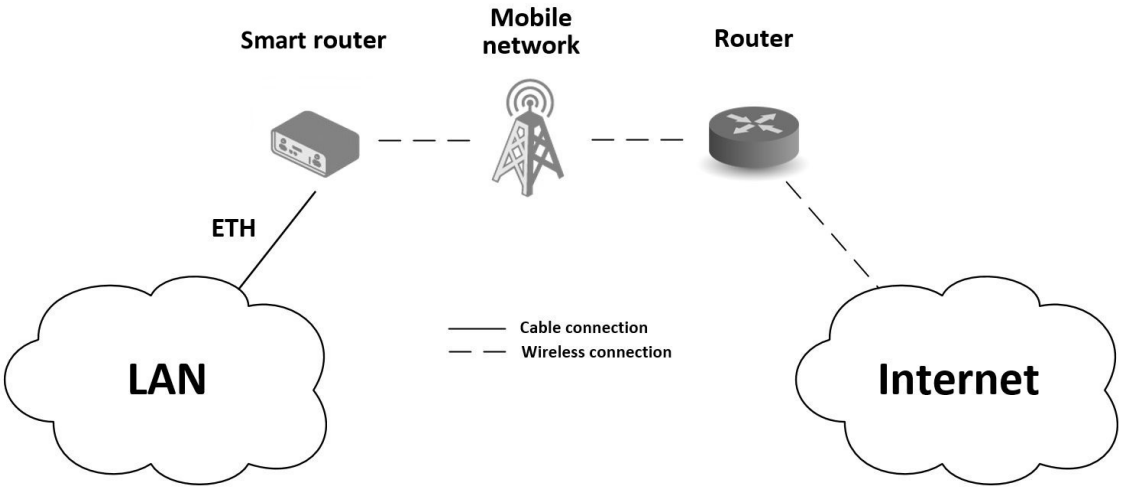

Figure 1: Access to the Internet from LAN

II. Backed up access to the Internet (from LAN)

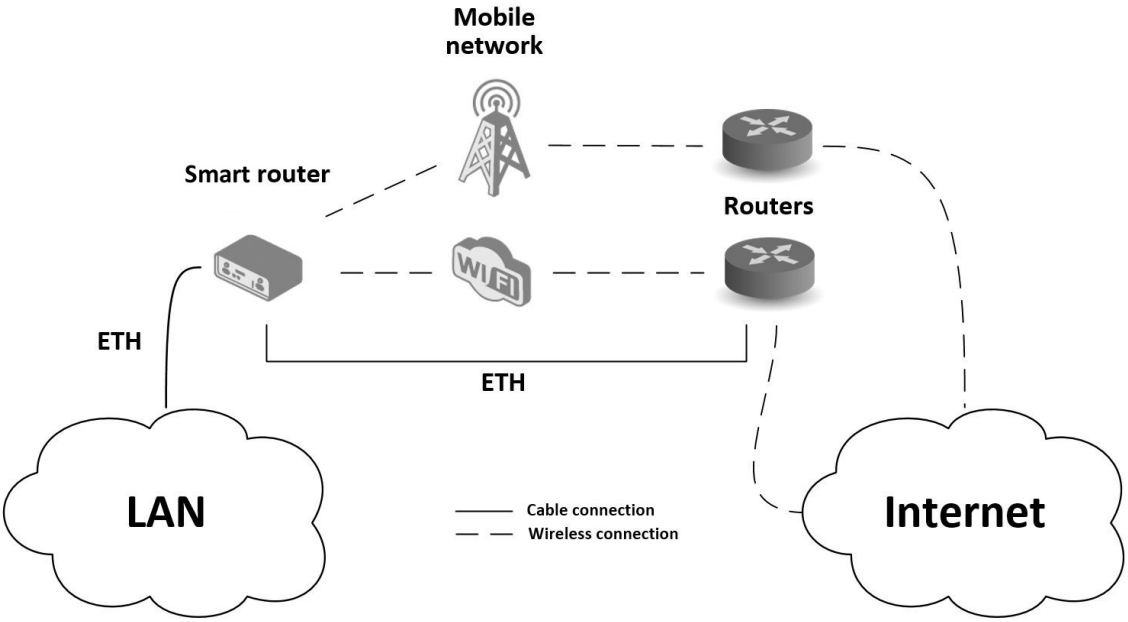

Figure 2: Backed up access to the Internet

III. Secure networks interconnection or using VPN

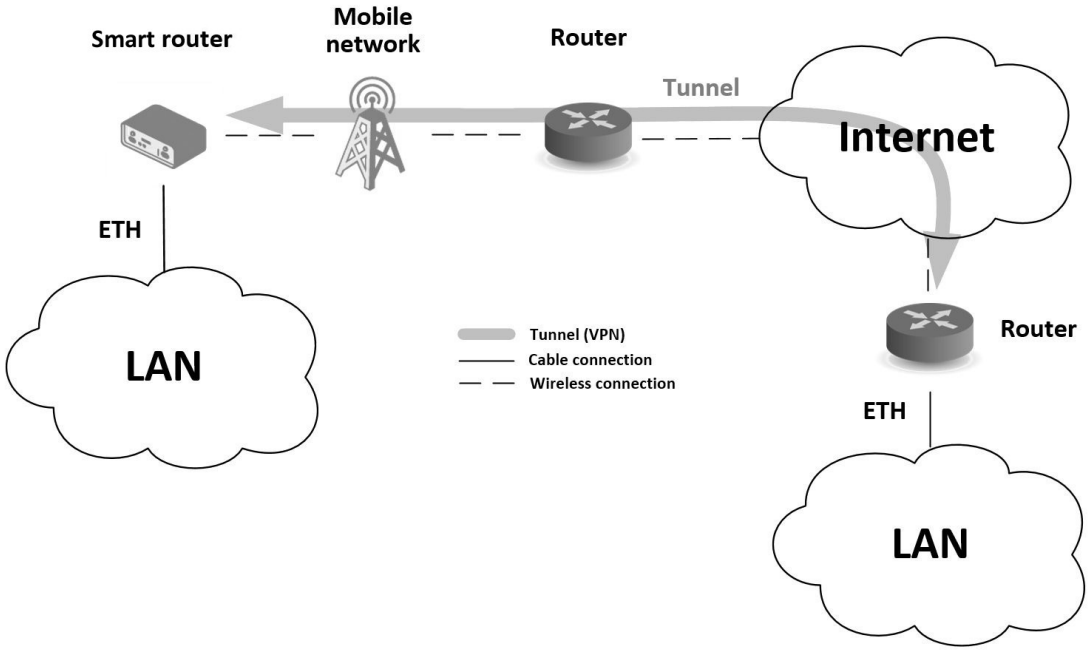

Figure 3: Using a VPN tunnel

IV. Serial Gateway

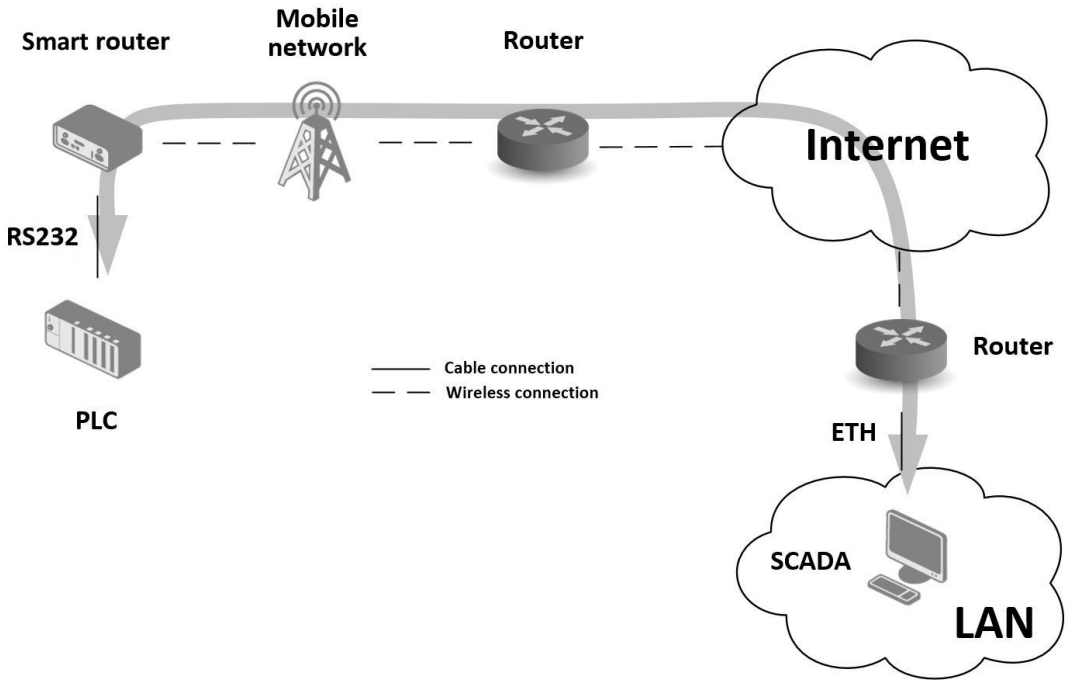

Figure 4: Serial Gateway

4. Contents of Package

The basic router set available for delivery includes the following items:

- router,
- power and IO cable (1.5 m long),
- clip for the DIN rail (two screws are included),
- paper start guide.

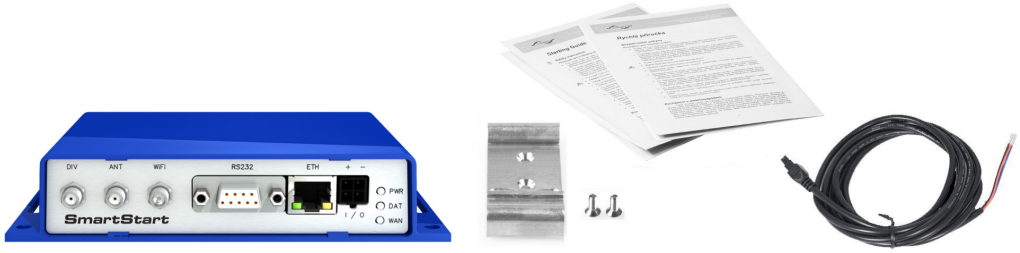

Figure 5: Contents of package

4.1 Recommended Accessories

The following list contains recommended accessories. **These accessories are not included in the basic package!**

- LTE antennas:
  - Terminal antenna Taoglas TG.30.8113, order code: BB-TG30
  - Magnetic mount antenna Taoglas GA.110.101111, order code: BB-GA110
- WiFi Antenna Sectron AW-A24G-SRPK2, order code: BB-AW-A24G-SRPK2
- Power Supply 12 V / 12 W, order code: BB-RPS-v3-MO4-M
  - Multi country (EU, UK, AUS, US)
  - Level Efficiency VI

5. Router Design

5.1 Router Versions

The SmartStart SL304 router is supplied in the following versions (see table below). All versions are available only in plastic casing.

Router versions	SIM	BIN	BOUT	ETH	RS232	WiFi
SL304 with RS232	2 x	1 x	1 x	1 x	1 x	
SL304 with RS232 & WiFi	2 x	1 x	1 x	1 x	1 x	1 x

Table 1: Router versions

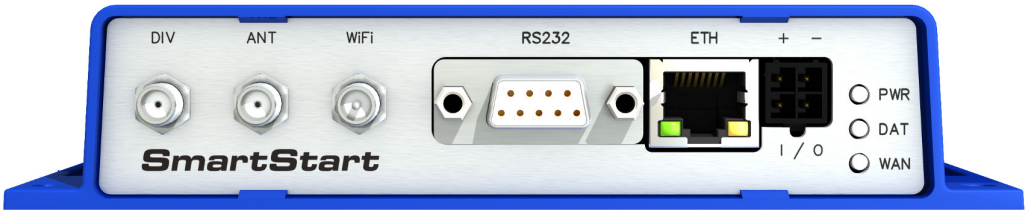

Figure 6: Front panel

5.2 Delivery Identification

Trade name	Product name	Other
SL304	SmartStart	LTE router (Cat.4) for EMEA

Table 2: Delivery identification

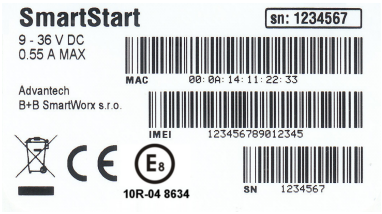

Figure 7: Label for versions without WiFi

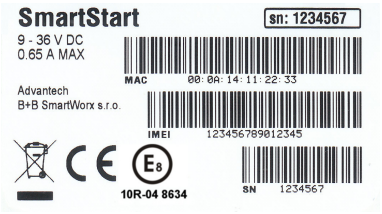

Figure 8: Label for versions with WiFi

5.3 Order Codes

The table below shows an overview of order codes.

Name	Order code	Features – interfaces
SmartStart SL304	SL30400110	LTE module Cat.4 EMEA, 1x ETH, 1x RS232, 1x BI, 1x BO, 2x SIM reader
SmartStart SL304	SL30410110	LTE module Cat.4 EMEA, 1x ETH, 1x RS232, 1x BI, 1x BO, 2x SIM reader, WiFi

Table 3: Order codes overview

5.4 Basic Dimensions of the Router Box

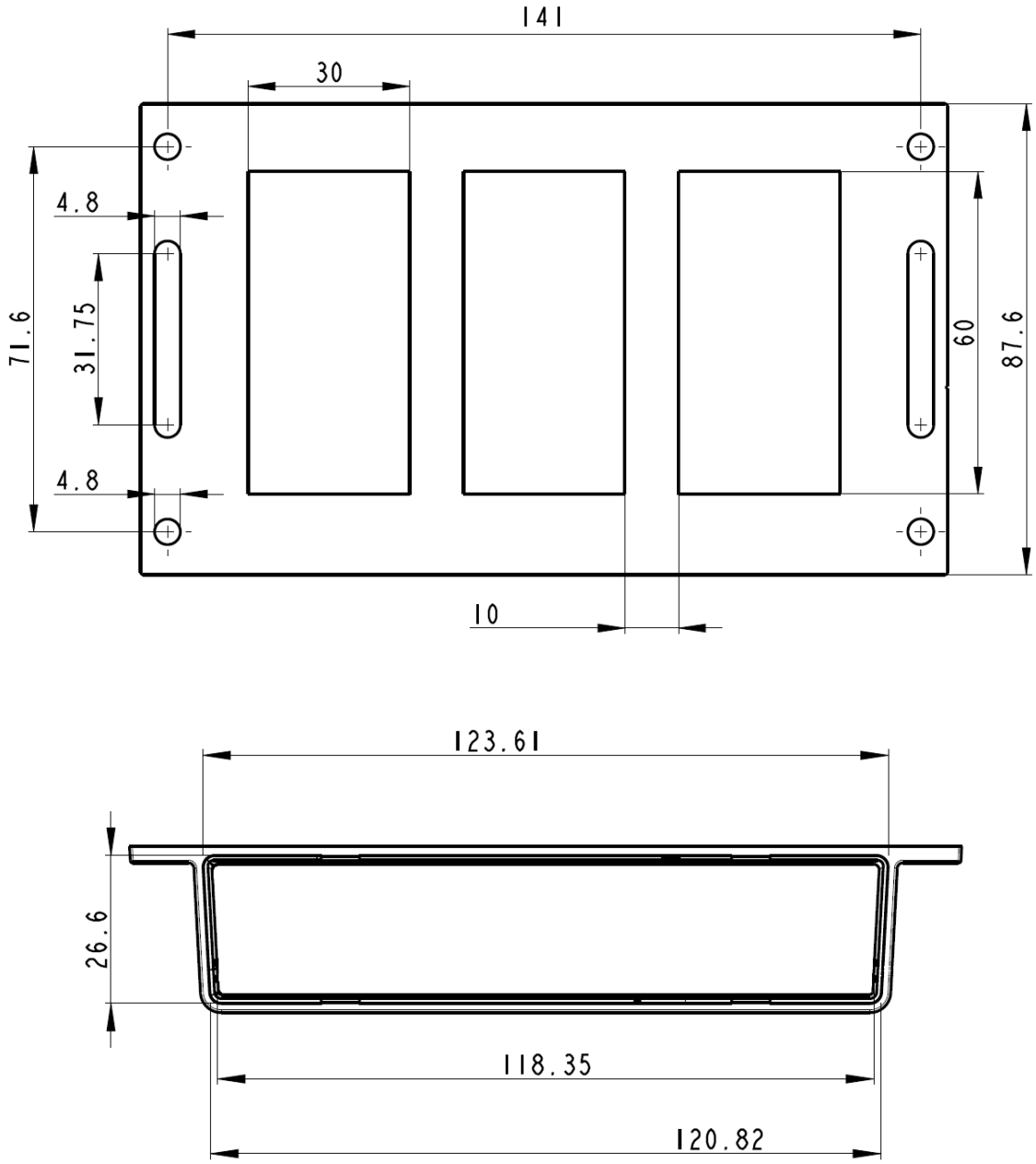

Figure 9: Basic dimensions of the router box

5.5 Mounting recommendations

- It is possible to place the router on a flat surface,
- DIN rail EN 60715 with the included clip BB-SBD25.

The router meets EN 61439-1:2011 requirements/certifications for low-voltage switchgear and control gear assemblies. These environments are described as:

- A non-public, industry environment of low voltage with high interference,
- A public environment of low voltage and without high interference.

For both of these environments it is possible to mount router to a switchboard, after which there is no need to have examination immunity or issues in connection with EMC according to EN 61439-1:2011.

To comply with the EN 61439-1:2011 specification, follow these instructions:

- For whip antennas it is recommended to observe a minimum distance of 6 cm from cables and metal surfaces on every side in order to avoid interference. When using an external antenna seperate from the switchboard it is necessary to fit a lightening conductor.
- When mounting a router on sheet-steel we recommend using a "cable" antenna.
- For all cables we recommend to bind the bunch, and for this we recommend:
  - The length of the bunch (combination of power supply and data cables) should be a maximum 1.5 m. If the length of data cables exceeds 1.5 m or if the cable is leading towards the switchboard, we recommend installing surge protectors.
  - Data cables must not have a reticular tension of $\sim$ 230 V/50 Hz or $\sim$ 120 V/60 Hz.
- Sufficient space must be left between individual connectors for the handling of cables,
- To ensure correct functioning of the router we recommend the use of an earth-bonding distribution frame for the grounding of the power supply of the router, data cables and antenna within the switchboard.

5.6 Removal of the DIN Rail

The DIN holder is suitable for a DIN rail according to EN 60715 standard only. The default position of BB-SBD25 holder, which is used for mounting the router on a DIN rail, is shown in the following figure:

Figure 10: Default position of DIN holder

In order to remove the DIN rail it is necessary to lightly push the router upward so that the top part of the BB-SBD25 holder hitched to the DIN rail comes out of this rail, then fold the top of the router away from the DIN rail.

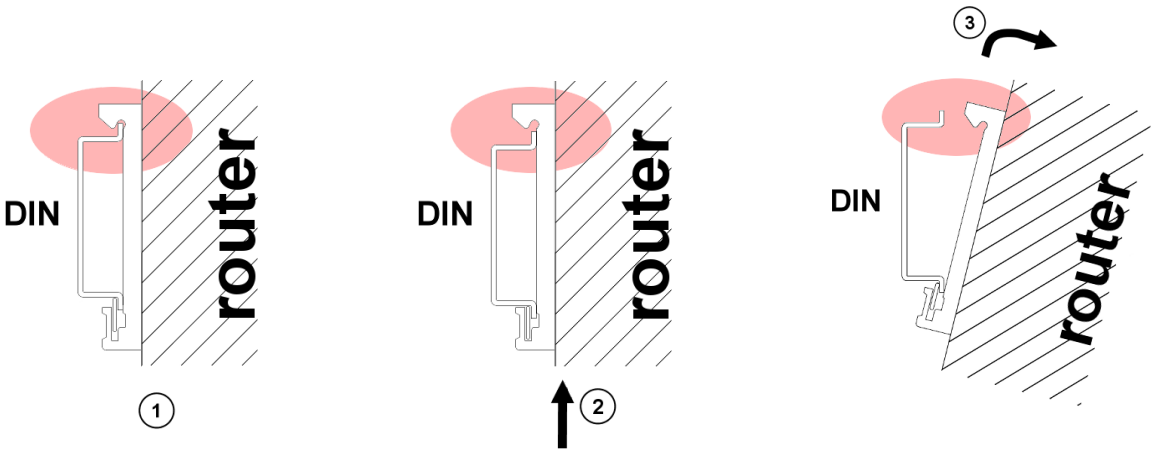

Figure 11: Removal of the DIN Rail

5.7 Description of the Rear Panel

The rear panel contains two holders for SIM cards (*SIM1*, *SIM2*) and an *RST* button used to restore the default configuration and reboot the router.

5.8 Description of the Front Panel

On the front panel is the following:

Caption	Connector	Description
PWR/IO	4-pin	Connector for the power supply and connection of the binary input and output.
ETH	RJ45	Connector for connection into the computer network.
RS232	DB9 female	Connector for serial interface RS232.
ANT	SMA	Connector for main antenna.
DIV	SMA	Connector for diversity antenna.
WiFi	R-SMA	Connector for WiFi antenna (**only for versions with WiFi module!**).

Table 4: Front panel description

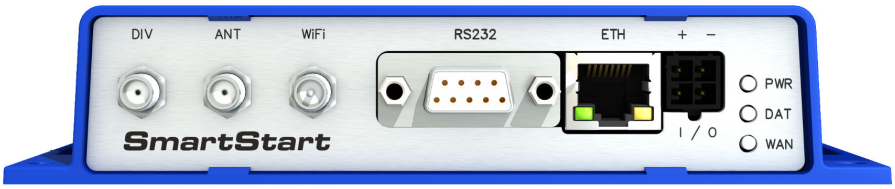

Figure 12: SmartStart front panel

5.8.1 Status indication

There are three LED indicators on the front panel to provide router status information. The ETH port has two additional LEDs that provide information about the port status.

Caption	Color	State	Description
PWR	Green	Blinking On Fast blinking	Router is ready Starting of the router Updating firmware
DAT	Red	Blinking	Communication in progress on the radio channel
WAN	Yellow	LED goes out 1x per one sec. LED goes out 1x per two sec. LED goes out 1x per five sec.	Signal strength is from –50 dBm to –69 dBm Signal strength is from –70 dBm to –89 dBm or difference between neighbouring cells is exactly 3 dBm Signal strength is from –90 dBm to –113 dBm or difference between neighbouring cells is smaller than 3 dBm
ETH	Green	On Off	Selected 100 Mbps Selected 10 Mbps
ETH	Yellow	On Blinking Off	The network cable is connected Data transmission The network cable is not connected

Table 5: Status indication

The status indication of the WAN LED is updated every 10 seconds.

5.8.2 Power PWR/IO Connector

Panel socket 4-pin.

Pin number	Signal mark	Description
1	GND(-)	Negative pole of DC supply voltage
2	VCC(+)	Positive pole of DC supply voltage (+9 to +36 V DC)
3	IN0	Binary input
4	OUT0	Binary output

Table 6: Connection of PWR / IO connector

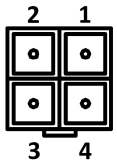

Figure 13: PWR / IO connector

The power supply for the router must be between +9 V to +36 V DC supply. Protection against reversed polarity without signaling is built into the router. The router can be put into low power mode using a special command `lpm`. It can then be awakened by an activity on binary input or using an internal timer. For more details of this command, see the application note *Commands and Scripts* [3].

Upon power supply outage and subsequent renewal, the router is awakened!

Circuit example:

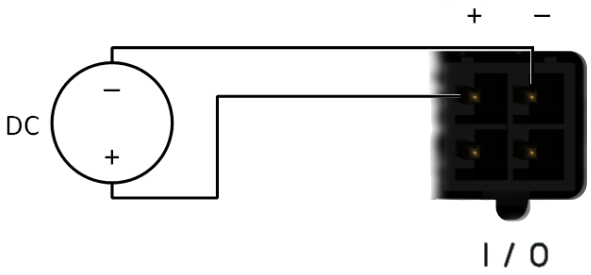

Figure 14: Connection of power supply

The PWR / IO interface is also designed for the processing of binary input and control (setting) of binary output.

Binary Input

logical 0 / 1*	Voltage	Web interface status
logic 0	0 – 0.7 V	On
logic 1	1.6 – 36 V	Off

Table 7: Characteristics of binary input

* The binary input status in the Shell is returned via `io get bin0`.

Binary Output

The binary output is open in the default configuration. The current of the binary output is limited by a resettable fuse (200 mA).

5.8.3 Antenna Connector ANT, DIV and WiFi

The main and diversity antennas are connected to the router using the SMA connector on the front panel. There is also an R-SMA antenna connector available, through which an additional antenna can be connected, if the router is equipped with a WiFi module.

The *ANT* connector is used to connect the main antenna to the router. To connect the diversity antenna, the second antenna connector *DIV* is used. An R-SMA connector named *WiFi* is designed for the connection of a WiFi antenna (available only for versions with a WiFi module).

The router can not operate without a main antenna connected through the port marked as *ANT*!

An SMA connector is used for the connection of the antenna. The antenna is connected by screwing this antenna to the SMA connector on the front panel of the router (see figure below). Recommended tightening moment is 0.9 Nm.

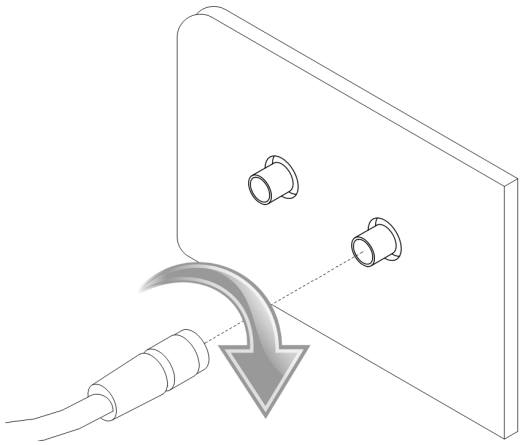

Figure 15: Connecting the antenna

A diversity antenna improves the radio capability of the router at low signal strength.

5.8.4 SIM Card Reader

SmartStart SL304 contains two readers for 3 V and 1.8 V SIM cards, which are located on the rear panel of the device. In order for the router to function, it is necessary to insert an activated SIM card with an unblocked PIN code. The SIM cards may have different adjusted APNs (Access Point Names).

Changing the SIM card:

- Always disconnect the router from power supply before handling the SIM card!
- Using a plastic opening tool, or your fingernail, press the SIM card slightly into its slot until you hear a click.
- After hearing this click, release the card and it will pop out of its slot.
- Remove the SIM card and push any other SIM card into the slot until it clicks into place.

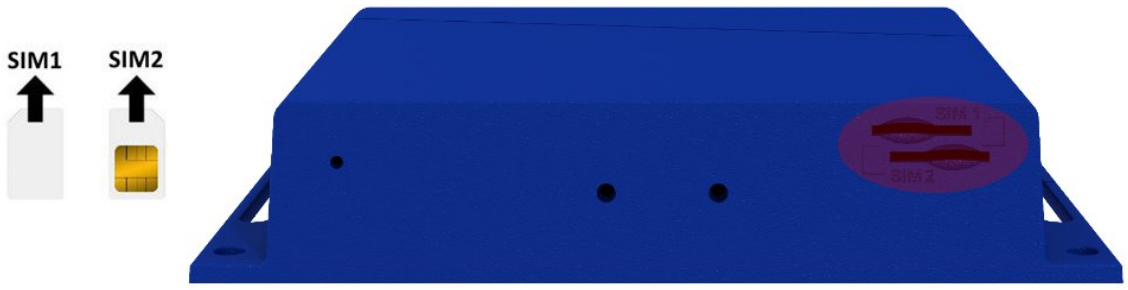

Figure 16: SIM cards

5.8.5 Ethernet Port ETH

The panel socket RJ45 is used for this interface. The Ethernet isolation is 1500 V.

Pin	Signal mark	Description	Data flow direction
1	TXD+	Transmit Data – positive pole	Input/Output
2	TXD-	Transmit Data – negative pole	Input/Output
3	RXD+	Receive Data – positive pole	Input/Output
4	—	—	
5	—	—	
6	RXD-	Receive Data – negative pole	Input/Output
7	—	—	
8	—	—	

Table 8: Connection of Ethernet connector

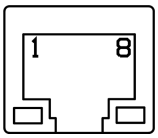

Figure 17: Ethernet connector

The Ethernet cable plugs into the RJ45 connector labeled as ETH (see figure below).

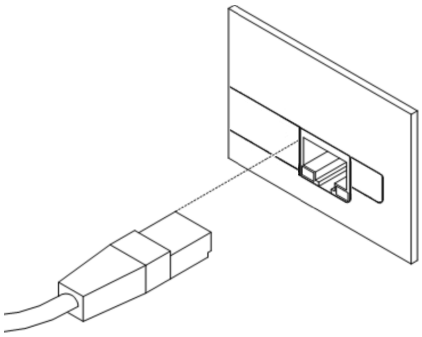

Figure 18: Connection of Ethernet cable

5.8.6 Serial Port RS232

This interface is physically connected through the DB9 Female connector.

Pin	Signal mark	Description	Data flow direction
1	DCD	Data Carrier Detect	Output
2	RXD	Receive Data	Output
3	TXD	Transmit Data	Input
4	DTR	Data Terminal Ready	Input
5	GND	System Ground	—
6	DSR	Data Set Ready	Output
7	RTS	Request to Send	Input
8	CTS	Clear to Send	Output
9	RI	Ring Indicator	NC

Table 9: Connection of RS232 connector

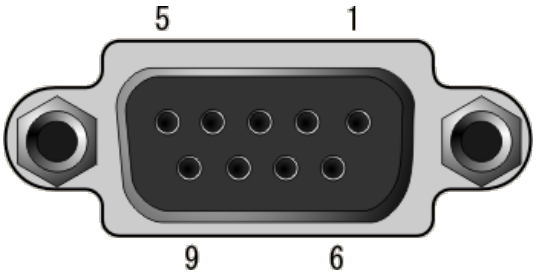

Figure 19: RS232 connector

5.8.7 Reset

When the *PWR* LED starts flashing on the front panel, it is possible to restore the default configuration of the router by pressing the *RST* button on the rear panel. After pressing this button, the default configuration will be restored and the router will reboot (after which the green LED will be on).

In order to press the *RST* button it is necessary to use a narrow screwdriver or other small tool.

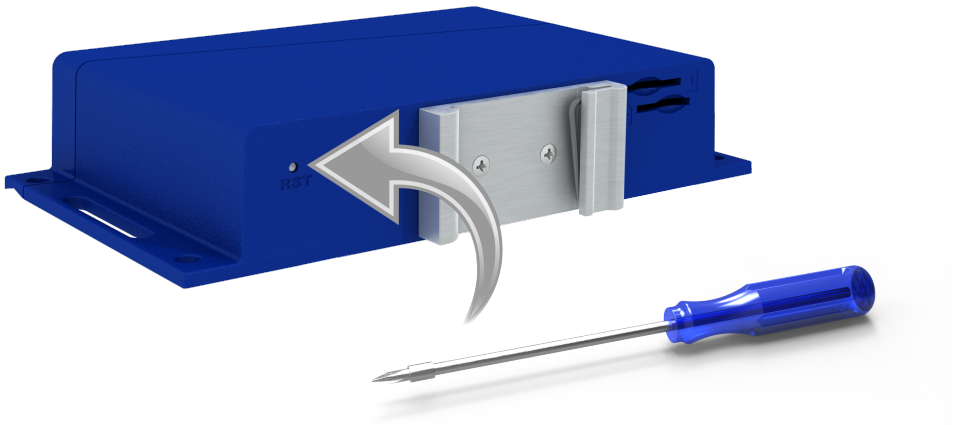

Figure 20: Router reset

Before resetting the router, it is recommend to back up the router configuration settings (see *Configuration manual*) because resetting the router will return all configuration settings to their default states.

It is important to distinguish between a router reset and reboot.

Action	Router behavior	Invoking events
Reboot	Turns off and then turns on the router	Disconnect and reconnect the power, press the *Reboot* button in the web configuration
Reset	Restores the default configuration and reboots the router	Press the *RST* button

Table 10: Description of router reset and restart

6. First Use

6.1 Connecting the Router Before the First Use

Before putting the router into operation it is necessary to connect all of the components that are required to run your applications. Don't forget to insert a SIM card.

The router can not operate without a connected antenna, SIM card and power supply. If the antenna is not connected, the router may be damaged.

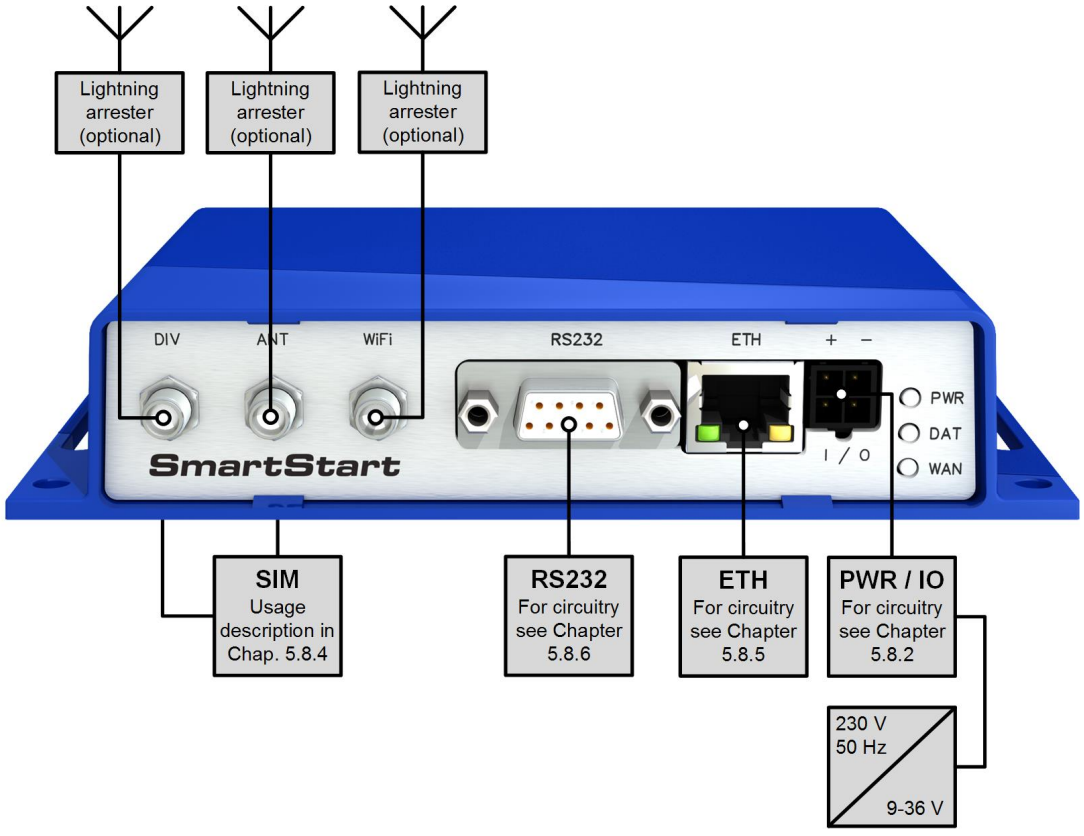

Figure 21: Router connection

6.2 Start

The router will start when a power supply is connected to the router. By default, the router will automatically start to log on to the default APN. The DHCP server will start to assign addresses for devices connected through the Ethernet port ETH. These router behaviors can be changed via the web interface. This is described in detail in the *Configuration manual for SmartStart*.

6.3 Configuration

Attention! If no SIM card is inserted in the router, it is not possible for the router to operate. Any inserted SIM card must have active data transmission.

6.3.1 Configuration by web browser

For status monitoring, configuration and administration of the router, a web interface is available, which can be accessed by entering the IP address of the router into the web browser. The default IP address of the router is 192.168.1.1. **Attention, it is necessary to use HTTPS protocol for secure communication over a network!**

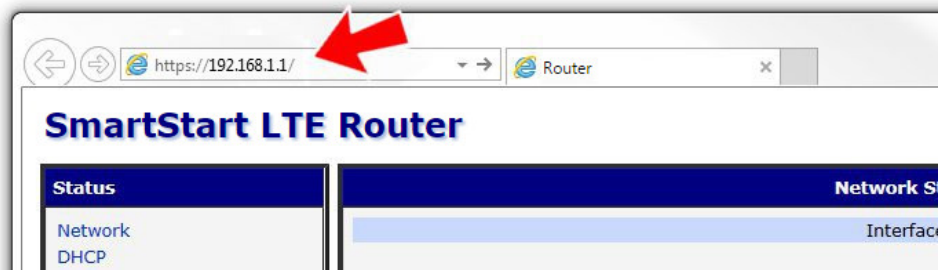

Figure 22: Entering the IP address of the router

By default, configuration can only be performed with the default username "root" and default password "root".

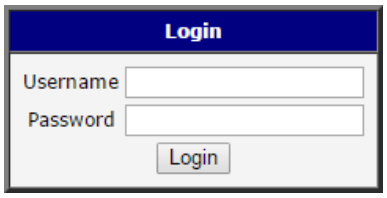

Figure 23: Entering login information

After successfully entering login information, the user will have access to the router web interface via their browser.

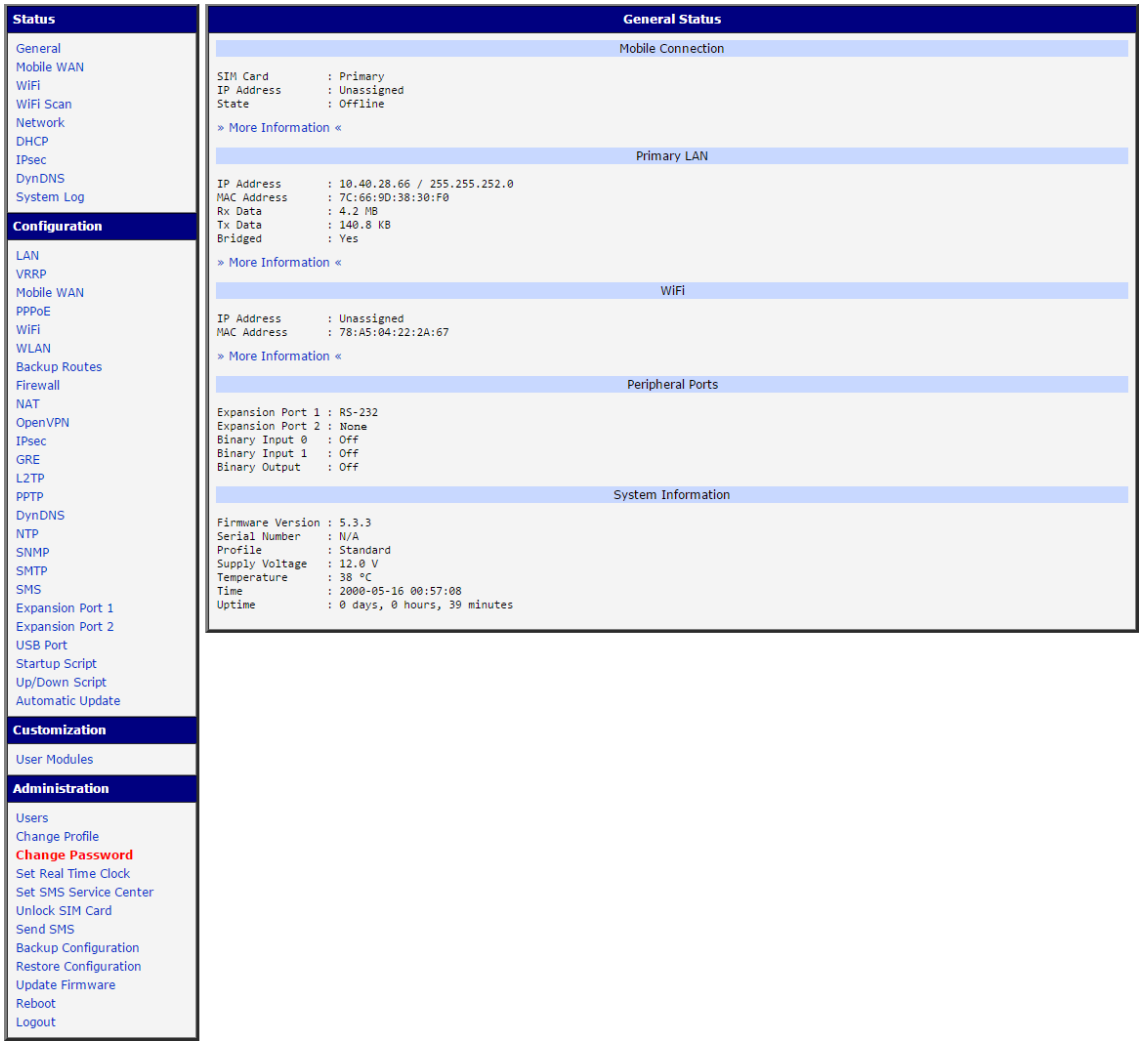

Figure 24: Router web interface

A detailed description of the router settings in the Web interface can be found in the *Configuration manual for SmartStart*.

7. Technical Parameters

7.1 Basic Parameters

SmartStart		
Temperature range	Operating Storage	-40 °C to +75 °C -40 °C to +85 °C
Humidity	Operating Storage	0 to 95 % relative humidity non condensing 0 to 95 % relative humidity non condensing
Altitude	Operating	2000 m / 70 kPa
Degree of protection		IP30
Supply voltage		9 to 36 V DC
Consumption without WiFi	Average Maximum	2.1 W 4.8 W
Consumption with WiFi	Average Maximum	2.7 W 5.5 W
Sleep mode consumption		40 mW
Dimensions		30 x 87 x 150 mm (DIN 35 mm, EN 60715)
Weight		approximately 187 g (depends on interface)
Antenna connectors		2x SMA – 50 Ohm 1x R-SMA – 50 Ohm (**only for WiFi**)

Table 11: Basic parameters

* **Temperature range for routers equipped with WiFi module is reduced to -25 °C to +55 °C!**

7.2 Technical specification of user interfaces

	ETH	RS232
Connector	RJ45	DB9 Female
Standard	EN 1434	IEEE 802.3
Min. data rate	10 Mbps	300 bps
Max. data rate	100 Mbps	230400 bps
Max. total cable length (300 Bd, 200 nF/km)	100 m	20 m

Table 12: Technical specification of user interfaces

7.3 Standards and Regulations

The router complies with the following standards and regulations.

Standards and regulations for EMEA routers	
EMC	ETSI EN 301 489-1 v1.9.2, IEC 61000-6-2:2005, IEC 61000-6-3:2006
Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013, EN 62311:2008
E8 – EMC for devices in transportation	E8 homologation number: 10R – 04 8634
REACH and RoHS compliant	

Table 13: Standards and regulations

7.4 Type Tests and Environmental Conditions

Phenomena	Test	Description	Test levels
ESD	EN 61000-4-2	Enclosure contact Enclosure air	± 6 kV (crit. A) ± 8 kV (crit. A)
RF field AM modulated	IEC 61000-4-3	Enclosure	10 V/m (crit. A) (80 – 2700 MHz)
Fast transient	EN 61000-4-4	Power port Ethernet port RS232 port I/O port	± 2 kV (crit. A) ± 1 kV (crit. A) ± 1 kV (crit. A) ± 1 kV (crit. A)
Surge	EN 61000-4-5	Ethernet port Power port	± 1 kV (crit. A), shielded cab. ± 0,5 kV (crit. A)
RF conducted	EN 61000-4-6	All ports	10 V/m (crit. A) (0,15 – 80 MHz)
Radiated emission	EN 55022	Enclosure	Class B
Conducted emission	EN 55022	DC power ports Ethernet ports	Class B Class B
Dry heat	EN 60068-2-2	Operation Storage	+75 °C, 40 % rel. humidity, 16 hours +85 °C, 40 % rel. humidity, 16 hours
Cold	EN 60068-2-1	Operation Storage	-40 °C, 16 hours -40 °C, 16 hours
Damp heat	EN 60068-2-30, test Db	+55 °C / +25 °C, 12 h – 12 h, 2 cycles	

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Phenomena	Test	Description	Test levels
Temperature variation	EN 60068-2-14 Nb	-40 °C / +75 °C, 3 h / 3 h, 2 cycles, 3 K/min	
Vibration	EN 60068-2-64 ed. 2	Different mounting, 3 axis, up to 8 hour per axis	
Shock	EN 60068-2-27 ed. 2	half-sine, 15 g peak, 11 ms, 6 pulses per axis	
Isolation	–	Ethernet port	1.5 kV

Table 14: Type tests and environmental conditions

7.5 Technical Parameters of Module

LTE module for EMEA	
LTE parameters	Bit rate 150 Mbps (DL) / 50 Mbps (UL) LTE FDD Cat.4, 3GPP release 9 compliant Supported frequencies: 800 / 900 / 1800 / 2100 / 2600 MHz
HSPA+ parameters	Bit rate 42.0 Mbps (DL) / 5.76 Mbps (UL) Supported frequencies: 900 / 2100 MHz
UMTS parameters	PS bit rate 384 kbps (DL) / 384 kbps (UL) Supported frequencies: 900 / 2100 MHz
GPRS/EDGE parameters	Bit rate 236 kbps (DL) / 236 kbps (UL) Supported frequencies: 900 / 1800 MHz
Other parameters	Rx Diversity and MIMO DL 2x2 SMS over IMS

Table 15: Technical parameters of module for EMEA

7.6 Technical Parameters of WiFi

WiFi	
Antenna connector	R-SMA – 50 Ohms
Supported WiFi band	2.4 GHz
Standards	802.11b, 802.11g, 802.11n
2.4 GHz supported channels	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
RX Sensitivity	11b, 11 Mbps: typ. -85 dBm 11g, 54 Mbps: typ. -70 dBm (HT20) 11n, MSC7: typ. -66 dBm (HT40) 11n, MSC7: typ. -62 dBm
TX Output Power	11b, 11 Mbps: min. 18, typ. 19, max. 20 dBm 11g, 54 Mbps: min. 14.5, typ. 16, max. 17.5 dBm 802.11n (HT20): min. 13.5, typ. 15, max. 16.5 dBm 802.11n (HT40): min. 13.5, typ. 15, max. 16.5 dBm
Type of device	Access point, station

Table 16: Technical parameters of WiFi

7.7 Other Technical Parameters

Other technical parameters	
CPU power	2 DMIPS per MHz
Flash memory	256 MB
RAM	512 MB
M-RAM	128 kB

Table 17: Other technical parameters

8. Recommended Literature

[1] Advantech B+B SmartWorx: **Start Guide for SmartStart**,
[2] Advantech B+B SmartWorx: **SmartStart Configuration Manual**,
[3] Advantech B+B SmartWorx: **Commands and Scripts**.

9. Troubleshooting

If you cannot connect to the router from your PC, your network card may be configured in such a way that it is not possible to connect to the router. Take one or more of the following steps in order to solve the problem:

- Set the communication rate to 10 MB/s in the properties of your network card.
- Connect the router to the PC via Switch.
- Connect the router to the PC, start the router first and then start the PC after the router's initialization.

9.1 FAQ

✍ **I have NAT enabled. My equipment is not connecting to the network.**

- *The device's gateway has to be configured the same as the router's.*

✍ **The router resets itself and the Ethernet connection fails.**

- *The router will not function without an antenna. Keep the antenna as far as possible from the power supply.*

✍ **I can't access the Web server over NAT.**

- *The remote HTTP access of the router has to be disabled, the default server address has to be your web server and the gateway of the web server has to be the IP of the router.*

✍ **Mobile WAN connection fails. (DAT LED off)**

- *Check the signal power. If the signal power is weak, you will have to use a better antenna. If the neighboring cells have a similar signal strength, you will need to use a directional antenna. For proper operation, the signal levels have to be within the range of -50 dBm to -90 dBm.*
- *It is necessary to set the router to ping, which will check the connection and, in the case of a failed ping, restart the connection.*

✍ **Mobile WAN connection cannot be established. (DAT LED off)**

- *Check the GPRS settings – APN, name, password and IP address.*
- *Try to enter the SIM card PIN – verify that the SIM card has the PIN code entered.*
- *In a private APN, switch the DNS server send off.*
- *Switch the system log on and observe to see where the error occurs.*

✍ **Ethernet connection fails or isn't establishing.**

- *It is possible to turn auto negotiation off and set a rate and duplex manually on the Ethernet interface of the router.*

✍ **DynDNS doesn't function.**

- *With private APN this is not functional.*
- *If the same IP address is recorded in your canonic name as a dynamically assigned address, it means that the operator is using NAT or a firewall.*
- *Verify NAT using ping to the static server address.*
- *Verify a Firewall by accessing remotely to the router's Web interface.*
- *The operator may not provide the address of DNS server and without DNS server's address it is impossible to connect to the dyndns.org server. The following messages will be shown in the system log:*
  - *DynDNS daemon started*
  - *Error resolving hostname: no such file or directory*
  - *Connect to DynDNS server failed*

✍ **L2TP or IPSec isn't establishing.**

- *Check the system log for error messages.*

✍ **I switched the router to offline mode by SMS message, but the router is in online mode after restart.**

- *SMS messages do not change the router configuration. They remain in effect only until the router is restarted.*

✍ **RS232 doesn't function.**

- *Verify that the router supports RS232 communications. Also verify the RS232 communication settings. To do so, open the router's configuration menu via the web browser, select the appropriate expansion port and verify the settings in the configuration menu.*

10. Customers Support

10.1 Customer Support for NAM

Phone: +1-800-346-3119 (Monday – Friday, 7 a.m. to 5:30 p.m. CST)
Fax: +1-815-433-5109
E-mail: support@advantech-bb.com
Web: www.advantech-bb.com

10.2 Customer Support for Europe

Phone: +353 91 792444
Fax: +353 91 792445
E-mail: techSupport@advantech-bb.com
Web: www.advantech-bb.com

10.3 Customer Support for Asia

Phone: +886-2-2792-7818 #1299 (Monday – Friday, 9 a.m. to 5:30 p.m. UTC+8)
Fax: +886-2-2794-7327
E-mail: icg.support@advantech.com.tw
Web: www.advantech.com

Upkeep-advices:

- The SIM-card must be handled carefully as with a credit card. Don't bend, don't scratch on this and do not expose to static electricity.
- During cleaning of the router do not use aggressive chemicals, solvents and abrasive cleaners!

Advantech B+B SmartWorx Company hereby declares that the router narrated in this user's guide fits all basic demands of directive 1999/5/EC (R&TTE).
Router fits values of coefficient SAR defined by association ICNIRP and values of "About protection of health before non-ionized radiation".

CE Declaration of Conformity was issued and it is possible to find it on the company website (www.bb-smartcellular.eu/download) [1] or at producer.

[1] Please, use the following login information: Username – smartrouters, Password – smartrouters.