Cellular Routers
3G UMTS/HSPA+
UR5i v2 Series

B+B SmartWorx
Powered by ADVANTECH

PRODUCT FEATURES

- Designed for M2M applications
- WiFi, M-BUS and Modbus TCP / Modbus RTU
- Modular design to fit application requirements
- Single or dual SIM cards for redundant backhaul
- Up to 5.7 Mbps upload to 14.4 Mbps download
- LINUX platform & advanced networking functions
- Advanced security features

3G UMTS/HSPA routers, UR5i v2 series, are used to wirelessly connect various equipment and devices via Ethernet 10/100 to the Internet or intranet. High data transfer speed of up to 14.4 Mbit/s (download) and upload speed up to 5.76 Mbit/s, make it an ideal wireless solution for traffic and security camera systems, individual computers, LAN networks, automatic teller machines (ATM) and other self-service terminals, etc.

Key features
This exceptionally fast 3G UR5i v2 wireless router is equipped with one Ethernet 10/100, one USB Host port, one binary Input/Output (I/O) port and one SIM card. To save and backup communication data, a version with 2 x SIM cards is available. A wide range of user-defined interface options further expands optional Port1 and Port2. (EX: Ethernet port 10/100, serial interface ports RS232/RS485/RS422/M-Bus/WiFi or (I/O - CNT). Port2 may be equipped with serial interfaces RS232/RS485/RS422/M-Bus or (I/O - CNT). Routers are available in either plastic or metal casings. FULL version of the router is equipped with GPS.

Configuration is done via protected password web interface. The 3G UMTS/HSPA+ router supports VPN tunnel creation using IPsec, OpenVPN and L2TP to ensure safe communication. Web interface provides statistics about router activities, signal strength, detailed log, etc. Cellular router supports functions: DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS and many other functions.

Other diagnostic functions ensuring continuous communication include automatic inspection of PPP connection offering an automatic restart feature in case of connection losses, and hardware watchdog which monitors the status of the router. With the help of a start up script window you may insert Linux scripts for various actions and, for some applications the option to create several different configurations for one 3G wireless router, profiles (maximum of 4), and the option to switch between them (for example via SMS, binary input status, etc.). Cellular wireless routers can automatically upgrade configuration and firmware from server. This allows mass reconfiguration of multiple routers at one time.

SELECTED APPLICATIONS

Transportation and security
IT and communication
Self-service terminals
Energy and power industry
Metrology, alarm and warning systems

ORDERING INFORMATION

Note: Check with your local distributor for availability and options. Contact Advantech B+B SmartWorx distributors.

BB - UR2X61XXXX

	Accessories	
	0	No Accessories (DIN holder included)
	1 (set)	Accessories with EU power supply
	2 (set)	Accessories with UK power supply
	3 (set)	Accessories with Australia power supply
	4 (set)	Accessories with US power supply
	Enclosure	
	1	Plastic enclosure
	2	Metal enclosure
	PORT2 (Full version only)	
	0	No expansion port
	1	ETH
	2	RS232
	3	RS485
	4	RS422
	5	M-BUS
	6	CNT (4× BI, 2×, 1×BO) - I/O port
	7	WiFi
	8	WMBUS (Wireless M-BUS)
	PORT1	
	0	No expansion port
	1	ETH
	2	RS232
	3	RS485
	4	RS422
	5	M-BUS
	6	CNT (4× BI, 2×, 1×BO) - I/O port
	9	Switch
Router version		
B	Basic	
F	Full	

Please note: Isn't possible to have in the router all combinations of the ports. Please check your chosen variant with your local distributor.

All product specifications are subject to change without notice.

DS_UR5iv2_21032017

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SPECIFICATIONS

FIXED INTERFACES - BASIC VERSION	
1× Ethernet	10/100 Mbits, independent or bridged
1× SIM	SIM Card
1× I/O	Binary input/output
1× USB	USB 2.0 Host, Type A
OPTIONAL INTERFACES	
1× PORT 1	Ethernet (10/100Mbps), RS232, RS422/485, M-BUS I/O Input/Output, Ethernet Switch (with PORT 2)
ANTENNA CONNECTORS	
2x SMA – 50 Ohm	

FIXED INTERFACES - FULL VERSION	
1× Ethernet	10/100 Mbits, independent or bridged
2× SIM	SIM Card
1× I/O	Binary input/output
1× USB	USB 2.0 Host, Type A
OPTIONAL INTERFACES	
1× PORT 1	Ethernet (10/100Mbps), RS232, RS422/485, M-BUS I/O Input/Output, Ethernet Switch (with PORT 2)
1× PORT 2	RS232, RS422/485, M-BUS, WMBUS, WiFi Ethernet Switch (with PORT 1)
1× Optional	2nd SIM card holder ("F" router versions)
ANTENNA CONNECTORS	
3× SMA – 50 Ohm	

POWER	
Source	9 - 36 VDC
Consumption	Idle - 2.6 W GPRS - to 3.5 W (GPRS transmission) UMTS - to 5.5 W (LTE transmission)

MECHANICAL	
Dimension Plastic Version	51 x 87 x 116mm
Dimension Metallic Version	42 x 87 x 113mm
Protection	IP30
Weight Plastic Version	150g
Weight Metallic Version	280g

ENVIRONMENTAL	
Operating Temperature	-40 to +75°C
Storage Temperature	-40° to +85°C
Humidity	Operating - 0 to 95% relative humidity non condensing Storage - 0 to 95% relative humidity non condensing

WIFI *optional ("F" router versions)	
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

GPS SPECIFICATIONS *GPS is not available when the router is equipped with the LTE module 450 MHz!	
Antenna	50 Ohms – active
Protocols	NMEA 0183 v3.0
Frequency	1575.42MHz
Sensitivity	Tracking: -161dBm Acquisition (Assisted): -158dBm Acquisition (Standalone): -145dBm
Acquisition time	Hot start: 1 s Warm start: 29 s Cold start: 32 s
Accuracy	Horizontal: < 2m (50 %); < 5m (90 %) Altitude: < 4m (50 %); < 8m (90 %) Velocity: < 0.2 m/s

CPU & MEMORY	
CPU	32b ARM microprocessor, 0.25 DMIPS per MHz
Flash memory	16 MB DDR SDRAM
RAM	64 MB
M-RAM	128 kB

I/O PORT (CNT)	
Binary input	Reed contact with trigger level 1.3 up to 1.4 V
Binary output	100 mA/ max. 30 V

PARAMETERS - HSPA+ module	
HSPA+	Bit rate 14,4 Mbps (DL) / 5,76 Mbps (UL) 3GPP rel. 6/7 standard Data compress 3GPP
UMTS	Bit rate 384 kbps (DL) / 384 kbps (UL) 3GPP rel. 4 standard
GPRS/EDGE	EDGE bit rate 237 kbps (DL) / 237 kbps (UL) GPRS bit rate 85,6 kbps (DL) / 85,6 kbps (UL) Multislot class 12, CS 1 to 4, 3GPP rel. 99/4 standard
Support channels	GSM/GPRS/EDGE: Quad band, 850/900/1800/1900 MHz UMTS/HSDPA/HSUPA/HSPA+: Five band, 800/850/900/1900/2100 MHz

STANDARDS/REGULATION	
Telecom and Emission	ETSI EN 301 511 V12.5.1, ETSI EN 300 440 V2.1.1, ETSI EN 301 908-1 V11.1.1, ETSI EN 301 908-2 V11.1.1, ETSI EN 300 328 V2.1.1, ETSI EN 300 220-2 V3.1.1
EMC	ETSI EN 301 489-1 V2.1.1, ETSI EN 301 489-3 V2.1.1, Draft ETSI EN 301 489-52 V1.1.0, ETSI EN 301 489-17 V3.1.1
Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 + AC:2011, EN 62311:2008
E-Mark – EMC for devices in transportation	E-Mark homologation number: 10R – 04 7054

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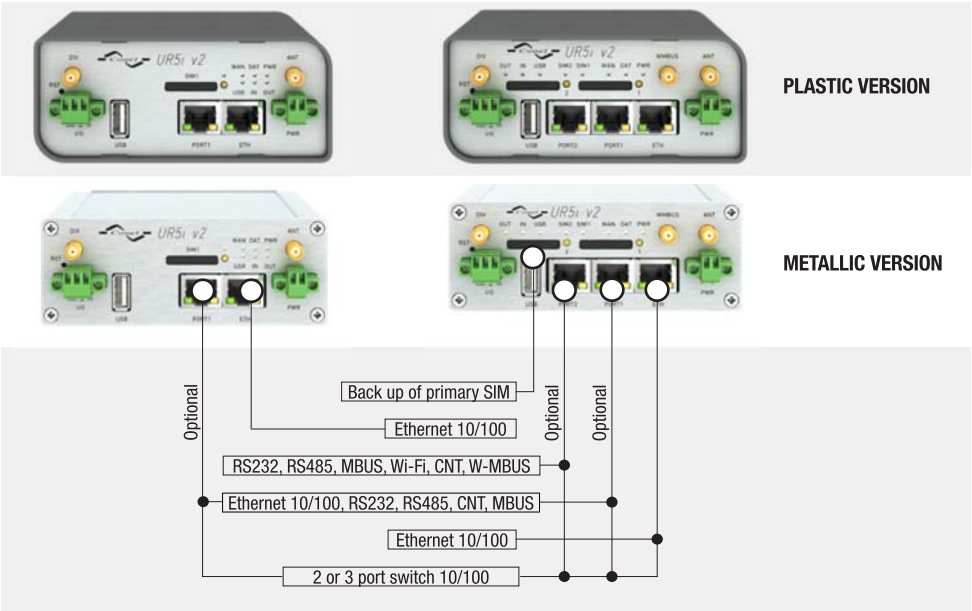
SOFTWARE FEATURES
Linux based, possibility to program your own application
NTP client, NTP Server – time synchronization
SMS communication – AT commands on RS232, Ethernet and I/O
M-RAM memory inside – router statistic´s saving into memory
NETWORKING
DHCP – automatic IP addressing in LAN network
NAT/PAT – IP address and ports translation between inside/outside network
VRRP – virtual backup router function
DynDNS client – access to the router with a dynamic IP address
Dial-in – the ability to communicate over dial CSD call
PPPoE Bridge – PPP frames encapsulation inside ETH frames
DMZ - via iptables
VPN TUNNELING
IPsec, OpenVPN, L2TP – secure encrypted tunnels
CONFIGURATION AND DIAGNOSTIC
HTTP server – configuration via web server
Telnet – configuration and access to the file system
SNMP – router diagnostics, communication with I/O and M-Bus
GPRS state signalization by LED
On-line info on GSM signal status (level, cell, neighbors)
SMS info – power on, GPRS connection or disconnection
SMS control – on/off GPRS connection, switch SIM, I/O etc.
Transferred data counting, one more APN as backup
Remote router group configuration change, switching among configuration profiles
SSH – encrypted configuration and access to the file system

BASIC VERSION
1× SIM card holder, 1× optional port (PORT1)

FULL VERSION
2× SIM card holder, 2× optional port (PORT1,2)



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ACCESSORIES

ORDER CODE	DESCRIPTION	INCLUDED IN PACKAGE	INCLUDED IN SET PACKAGE	SOLD SEPARATELY
BB-SBD40	Metal DIN holder for Metal versions of routers v2	✔	✔	✔
BB-CPD2-G	Plastic DIN holder for Plastic versions of routers v2	✔	✔	✔
BB-TG.09.0113	Antenna GSM/UMTS stick 2dB - Penta-band, SMA-M connector		✔	✔
BB-AO-AUMTS-M3S	Antenna GSM/UMTS magnetic 3dB - Quad-band, 3m cable, SMA-M connector		✔	✔
BB-AO-AGSM-MG9S	Antenna GSM/UMTS magnetic 9dB - Quad-band, 3,5m cable, SMA-M connector			✔
BB-AW-A24G-M5SRP	Antenna WiFi stick 5dB, SMA-RP connector		✔	✔
BB-AP-AGNSS-SMA	Antenna GPS/GLONASS, active (3V), magnetic, 33 - 34dB, 3m cable + SMA connector			✔
BB-KD-ETH	Ethernet cross cable 1.5m		✔	✔
BB-CON-WR3	3-pin terminal block for I/O	✔	✔	✔
BB-CON-WR2	2-pin Terminal block for Power Supply	✔		✔
BB-RPS-v2-WR2-EU	Power supply with WR connector (2 pins) - 12V/1A - EU plug		✔	✔
BB-RPS-v2-WR2-US	Power supply with WR connector (2 pins) - 12V/1A - US plug		✔	✔
BB-RPS-v2-WR2-UK	Power supply with WR connector (2 pins) - 12V/1A - UK plug		✔	✔
BB-RPS-v2-WR2-AUS	Power supply with WR connector (2 pins) - 12V/1A - AUS plug		✔	✔
Quick Start Guide		✔	✔	

R-*SEE*NET™

Router Management Software consisting of two parts:

R-SeeNet Server application can be programmed to automatically send SNMP queries (Simple Network Management Protocol) to each router defined in the network. The application retrieves status information from the routers and records it in the SQL database.

R-SeeNet PHP is a web-based application that accesses the SQL database and provides the network administrator detailed information on individual routers and network health.

SMARTWORX HUB™

SmartWorx HUB takes management of your devices to new levels of flexibility and efficiency. Giving you a complete view of your installed device population, SmartWorx Hub delivers invaluable configuration, diagnostic and management facilities directly to your desktop, wherever you are.

Manage a single device or your entire device population at the same time. Whether you need to modify configuration parameters, download or upgrade installed firmware and applications or view detailed information regarding network statistics, you can do it all from any location.

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