Industrial Automation - Products & Configurations

RK21-ET BASIC SYSTEMS > note 1		POWER [W]
RK21-ET 3G	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **2G/3G/3G+ modem** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +60°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	10
RK21-ET 4G/LTE	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **2G/3G/4G modem** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +70°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	10
RK21-ET 4G/LTE-AM	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **2G/3G/4G modem "AM" version** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +70°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	10
RK21-ET WiFi	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **WiFi module** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +60°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	7
RK21-ET 3G WiFi	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **2G/3G/3G+ modem ▪ WiFi module** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +60°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	11
RK21-ET 4G/LTE WiFi	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **2G/3G/4G modem ▪ WiFi module** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +60°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	11
RK21-ET 4G/LTE-AM WiFi	ARM i.MX 7Dual, Cortex A7 1 GHz dual core ▪ 1 GB RAM ▪ 8GB eMMC ▪ **2G/3G/4G modem "AM" version ▪ WiFi module** ▪ without antenna ▪ ASEM UBIQUITY ROUTER runtime ▪ Extended temperature range -20° ÷ +60°C ▪ DIN-RAIL BOOK mounting o WALL BOOK mounting ▪ 12 months warranty	11
REMOTE ASSISTANCE	ASEM UBIQUITY Router runtime	-

OPTIONS		POWER [W]
3G ANTENNAS	2G/3G/3G+ magnetic antenna with **2mt** cable ▪ panel mount ▪ 50W, 50 Ohm ▪ 116mm Φ29,5mm ▪ SMA-M	-
3G / 4G ANTENNAS	2G/3G/4G stilo steerable antenna ▪ RK21 direct mount or panel mount using extention cable ▪ 10W, 50 Ohm ▪ 72mm ▪ SMA-M	-
	2G/3G/4G wall-mount antenna with **3mt** cable ▪ wall mount with 90° bracket ▪ IP67 ▪ 2W, 50 Ohm ▪ 250mm ▪ SMA-M	-
	2G/3G/4G outdoor antenna with **1mt** cable ▪ outdoor panel mount ▪ IP67 ▪ 5W, 50 Ohm ▪ h48mm x Φ50mm ▪ SMA-M	-
CABLES >note 2	**3mt** extension cable for antennas ▪ RG58/U low loss cable ▪ IP20 ▪ SMA-M/F	-
	5mt extension cable for antennas ▪ RG58/U low loss cable ▪ IP20 ▪ SMA-M/F	-
	10mt extension cable for antennas ▪ RG58/U low loss cable ▪ IP20 ▪ SMA-M/F	-
WiFi ANTENNAS	Kit for two WiFi BLADE dual band steerable antennas ▪ RK21 direct mount or panel mount using extension cable ▪ omnidirectional, 3W, 50 Ohm ▪ 157mm ▪ RP-SMA-M	-
	Kit for two WiFi STILO dual band steerable antennas ▪ RK21 direct mount or panel mount using extension cable ▪ omnidirectional, 2W, 50 Ohm ▪ 194mm ▪ RP-SMA-M	-
WiFi CABLES >note 2	Kit for two **3mt** extension cables for WiFi antenna ▪ LMR-200 low loss cable ▪ IP20 ▪ RP-SMA-M/F	-
	Kit for two **5mt** extension cables for WiFi antenna ▪ LMR-200 low loss cable ▪ IP20 ▪ RP-SMA-M/F	-
	Kit for two **10mt** extension cables for WiFi antenna ▪ LMR-200 low loss cable ▪ IP20 ▪ RP-SMA-M/F	-
WARRANTY EXTENSION	Warranty extension to 18 months on basic system and its variants	
	Warranty extension to 24 months on basic system and its variants	
	Warranty extension to 36 months on basic system and its variants	

NOTES

For power consumption calculation we reccomend to read the tips on pg. 4. The power values does not include the absorbed power of USB devices connected to the ports.

1: Price does not include ASEM UBIQUITY DOMAIN that must be purchased one-off at the first order of a license or system that includes the UBIQUITY runtime. See pg.222

2: The efficiency of the antennas and the extension cables is dependent on the quality of the radio frequency signal present at the installation site therefore we suggest not to use more than one extension cable between the antenna and the router.

TECHNICAL SPECIFICATIONS	
Case	Aluminium, DIN-RAIL BOOK MOUNTING, WALL BOOK mounting kit included
Overall dimensions & weight	See details on the related section
Software Remote assistance	ASEM UBIQUITY ROUTER runtime
Features	VPN with access to the Ethernet (LAN) subnetwork of the Ubiquity Router
	Serial port virtualization; MPI protocol not supported
	Multiple connection from different Control Center with different VPN for each client
VPN Technology	Proprietary VPN technology optimized for industrial communication protocols with complete access to the Ethernet remote sub-network. Support for UDP broadcast. No need to reconfigure remote network devices. The service computer uses real IP in the IP address space of the remote network.
Security	Secure and protected communication by TLS encrypted connections
Power supply	Input voltage 9÷34V DC ▪ Power supply section integrated on board
Motherboard	ASEM R371
Processor	ARM i.MX 7Dual multicore Heterogeneous ▪ Cortex A7 1 GHz dual core, 533 MHz system memory bus
System memmory	1GB DDR3L soldered on board
Storage memory	eMMC MLC 8GB (Solid State Disk), 8bit file system organization
Frontal access interfaces	1 x Ethernet 10/100/1000 Mbps (RJ45) for LAN connection
	1 x Ethernet 10/100/1000 Mbps (RJ45) for WAN connection
	1 x USB 2.0 (Type-A / host)
	1 x RS-232/422/485 (DB9M) multiprotocol, isolated
Digital Input IN0	Security key input for WAN connection activation. Function managed by Control Center. Disabled by default.
IN1	UBIQUITY Router software reset input
Type	0÷24V DC, 500V isolation
Digital Output OUT0	UBIQUITY Router authenticated on Domain and WAN remote connection enabled signalling
OUT1	Remote assistance service running
Type	Output with relay 200mA@24V DC max for contact (N.O. - normally open)
Buttons	UBIQUITY Router hardware reset
	UBIQUITY Router factory default restore
Approvals	CE (EN 55022, EN 61000-3-2/3, EN 55024, EN 60950-1) ▪ RED pending ▪ cULus LISTED (UL 61010) pending
Protection grade	IP20
Environmental specifications	Operating temperature: -20° ÷ +70°C, -20° ÷ +60°C with WiFi or 3G modem ▪ Storage temperature: -30° ÷ +80°C ▪ humidity: 80% (non-condensing)
Standard warranty	12 months ▪ Warranty management by ASEM headquarters
Only for RK21-ET WiFi	
Module Tipo	Half Mini PCIe module
Standard	IEEE 802.11a/b/g/n ▪ 2.400÷2.4835GHz / 5.15÷5.85GHz ▪ Data rate 802.11b: 11Mbps / 802.11a/g: 54Mbps / 802.11n: 300Mbps
Features	client / access point
Security	WPA2
Rx Sensitivity	802.11a: -73dBm / 802.11g: -74dBm / 802.11n(2,4GHz): -72dBm@HT20, -69dBm@HT40 / 802.11n(5GHz): -69dBm@HT20, -68dBm@HT40
Antenna	1 x RP-SMA-F connector ▪ no antenna included
For RK21-ET 3G only	
Modem Type	2G/3G/3G+ EDGE/HSPA quadriband modem up to 5,76Mbps upload / 21,6Mbps download
Bands	UMTS/HSPA+: B1/B2/B5 ▪ GSM/GPRS/EDGE: 850/900/1800/1900 MHz
Antenna	1 x SMA-F connector ▪ no antenna included
For RK21-ET 4G/LTE only	
Modem 4G/LTE Type	2G/3G/4G LTE pentaband modem up to 50Mbps upload / 100Mbps download
Bands	FDD-LTE: B1/B3/B7/B8/B20 ▪ TDD-LTE: B38/B40 ▪ UMTS/HSPA+: B1/B8 ▪ GSM/GPRS/EDGE: 900/1800 MHz
Antenna	1 x SMA-F connector ▪ no antenna included
Modem 4G/LTE-AM Type	3G/4G LTE quadriband modem up to 50Mbps upload / 100Mbps download
Bands	FDD-LTE: B2/B4/B5/B17 ▪ UMTS/HSPA+: B2/B5
Antenna	1 x SMA-F connector ▪ no antenna included

MODEM AND NETWORK COVERAGE	

Note: please consider that the following information are given for guidance only. Mobile networks coverage and supported frequencies have to be verified with local providers in the installation area.

		RK21 3G	RK21 4G/LTE	RK21 4G/LTE-AM
3G	Europe	✓	✓	-
	North/Latin America	✓	-	✓
	Asia	✓	✓	-
	Africa&Oceania	✓	✓	-
4G/LTE	Europe		✓	-
	North America		-	✓
	Latin America	n.a.	✓	✓
	Asia		✓	-
	Africa&Oceania		✓	-

DIMENSIONS (mm)

DIN-RAIL BOOK MOUNTING
default

WALL BOOK MOUNTING

Ø4.5
Ø9
7
164
186
34
15.3

146
73
73
46.4
129
13.4

MODEM 3G/4G
WiFi
RESET
RUN/STOP
COM Rx

POWER
REMOTE CONNECTION
COM Tx

USB 2.0

WAN

LAN

1 x RS232/422/485
isolated

HARDWARE RESET BUTTON
RESTORE FACTORY DEFAULT BUTTON

3G/4G MODEM ANTENNA
WiFi ANTENNAS

POWER
DIGITAL INPUT / OUTPUT

DC INPUT	
3	1
1	Vin +
2	Vin -
3	EARTH

DIGITAL IN / OUT							
8							1
1			IN 0 +				
2			IN 0 -				
3			IN 1 +				
4			IN 1 -				
5							
6			OUT 0				
7							
8			OUT 1				

3G, 4G/LTE and WiFi ANTENNAS INSTALLATION

STILO
direct mount

STILO/BLADE + CABLE
panel mount

MAGNETIC
panel mount

WALL-MOUNT
with 90° bracket

OUTDOOR
panel mount

3mt
5mt
10mt

2mt *

3m

1mt

*it is possible to add 3, 5 or 10mt extention cables