INSYS icom

IoT is now.

Discover our IoT QuickStart Kit!
Secure your plants, make them fast and future-proof!

MADE IN GERMANY

www.insys-icom.com

Experience the power of industrial IoT!

Get IoT QuickStart Kit now!

Secure your plants and make them fast and future-proof by connecting machines with ERP, SCADA or MES systems, processing data and obtaining in this way the best solution for monitoring and maintaining your factories and facilities.
Learn how to save production costs, optimize processes and extend the durability of your machines. IoT is now!

Introducing the IoT QuickStart Kit

The IoT QuickStart Kit from INSYS icom is a fantastic tool to make the first step into Internet of Things.
This full package allows you to realize a quick entry into industrial applications such as data acquisition, edge computing and remote maintenance.

In this special kit we offer our Smart IoT Gateway solution consisting of our robust VPN router ECR-LW300 and a complete scalable software package for device connection, data processing, administration, operation and maintenance.

Tested by our R&D and QA team all our hardware and software components are perfectly matched to each other to ensure a worry-free and durable application in the field. Indeed, this vertical integration is one of our USPs which has convinced our customers operating in critical infrastructural environment for more than 25 years – a fact which fulfills us with proud.

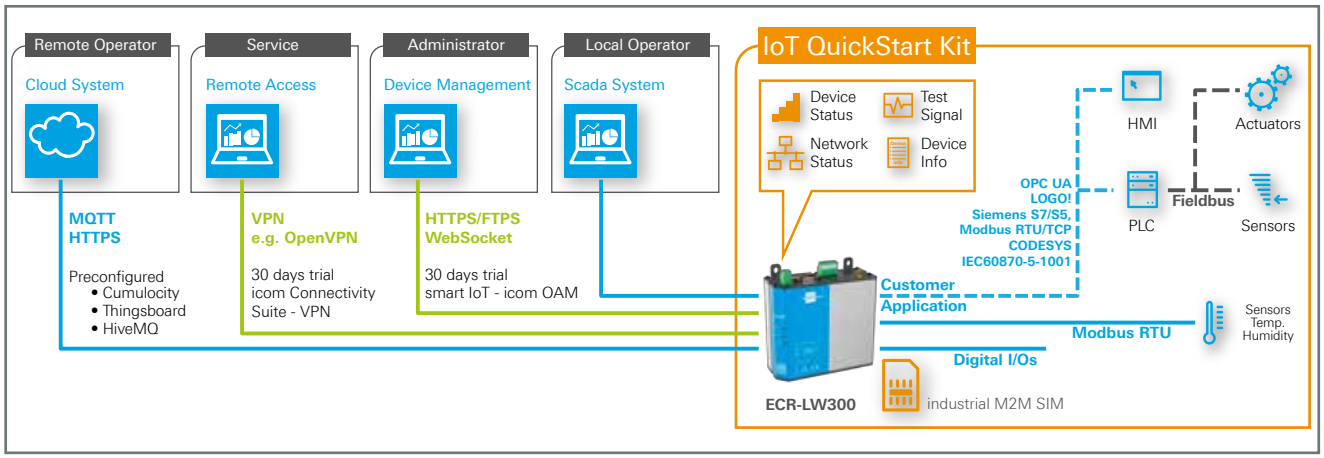
The package is rounded off with carefully selected high quality accessories such as antennae for Wi-Fi and 4G/3G/2G industrial M2M SIM card, a Modbus sensor for temperature and humidity and a power supply adapter.

All devices are pre-configured, so that you can install the QuickStart Kit in a few minutes and experience how fast industrial IoT can become your reality.

And now comes the best: With this special IoT kit INSYS icom offers one hour of free consulting to help you implement your IoT project for your individual industrial application.

And all this at an unbeatable price: Secure your personal QuickStart Kit now!

The all-in-one-solution for industrial IoT applications



Delivery content

Hardware & Software: IoT Gateway

- 1 industrial 4G/Wi-Fi VPN-Router ECR-LW300
- icom Data Suite – all inclusive package
- 30 days trial access to Device Management Service OAM and icom Connectivity Suite - VPN
- M2M SIM-Card: 30 days trial - 80 MB (EU) incl.

Accessories

- 1 power supply adapter
- 1 4G/3G/2G antenna
- 1 magnetic antenna
- 1 temperature/humidity sensor

Special Customer Service

- 1 hour individual application consulting
- additional online support for commissioning as well as further configuration examples

https://docs.insys-icom.de/iot

Our package contains:

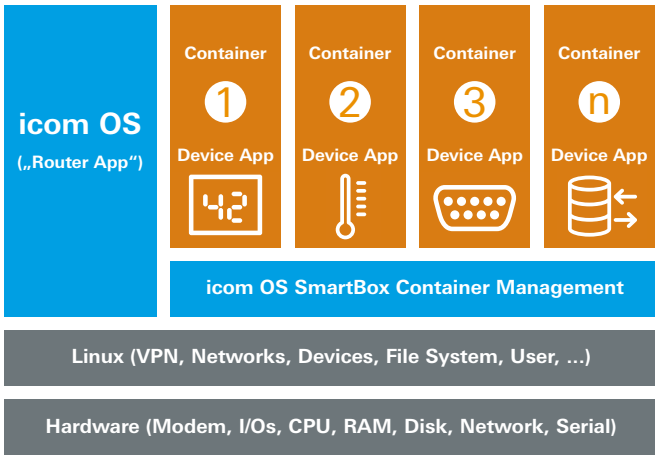
- completely pre-configured hardware and accessories
- software package scalable up to € 910, e.g.:
  - Application Connector Modbus RTU/TCP
  - Premium Add On MQTT
  - Destination Connector Cumulocity
  - Gateway OPC UA Server
- special rate for 1 hour application consulting

€ 999

IoT QuickStart Kit – icom Smart Box

Extended Flexibility with EDGE Computing

More info >>



The use of our open EDGE Computing framework „icom Smart-Box“ will extend the flexibility of our IoT Gateways by far:

- Create/Use apps from yourself, 3rd party or INSYS icom
- Secure separated Apps (from each other and to icom OS)
- State of the Art CPU (ARMv7, TI Sitara AM3352)
- Open for different programming languages (e.g. C/C++, Java, Go, scripts (shell, phython)
- Demo Container available for quick start
- SDK with build examples and toolchain available
- Install IoT/Cloud SDKs e.g. Microsofte Azure, AWS
- Time to market
  - Rely on Connectivity & Security of icom OS
  - concentrate on your business logic
  - Port ready applications from e.g. Raspberry Pi within minutes

Technical Data
IoT QuickStart Kit

Industrial 4G/Wi-Fi VPN-Router / IoT Gateway ECR-LW300

Mobile communication ECR-L	
Frequency bands, data rates ECR-LW300	4G/LTE [1]: 700, 800, 900, 1.800, 2.100 MHz (bands 1, 3, 8, 20, 28), LTE Cat. 1 (DL: max. 10.2 Mbps, UL: max. 5.2 Mbps) 3G/UMTS/HSPA: 900, 2.100 MHz (bands 1, 8), HSDPA/HSUPA (DL: max. 7.2Mbps, UL: max. 5.7Mbps) 2G/GPRS/EDGE: 900, 1.800 MHz; GPRS/EDGE Class 12 (DL: max. 85.6 kbps, UL: max. 85.6 kbps)
Frequency bands, data rates ECR-LW320 (Australia)	4G/LTE: 700, 850, 900, 1.800, MHz (bands 3, 5, 8, 28), LTE Cat. 1 (DL: max. 10.2 Mbps, UL: max. 5.2 Mbps) 3G/UMTS/HSPA: 850, 900, 2.100 MHz (bands 1, 5, 8), HSDPA/HSUPA (DL: max. 7.2Mbps, UL: max. 5.7Mbps)
Antenna connection	1x SMA female
SIM	Dual SIM: 2 slots for Mini-SIM cards (2FF), locked
Wi-Fi communication	
Standard	IEEE 802.11 b/g/n
Frequency, output power	2.4 GHz, max. 100 mW
Wi-Fi modes	Wi-Fi station (client), Wi-Fi access point with up to 10 stations at the same time
Security	WPA/WPA2 (AES, TKIP), 802.1X (EAP: TLS, TTLS, PEAP)
Antenna connection	Reverse SMA male
Router	
Function	Up to 5 IP local networks (LAN) or as WAN with both, DHCPv4 and DHCPv6 clients, with static IP addresses, VLAN incl. tags and trunk ports; SLAAC, router advertiser, own DHCPv4 and DHCPv6 server per IP network; static routing, configurable routing priority; dynamic routing OSPF, BGP, RIP, RIPv2, RIPng; net filters: D-NAT, S-NAT, IP/port forwarding, netmapping, DNS relay, dynDNS support
Security	OpenVPN (client and server), IPsec, GRE (incl. multi-port), DMVPN, IP filters (stateful firewall) also in VPN tunnel, several VPN tunnels in parallel possible, MAC filters, PPTP server
Redundancy	WAN chains: several WAN accesses configurable (prioritised and event-controlled), WAN groups: parallel operation of WAN interfaces or VPNs, several OpenVPN servers, dual SIM for redundancy; provider redundancy when using a multi roaming SIM card (see chapter “suitable accessories”)
Ethernet switch, interfaces	
Ports	2x RJ45, 10/100 MBit/s, full/half-duplex, auto MDI-X, 1.5 kV isolation voltage
Function	Each port can be freely assigned to the IP networks, Link up/down detection, configuration port
Inputs/outputs	2 digital inputs, high-active (as per EN 61131-2, Type 1), 2x open drain outputs (24 V/100 mA)
Events (selection)	Change: input, Ethernet port, WAN chain, profile, supply input, cellular field strength; timer expiry, firewall violation, login attempt detection, pulse sequence at digital input, counter
Event-controlled actions (selection)	Messages via e-mail, SMS (only cellular variant), SNMP traps, MCIP; switching profile, switching connection, changing modem state, starting timer, switching output or pulse sequence, activating firmware, reset, restart SmartBox container
Serial interface	
RS232 (Serial1)	1 x RS232 / D-Sub-9 (m)
RS485 (Serial2)	Terminal connector (D+, D-, GND)
Functions	Serial-Ethernet gateway (incoming and outgoing connections, Modbus TCP/RTU gateway, modem emulation, editable AT answer list, phone number conversion to IP addresses)
Operation	
Wizards	Configuration of connection incl. VPN, adding LAN networks, quick start of icom Connectivity Suite – VPN
Help	Web interface with inline help texts, online help, FAQ, exemplary profiles, plausibility check
Configuration	Local and remote web interface (http, https; with session management), command line interface (CLI), Telnet, SSH, ASCII and binary file (also for backup), configuration management with switchable profiles (event-controlled)
Indications (LEDs)	Power, WAN (Internet connection), Signal (for cellular radio)
Authentication	Several users, different user roles and rights, certificate-based authentication with revocation list
Diagnostics	SNMP traps and agent, configurable system logs, remote syslog, support packet, help functions Diagnosis tools: ping, tcpdump, traceroute, DNS lookup, AT commands
Firmware updates	Incremental, fail-safe, automated via update server (http, ftp, https, ftps)
System clock	NTP client and server, real time clock

Technical Data
IoT QuickStart Kit

Edge Computing	
icom SmartBox	Linux programming environment: creation of LXC containers for programs and scripts (apps), ARMv7 CPU, 448 MB RAM, 3 GB flash memory
Supply	
Voltage	12 ... 24 V DC (± 20%)
Terminals	2-pin terminal connectors, rigid/flexible conductors up to 1.5 mm²
Power consumption	Cellular radio variant: typical approx. 3.0 W, max. 7.0 W LAN variant: typical approx. 2.5 W, max. 4.0 W Sleep mode: typical approx. 65 mW
Sleep mode	Sleep mode: Energy conservation mode with event-triggered activation, stopping via timer, reset or re-establishing supply
Ambient conditions	
Dimensions (W × H × D)	105 × 90 × 42 mm
Mounting	DIN rail mounting and wall mounting Horizontal pitch when mounting on DIN rail: 2.5 units / 42 mm (control cabinet) or 6 units / 105 mm (small distributor)
Operating temperature	-30...+75 °C [2]
Humidity	0...95 % (non-condensing)
Protection class	Housing: IP40, terminals: IP20
Approvals & Standards	
Certifications	CE
EMC	Emission: EN 55032 Class B; Immunity: EN 61000-6-2, EN 55024
Safety	IEC 62368-1
Environmental conditions	Temperature tests as per EN 60068-2-1, EN 60068-2-2, EN 60068-2-14, EN 60068-30
Mean lifetime	MTBF > 770.000 h (25°C), used standard SN 29500 (according IEC 61709)

1 Please check the availability of the LTE frequencies in the planned operating area. Above specified frequencies are currently used in Europe, Middle East, Africa.
2 +70...+75 °C under restricted conditions (refer to www.insys-icom.com/restricted) and, to some extent, in the Asia-Pacific region, Australia and South America.

icom Data Suite – All inclusive Package

More info about data specs >>

Basic Functions	Administration, Event-/Action Handler, Timer, Flags, SMS, E-Mail, Digital Inputs, Digital Outputs, Dashboard, Logic, CLI, Lua, REST API, Remote System Logs
Application Connectors	System Status, Generic Serial, Modbus TCP/RTU, Siemens S5/S7, Siemens LOGO!, CODESYS, IEC 60870-5-101 Master, OPC UA Client
Destination / Cloud Connectors / Gateways	Cumulocity, Cloud of Things, MQTT, IEC 60870-5-104 Server , Modbus TCP/RTU Slave, OPC UA Server
Premium AddOns	Arithmetics, Basic Aggregation
Data Points included	1000

Technical Data
IoT QuickStart Kit

icom Connectivity Suite – VPN (30 days trial)

More info about data specs >>

Device Management	Integrating, managing and deleting routers and other OpenVPN-capable devices, status information
Configuration and Certification Handling	Creating configuration files and certificates including automated certificate updates
Group Management	Assigning devices to groups incl. connection control within and between groups
Advanced Group Management	Restricting connections to protocols, devices or ports
Network Monitoring	Monitoring the availability of individual routers integrated in the VPN network and downstream devices and Applications
Web Proxy	Read or write access to http based user interfaces within the VPNs by devices that are not part of the VPN itself
Log Files	Logging all actions within the VPN and providing them for download
SIM Management	Managing INSYS icom Premium M2M SIM cards and plans
Quick Start für INSYS Smart Devices	Quick start, automatic integration and certificate transmission
Hosting	VPN as a Service Hosting in German, ISO 27001 certified data center

icom Connectivity Suite – M2M SIM (30 days trial)

More info about data specs >>

Multi Roaming	Unsteered Roaming (SIM card connects to best local network)
Flexible Pooloing	All included volumes of SIM cards within one rate plan form a shared pool from which each card consumes what it needs
Smart Cost Control (optional)	Each card (except basic plans) starts in the lowest rate plan each month. Card changes to the next higher plan until it will be deactivated automatically with exceeding the cost limit of 1.5 GB
Cost Limit	Automatic deactivation of a card exceeding 1.5 GB Traffic (500 MB for „Basic“ rate plans)
SIM Management Portal	Monitor Status and Traffic of SIM cards, Change rate plan and status of SIM cards. Assign cards to devices
Rate Plans	Basic rate plans D, EU, World (without included traffic) Rate plans D, EU with included traffic 10 MB, 80 MB, 300 MB, 1 GB

for IoT QuickStart Kit – Rate Plan 80 MB EU is activated and fix; SIM card will be deactivated when reaching 80 MB or sending > 50 SMS.

Technical Data
IoT QuickStart Kit

Smart IoT – icom OAM (30 days trial)

More info about data specs >>

Device Management	Integrating, managing and deleting devices, status information
Update Jobs	Create, process and manage update jobs for firmware, configuration and certificate updates
Audit Logs	Logging all actions within OAM and providing them for download
Hosting	OAM as a Service Hosting in German, ISO 27001 certified data center

Accessory

Power Supply	12V, 1.25 A, with wire end sleeves
Magnetic Antenna 2G/3G/4G	700/800/850/900 MHz, 1.700/1.800/1.900/2.100/2.600 MHz (incl. US frequency bands) Gain: max. 2.4 dBi, Mounting: magnetic mount, Dimensions: 72 mm x 31 mm (H x W) cable: RG174, cable length: 3 m, connector: SMA (m), Protection class: IP65
Magnetic Antenna Wi-Fi	Wi-Fi according to 802.11 b (2.4 GHz) Gain: max 1.6 dBi, Mounting: magnetic mount, Antenna height: 71.5 mm, Cable length: 1.5 m Connector: rev. SMA (m), Protection class: IP67
Sensor Temperature / Humidity	VCC 9-36 V DC, max. power: 0.3 W, Operating Temperature: -20 … 60 °C, Humidity 0% … 80% RH, accuracy +/- 0.3°C (@25°C), +/-3% RH (@25°C), Interface: RS485, Modbus RTU, 9600 8N1 Dimensions: 60 mm x 30 mm x 18 mm (H X W X D) Cabling: VCC / GND / RS485 A / RS485 B) – with wire end sleeves The enclosed sensor for temperature and humidity is for test and demonstration purposes only. It is not intended to be used in productive applications.
Application Consulting	1 h application consultation through our specialists inclusive; Support via phone, e-mail or remote using Teamviewer; Consultation during setup of INSYS Smart Devices, INSYS Device Apps and INSYS Managed Services; Advice on the connection of 3rd party components (e.g. PLC, Cloud Services) to INSYS components; Consultation regarding use cases and operational scenarios (INSYS components) as well as system concept
Commissioning	Customer specific commissioning of 30 day trial access: icom Connectivity Suite – VPN incl. Webproxy, Smart IoT - icom OAM, icom Connectivity Suite – M2M SIM with rate plan 80 MB EU; install prepared device configuration; enclose sensor for temperature and humidity
Online Manual	Online-Manual for setup as well as extended configuration examples

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