

These short operating instructions apply for the following devices of INSYS icom:

- ECR-LW300
- ECR-LW320



[www.insys-icom.com/manual](http://www.insys-icom.com/manual) ➔



It is intended for a quick commissioning by the operator. Refer to the associated manual for further information. This and other associated manuals can be found on our website in the menu Support > Documentation and Downloads. Scan the QR code above or enter the URL into your web browser.

#### Technical Data

The product is only intended for the use within the permissible technical limits specified in the data sheets. These limits must be observed.

Operating voltage	12 V ... 24 V DC (±20%)	LTE frequencies (4G)	700, 800, 900, 1800, 2100 MHz bands 1, 3, 8, 20, 28 (ECR-LW300)
Power consumption	typ. 3 W, max. 7 W	UMTS/HSPA frequencies (3G)	700, 850, 900, 1800 MHz bands 3, 5, 8, 28 (ECR-LW320)
Level input	HIGH level = 10 ... 24 V LOW level = 0 ... 5 V Contact open condition: LOW	GSM/GPRS frequencies (2G)	900, 2100 MHz, bd. 1, 8 (ECR-LW300) 850, 900, 2100 MHz bands 1, 5, 8 (ECR-LW320)
Current consumption input at HIGH potential	max. 3 mA at 24 V DC	Temperature range	-30 °C ... 70 °C (75 °C extended)
Digital output (open collector), max. load	24 V (DC), 100 mA	Maximum permissible humidity	95% non-condensing
Max. voltage drop of the output in condition ON	< 1 V (DC) at 100 mA load	IP rating	Housing IP40
Output power WLAN (Wi-Fi)	max. 100 mW		

#### Technical Boundaries

Max. line lengths for antennas, power supply, serial interfaces, inputs and outputs as well as other signals: 30 m  
Cable cross-section: 0.25 ... 1.5 mm<sup>2</sup>, flexible lines require end sleeves

#### Support

If you need further support, please contact your sales partner or INSYS icom support. You can contact our support department via e-mail under [support@insys-icom.de](mailto:support@insys-icom.de).

#### Defects Liability Terms

A use other than the intended use, an ignorance of the safety instructions and the documentation, the use of insufficiently qualified personnel as well as unauthorised modifications exclude the liability of the manufacturer for damages resulting from this. The liability of the manufacturer ceases to exist.

#### Intended Use

The product may only be used for the purposes specified in the function overview of the manual. In addition, it may be used for the following purposes:

- Usage and mounting in an industrial cabinet.
- Switching and data transmission functions in machines according to the machine directive 2006/42/EC.
- Usage as data transmission device, e.g. for a PLC.


The product may **not** be used for the following purposes and used or operated under the following conditions:

- Use, control, switching and data transmission in machines or systems in explosive atmospheres.
- Controlling, switching and data transmission of machines, which may involve risks to life and limb due to their functions or when a breakdown occurs.

**A****Router connection**

1. Insert SIM card (Mini-SIM, 2FF) with contacts facing to the front and chamfer facing to the router into "SIM 1" slot
2. Connect antenna to connection LTE (SMA (f)).  
The screen of the antenna system must be connected to the protective conductor when using an outside mounted antenna!
3. Connect supply voltage (12 V ... 24 V DC ( $\pm 20\%$ )) to the terminals V- and V+
4. Connect router (ETH 1) to the configuration PC
5. Connect router (ETH 2) to the network in which your system is located (local application network)

**B****LAN settings of configurations PC (Windows 7)**

- ① If a DHCP client is active on the PC, proceed with step C. Otherwise, either enable the DHCP client or configure a static IP address.
6. Open Network and Sharing Center (e.g.  key and search for "sharing")
7. Select LAN connection and Properties
8. Select Internet Protocol Version 4 (TCP/IP) and Properties

**Enable DHCP client**

9. Obtain an IP address automatically
- ① It is recommended to unplug the network cable briefly and plug it again upon activation of the DHCP client.



**Configure a static IP address**

Use the following IP address (example):


IP address: 192 . 168 . 1 . 2  
 Subnet mask: 255 . 255 . 255 . 0  
 Standard gateway 192 . 168 . 1 . 1  
 Preferred DNS server: 192 . 168 . 1 . 1

- ① Please note the previous values before changing the TCP/IP settings to be able to restore them later.

**C****Web interface access**

10. Enter IP address of the router in address bar of the browser (default: **192.168.1.1**)
- ① If a proxy server is enabled in your browser, this must be disabled or the IP address of the router must be added as exception.
11. Login with *Name* (default: **insys**) and *Password* (**icom**)
12. Open the Inline Help using the button  (Display help text) in the header
- ① The links in the Inline Help lead to the Online Help with further information.
- ① All modified data will only be stored in the opened profile after clicking the *Save settings* button and become effective upon clicking the  (Activate profile) button.

### Configuration as Internet router via cellular radio

13. In Menu Help > Wizards:  Select Startup Wizard

14. Select Internet access via Cellular network (refer to inline help for WAN over Ethernet)

① The following data can be found in the contract documents of your SIM card or can be requested from the provider. The APNs of popular providers can be displayed by clinging on ? .

15. Enter PIN of the SIM card

16. Enter User name and Password for authentication with the provider (must not be empty)

17. Enter Access Point Name (APN)

18. Enter IP address of the local application network

① If the router is to be configured for the **icom Connectivity Suite - VPN** (<https://connectivity.insys-icom.de>), select icom Connectivity Suite – VPN under VPN connection and enter Customer name and Device code (from icom Connectivity Suite – VPN, “My VPN Hub” tab). Then, the IP address in the local network will be assigned by the icom Connectivity Suite - VPN.

19. Click on *Execute wizard*

① The WAN LED flashes **green** during connection establishment; as soon as an Internet connection has been established, it is illuminated **green** and the Signal LED flashes **green**.

① If the web interface of the router does not return upon executing the wizard, click on “Reload” in the browser (or Ctrl+F5).

#### Startup wizard

VPN connection

#### Internet access

☒ Cellular network ☐ WAN over Ethernet

Cellular modem in slot 2:

PIN

User name

Password

Access Point Name  ?

#### Local application network

Description

IP address / Netmask  /

### Configuration of access data

① User name and password for web interface access of the existing user in the default settings must be changed to prevent a manipulation of the configuration by unauthorised persons.

20. Menu Administration > Users: Enter or change User name and Password and select User group "Read/Write"

21. Store settings in profile with *Save settings* and activate profile with 

① A typo during entering or forgetting the configured access data require a reset to default settings to be able to access the router again.

All essential configuration steps are completed with this. Further configuration depends on your specific application. Other frequently required settings are available on the following page.

### Availability of the router upon configuration

- ① The wizard deactivates the configuration network (IP net 1) and assigns ETH1 to the local application network (IP net 2). In addition, it configures the previous default address 192.168.1.1 as additional IP address for IP net 2 that the configuration PC still has access after executing the wizard (if this has not already been assigned in the local application network).

### Using the router as icom Smart Gateway

- ① If the router is to be used as an icom Smart Energy Gateway or icom Smart Machinery Gateway for example, this is the best time now to install the icom Data Suite required for this. A wizard is available for this in the *Help* menu. Refer to the Quick Installation Guide of the icom Data Suite (<https://www.insys-icom.com/manual#icom-data-suite>) or the respective Configuration Guide ([https://docs.insys-icom.de/en\\_icom\\_data\\_suite.html](https://docs.insys-icom.de/en_icom_data_suite.html)).

### Resetting the router

- ① If it is necessary to reset the router during configuration, this is possible without losing the settings.
  1. Menu Administration > Reset
  2. Click on *Reboot device now*

▶ Alternatively, press reset key on the device front once for a short time (soft reset)

### Resetting the router to default settings

- ① If the router is to be reset to default settings, it can be reset to delivery state.
  1. Menu Administration > Reset: check all options
  2. Click on *Reset now*

▶ Alternatively, press reset key on the device front three times for a short time within 2 seconds

### Resetting and initialising the router

- ① If the router is not available any more for any reason, it can be reset and initialised (settings do not get lost).
  1. Press reset key on the device front for at least 3 seconds (hard reset)



The [Inline Help](#) opens upon selecting the button ? (Display help text) and provides helpful information regarding each individual parameter directly in the web interface.

The [Online Help](#) is opened using the links in the Inline Help or in the Help menu in the web interface and provides further information to the respective topics.

The [Configuration Guides](#) are available under <https://docs.insys-icom.de> and provide helpful information regarding the integration of your product into your application.

Hereby, INSYS Microelectronics GmbH declares that herein described device types are in compliance with Directives 2014/53/EU and 2011/65/EU. The full text of the EC Declaration of Conformity is available under [www.insys-icom.com/manual](http://www.insys-icom.com/manual).