**ENGLISH**

# Quick Installation Guide
## MRX DSL

**INSYS icom**

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

- MRX3 DSL
- MRX5 DSL

**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 (redundant) | 12 V … 24 V DC (±20%) | Supported DSL standards | VDSL2 G.993.2 Profile 8a, 8b, 8c, 8d, 12a, 12b, 17a. 30a VDSL2 Vectoring G.993.5 |
| Power consumption | approx. 6 W fully equipped: max. 20 W | Supported DSL standards [A] | ADSL G.992.1 Annex A, G.992.3. Annex A/L/M, G.992.5 Annex A and M, T1.413 |
| Level input IN1 | HIGH level = 2 ... 24 V LOW level = 0 ... 1 V Contact open condition: HIGH | Supported DSL standards [B] | ADSL G.992.1 Annex B, G.992.3. Annex B, G.992.5 Annex B and J |
| Current consumption input IN1 at LOW potential | typ. 0.1 mA when connecting to GND | Real-time clock (RTC) buffer time | typ. 2 days |
| Level input IN2 | HIGH level = 10 ... 24 V LOW level = 0 ... 5 V Contact open condition: LOW | Temperature range | 0 °C … 50 °C (-25 °C … 55 °C extended) |
| Current consumption input IN2 at HIGH potential | max. 3 mA at 24 V DC | Maximum permissible humidity | 95% non-condensing |
| | | IP rating | Housing IP40 |

[A] Only for MRX3/5 DSL-A
[B] Only for MRX3/5 DSL-B

## Technical Boundaries

Max. line length for antennas, power supplies, serial interfaces, inputs and outputs as well as other signals: 30 m
Max. line length of USB connection lines: 3 m
Cable cross-section: 0.25 … 1.5 (2.5) mm² (depending on terminal size), flexible lines require end sleeves
A splitter must be connected upstream when connecting to DSL lines in telephone networks like Annex A or Annex B.

## 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.

## 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.

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|---|---|
| **A** | **Router connection**<br>1. Connect DSL connection line with VDSL/ADSL socket<br>2. Connect supply voltage (12 V … 24 V DC (±20%))<br>to the terminals V+$_1$ and GND<br>3. Connect router (ETH 1) to the configuration PC<br>4. Connect router (ETH 2) to the network<br>in which your system is located |

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| **B** | **LAN settings of configurations PC (Windows 7)**<br><br>ⓘ 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.<br><br>5. Open Network and Sharing Center (e.g. ⊞ key and search for "sharing")<br>6. Select LAN connection and Properties<br>7. Select Internet Protocol Version 4 (TCP/IP) and Properties |

**Enable DHCP client**

8. Obtain an IP address automatically

ⓘ 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 |

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

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| **C** | **Web interface access**<br>9. Enter IP address of the router in address bar of the browser<br>(default: **192.168.1.1**)<br><br>ⓘ 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.<br><br>10. Login with *Name* (default: **insys**) and *Password* (**icom**)<br><br>11. Open the Inline Help using the button **?** (Display help text) in the header<br><br>ⓘ The links in the Inline Help lead to the Online Help with further information.<br><br>ⓘ 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 DSL router** |
|---|---|
| **D** | 12. In Menu Help > Wizards: ✨ Select Startup Wizard |
| | 13. Select Internet access via DSL (refer to inline help for WAN over Ethernet) |
| | ⓘ These data can be found in the contract documents or can be requested from the provider. |
| | 14. Select the access mode supported by the provider and enter the appropriate access data |
| | 15. Enter VLAN tag if required |
| | 16. Adjust VPI, VCI and Multiplex according to the specifications of the provider if required |
| | 17. Enter IP address of the local application network |
| | ⓘ 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. |
| | 18. Click on *Execute wizard* |
| | ⓘ The DSL LED flashes **green** during connection establishment; as soon as a connection has been established (Showtime), it is illuminated **green** and blinks **orange** with data transfer. |
| | ⓘ If the web interface of the router does not return upon executing the wizard, click on "Reload" in the browser (or Ctrl+F5). |

Form fields shown:

VPN connection [none ▾]

Internet access

◉ DSL  ○ WAN over Ethernet

DSL modem in slot 2:
Description [_____]

◉ PPPoE    User name [_____]
           Password [_____]

○ DHCP client   Vendor ID [_____]

○ static    static IP address [_____] / [24]
            Default gateway [_____]
            DNS [_____]

VLAN tag [____]
VPI [1]
VCI [32]
Multiplex ◉ LLC  ○ VC-MUX

Local application network

Description [Local LAN]
IP address / Netmask [192.168.2.1] / [24]

| | **Configuration of access data** |
|---|---|
| **E** | ⓘ 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. |
| | 19. Menu Administration > Users: Enter or change User name and Password and select User group "Read/Write" |
| | 20. Store settings in profile with *Save settings* and activate profile with ⚙ |
| | ⓘ 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.

**IP address in configuration network**

ⓘ The IP address of the router in the configuration network does only have to be changed, if the IP address is already used or a different address range is required. Then, the web interface is immediately accessible under the new address.

1. Menu Interfaces > IP net 1: Adjust IP address of the router in configuration network

2. Store settings in profile with *Save settings* and activate profile with ⚙ .

3. Adjust IP settings of the PC for further configuration accordingly, if these are not obtained automatically (see step B)

4. Menu Services > DHCP Server: Adjust address range to the configuration network, if the DHCP server of the router is used

**Using the router as icom Smart Gateway**

ⓘ If the router is to be used as an icom Smart Energy or 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).

**Resetting the router**

ⓘ 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**

ⓘ 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**

ⓘ 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.