

ILD-Box installation

Required tools

- Phillips PH0 screwdriver



Enclosed items

- Camera IO port
- DC12V power adapter



ILD box camera without lens

Remove the rubber sensor protector from the front of the camera.



ILD box camera with lens installed

Install the lens to the camera and plug in the auto iris connector to the side plug of the camera.



Power the camera with PoE

To power the camera with standard PoE (IEEE 802.3af - PoE Class 1) plug one end of the UTP cable to the PoE switch and the other end to the LAN plug in the back panel of the camera. First the status LED turns to yellow. It means the camera is powered but has no IP address. Then the status LED must turn to green. This means the camera is powered and has IP address.

PoE power



The status LED is yellow, the camera is powered



The status LED is green, the camera is powered and has IP address

Power the camera with DC12V

To power the camera with 12V DC install the power plug converter first. Use the screwdriver for fixing the converter. Then plug in the UTP cable to the RJ45 connector and the 12V DC plug to the power plug converter. The status of the LED is the same as the camera is powered with PoE.

PoE power



Assamble the power plug converted

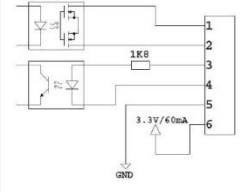
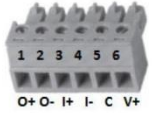



lug in the 12V DC connector to the power plug converter



Assamble camera IO port

Check the description of the camera IO port and connect the wires based on the camera input / output or both has to be used. Use the screwdriver to fix the wires than plug in the IO port to the back of the camera. In the illustration below the camera output is wired.

Camera IO port	
<p>Description of the IO port used on ILD camera series</p>	
<p>OUTPUT Relay (Solid State Relay) contact , polarity independent. It is a „dry“ contact. Pinout: 1, 2 Max. voltage between pin 1 and 2: 50V Max. current: 100mA ON (closed) state resistance: 5 Ohm</p> <p>INPUT Optocoupled input. (It is the LED side of an optocoupler) Pinout: 3 – signal, 4 – common Input HIGH level: 3-30V Input LOW level: 0-2V Input current: 2-25mA (about 1.8kOhm input impedance)</p> <p>AUXILIARY VOLTAGE Auxiliary voltage output (3.3V, 60mA current limited) it can be used to give bias voltage to the input, if the remote device gives dry relay contact. Pinout: 5 – GND, 6 – 3.3V Voltage: 3.3V Max. current: 60mA</p> <p><i>Important notice!</i> If the AUX voltage is used, the galvanic isolation of the camera and the remote device fails.</p>	<p>Internal schematic:</p>  <p>Pinout of the plug:</p> 
<p>Description of the camera IO port</p>	 <p>Camera output is wired</p>

Registering ILD-Box Cameras into the Intellio Management System

To monitor / record the cameras' images first the cameras has to be discovered over the newtork. Each individual camera has its own physical address which is always unique. This Address is called MAC address which is a 6 byte hexa number like: 00-19-B4-00-01-A7. Next to MAC address all network cameras must have IP address to communicate over the Ethernet network with other network devices. All of the network cameras' IP address has to be discovered before registering them to the Intellio Management System.

Be careful! To register cameras into the Intellio Management System, the cameras and the Intellio Video Recorders has to be in the same IP range!

Discovering with SCAN

Cameras are getting IP address from DHCP

By default, Intellio cameras accept IP addresses get from a DHCP server. In the example below there is an Intellio Video Recorder and three Intellio Network Cameras connected to a broadband router. Using the router's built-in configuration panel the setup (clients) of the DHCP can be checked. Routers usually list the devices which are connected to them and have an IP assigned by the DHCP.



Broadband Router
DHCP enabled

Intellio Server
00-1B-FC-B6-F2-38
192.168.2.103

Scanning for cameras, DHCP server is present on the network

LAN Settings

DHCP setup in the router

Linklocal IP address

There may be situations when there is no DHCP server on the network so the cameras do not get IP addresses automatically. In this case the cameras will get their default IP address based on their MAC address (Serial Number): **169.254.(MAC 2. byte in decimal value).(MAC 1. byte in decimal value)** Example: MAC address is **00-19-B4-00-42-1A** – IP address is **169.254.66.26**. [Please use this link to easily convert from Hexa to Decimal](#) So (based in the example below) before doing the scanning the cameras has to be in the same IP range with the Intellio Video Recorder. To do this, follow these steps:

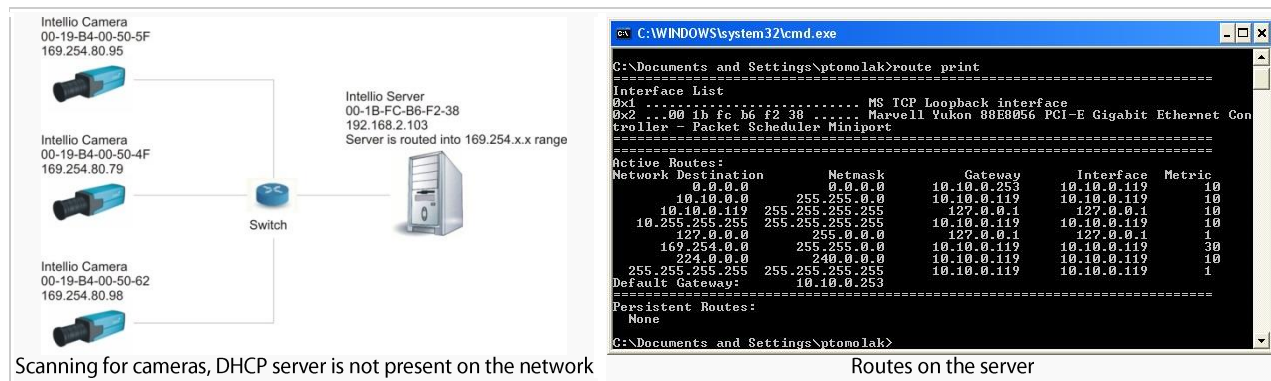
Go to **Internet Protocol Version 4 (TCP/IPv4)/Properties** window and select the **"Use the following IP address:"** radio button. Set the following:

- IP address: **169.254.x.x**
- Subnet mask: **255.255.0.0**
- Default gateway: **x.x.x.x**

Use following IP address

Add IP





In these above mentioned situations follow the steps below in order finding the cameras:

- Go to **System Configuration/Devices**
- Click button **"Scan"**

Sometimes the first attempt is unsuccessful so be sure to press **"Scan"** a few times. If the cameras still do not show up make sure that a firewall is not blocking the multicast protocol. If Scan has no result the cameras has to be [added manually](#) to the system.

[Video Guide](#)

Adding IP address manually

If SCAN is not working or the camera has an external IP address and TCP Port use the **'Add Intellio ILD-xxx (Nimrod) series...'** option. By using it the Intellio Management Software will directly connect to the camera at the manually added network address. If the cameras will get their default IP based on their MAC address calculate their IP address [here](#). To add a camera manually:

- Go to **System Configuration/Devices**
- Click button **"Add"**
- From the drop down menu select **"Add Intellio ILD-xxx (Nimrod) series"**
- Enter the IP address of the camera into the Host name field.

[Video Guide](#)

Sharpening camera image

We know from basic photography the more the iris of the lens is closed the deeper the depth of field is. It means if auto iris lens is installed into the camera and the auto iris control is enabled the depth of field could be deeper in a sunny day but when there is low light the iris opens totally and some parts of the image could be blurred.

So it is very important to open the iris totally before sharpening the image. To open the iris totally go to:

- **System configuration/Devices/Cameras**
- **Image Settings** tab
- **"Image Settings"** button
- **Brightness** tab
- **Iris Control:** In **"Auto"** mode the iris is controlled automatically by the camera. In **"Open"**, or **"Always Open"** mode the iris is opened manually. Use this function when you are calibrating the sharpness of the camera.

[Video Guide](#)



Resetting camera to factory default

If you have already set a fix IP address for the camera and then you wish to use the camera in a network with dynamic IP addressing, the camera will not be found. In such cases reboot the camera to assign an IP address for the camera from the DHCP. Keep the reboot button pressed until the green LED turns to red than release the reset button.

