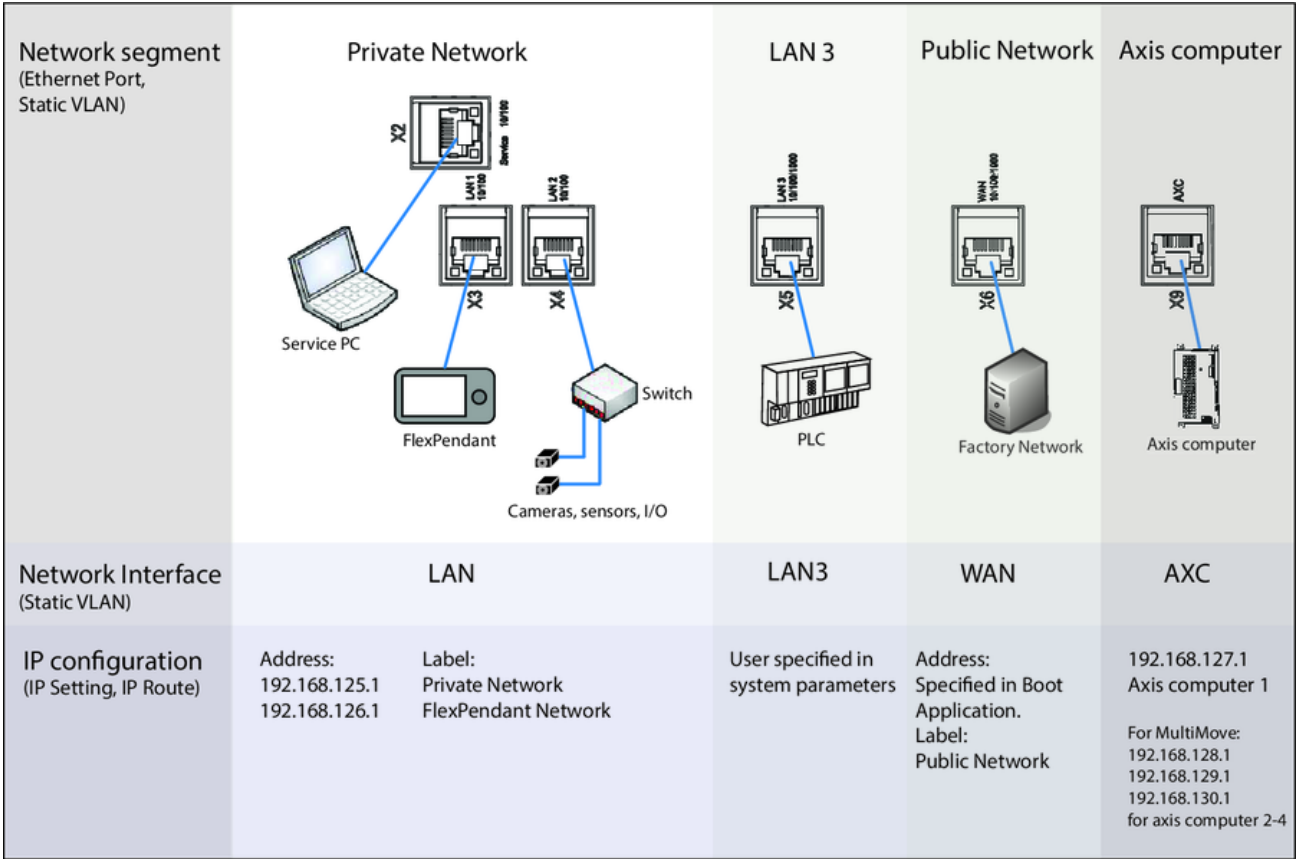


**Ethernet ports and system parameters** The Ethernet ports on the main computer belong to network segments according to the the following illustration.



**Network segments**  
Ports X2 (Service), X3 (LAN 1), and X4 (LAN 2) belong to the "Private Network" segment. Depending on the configuration, X5 (LAN 3) can also be part of the Private Network segment, see [How to configure LAN 3 to be part of private network](#). Private Network segments of multiple robot controllers cannot be connected to each other.  
By default, the X5 (LAN 3) port is configured as an isolated network. This allows the robot controller to be connected to an external network. Typically a PLC controlling several robot controllers is connected on LAN 3.  
X6 (WAN) belongs to the "Public Network" segment. This is for connecting the robot controller to an external network (factory network). Typically the Public Network segment is used for:

- connect a PC running RobotStudio
- using FTP clients
- mounting FTP or NFS disks from the controller
- running Ethernet based fieldbuses

X9 (AXC) is always connected to the axis computer. If MultiMove is used, AXC is connected to a switch that connects to all the axis computers.

**Network interfaces**  
There is a one-to-one relationship between network segment and *Interface*. The instances of *Interface* are predefined according to the above figure. They are: LAN, WAN, AXC, and LAN3 (unless LAN 3 is configured to be part of the Private Network segment).

**IP configuration**  
*IP Setting* specifies an IP address for the *Interface*.  
One *Interface* can have more than one *IP Setting* for multiple addresses to the same network segment. In that case, a main computer network interface becomes multi-homed on multiple IP subnets running on the same physical network segment.  
The LAN *Interface* has two predefined instances of *IP Setting*, Private Network and FlexPendant Network.  
LAN 3 does not have any predefined *IP Setting*. Users have to create their own settings for LAN 3.  
WAN has a predefined *IP Setting*, Public Network, but its address depends on what is set in the Boot Application.  
AXC has a *IP Setting* called Axis computer 1. If the option MultiMove is used, there is one *IP Setting* for each axis computer.  
In addition to the existing instances of *IP Setting*, the user can add new ones as desired, except for the Axis computer interface.

IP addresses

**Predefined networks**  
The following addresses are taken by the predefined networks.

IP address range	Network
192.168.125.0 - 255	Private Network
192.168.126.0 - 255	FlexPendant Network (same network segment as Private Network)
192.168.127.0 - 255	Axis computer 1
192.168.128.0 - 255	Axis computer 2 (same network segment as Axis computer 1) Only used if the option MultiMove is used.

IP address range	Network
192.168.129.0 - 255	Axis computer 3 (same network segment as Axis computer 1) Only used if the option MultiMove is used.
192.168.130.0 - 255	Axis computer 4 (same network segment as Axis computer 1) Only used if the option MultiMove is used.

Available addresses for customer equipment on the Private Network

On the Private Network, some addresses are reserved for ABB equipment. To avoid conflicts, use addresses in the following range for user specific equipment:

- 192.168.125.150 - 199



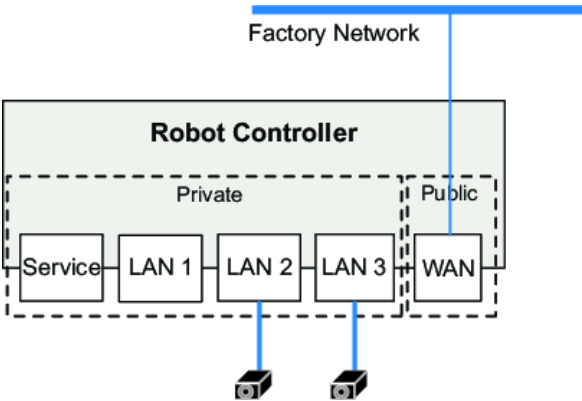
Note

There is a DHCP server active on the main computer for the Private Network. It gives out IP addresses to any DHCP client that connects to the Private Network, such as a service PC, sensor or camera.

Use cases

Use case 1: LAN 3 as part of the Private network

In this use case the WAN port should be connected to the factory network and both LAN 2 and LAN 3 should connect to equipment that is private to the robot controller.



Action

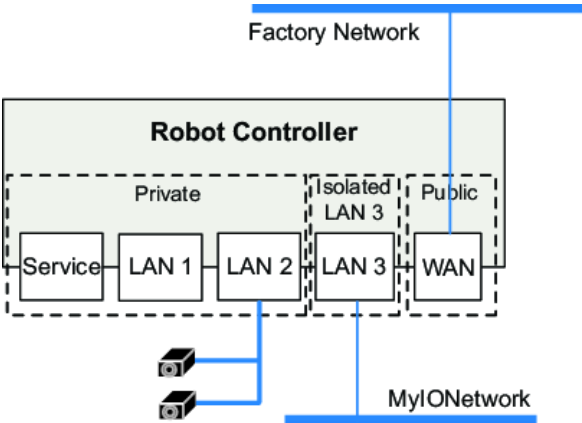
Note

- 1 In the Boot Application, set the IP address, subnet mask, and gateway for the WAN port.
- 2 In the system parameters, select topic **Communication** and type **Static VLAN**. Select **X5** and change the parameter **Interface** to **LAN**.

This makes LAN 3 part of the Private Network.  
It automatically uses the *IP Setting* that applies to the network interface LAN, so there is no need to create any new *IP Setting*.

Use case 2: isolated LAN 3

In this use case, the WAN port should be connected to the factory network and LAN 3 should be configured with an IP address on an external network (isolated from the Private Network). Remember that the Private Network of two robots cannot be connected. Multiple robot controllers can only appear on LAN3 and Public Network.



Action

Note

- 1 In the Boot Application, set the IP address, subnet mask, and gateway for the WAN port.
- 2 In the type **IP Setting**, create a new instance. Set the parameters:
  - **IP**: IP address, e.g. 192.168.99.1
  - **Interface**: LAN 3
  - **Subnet mask**: 255.255.255.0
  - **Label**: Network name, e.g. MyIONetwork

This assigns IP address 192.168.99.1 to interface LAN3 on this robot controller and makes it visible on the isolated LAN3 network. If there is another robot controller on this network, it could be assigned e.g. address 192.168.99.2, with the same subnet mask.