

## ESERA-Station 200 Commissioning - Start

- Open system hardware and software central control for smart home, building automation, IoT and commercial automation
- Hybrid design consisting of an embedded computer and 1-Wire Gateway
- Powerful, modern quad core computer with 1.2GHz CPU
- Fast readout of all 1-Wire devices in 1-2 seconds cycle
- Data exchange between 1-Wire gateway and computer via Modbus or text protocol
- Extensive 1-Wire libraries for sensors and actuators
- 2 x binary output 16A
- 2 x binary input 10-30VDC
- 2 x system clocks with buffering in case of power failure
- Comfortable configuration program for 1-Wire gateway and interface parameters
- 24V power supply for Embedded Computer und 1-Wire Gateway
- Designed for all 1-Wire network sizes
- Top-hat rail housing for control cabinet installation



### 1 Introduction

We are pleased that you have chosen ESERA-Station 200, the open central control system. Before you start to install the ESERA 200 and put the device into operation, please read these operating instructions until the end, especially the section on safety instructions.

### 2 Product description

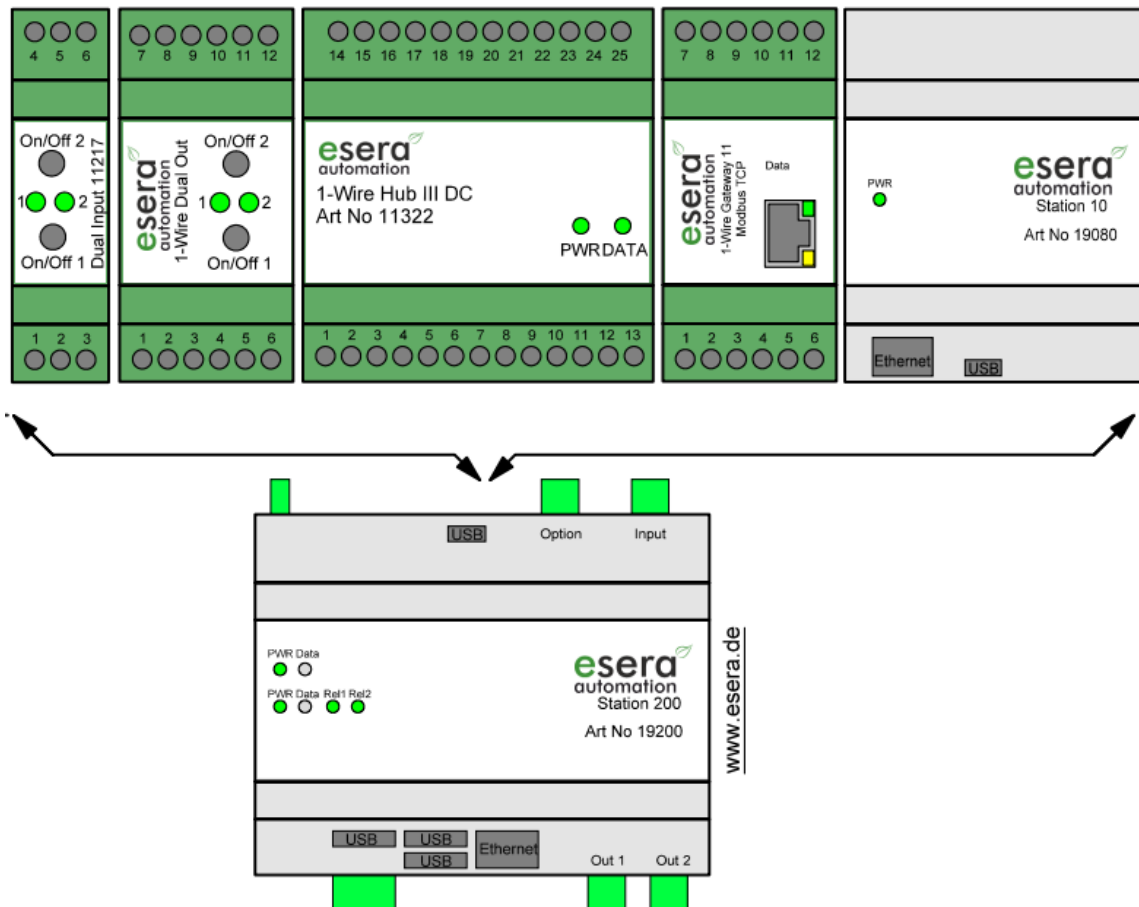
The ESERA-Station is a modern and open system hybrid system consisting of two modules, a powerful 1-Wire Gateway and an embedded computer.

Both modules, 1-Wire Gateway and Embedded Computer are internally connected via serial data interface and power supply. Both modules have their own power supply and a system clock (Real Time Clock) with buffering in case of power failure by a maintenance-free high-performance capacitor (Goldcap).

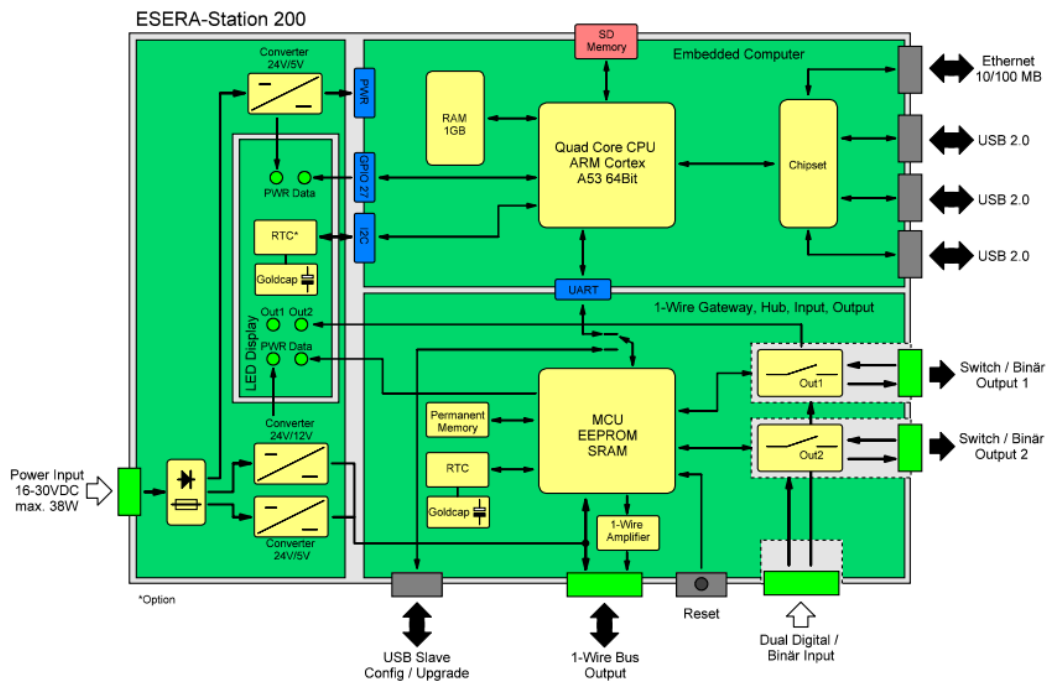
### 3 System overview Station 200, assemblies

Die Station 200 contains several assemblies, the

- 1-Wire Gateway incl. 1-Wire Hub III, Dual Switch Module and Dual Digital Input and
- Embedded Computer (Raspberry Pi 3)



### 4 Block Diagram ESERA-Station 200



## 5 Commissioning

### 5.1 Insert /check SD-card

Before putting the ESERA-Station 200 into operation, please check whether an SD memory card is installed in the SD card slot. If not, insert it carefully into the SD card slot on the top side of the Station 200 before applying the operating voltage.

Make sure that the label on the top side of the SD card is visible and that the SD card is inserted correctly into the SD card holder.



### 5.2 Operating voltage

A high-quality power supply unit with an output voltage of 24VDC and a minimum load capacity of 15 - 40W is required for operating the ESERA-Station 200. The power consumption depends on the software utilization of the ESERA Station-200 and the electrical load on the 1-Wire Bus.

### 5.3 Config Tool, 1-Wire Configuration

To configure the 1-Wire Gateway, please use ESERA Config Tool 3, which you can download from our website.

Here you can find the Config Tool 3 via our ESERA Website:

<https://www.esera.de/produkte/software/downloads-firmware-1-wire-controller-1-wire-gateway/>

or Config-Tool Download page:

[http://controller.eservice-online.de/download/configtool\\_download.php](http://controller.eservice-online.de/download/configtool_download.php)

### 5.4 USB – Data Connection 1-Wire Gateway

Please start with the commissioning of ESERA-Station 200 with the 1-Wire Gateway. For this purpose, connect the Station 200 via USB data cable with your PC. Your PC may require a driver to set up the USB data connection.

You can find the appropriate driver for the data connection under:

<http://www.ftdichip.com/Drivers/VCP.htm>

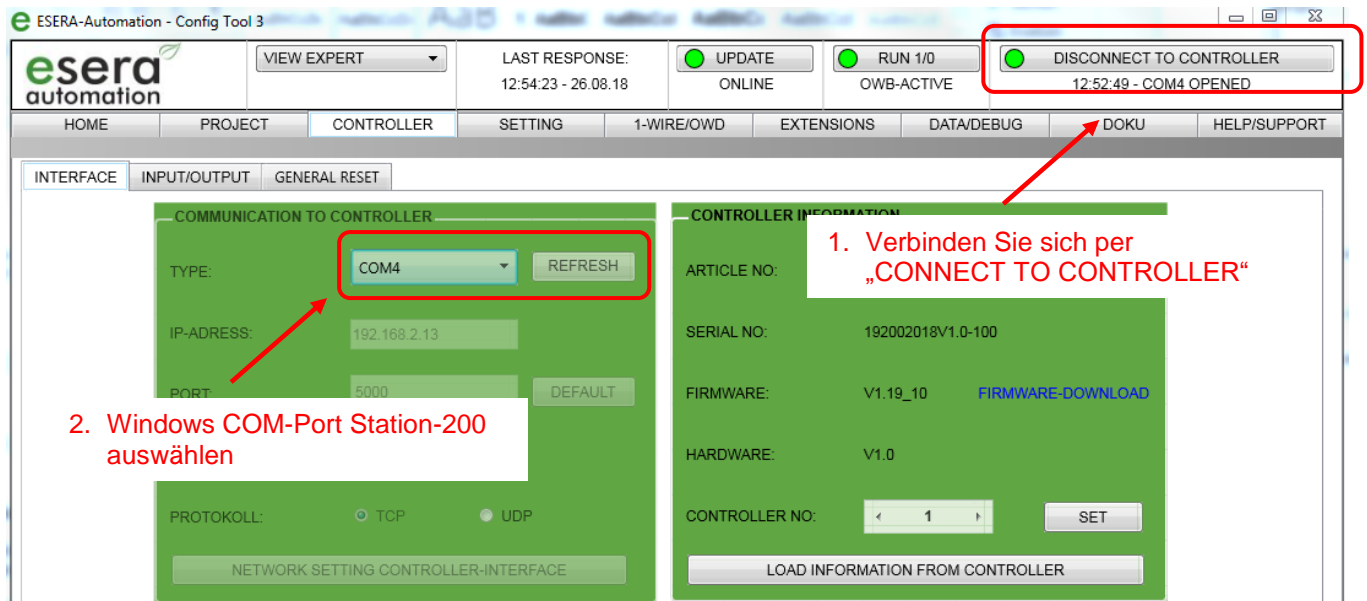


USB 2.0 Data cable  
Design: plug Type A  
to plug Mini Type B



**Important: When the USB data cable is plugged in, the data connection for sending data between the internal Station 200 Embedded PC and the 1-Wire Gateway is interrupted. The Embedded PC continues to receive data from the 1-Wire Gateway.**

## 5.5 First Data Connection Config-Tool – Station 200



After you have connected to the 1-Wire Gateway (1-Wire controller), you can directly start configuring the 1-Wire Gateway.

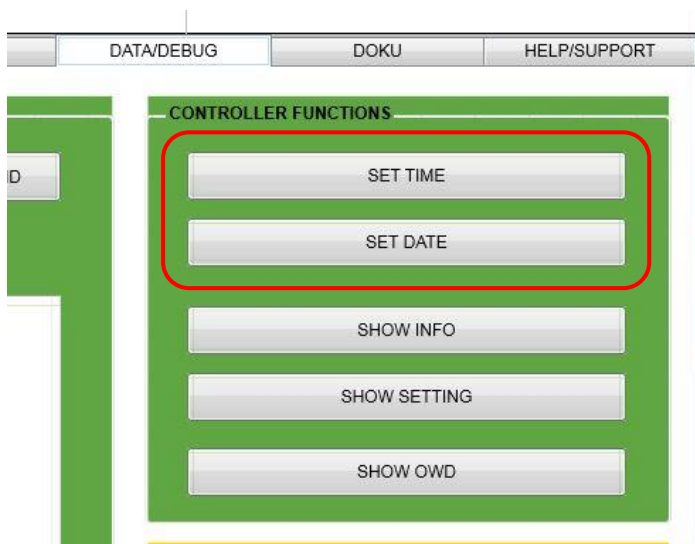
Many useful tips can be found in our online support videos on our website.

<https://www.esera.de/service-support/support-videos/>

## 5.6 1-Wire Gateway, set the data and time

Please start with the commissioning of the 1-Wire Gateway with updating the time and date.

For more details on how to get started, please refer to the support videos on our website. You can find the Support Videos at: <https://www.esera.de/service-support/how-to-support-videos/>



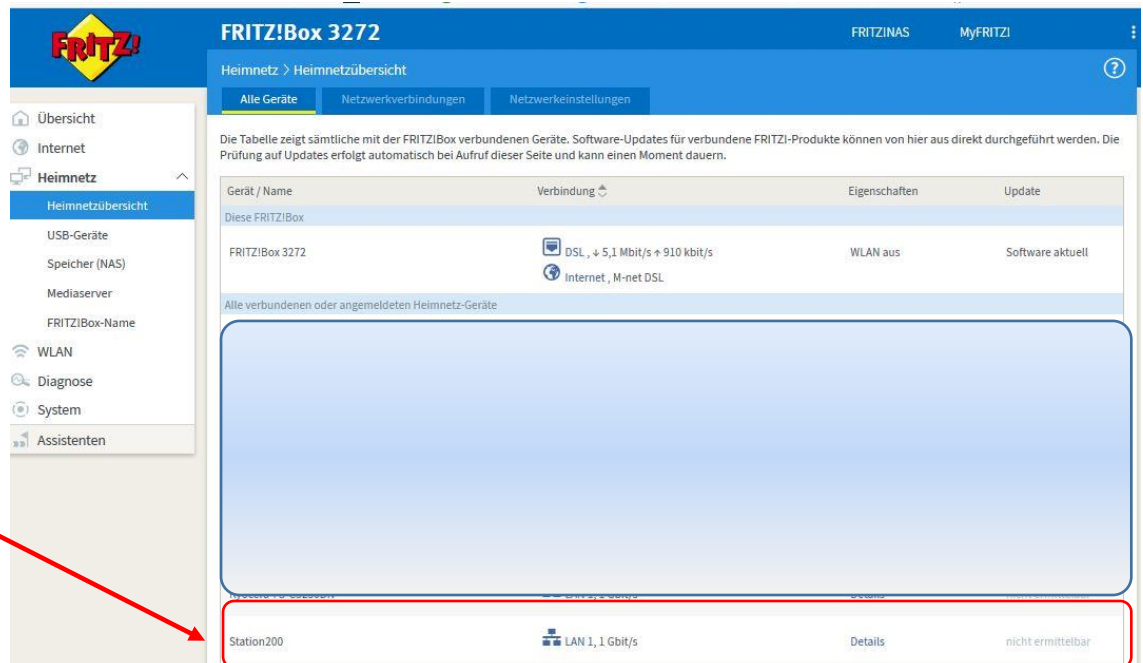
## 5.7 Ethernet IP-Adresses

To establish a LAN connection to your IP network, a Fast Ethernet (10/100MBit) network connection is required.



The operating system of the ESERA-Station 200 is set to DHCP for LAN and WLAN interface in the delivery state, which means that the ESERA-Station 200 receives all necessary IP settings from your network router.

How can you find out the IP address of the ESERA-Station 200? The easiest way is to look up the assigned IP address in your router. Here is an example of a Fritzbox.

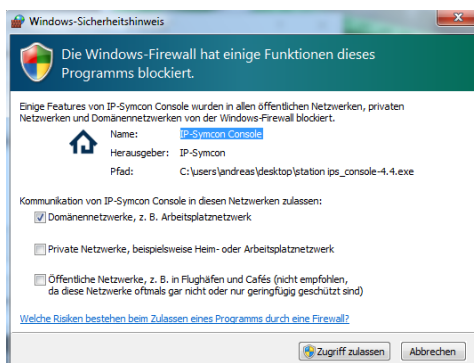


## 5.8 First Start IP-Symcon, Version V4.4

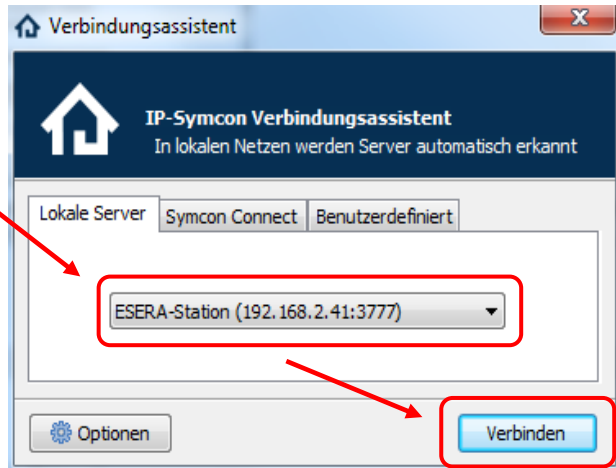
For the first start of ESERA IP-Symcon download the „station isp console 4.4“ from our download area to the Windows desktop.

Start the „station isp console 4.4“ with a double click.

This may cause a security prompt from Windows. Please agree here.

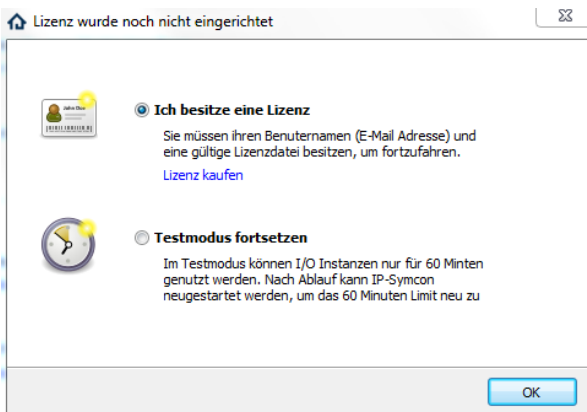


Now select Station 200 in the connection wizard.



## 5.9 IP-Symcon License query/ Test mode

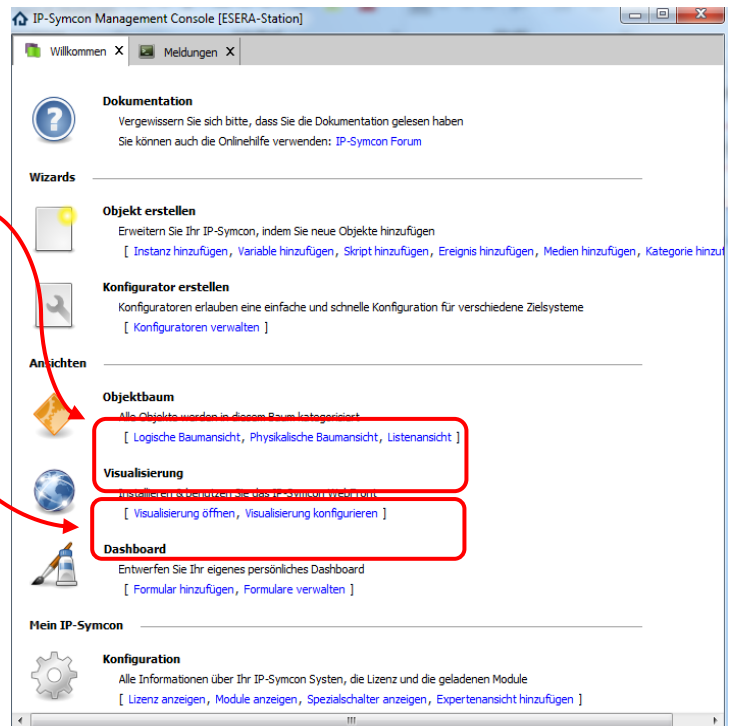
When you start IP-Symcon for the first time, a license query appears. If you do not have a valid IP-Symcon license yet, start in "test mode". The test mode allows you to test the complete IP-Symcon software for 60 minutes. After this time all software functions are locked. In order to continue testing, a restart of Station 200 is necessary.



## 5.10 IP-Symcon Management Console

Now the IP-Symcon Management Console starts. From here you start the

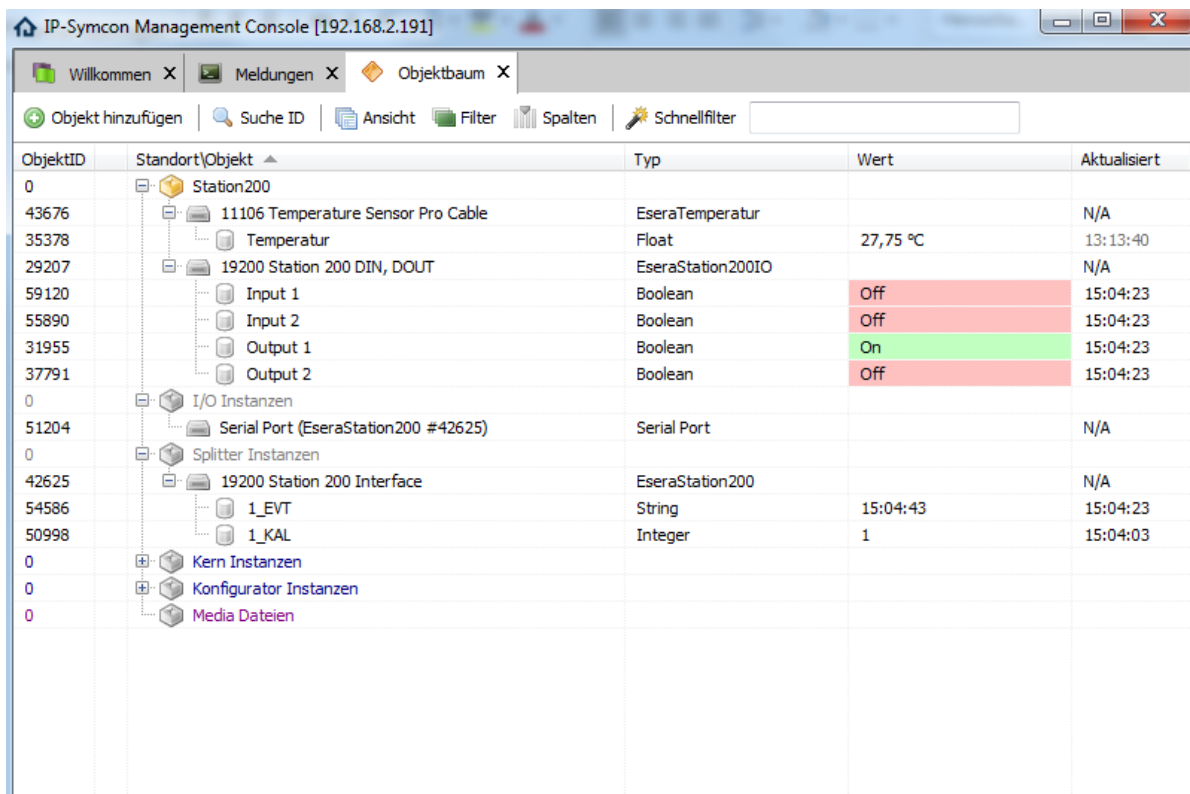
- **Programming environment, Object tree/ logical tree structure**
- **and Visualization**





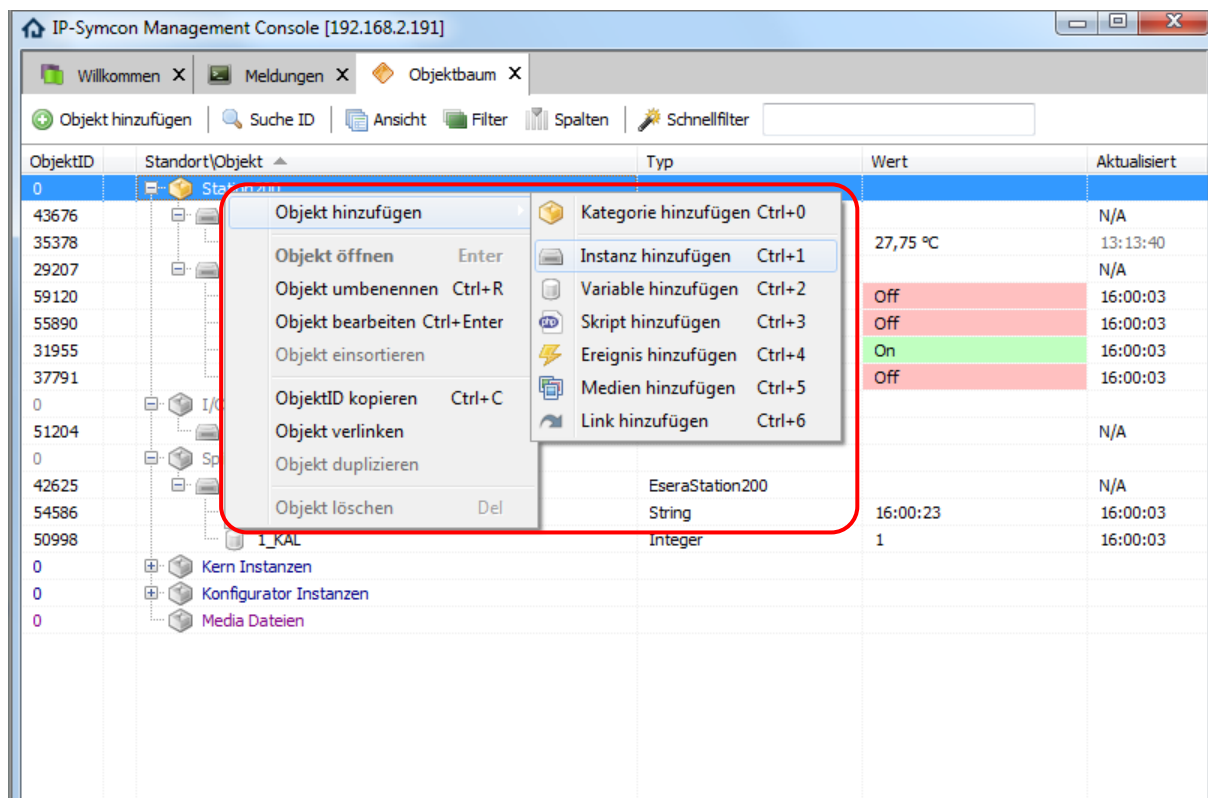
### 5.11 ESERA IP-Symcon Object tree

We have already performed the basic IP-Symcon installation for you on ESERA-Station 200. As the first 1-Wire demo device we have installed a Temperature sensor (Art.: 11106).



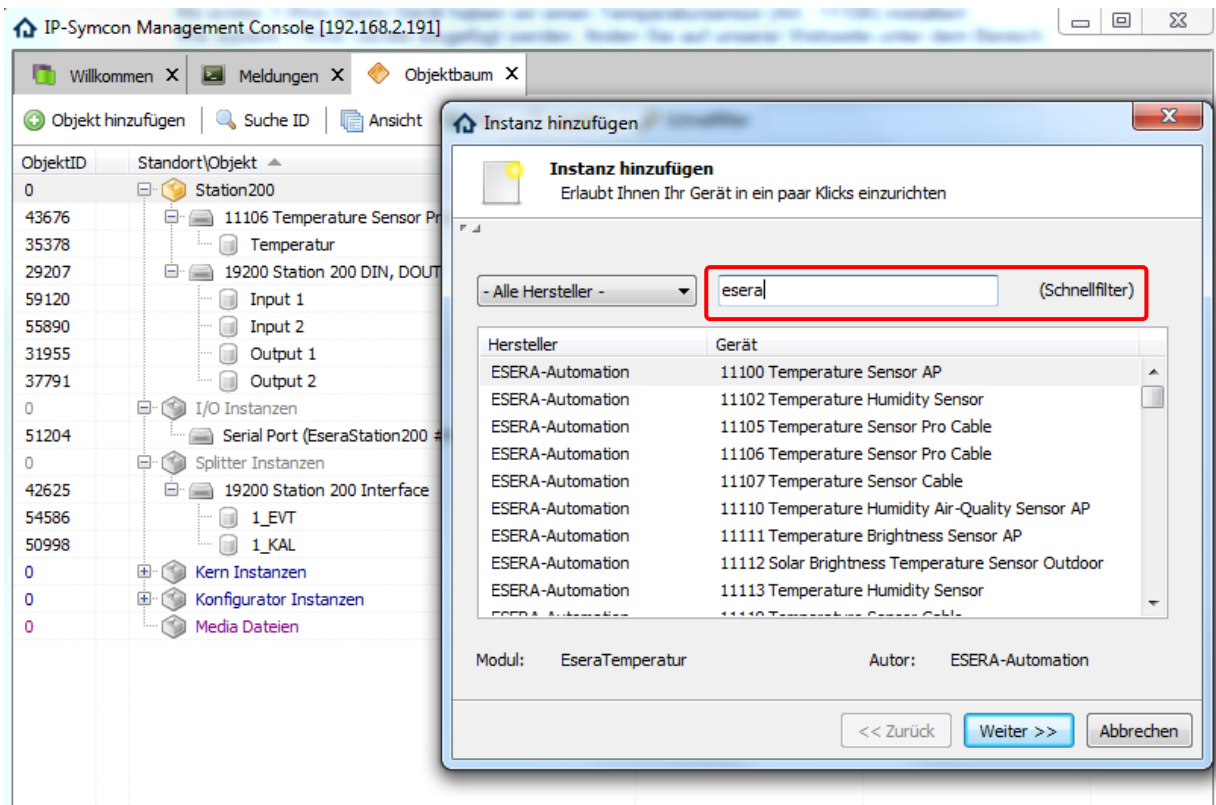
ObjektID	Standort\Objekt	Typ	Wert	Aktualisiert
0	Station200			
43676	11106 Temperature Sensor Pro Cable	EseraTemperatur		N/A
35378	Temperatur	Float	27,75 °C	13:13:40
29207	19200 Station 200 DIN, DOUT	EseraStation200IO		N/A
59120	Input 1	Boolean	Off	15:04:23
55890	Input 2	Boolean	Off	15:04:23
31955	Output 1	Boolean	On	15:04:23
37791	Output 2	Boolean	Off	15:04:23
0	I/O Instanzen			
51204	Serial Port (EseraStation200 #42625)	Serial Port		N/A
0	Splitter Instanzen			
42625	19200 Station 200 Interface	EseraStation200		N/A
54586	1_EVT	String	15:04:43	15:04:23
50998	1_KAL	Integer	1	15:04:03
0	Kern Instanzen			
0	Konfigurator Instanzen			
0	Media Dateien			

New 1-Wire devices can be added by clicking the right mouse button, "Add object", "Add instance".



ObjektID	Standort\Objekt	Typ	Wert	Aktualisiert
0	Station200			
43676	11106 Temperature Sensor Pro Cable	EseraTemperatur		N/A
35378	Temperatur	Float	27,75 °C	13:13:40
29207	19200 Station 200 DIN, DOUT	EseraStation200IO		N/A
59120	Input 1	Boolean	Off	16:00:03
55890	Input 2	Boolean	Off	16:00:03
31955	Output 1	Boolean	On	16:00:03
37791	Output 2	Boolean	Off	16:00:03
0	I/O Instanzen			
51204	Serial Port (EseraStation200 #42625)	Serial Port		N/A
0	Splitter Instanzen			
42625	19200 Station 200 Interface	EseraStation200		N/A
54586	1_EVT	String	16:00:23	16:00:03
50998	1_KAL	Integer	1	16:00:03
0	Kern Instanzen			
0	Konfigurator Instanzen			
0	Media Dateien			

Enter "esera" in the quick filter and the selection of all ESERA device instances will be displayed.



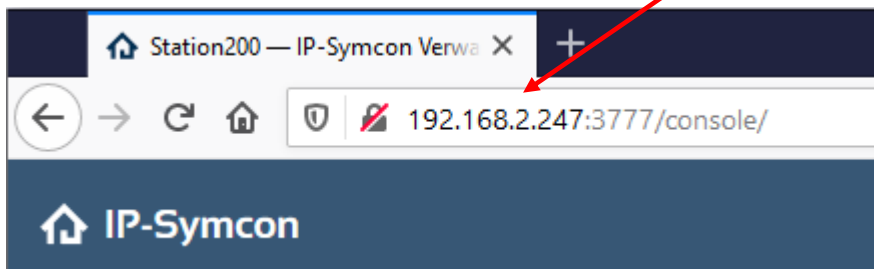
You can find further information on the integration of ESERA Devices on our website under the section:  
<https://www.esera.de/service-support/kompatible-steuerungen-zentralen/ip-symcon-integration/>



## 6 First Start IP-Symcon, Version V5.x

To start ESERA IP-Symcon from 5.x for the first time, use a web browser (e.g. Firefox) and enter the address for the Web Console. You will find the IP address as described in section 5.7.

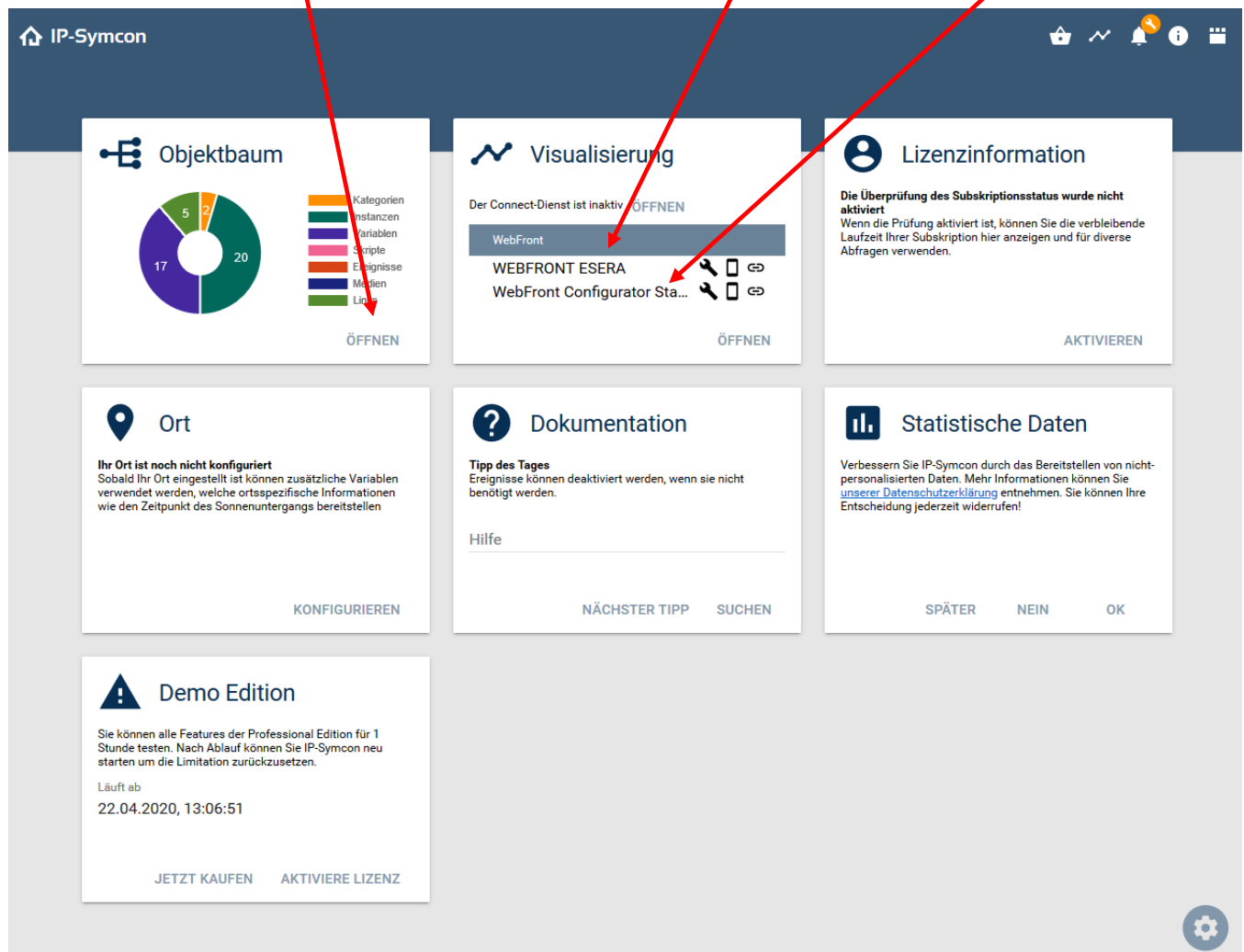
Die Web address for the IP-Symcon Console is: **IP-Adresse:3777/console/**



After starting the program the following web page opens:

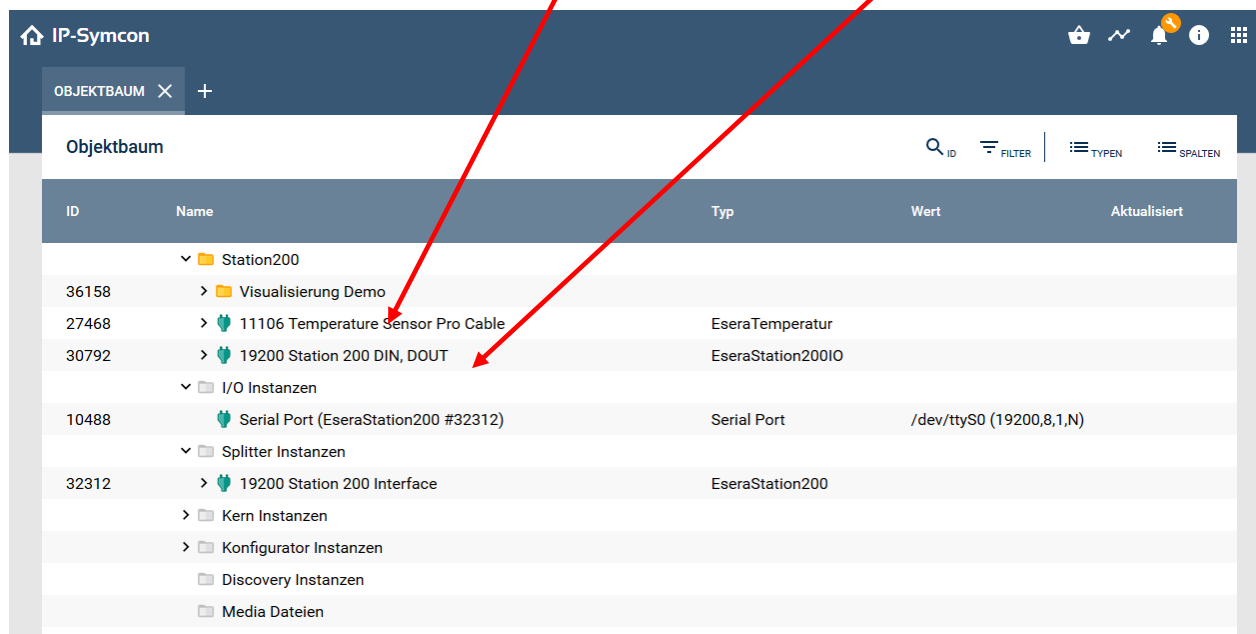
Start the object tree here **(continue under point 6.1).**

**or one of the two prepared visualizations (WebFront ESERA oder WebFront Configurator Standard (more under point 6.2).**



## 6.1 Object tree Web Console

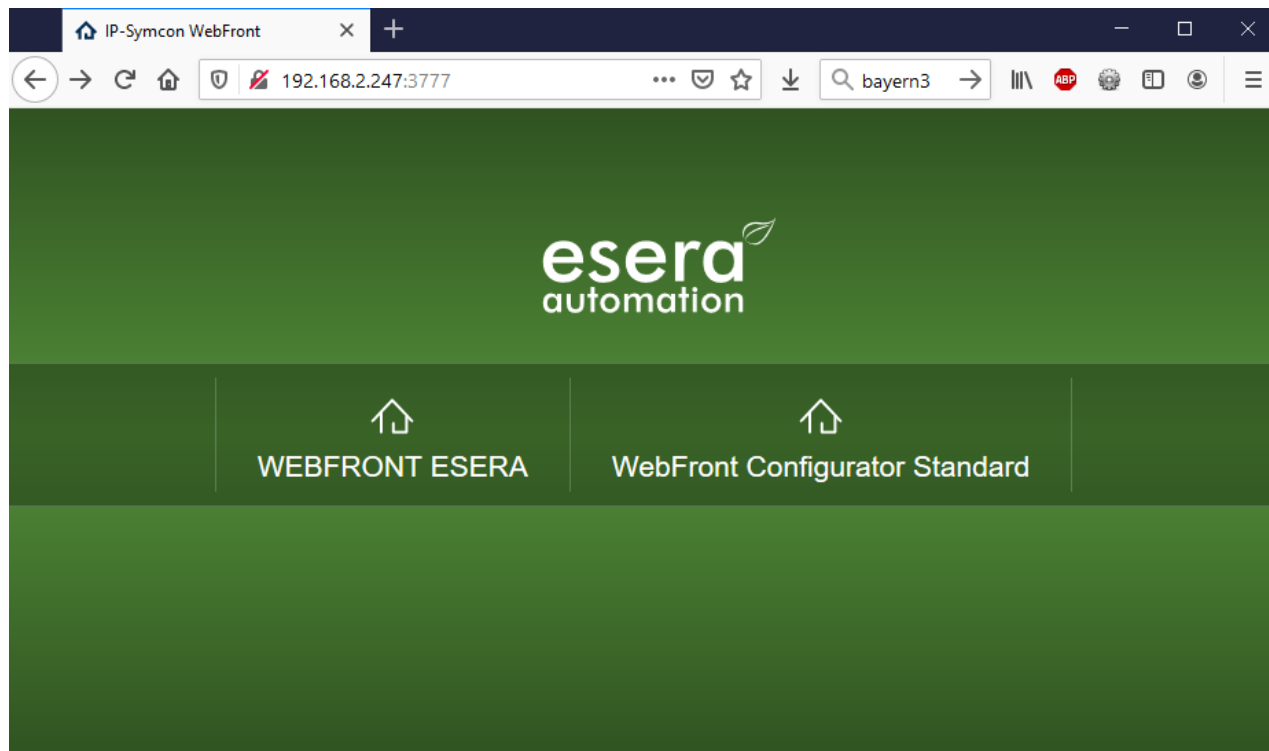
In the next step, open the object tree and the IP-Symcon pre-configured by ESERA. We have already developed the modules for the ESERA-Station 200 especially for the Station 200 **inputs and outputs** and, as an example for sensors and actuators, a **Temperature sensor, Art. 11106** pre-installed. After a few seconds, the first data should be received by the 1-Wire Gateway of the ESERA-Station. The current data can be viewed via the web front (see point 6.2).



ID	Name	Typ	Wert	Aktualisiert
▼ Station200				
36158	> Visualisierung Demo			
27468	> 11106 Temperature Sensor Pro Cable	EseraTemperatur		
30792	> 19200 Station 200 DIN, DOUT	EseraStation200IO		
▼ I/O Instanzen				
10488	Serial Port (EseraStation200 #32312)	Serial Port	/dev/ttyS0 (19200,8,1,N)	
▼ Splitter Instanzen				
32312	> 19200 Station 200 Interface	EseraStation200		
> Kern Instanzen				
> Konfigurator Instanzen				
Discovery Instanzen				
Media Dateien				

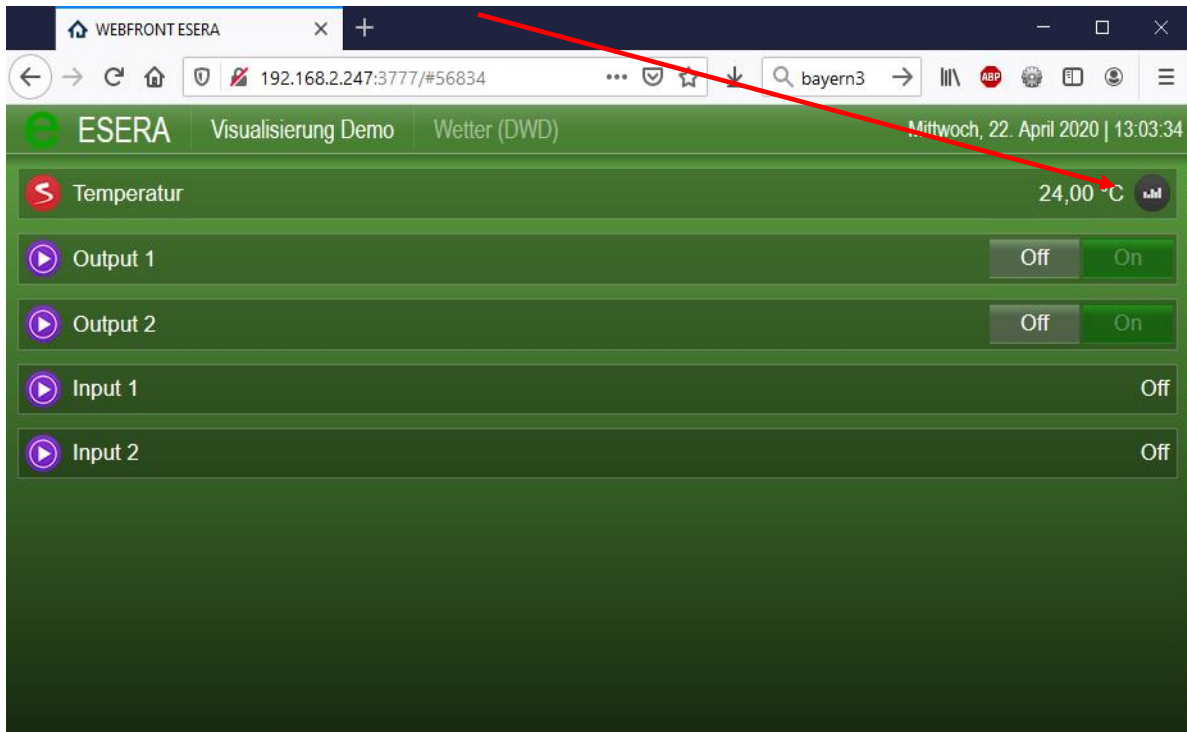
## 6.2 Webfront ESERA and Standard

As an example, we have set up two Web front interfaces for you.



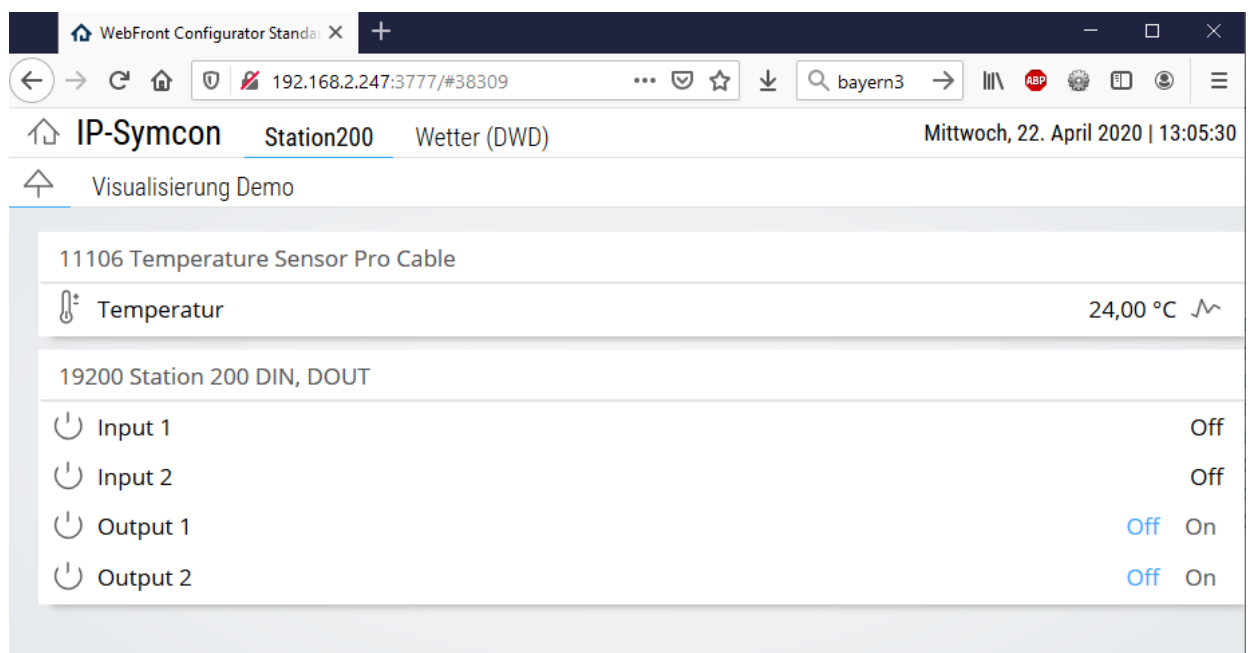
### 6.3 Webfront ESERA

The ESERA version is shown in green and with "linked" objects. We have activated logging for the pre-installed Temperature sensor. This means that after **clicking on the small logo next to the current temperature value**, a time diagram can be opened.



### 6.4 Webfront Standard

The Standard Web front view is the view preset by IP-Symcon. We have only changed the color to "light" for this



## 6.5 Integration of new sensors or actuators (new OWD's)

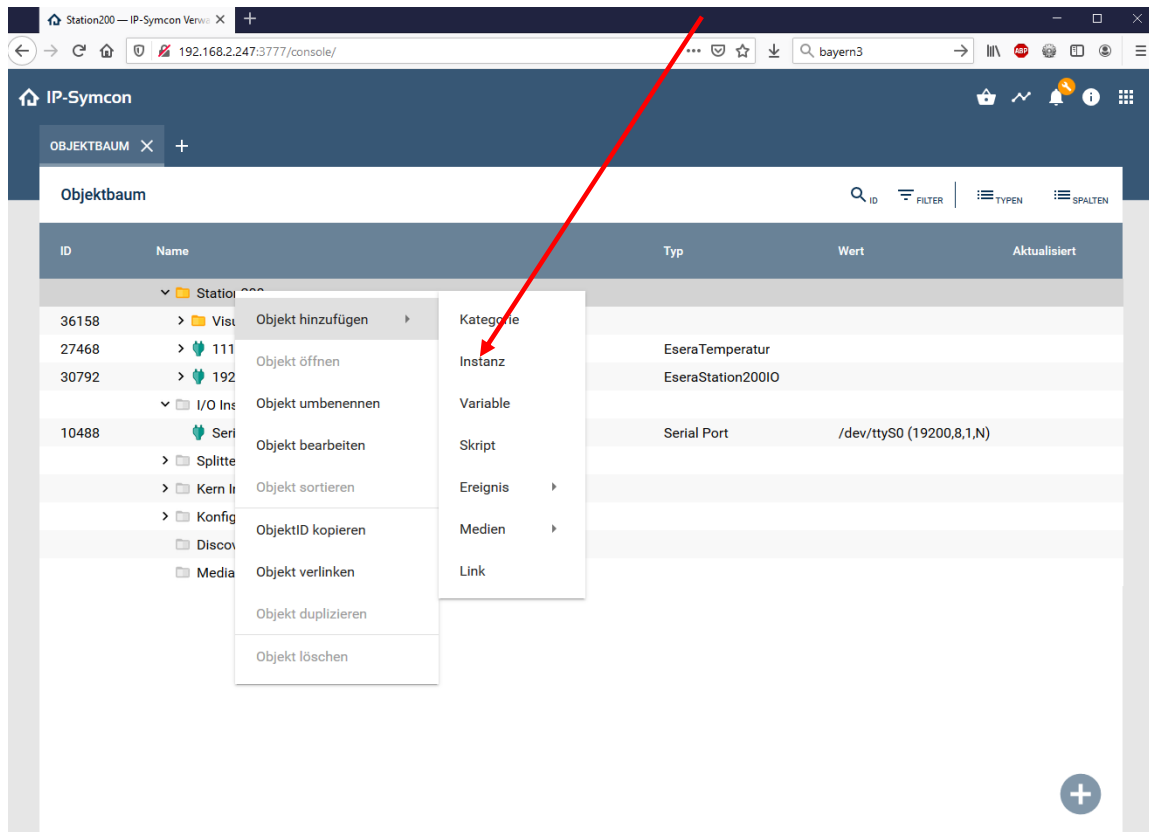
To add another OWD of the 1-Wire Gateway, start the object tree.

In the next step, click on the top category "Station200", then right-click on this category.

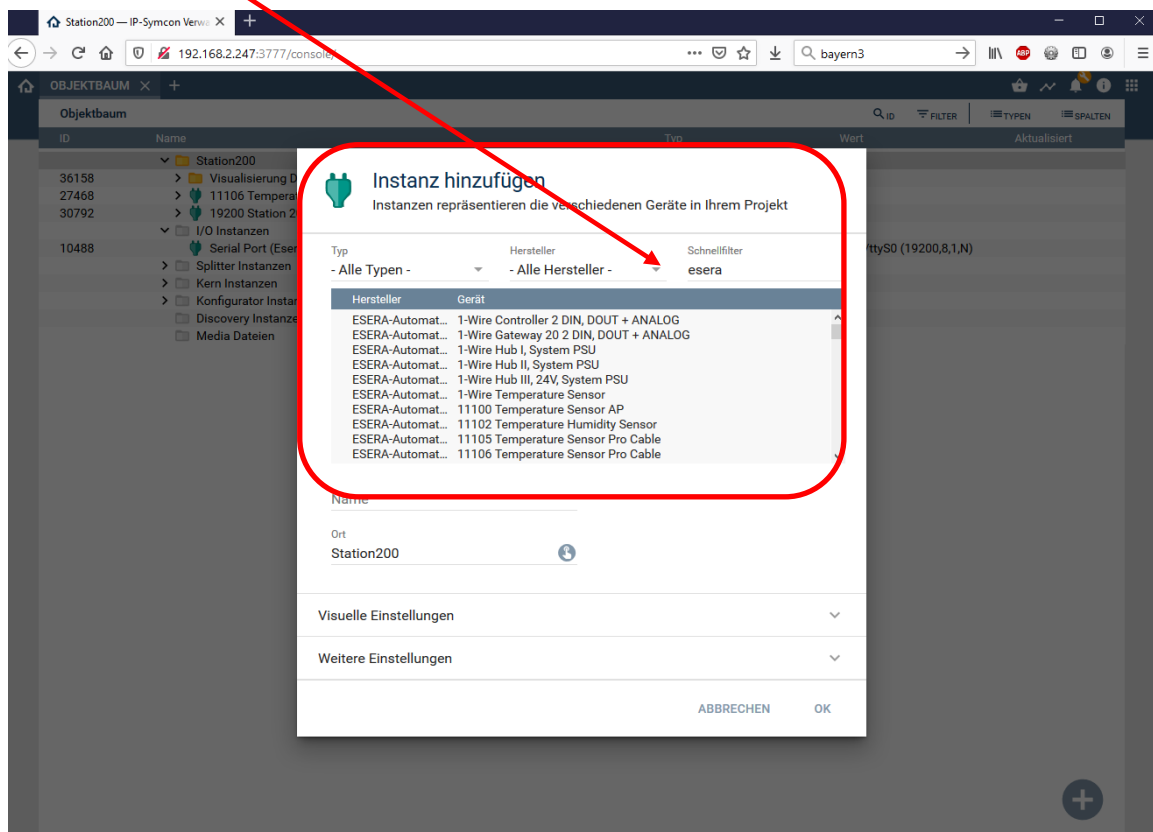
Now a new window opens, where you select the item "Add object".

Continue with the next window.

Here you click on "Instance".

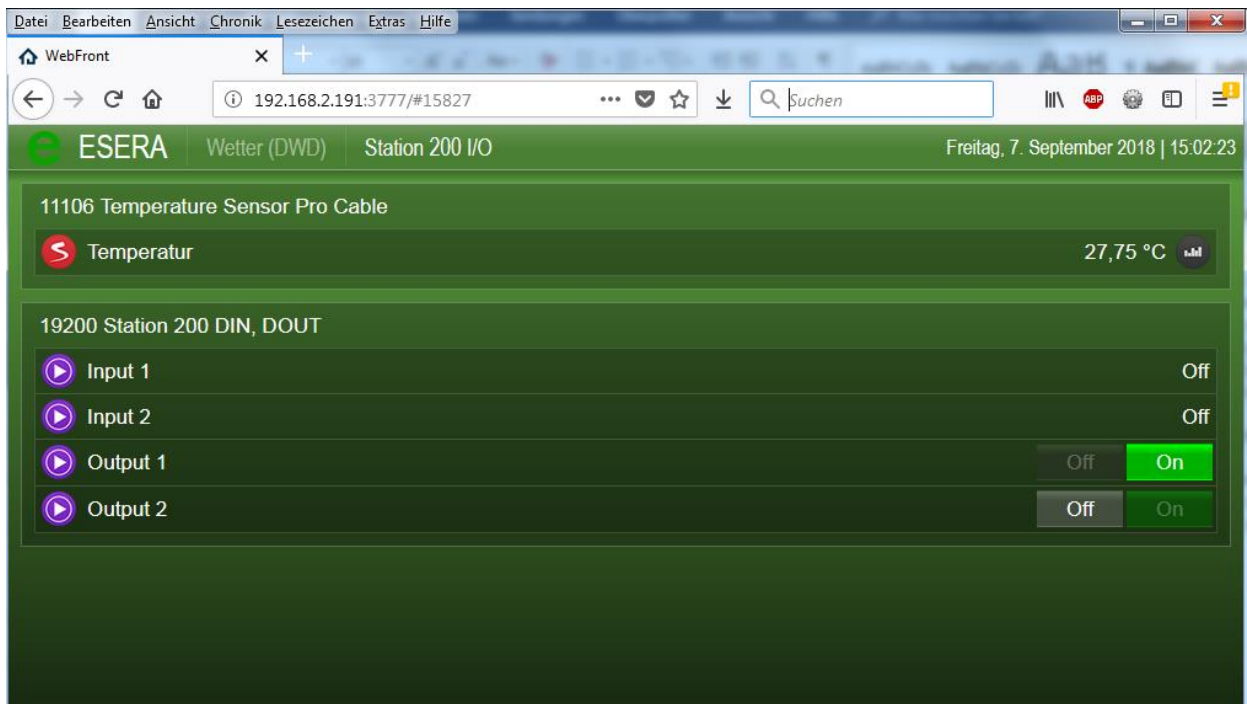


Now the window opens in which you can select the corresponding instance. If you enter ESERA under „Quick filter“, you will receive an overview of the currently available modules sorted by ESERA Article numbers and functions.



## 6.6 ESERA IP-Symcon Web Front

When you open the „Web Front“, you can immediately see the status of Station 200 inputs and outputs and control the outputs.



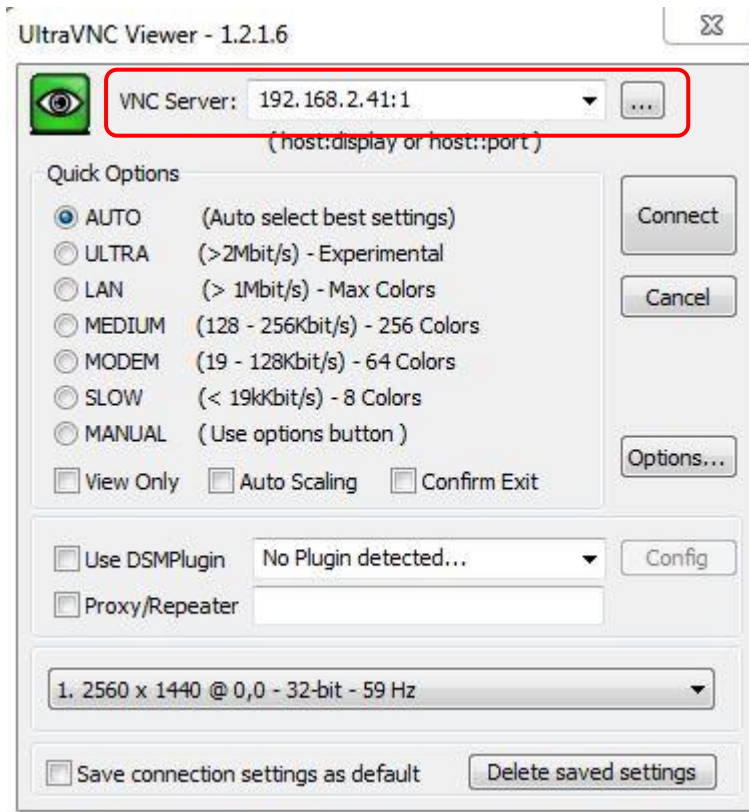
## 7 VNC Access (Remote Access)

Virtual Network Computing (VNC) is a remote control software that allows to control another computer via a network connection. It transfers screen content, keystrokes, and mouse clicks from one computer to another, allowing, for example, technical support personnel to access Station 200's desktop on the network without connecting a monitor, keyboard, and mouse.

You can directly access the ESERA-Station via VNC. On the ESERA-Station, the thinghtvnc is pre-installed. For access via PC we recommend the free UltraVNC.

Here you can find the Ultra VNC Software: <http://www.uvnc.com/home.html>

You can find installation instructions here: <http://www.uvnc.com/install/installation.html>



### Access data:

To connect to the ESERA-Station, enter the IP address and „1“  
(IP address:1)

Before IP Symcon v7:

**Password: eseravnc**

Starting from IP Symcon v7:

**Password: eserassh**

The output virtual screen has the fixed resolution of 1280x800 by default. After you have logged in, please enter your own, new password.

### New Password for the VNC Access:

Start the LX Terminal and enter the command: **vnccpasswd**

## 8 Access data

Below are the access data for accessing the Linux operating system

**User: pi**

**Password: esera**

### SSH Access (Default disabled)

**User: pi**

**Password: eserassh**



## 8.1 IP-Symcon operation, Linux

The IP-Symcon WebFront (web interface) should be reachable via browser using the address:

`http://IP-Adress Station:3777/`

The IP-Symcon management console (`ips_console.exe`) is started on a Windows PC, WIN7 or higher, and can be used for configuration via IP address and port 3777. Normally, it is not necessary to enter the address manually, since the management console of Station 200 automatically detects and offers it.

How do I start and stop the IP-Symcon service?

```
sudo /etc/init.d/symcon start
sudo /etc/init.d/symcon stop
sudo /etc/init.d/symcon restart
```

Where do I find what?

```
/usr/bin/symcon – Executable
/usr/share/symcon/ - Static Data (IP-Symcon Installation)
/var/lib/symcon/ - Variable Data (Settings, Skripte, Medien...)
/var/log/symcon/ - Log Files (Logfiles...)
```

How can I check if the service is running correctly?

```
sudo ps x | grep symcon
```

How can I view/ trace the Logfile?

```
tail -f /var/log/symcon/logfile.log
```

## 8.2 IP-Symcon Software moduls

In order to integrate the ESERA 1-Wire Controller, 1-Wire Gateway and ESERA-Station 200 into IP-Symcon, we provide libraries via github server.

### ESERA IP-Symcon Moduls

<https://github.com/ESERA-Automation/IPS-Module.git>

## 8.3 IP-Symcon in ESERA Style

To switch IP-Symcon to the ESERA style, we provide libraries via the github server. In the delivery state of ESERA-Station 200, the Skin "ESERA Green" is already pre-installed and activated.

### ESERA Skins für IP-Symcon

We provide three different green Skins via github server.

Dark Green

<https://github.com/ESERA-Automation/ESERA-skin-dark-green.git>

ESERA Green

<https://github.com/ESERA-Automation/ESERA-skin-green.git>

ESERA-british-racing-green

<https://github.com/ESERA-Automation/ESERA-british-racing-green.git>

## 9 Disposal note

Do not dispose of the device within the household waste!

According to the directive concerning old electrical and electronic appliances, electronic devices must be disposed of via the collecting points for old electronic appliances!



## 10 Safety instructions

When using products that come into contact with electrical voltage, the valid VDE regulations must be observed, especially VDE 0100, VDE 0550/0551, VDE 0700, VDE 0711 and VDE 0860

- All final or wiring work must be carried out with the power turned off.
- Before opening the device, always unplug or make sure that the unit is disconnected from the mains.
- Components, modules or devices may only be put into service if they are mounted in a contact proof housing. During installation they must not have power applied.
- Tools may only be used on devices, components or assemblies when it is certain that the devices are disconnected from the power supply and electrical charges stored in the components inside the device have been discharged.
- Live cables or wires to which the device or an assembly is connected, must always be tested for insulation faults or breaks.
- If an error is detected in the supply line, the device must be immediately taken out of operation until the faulty cable has been replaced.
- When using components or modules it is absolutely necessary to comply with the requirements set out in the accompanying description specifications for electrical quantities.
- If the available description is not clear to the non-commercial end-user what the applicable electrical characteristics for a part or assembly are, how to connect an external circuit, which external components or additional devices can be connected or which values these external components may have, a qualified electrician must be consulted.
- It must be examined generally before the commissioning of a device, whether this device or module is basically suitable for the application in which it is to be used.
- In case of doubt, consultation with experts or the manufacturer of the components used is absolutely necessary.
- For operational and connection errors outside of our control, we assume no liability of any kind for any resulting damage.
- Kits should be returned without their housing when not functional with an exact error description and the accompanying instructions. Without an error description it is not possible to repair. For time-consuming assembly or disassembly of cases charges will be invoiced.
- During installation and handling of components which later have mains potential on their parts, the relevant VDE regulations must be observed.
- Devices that are to be operated at a voltage greater than 35 VDC / 12mA, may only be connected by a qualified electrician and put into operation.
- Commissioning may only be realized if the circuit is built into a contact proof housing.
- If measurements with an open housing are unavoidable, for safety reasons an isolating transformer must be installed upstream or a suitable power supply can be used.
- After installing the required tests according to DGUV / regulation 3 (German statutory accident insurance [https://en.wikipedia.org/wiki/German\\_Statutory\\_Accident\\_Insurance](https://en.wikipedia.org/wiki/German_Statutory_Accident_Insurance)) must be carried out.

## 11 Warranty

ESERA GmbH guarantees that the goods sold at the time of transfer of risk to be free from material and workmanship defects and have the contractually assured characteristics. The statutory warranty period of two years begins from date of invoice. The warranty does not extend to the normal operational wear and normal wear and tear. Customer claims for damages, for example, for non-performance, fault in contracting, breach of secondary contractual obligations, consequential damages, damages resulting from unauthorized usage and other legal grounds are excluded. Excepting to this, ESERA GmbH accepts liability for the absence of a guaranteed quality resulting from intent or gross negligence. Claims made under the Product Liability Act are not affected.

If defects occur for which the ESERA GmbH is responsible, and in the case of replacement goods, the replacement is faulty, the buyer has the right to have the original purchase price refunded or a reduction of the purchase price.

ESERA GmbH accepts liability neither for the constant and uninterrupted availability of the ESERA GmbH or for technical or electronic errors in the online offer.

We are constantly developing our products further and reserve the right to make changes and improvements to any of the products described in this documentation without prior notice. Should you require documents or information on older versions, please contact us by e-mail at [info@esera.de](mailto:info@esera.de).

## 12 Trademarks

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WEEE-Number: DE30249510