



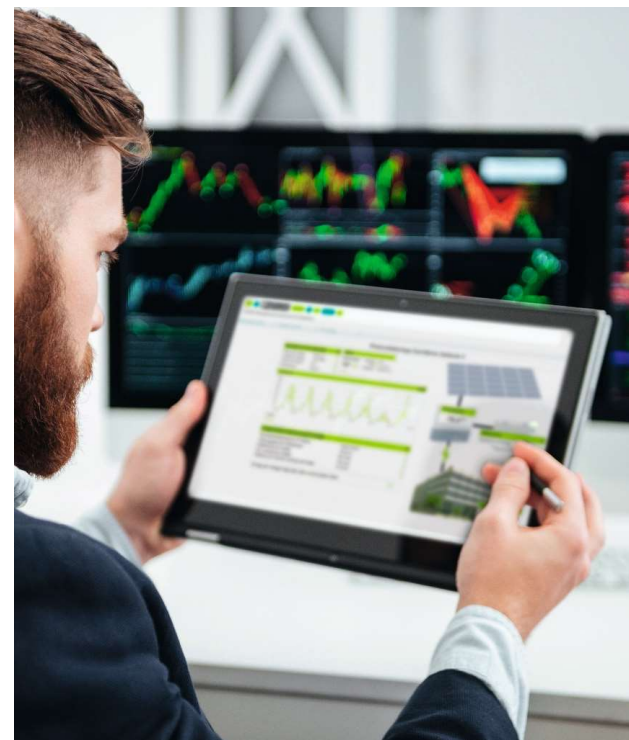
Welcome

**Pantallas HMI para
aplicaciones de
visualización realizadas en
HTML5**

Webinars

Agenda

- HTML5
 - Oferta de HMIs para HTML5
 - VISU+ Express and VISU+ remote access via Webpage HTML5
 - WP 4000 WITH CoDeSys Connections
 - Softwares de Programación HTML5
 - Webvisit
 - SpiderControl WebServer
-



Webinar IMA Enero 2021

Pantallas HMI's para aplicaciones de visualización realizadas en HTML5



Fecha	12 Enero 2021
Hora	9:00
Hora	
Duración	1 hora
Costo	gratuito

Conozca las HMI's que son utilizadas a nivel Industrial donde la visualización de monitoreo y control realizado con programas de desarrollo de visualización basados en HTML5 representa una ventaja competitiva a menor precio.

En la sesión usted descubrirá mayor profundidad de los lenguajes de programación basados en HTML5 y su resultado en la visualización de monitoreo y control logrado con nuestras gamas de Webpanel BWP 2000 y WP 4000.

TUTORIAL

Learn HTML5 Full Course



Learn HTML5 - full course with code samples



Web Panel Advantages

EASY - HMI that does not require any local software download.
Simply points to IP address of ANY web server

OPEN – No longer tied to a communication protocol.
No Profinet, Ethernet IP, MODBUS TCP, etc.

UNIVERSAL - Allows secure connection between ANY web server and the web panel regardless if they are “side-by-side” or “across the globe”





- OPEN AUTOMATION SYSTEM

- Total Flexibility in Engineering
 - ✓ Virtually no limits to the graphical capabilities, and usability features that can be utilized
 - ✓ Future proof
- Open standard
 - ✓ Visualization is located on PLC
 - ✓ Facilitates Responsive Design
 - ✓ HMI Hardware is independent from Engineering Tool
 - ✓ Works with industrial HMI devices, Smart Phones, Tablets and PCs





HMI product families

Two classes of products

- **Standard – WP 4000**

- Best in class hardware
- Wide product choices



- **Basic – BWP 2000**

- Applications with basic performance needs
- Price sensitive applications & markets





Standard Web Panel – WP 4000

Screen sizes 7“, 10.1“,
12.1“, 15.6“, 18.5“ PCAP
Multi-Touch

Arm Cortex A53,
4 x 1,2 GHz (Quadcore)

Resistive 7“ Single-Touch
option



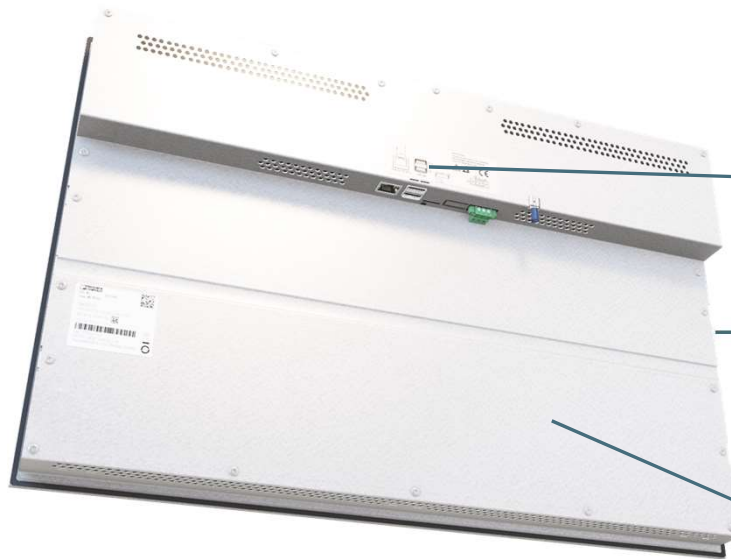
HTML5 Browser Qt

All metal housing





Standard Web Panel – WP 4000



1x Ethernet, 2x USB 2.0

Metal housing improves EMC

High-Performance CPU:
Arm® Cortex®-A53
(Quad-Core)





Standard Web Panel – WP 4000



Description	WP 4070-WVRS	WP 4070-WXPS	WP 4101-WXPS	WP 4120-WXPS	WP 4156-WHPS	WP 4185-WHPS
Display size	17.78 cm (7")		25.65 cm (10.1")	30.73 cm (12.1")	39.63 cm (15.6")	47 cm (18.5")
Touch technology	Analog resistive (Polyester)	Projected capacitive (PCAP)				
Physical dimensions	203 x 147 x 48	186 x 146 x 51	263 x 199 x 51	302 x 229 x 51	436 x 278 x 59	485 x 329 x 61
Weight	0.8 kg		1.3 kg	1.7 kg	4 kg	5.5 kg
Art.-Nr.	1148694	1148693	1148687	1148689	1148691	1148690



Standard Web Panel – BWP 2000

Screen sizes 4.3", 7", 10.2"

350 Cd/m² LED backlight

Resistive single touch

Arm Cortex A9, 1 GHz CPU



HTML5 Browser Otter

0...50°C operating temperature

Ethernet connectivity

Plastic housing

Basic performance needs





Comparison: WP 4000 vs. BWP 2000

WP 4000



1. 6 display choices
2. Capacitive or 7" Resistive touch
3. Can target 4 IP addresses
4. Higher screen resolution
5. Metal housing
6. Faster performance
7. Higher price

BWP 2000

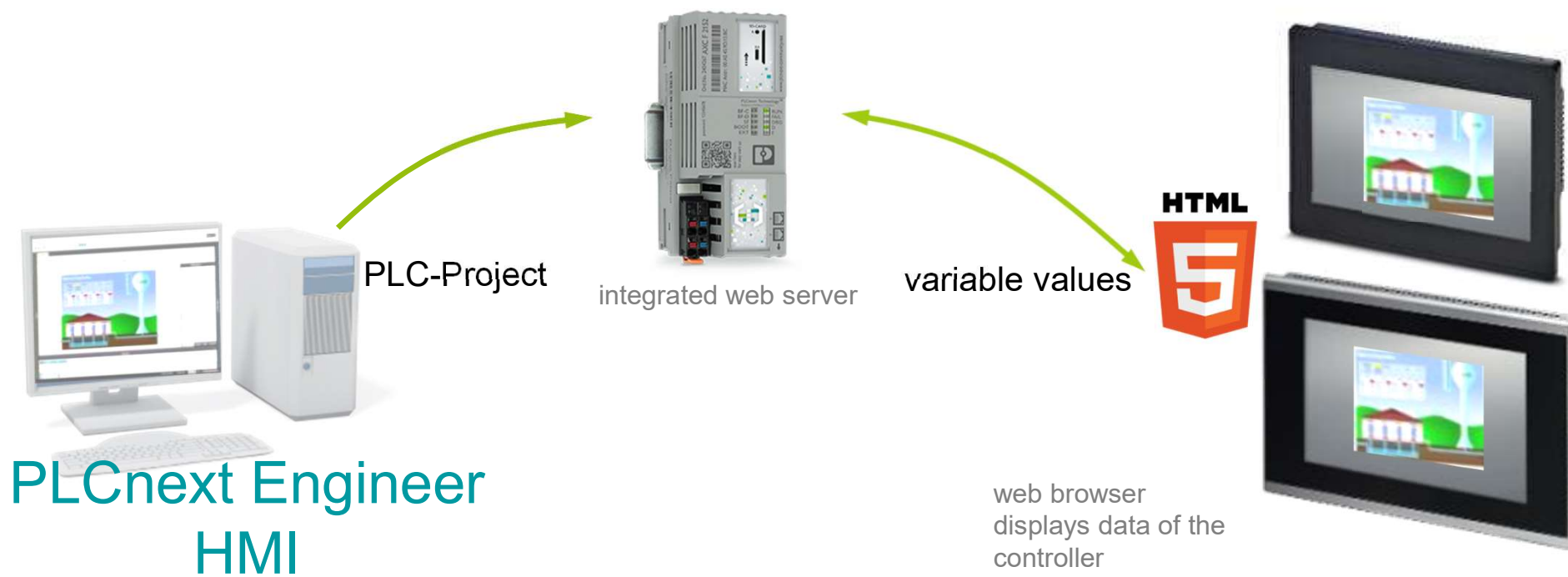


1. 3 display choices
2. Resistive touch
3. Can target 1 IP address
4. Standard screen resolution
5. Plastic housing
6. Basic performance
7. Lower price

PLCnext Technology Components

Integrated web server for HMI

PLCnext Technology[®]
Designed by PHOENIX CONTACT



HTML5 HMIs – ease & flexibility for sales



- No need to sell software
 - Customer does not need to be first convinced of the Visualization Engineering Tool
 - Makes the sale less complex as this is just a pure hardware component sale
 - Faster opportunity turnaround time

Visu+ Remote Access via Webpage (HTML 5)

This guide will step you through on how to connect remotely to a Visu+ project through a web client.



Visu+ Remote Access via Webpage (HTML 5)

Part 1 Connecting to a Touch Panel or Basic Touch Panel

Number of Allowed Web Client Connections

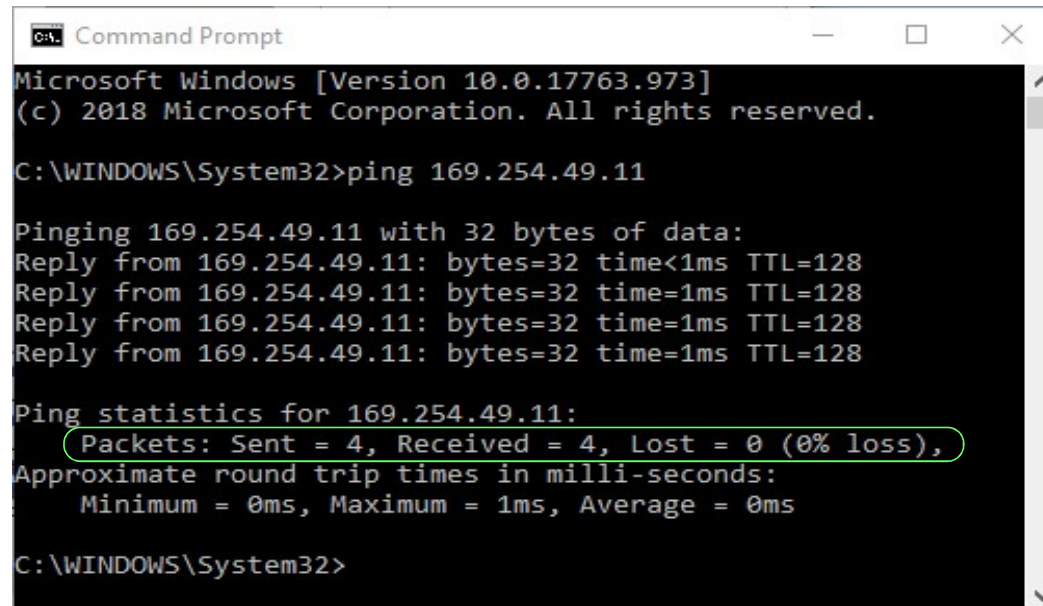
- **BTPs** allow for 1 remote web client connection.
- **TPs** allow for 2 simultaneous connections.



Visu+ Remote Access via Webpage (HTML 5)

Preparations

1. In a Windows PC, open a Command Prompt and make sure you can ping the target panel.



```
Command Prompt
Microsoft Windows [Version 10.0.17763.973]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\WINDOWS\System32>ping 169.254.49.11

Pinging 169.254.49.11 with 32 bytes of data:
Reply from 169.254.49.11: bytes=32 time<1ms TTL=128
Reply from 169.254.49.11: bytes=32 time=1ms TTL=128
Reply from 169.254.49.11: bytes=32 time=1ms TTL=128
Reply from 169.254.49.11: bytes=32 time=1ms TTL=128

Ping statistics for 169.254.49.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\WINDOWS\System32>
```

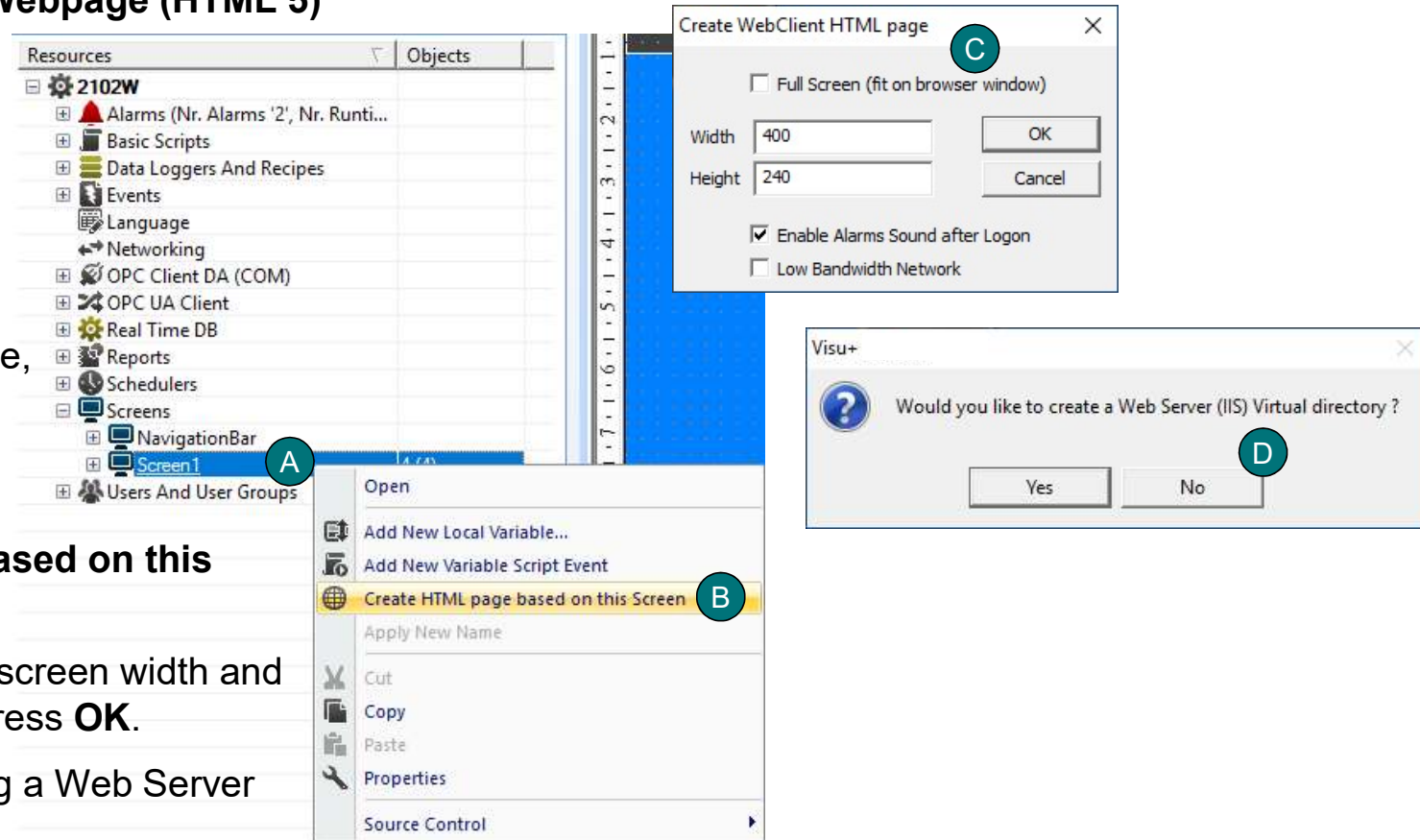
Visu+ Remote Access via Webpage (HTML 5)

Preparations

2. To view screens from a browser you will need to make an HTML page of the opening Screen:

- A. Under the project name, open **Screens**, then right-click on the desired screen.
- B. Create HTML page based on this Screen.
- C. If needed, specify the screen width and height in pixels then press **OK**.
- D. Answer **No** for creating a Web Server IIS* Virtual Directory.

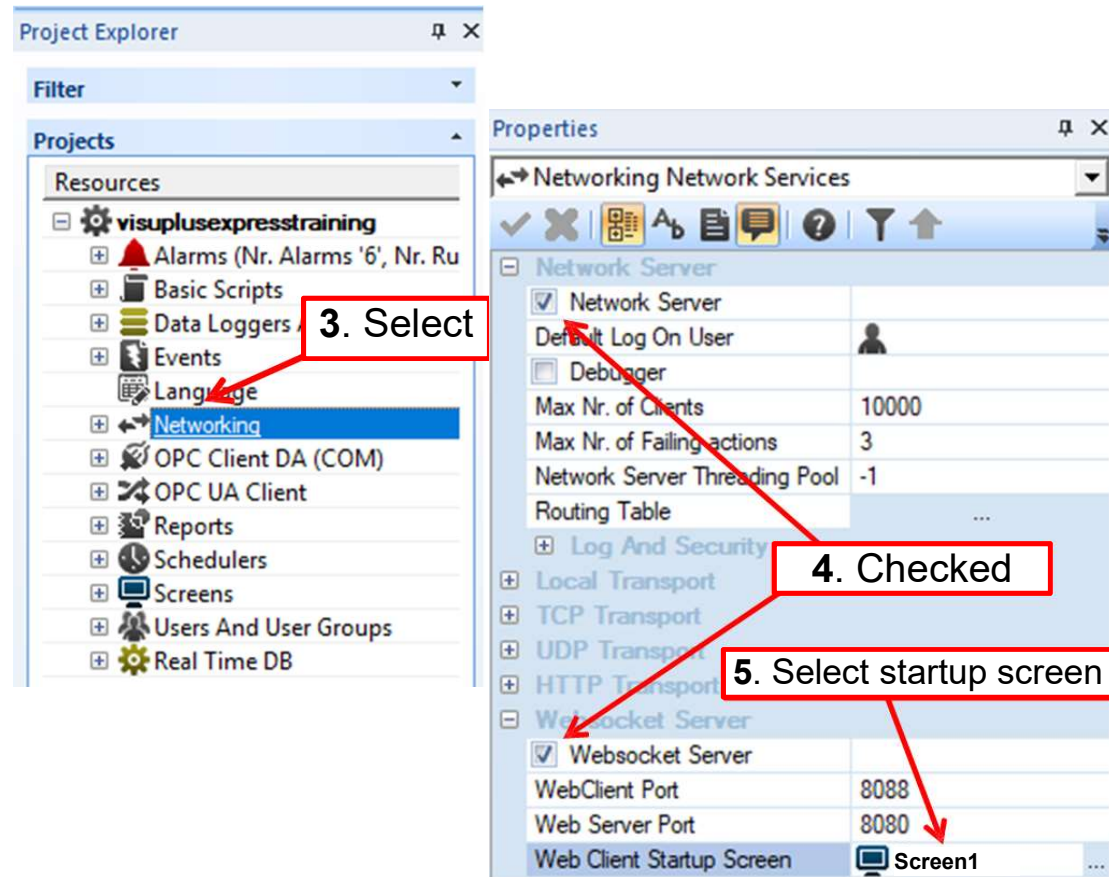
*Microsoft Internet Information Service



Visu+ Remote Access via Webpage (HTML 5)

Preparations

3. Under the Visu+ Project select **Networking**.
4. Under **Properties** make sure the following are checked:
 - **Network Server**
 - **Websocket Server**
5. Select the **Web Client** (version of the) **Startup Screen**. This is the screen that was created as an HTML page in Step 2.

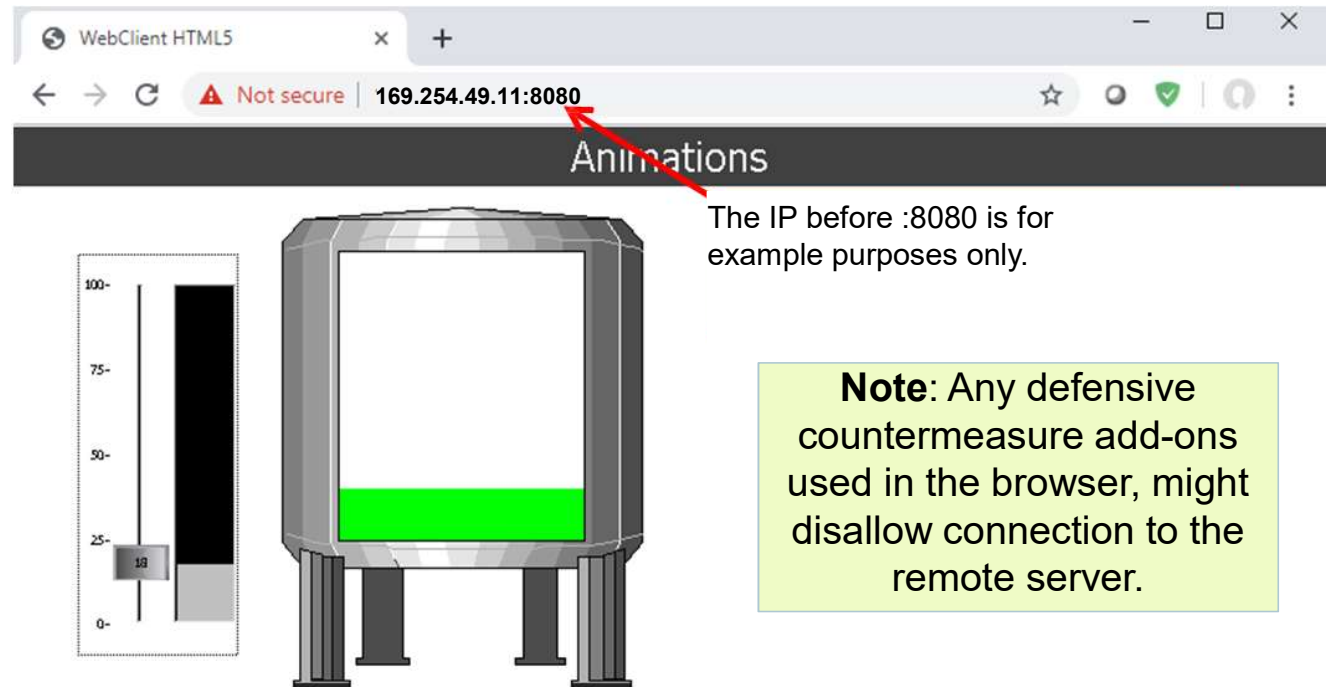


For example purposes, your screen name will most likely be different.

Visu+ Remote Access via Webpage (HTML 5)

Connecting Remotely

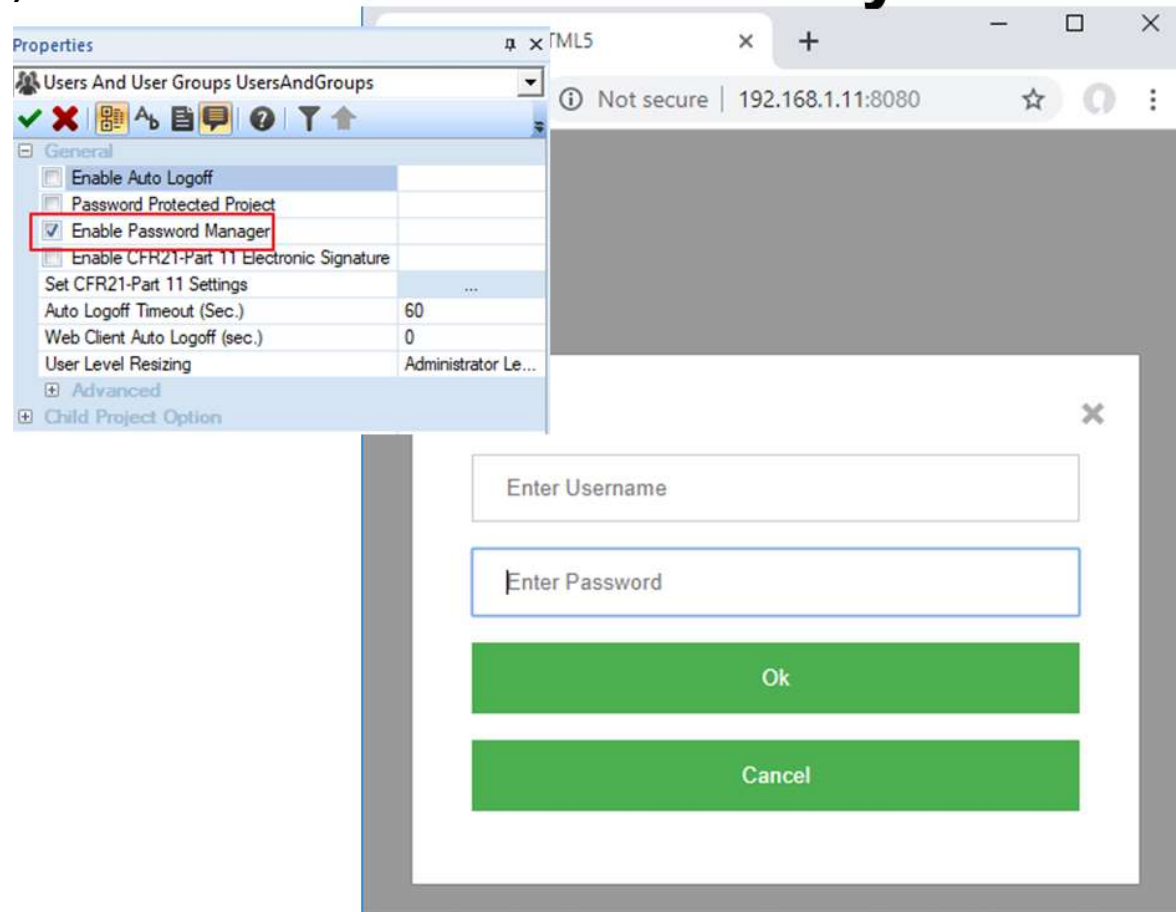
6. Open a web browser in a remote PC, then type the **ipAddressOfTP:8080** to access the screens remotely.



NOTE: Expect delays in viewing remote access screens compared to operating them locally, especially busy, animated screens with motion. More objects = more delay, which could be worsened when the data is transmitted wirelessly.

Visu+ Remote Access via Webpage (HTML 5)

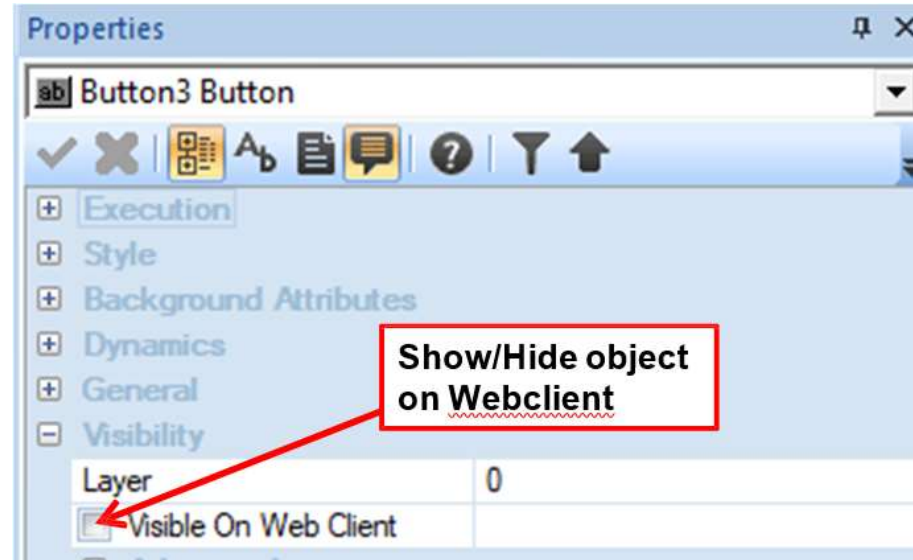
7. If **Enable Password Manager** is checked in development mode, the logon screen will appear on the web client.
8. Web client users and local users can use the panel simultaneously and maintain individual user rights.
9. To log a user off remotely, close the session by closing the tab in the web browser. To change users, close the tab, reopen a new tab and remote-in.



Visu+ Remote Access via Webpage (HTML 5)

10. Developers have the option of hiding certain objects in the web client to make them inaccessible.
11. Login/Logout buttons are a great example since they do not function from the web client. This is because they are tied to the local user logged in, not the remote/web user.

Object Visibility



Visu+ Remote Access via Webpage (HTML 5)

Part 2 Connecting to a Remote PC That is Running a Visu+ Project

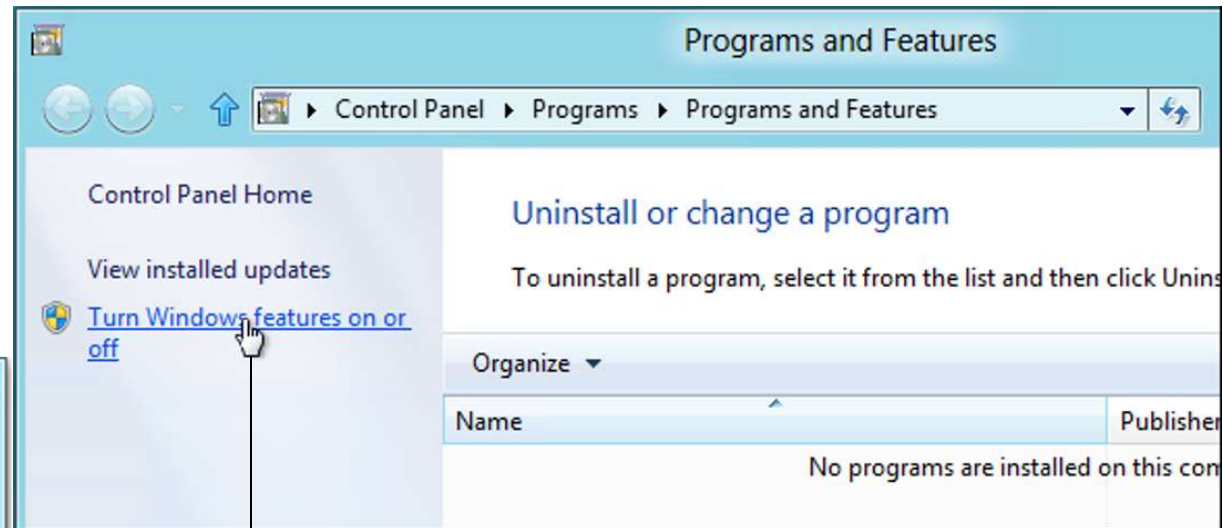
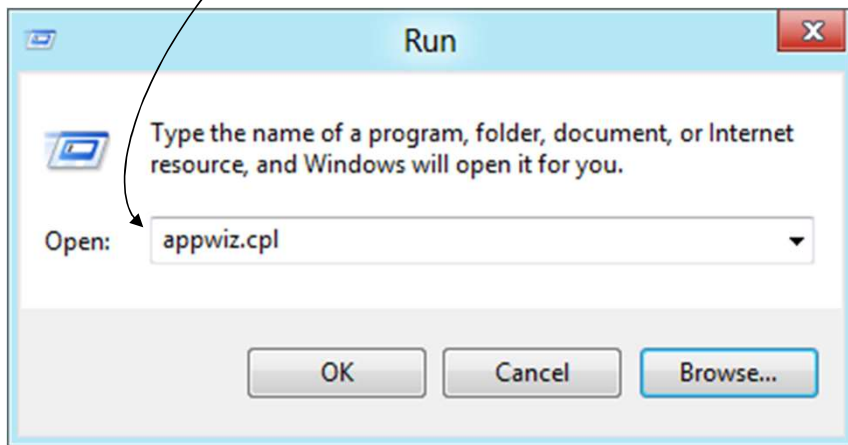


Visu+ Remote Access via Webpage (HTML 5)

A web server accepts client requests across a network via HTTP and other related protocols to store, process and deliver web pages to clients. Phoenix Contact TPs and BTPs have webserver functionality built-in, IPCs however need it setup. This guide uses Microsoft IIS (Internet Information Service) as a web server which has been part of the Windows OS (depending on release hierarchy) since NT 4.0. **Note:** This procedure presumes the VISU+ development and runtime, and MS IIS are already on the development IPC.

Installing IIS on a remote (web server) PC

1. Press the **Windows + R** key, in the **Run** box type **appwiz.cpl** then press **Enter**.



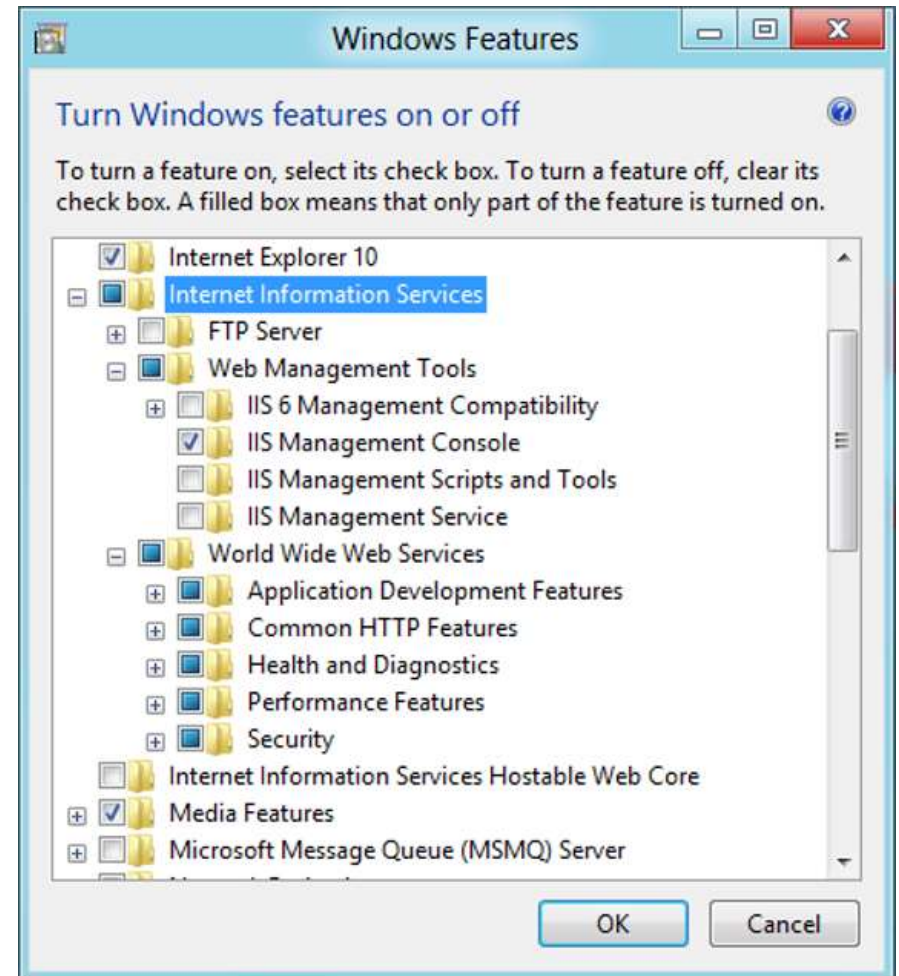
2. In the Program and Features part of Control Panel, on the left side select **Turn Windows features on or off**.

Visu+ Remote Access via Webpage (HTML 5)

Installing IIS on a remote (web server) PC

3. Click on the **Internet Information Services** check box. If you're a developer you may want to expand it and explore the sub-components. By default it installs everything needed to host a website, but you may also want some of the more developer oriented components.

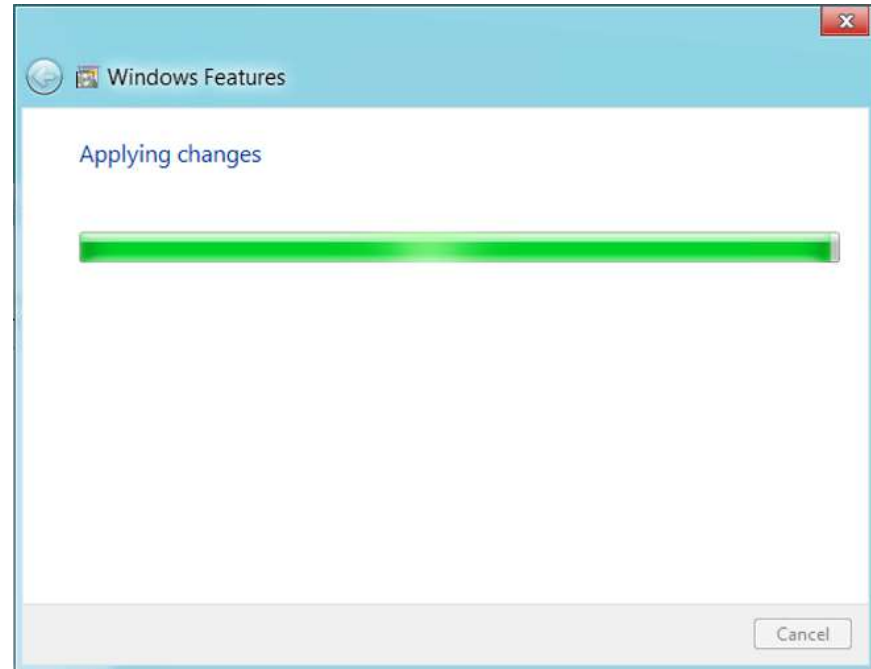
4. Press **OK** when ready.



Visu+ Remote Access via Webpage (HTML 5)

Installing IIS on a remote (web server) PC

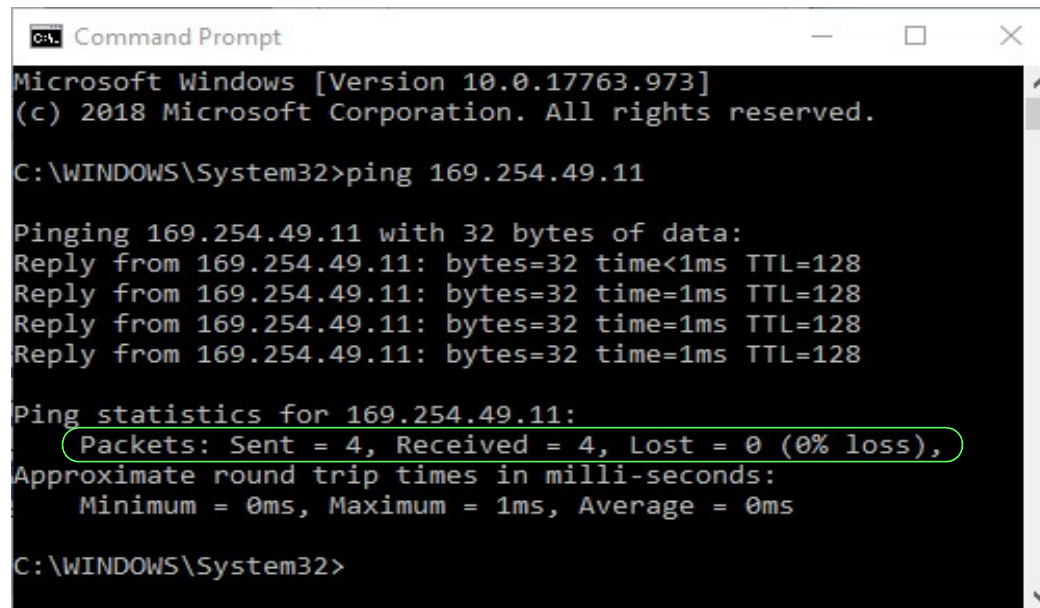
5. This dialog displays the configuration progress.



Visu+ Remote Access via Webpage (HTML 5)

Client Preparations

1. Open a Command Prompt and make sure you can ping the target PC.



```
Command Prompt
Microsoft Windows [Version 10.0.17763.973]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\WINDOWS\System32>ping 169.254.49.11

Pinging 169.254.49.11 with 32 bytes of data:
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Reply from 169.254.49.11: bytes=32 time=1ms TTL=128
Reply from 169.254.49.11: bytes=32 time=1ms TTL=128
Reply from 169.254.49.11: bytes=32 time=1ms TTL=128

Ping statistics for 169.254.49.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
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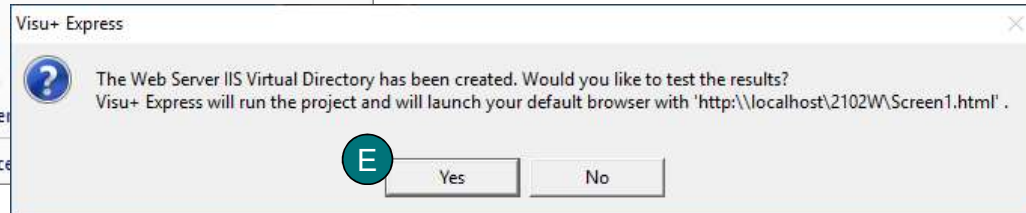
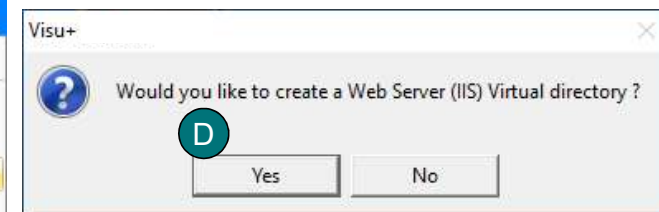
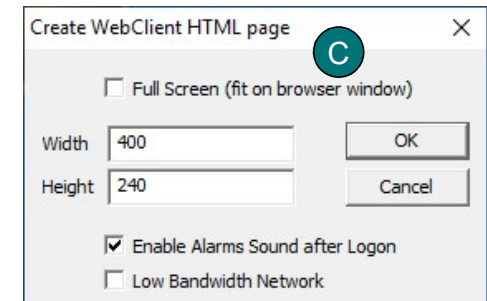
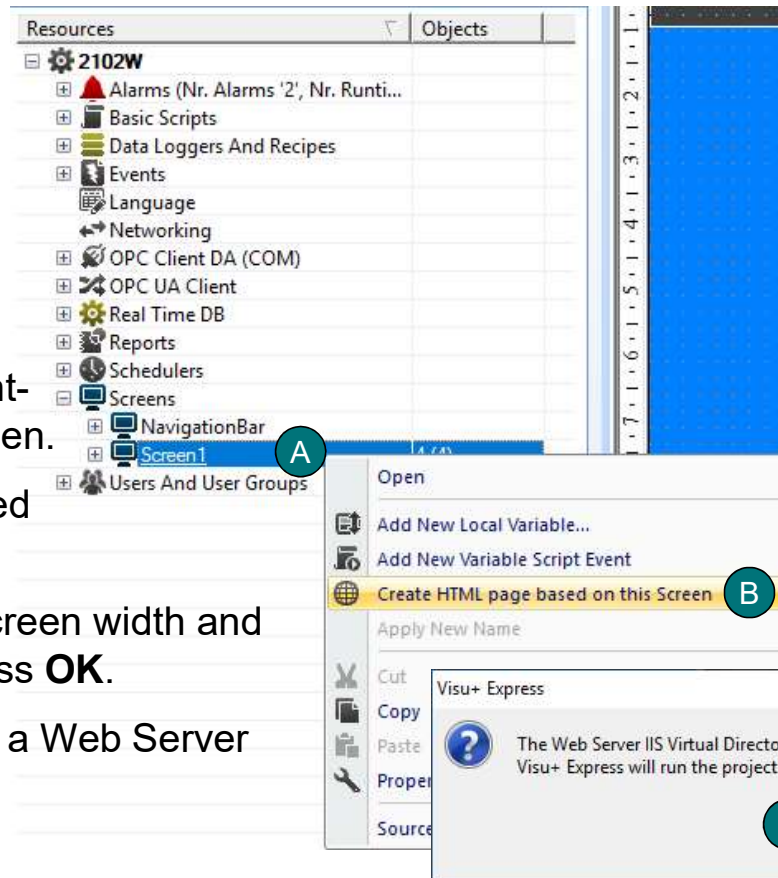
C:\WINDOWS\System32>
```

Visu+ Remote Access via Webpage (HTML 5)

Client Preparations

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 - C. If needed, specify the screen width and height in pixels then press **OK**.
 - D. Answer **Yes** for creating a Web Server IIS* Virtual Directory.
 - E. Select **Yes**.

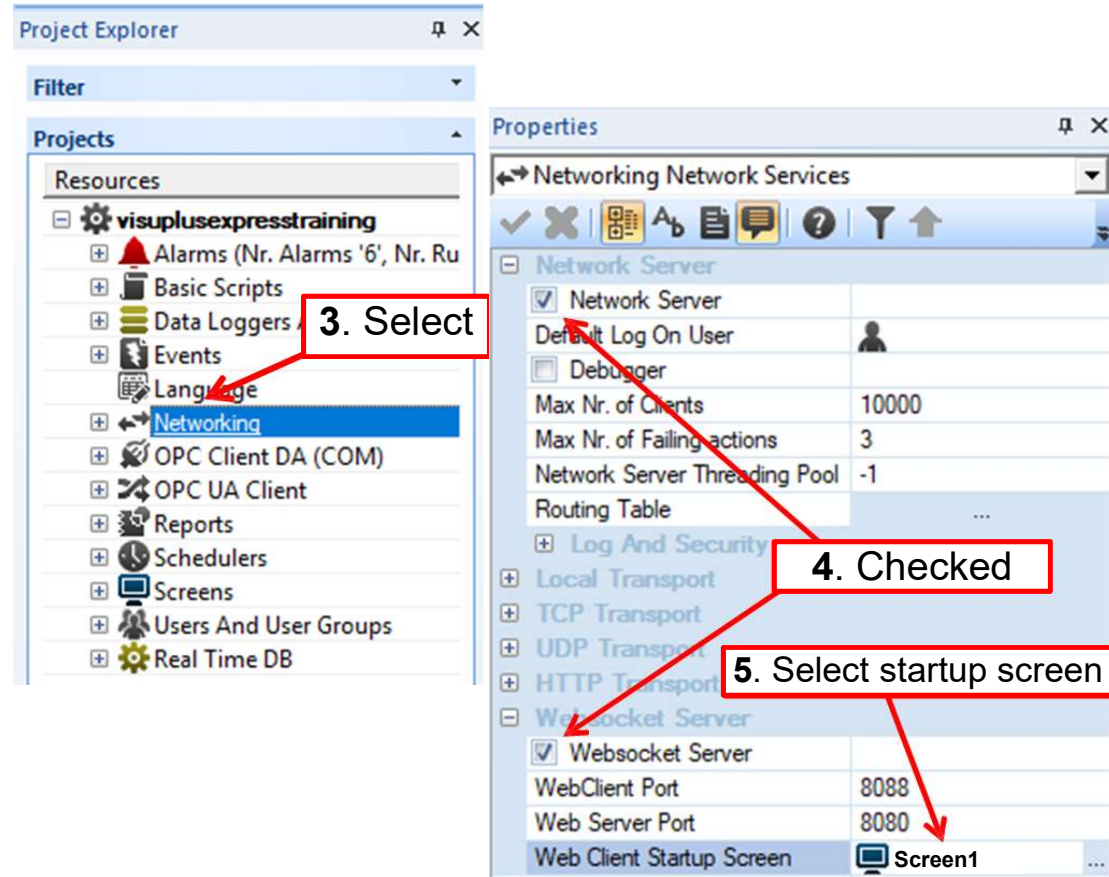
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Visu+ Remote Access via Webpage (HTML 5)

Client Preparations

3. Under the Visu+ Project select **Networking**.
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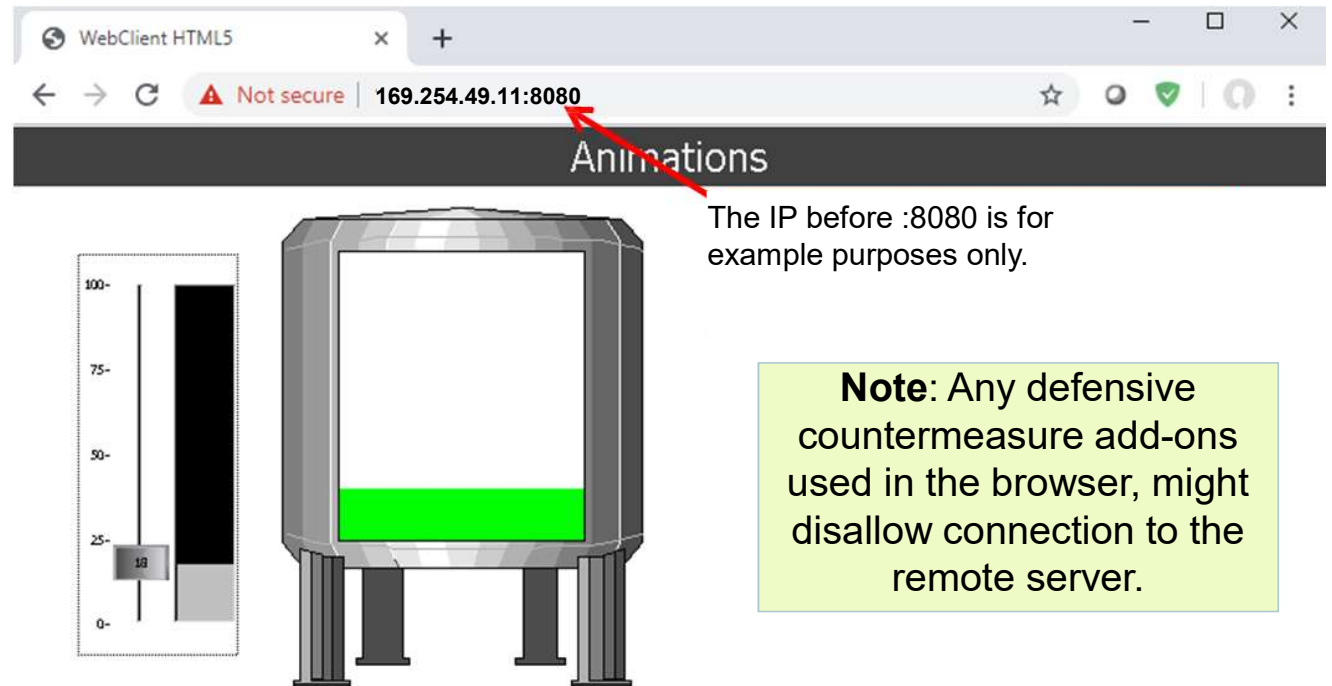


For example purposes, your screen name will most likely be different.

Visu+ Remote Access via Webpage (HTML 5)

Connecting to the Web Server

6. Open a web browser, then type the **ipAddressOfthe PC:8080** to access the screens remotely.



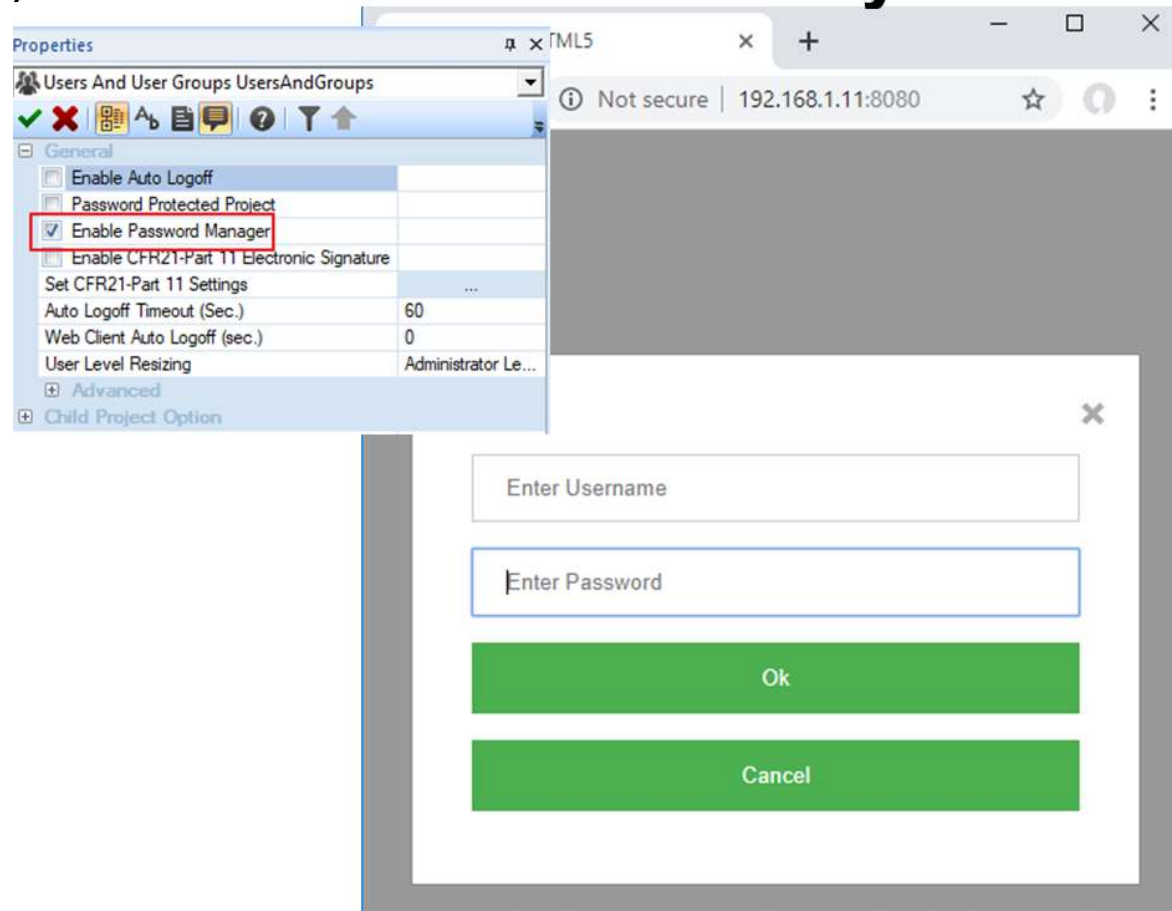
Note: Any defensive countermeasure add-ons used in the browser, might disallow connection to the remote server.

NOTE: Expect delays in viewing remote access screens compared to operating them locally, especially busy, animated screens with motion. More objects = more delay, which could be worsened when the data is transmitted wirelessly.

Visu+ Remote Access via Webpage (HTML 5)

Connecting to the Web Server

7. If **Enable Password Manager** is checked in development mode, the logon screen will appear on the web client.
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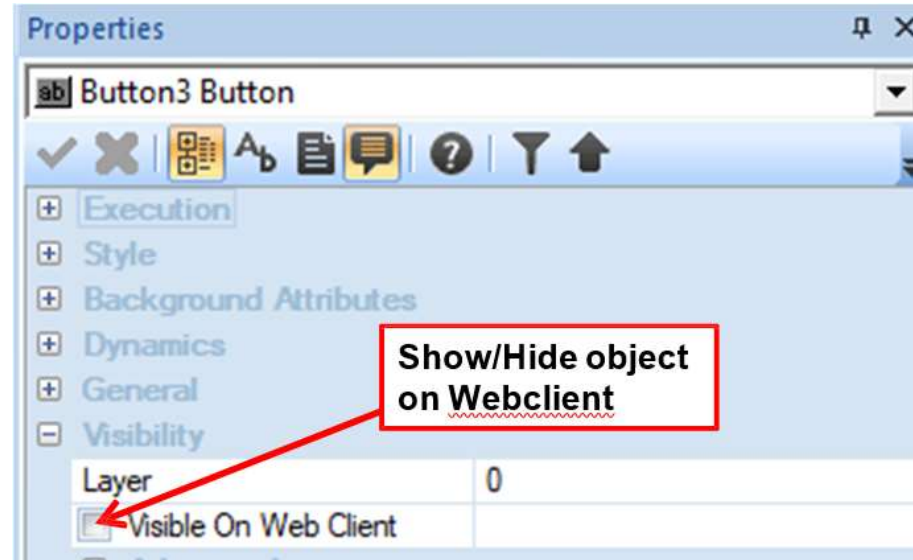


Visu+ Remote Access via Webpage (HTML 5)

Connecting to the Web Server

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11. Login/Logout buttons are a great example since they do not function from the web client. This is because they are tied to the local user logged in, not the remote/web user.

Object Visibility



PHOENIX CONTACT

CoDeSys

The CODESYS GmbH, formerly 3S-Smart Software Solutions GmbH, was founded in 1994 by Dieter Hess and Manfred Werner. Core products are CODESYS (Controller Development System), the leading IEC 61131-3 programming system for professional application development in the industrial automation field and CODESYS Control the platform independent controller system. Around these core products, CODESYS offers a whole range of integrated product extensions for motion control or visualization. Today, CODESYS employs more than 100 specialists, responsible for the development and distribution of CODESYS. CODESYS is used in virtually all sectors of the automation industry by manufacturers of industrial controllers or intelligent automation devices, by end users in the most different industries or by system integrators who offer automation solutions with CODESYS. The close customer contact CODESYS has always cultivated is certainly one of the main guarantors for the user friendliness of the CODESYS products.



Automation Server
SoftPLC
Communication
Engineering
Webserver

Some PHOENIX CONTACT worldwide (most in Europe) , sometimes program on this platform and connect I/O Systems, Controllers, and more things to CoDeSys software to develop specific application

Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Why now..

- As the Industrial marketplace continues to advance, our HMIs are faced with an enormous challenge to provide connectivity to everything under the sun...
- Today, we connect to a wide variety of devices but often overlooked is our seamless connection to many of the popular protocols including CoDeSys
- We offer unique solutions that
 - Simple and easy to implement
 - Require little to no engineering or programming
 - Add value to system
- Let's learn more about our unique approach to solving these types of requests.



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Targeting New Opportunities Using WP 4000 with CoDeSys Connections

What is CoDeSys?

- Short for **C**ontroller **D**evelopment **S**ystems
- Technology developed by **3S Smart Software Solutions GmbH**
- 3S maintains ownership/ IP but licenses technology to other manufacturers and vendors
- Popular IEC 61131-3 software environment, very strong presence in Europe but technology has started to grow around the world
- CoDeSys



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Why is CoDeSys popular for Industrial Automation?

Users find this environment useful for:

- Configuring Sequence and Fieldbus Control
- Planning and execution of complex motion control or CNC movements
- Programming of safety applications according to DIN IEC 61508 SIL3
- Creating visualization screens for machine operation
- Automation projects can be implemented without the user having to leave the familiar development interface.



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Which Industries utilize this technology?

Factory Automation

- Packaging, Printing & Paper, Material Handling, Machine Tool, and Electronics Manufacturing Services (EMS)

Process Automation

- Water & Wastewater treatment, Oil & Gas, Mining and Minerals, Food and Beverage, etc.

Building Automation

- Lighting, Heating, Cooling and Ventilation controls, etc.

Renewable Energy

- Solar/Wind controllers

Mobile

- Construction, Mining, Marine and Agriculture



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Which applications benefit from this technology?

Factory Automation

- Everything from Vertical / Horizontal Fill Form and Seal (V/HFFS) Machines to Flexographic machinery

Process Automation

- H2O Desalinization, Pulp & Paper Converting to Upstream Oil & Gas concentrators

Building Automation

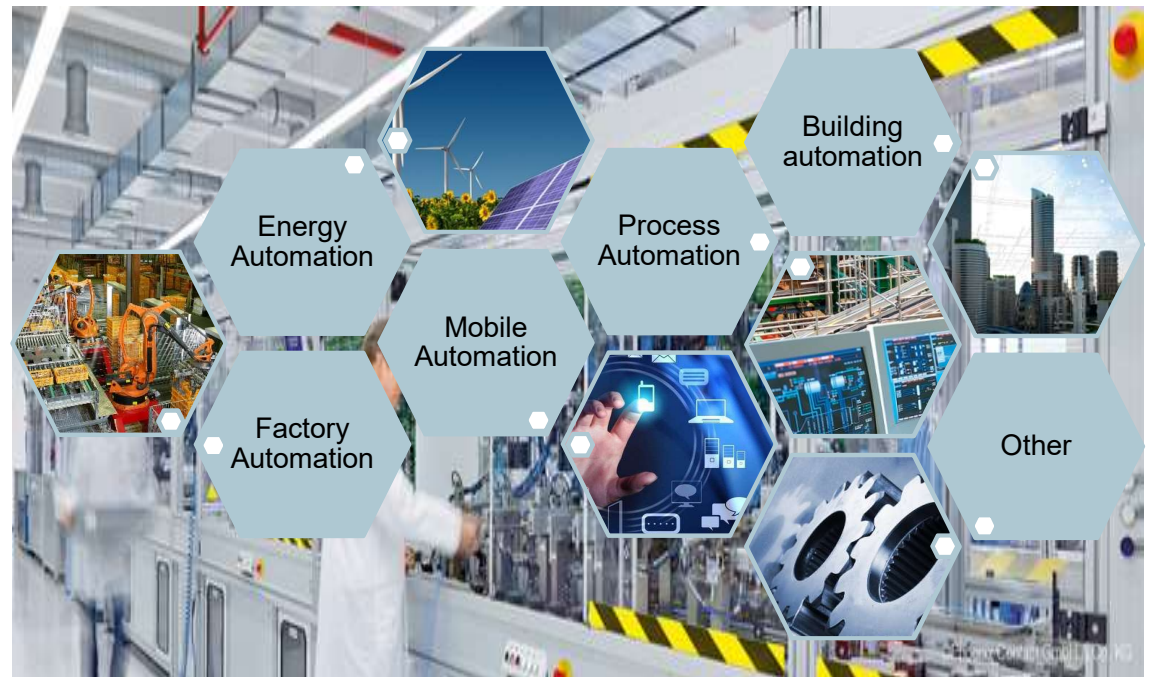
- Ventilation controllers for commercial to agriculture

Renewable Energy

- Controllers for Solar panel tracking

Mobile

- Electronic Control Units (ECUs) in construction , Marine and mining machinery



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Why should sales members care?

- SIs, OEMs and End Users are standardizing on control technology and establishing hard specifications - effectively limiting your opportunities and/or locking you out of accounts
- Automation suppliers are pushing for tightly integrated solutions to limit competitor opportunities
- Resource deprived engineering teams are strained and unwilling to take on developing HMI screens to accommodate “your solution”
- Decision makers are focused on Total cost of ownership
- Maintenance personnel are more concerned with ..”if it ain’t broke...”



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Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Why should sales members care?

Opportunities for HTML5 based HMIs:

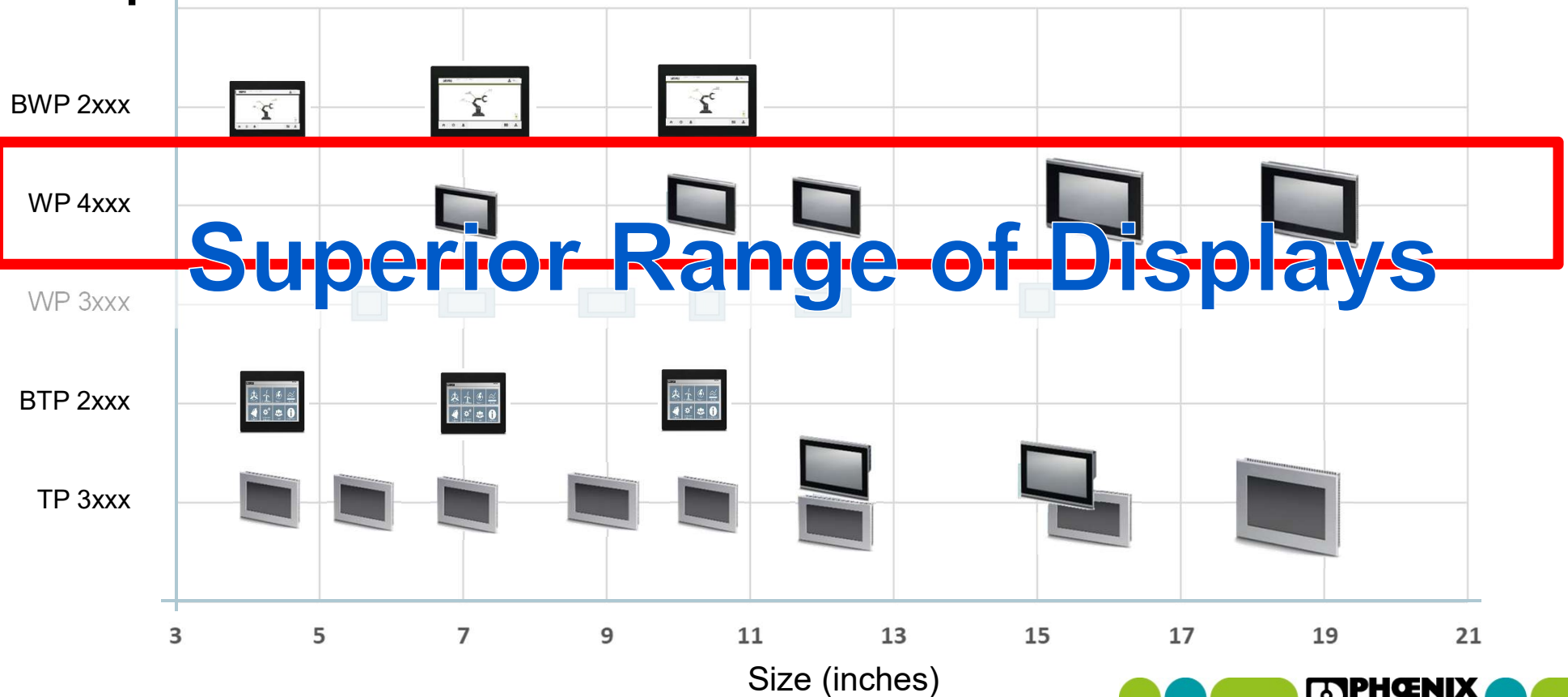
- Are door openers and enabling technologies
- Offer seamless connections to automation devices through onboard webserver including native PLCNext controllers and now CoDeSys enabled devices
- Reduced system complexity - there is no additional programming for the HMI, simply assign target IP address, connect and go
- Can be positioned as an industrial thin client web display for those “hard spec account” with perceived HMI objections.



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Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Comprehensive HMI Portfolio



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Standard HTML5 Web panel – WP 4000

Screen sizes
7", 10.1", 12.1", 15.6",
18.5" PCAP Multi-Touch

Resistive 7"
Single-Touch option

High-Performance CPU:
Arm® Cortex®-A53
(Quad-Core)



HTML5 Browser Chromium

Metal housing

Real Time Clock with Gold-Cap (Super-Cap) backup

1x Ethernet, 2x USB 2.0

Targeting New Opportunities Using WP 4000 with CoDeSys Connections

WP 4000 – HTML5 HMI

WP 4000 Product family

						
Description	WP 4070-WVRS	WP 4070-WXPS	WP 4101-WXPS	WP 4120-WXPS	WP 4156-WHPS	WP 4185-WHPS
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Typ	WP 4000	WP 4000	WP 4000	WP 4000	WP 4000	WP 4000
Art.-Nr.	1148694	1148693	1148687	1148689	1148691	1148690

Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Our Solutions for CoDeSys

How to leverage our HMI portfolio and take advantage of our technology?

We offer two solid solutions to address CoDeSys requirements

1. For modern devices running CoDeSys Webserver for visualization, we offer the WP4000 HMIs
 - Simple connection using HTML5 technology
2. For most legacy devices running CoDeSys SoftPLC (V2.3 & 3), our TP3000 HMIs with Visu+ can be specified
 - Direct connection



TP3000 with Visu+
Connection: Direct

- Device access thru PLC Communication driver and user configured visualization



WP4000
Connection: HTML5

- Device access thru embedded webserver using the WP4000
- Point to the IP address and start visualization



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Our Competitive Advantage

We offer:

- A broad range of display solutions and technologies where other can't
 - Wide temperature, sunlight readable and ruggedize models
- Unique display sizes and formats for mature systems using TP3000 against limited offerings from other suppliers
- Complete solutions targeted for both modern (HTML5 based) and retrofit projects (direct connect) against the alternative or “one solution fits all requirements” approach from others



TP 3000 with Visu+
= Direct
connection



WP 4000 for
HTML5 connection



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Our Competitive Advantage

Cont.

- Industrial designed and harden hardware
- Solutions for both components and system based configuration
- No Windows security patches or additional updates to deploy or manage
 - Self contained and secure system solution
- Easy to replace, configure and deploy in the field (OEM ready) or within a facility (End User).
 - USB/MicroSD updates



TP 3000 with
Visu+ =
Direct connection



WP 4000 for
HTML5 connection



Targeting New Opportunities Using WP 4000 with CoDeSys Connections

Manufacturer that offer CoDeSys compatible solutions



EXOR



Wago Kontakttechnik GmbH & Co. KG



Schneider Electric Automation GmbH



Hans Turck GmbH & Co. KG



JanzTec



Beijer



ASEM



Nexcom



Advantech



Elrest



Kontron



ESA



Liebherr



ifm



Festo AG & Co. KG



SABO Elektronik (Web Terminals) <https://sabo.de/>



Parker Hannifin



Berghoff



ABB Automation Products GmbH



KEB



Berghof Automation GmbH



Epis



Hottinger Baldwin Messtechnik GmbH



Altus Sisteckas de Automacao SA



Bosch Rexroth AG



Eaton Industries GmbH



Hitachi Industrial Equipment Systems Co. Ltd



Keba AG



Lenze Automation GmbH



Parker Hannifin GmbH



Stober



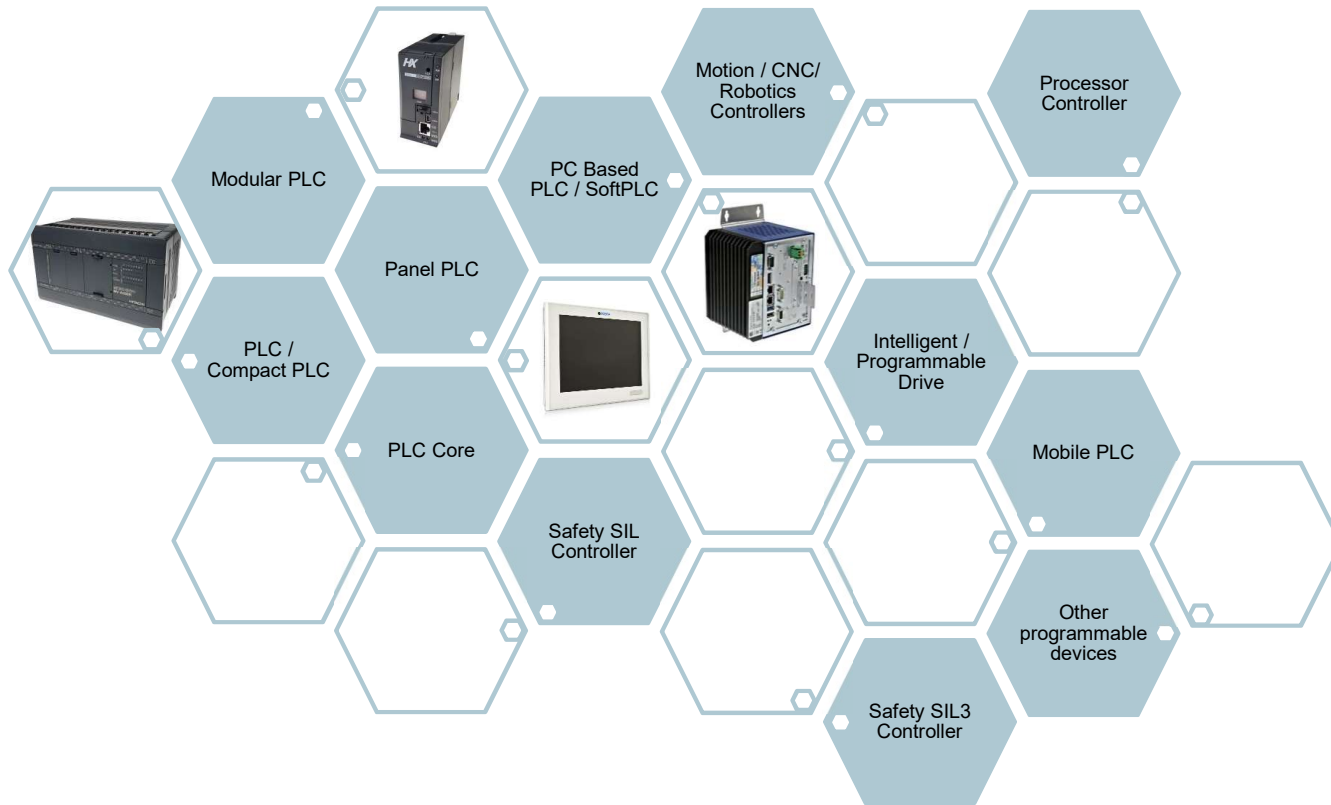
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Phoenix Contact

Targeting New Opportunities Using WP 4000 with CoDeSys Connections

CoDeSys Device List



Summary

- Sales teams have a number of solutions for CoDeSys requirements
- Change the narrative or continue to establish credibility with customers by introducing them to alternative solutions (web based HTML5 or the traditional configuration)
- Steer projects or new opportunity towards your portfolio
- Continue to leverage the full range of HMI solutions today and win new business



TP 3000 with
Visu+ =
Direct connection



WP 4000 for
HTML5 connection

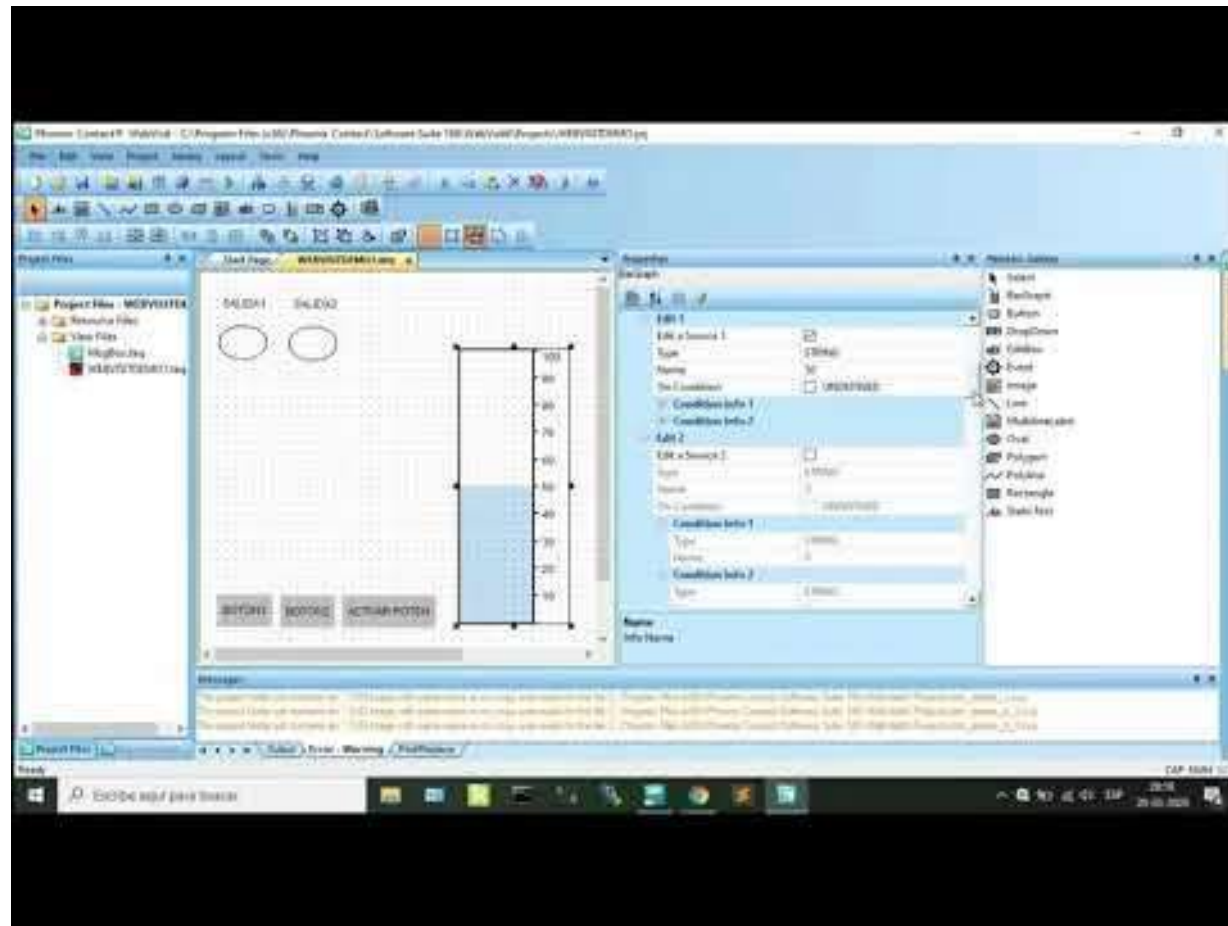


HMI Software products using HTML5

- Webvisit
- Visu+ HTML5 web client
- PLCnext Engineer HMI
- WEBfactory i4
- PROCON-WEB
- Atvise
- Wonderware InTouch
- CODESYS Webserver
- QuickHMI
- SpiderControl Webserver
- ...



Webvisit Tutorial



Tutorial Webvisit - Phoenix Contact



WebVisit Part 1 Quickstart Advanced

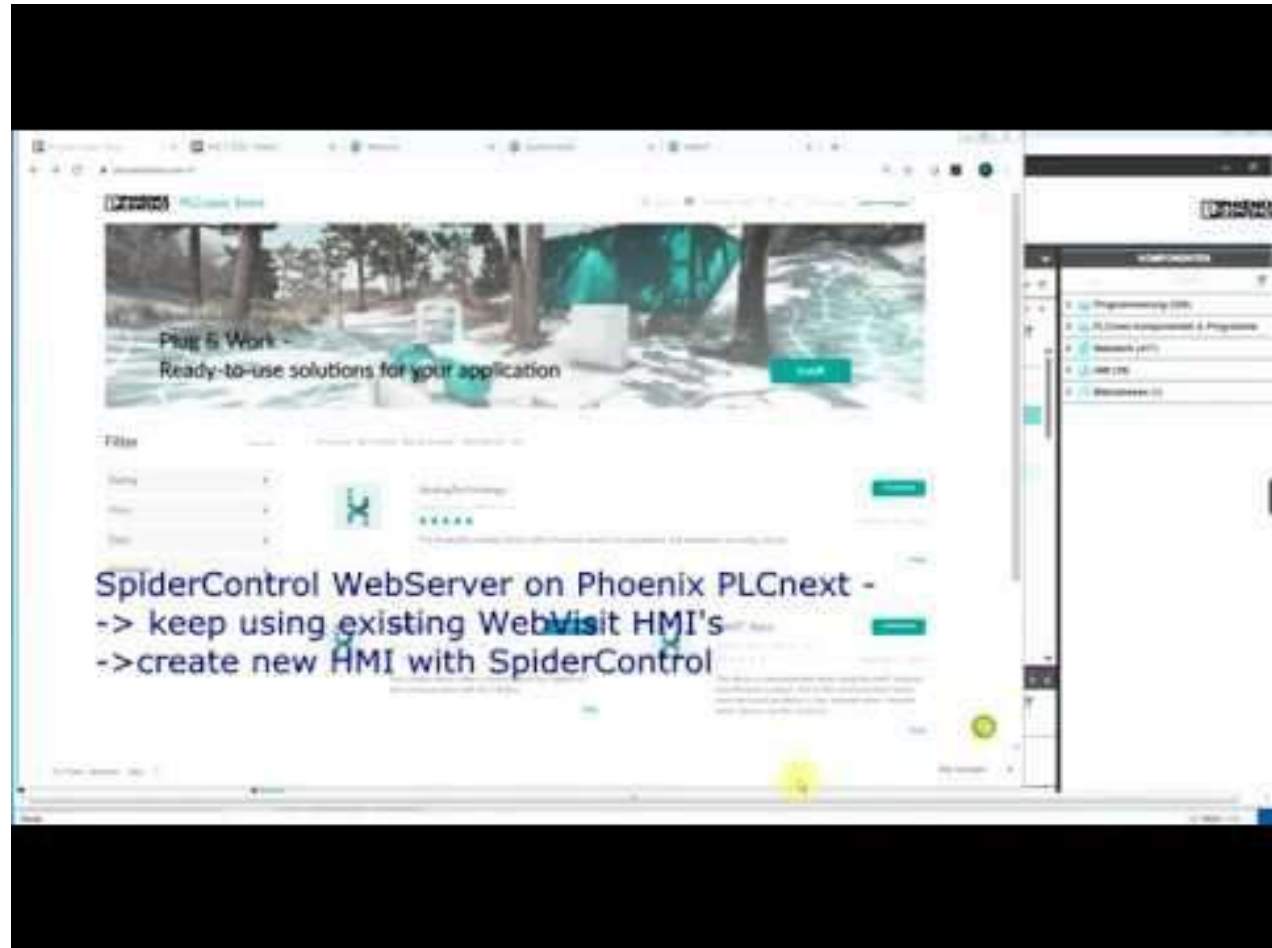
SpiderControl

WebServer

on

PLCnext

www.spidercontrol.net



PLCnext Webserver for WebVisit & SpiderControl HMI

Webinar IMA 2020

Mayor información



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