

Welcome

Pantallas HMIs 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.





Learn HTML5 - full course with code samples





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

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

UNIVERSAL - Allows secure connection between <u>ANY</u> web server and the web panel regardless if they are "side-by-side" or "across the globe"







- 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









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















HTML



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 k	0.8 kg		1.7 kg	4 kg	5.5 kg
ArtNr.	1148694	1148693	1148687	1148689	1148691	1148690





Basic performance needs

€^(U)LISTED C€



Comparison: WP 4000 vs. BWP 2000





PLCnext Technology Components

Integrated web server for HMI





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



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







Part 1 Connecting to a Touch Panel or Basic Touch Panel





- **BTP**s allow for 1 remote web client connection.
- **TP**s allow for 2 simultaneous connections.



Preparations

1. In a Windows PC, open a Command Prompt

and make sure you can ping the target panel.

Command Prompt	221		\times
Microsoft Windows [Version 10.0.17763.973] (c) 2018 Microsoft Corporation. All rights res	erved.		^
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 TT Reply from 169.254.49.11: bytes=32 time=1ms TT Reply from 169.254.49.11: bytes=32 time=1ms TT Reply from 169.254.49.11: bytes=32 time=1ms TT	L=128 L=128 L=128 L=128		
<pre>Ping statistics for 169.254.49.11:</pre>	(0% lo IS	55),	
			\sim





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.



INSPIRING INNOVATIONS

Connecting Remotely

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



NOTE: <u>Expect delays</u> 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.



- 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.
- 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.

Security × A X [ML5 Properties A Users And User Groups UsersAndGroups • (i) Not secure | 192.168.1.11:8080 ☆ X 🔡 A E 📮 Ø T A Enable Auto Logoff Password Protected Project 5 Enable Password Manager Enable CFR21-Part 11 Electronic Signature Set CFR21-Part 11 Settings 60 Auto Logoff Timeout (Sec.) Web Client Auto Logoff (sec.) 0 User Level Resizing Administrator Le Advanced × Child Project Option Enter Username Enter Password Cancel **INSPIRING INNOVATIONS**

- 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







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:** <u>This procedure presumes</u>

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**.

		Run		×
Copen:	Type the n resource, a appwiz.cp	ame of a progran nd Windows will bl	n, folder, docume open it for you.	nt, or Internet
		ОК	Cancel	Browse

1	Programs and Features	
🕜 🕗 - 👚 🚾 🕨 Control P	anel	• •
Control Panel Home View installed updates Turn Windows features on or off	Uninstall or change a program To uninstall a program, select it from the list and then Organize	click Unins
	Name	Publisher
	No programs are installed o	on this con
2. In the Program the left side sele	n and Features part of Control Panel, ect Turn Windows features on or off .	on

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.

- 0 X Windows Features 12 Turn Windows features on or off 0 To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on. 🛛 📗 Internet Explorer 10 Internet Information Services FTP Server Web Management Tools IIS 6 Management Compatibility 1 IIS Management Console IIS Management Scripts and Tools IIS Management Service World Wide Web Services Application Development Features Common HTTP Features Health and Diagnostics Performance Features L Security + Internet Information Services Hostable Web Core Media Features Microsoft Message Queue (MSMQ) Server OK Cancel



Installing IIS on a remote (web server) PC

5. This dialog displays the configuration progress.





Client Preparations

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





Resources

(+)

Client Preparations

- 2. To view screens from a browser you need to make an HTML page of the opening Screen:
 - A. Under the project name, open Screens, then rightclick 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 **Yes** for creating a Web Server **IIS*** Virtual Directory.
 - **F** Select **Yes**

*Microsoft Internet Information Service



INSPIRING INNOVATIONS

Client Preparations

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INSPIRING INNOVATIONS

Connecting to the Web Server

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



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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 conect 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 Controller Development Systems
- 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





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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 webservers 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**



Targeting New Opportunities Using WP 4000 with CoDeSys Connections WP 4000 – HTML5 HMI

WP 4000 Product family

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INSPIRING INNOVATIONS

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 HMTL5 technology
- 2. For most legacy devices running CoDeSys SoftPLC (V2.3 & 3), our TP3000 HMIs with Visu+ can be specified
 - Direct connection



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





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





Targeting New Opportunities Using WP 4000 with CoDeSys Connections Manufacturer that offer CoDeSys compatible solutions





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 you portfolio
- Continue to leverage the full range of HMI solutions today and win new business





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
- ...







Tutorial

Tutorial Webvisit - Phoenix Contact





WebVisit Part 1 Quickstart Advanced



SpiderControl

WebServer

on

PLCnext

www.spidercontrol.net



PLCnext Webserver for WebVisit & SpiderControl HMI



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