



HMIs and Industrial PCs

Design, quality, and service that is ready for the future

HMI and industrial PCs

Human Machine Interfaces (HMIs) and industrial PCs (IPCs) are essential for the efficient operation and monitoring of your systems and machines. From PCs installed directly on the machine for field operation to complex visualization concepts for extensive automation systems – you will find the right solution for your application within the Phoenix Contact product portfolio.



HMI – efficient touch panels and web panels

Efficient automation requires the right visualization. Our touch panels with integrated Visu+ runtime and web panels with open browser for HTML5 applications simplify the operation and monitoring of your automation solution. Benefit from intuitive user guidance and a high level of efficiency. We have the right HMI that will be the ideal user interface for your application.



Box PCs – compact solutions for machine-oriented data processing

Our compact box PCs are designed for a wide range of automation tasks – from simple data acquisition to complex IoT and edge applications. With DIN rail or wall mounting, you can benefit from a particularly robust and space-saving design. Due to their scalable performance and the wide range of interfaces, our embedded PCs provide the appropriate IPC solution for practically every industry and application.

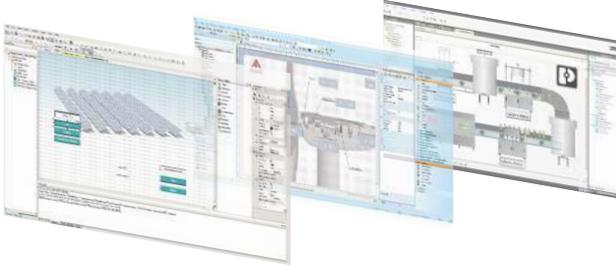


Touch monitors – a robust front end for machine operation

For operating concepts where the industrial PC and industrial monitor are physically separated, our functional multi-touch monitors are the ideal solution. These robust devices with industrial touch screens can be used directly on the machine. Numerous graphical interfaces enable easy connection to any PC.

Software for visualization

Whether in the central control room, in production, or directly on the machine, efficient automation requires the right visualization. Whatever your visualization task, we have the right software. Benefit from our extensive portfolio covering all aspects of operation and monitoring for your HMIs and IPCs.



Contents

HMIs	
HMIs with open web browsers	8
HMIs with Visu+ software	12

Industrial PCs	16
Box PCs	18
Rackmount PCs	24
Panel PCs	26
Stand-alone IP65-protected panel PCs	30
Hygienic industrial panels in stainless steel	32
Rugged all-around protected panels	34
Industrial touch monitors	36
Remote monitoring	38
Edge programmable computers	40

Industrial PCs for Ex areas	42
-----------------------------	----



Panel PCs – modern solutions for operation and monitoring

Benefit from the advantages of our scalable and modern panel PCs for acquiring, processing, measuring, controlling, and visualizing your data. Touch panel PCs are the business card for every visualization solution. Designed as flush-mounted or support-arm versions with IP65 or IP69K protection, industrial panel PCs impress with their robustness, performance, and state-of-the-art touch technology.

Rackmount PCs – powerful solutions for demanding applications

Our rackmount PCs provide you with maximum system performance for the acquisition and processing of large volumes of data in industrial automation or machine learning for machine building and systems manufacturing. The rackmount computers conform to the universal 19-inch standard, with the flexibility to extend according to your application. Benefit from the high performance of these systems.

HMI and industrial PCs

Design, quality, and service that is ready for the future

Are you looking for intelligent solutions for the operation and monitoring of machines and systems? Phoenix Contact offers a wide range of robust and reliable technology, from HMIs and powerful industrial PCs to custom solutions for special industrial requirements. We will provide you with an impressive package that delivers exceptional design, quality, and service.

Design

Our HMIs and industrial PCs offer an attractive and intuitive product design. Compact and functional, they can be incorporated seamlessly into your system or machine design and are the perfect user interface between user and machine.

Quality

Made by Phoenix Contact – you can rely on our promise of quality. Our focus is to provide durable components that meet industry standards and stringent requirements. Our HMI and IPC portfolio is produced from high-quality and reliable components and always offers the best performance class.

Service

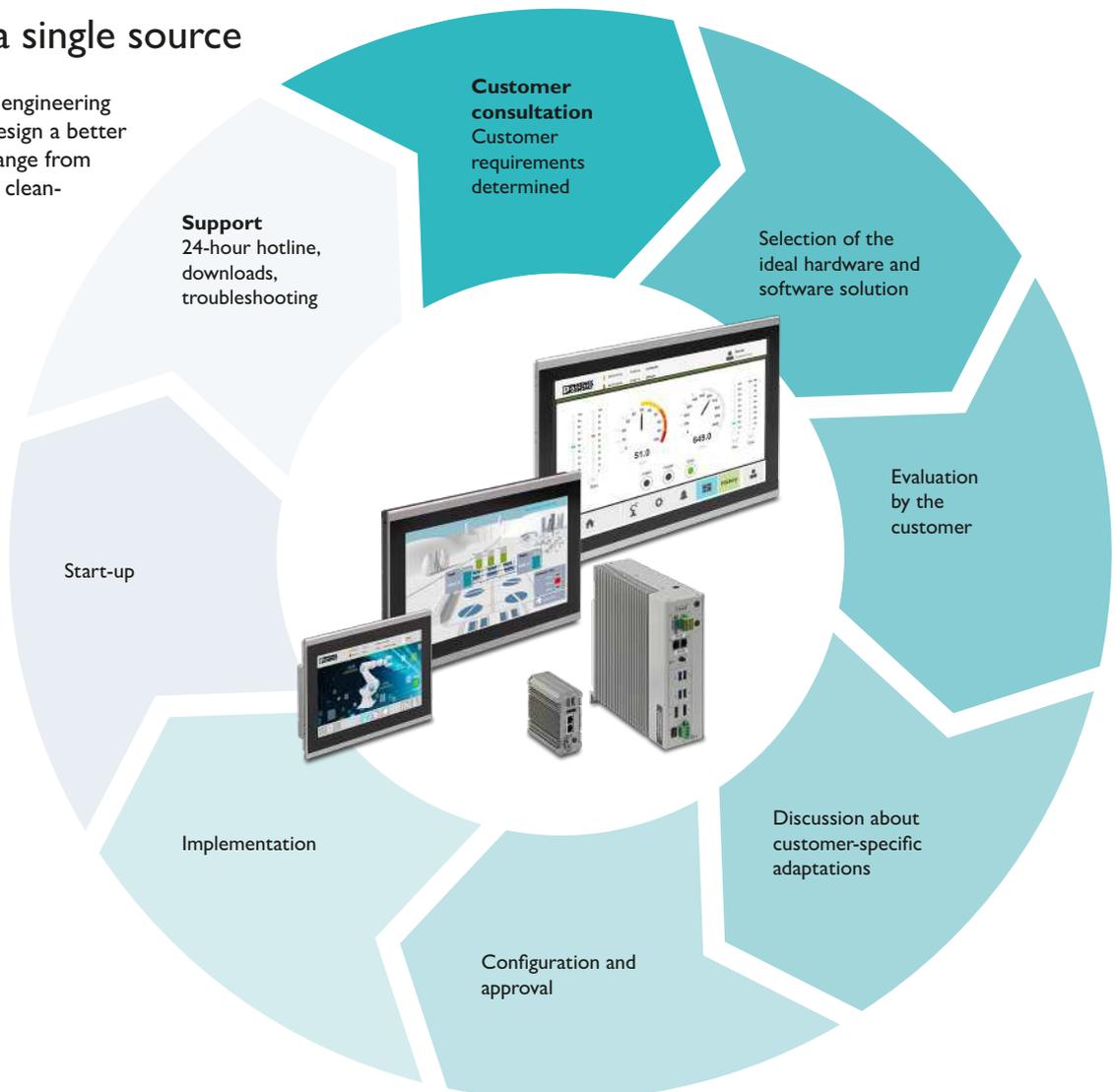
Benefit from our comprehensive service. From product selection to retrofitting your existing industrial systems: We develop the perfect concept for individual automation tasks with our customers.

Ready for the future – open automation

Our HMI/IPC portfolio is ready for open automation solutions. The runtime of our edge PCs features all the advantages of the PLCnext Technology ecosystem. Benefit from simple integration into an existing IT infrastructure through centralizing data in the cloud, closing the gap between the IT and OT worlds.

Everything from a single source

From customized solutions to engineering support, we can help you to design a better automation system. Services range from pre-loaded software images to clean-sheet designs based on your requirements.



Our added value



Multi-touch

There is a sensor pattern for projective capacitive touchscreens (PCAP). Changes in the electrical field are evaluated individually in each part of the pattern. This enables multi-touch functions and gesture control.



Cost savings

Phoenix Contact offers cost-effective alternatives for operating and monitoring tasks.



Enhanced touch capabilities

Latest touch screen technology allows the operation of PCAP multi-touch interfaces with gloves. Also, these touch screens are permissible to moist and wet applications.



Fanless

Carefully selected components and a sophisticated passive cooling system enable a completely fanless operation. This increases device reliability, decreases dust contamination, and reduces noise.



Remote access

The Visu+ mobile visualization app or the HTML5 web server integrated in the runtime enable convenient use of your visualization on a smartphone or tablet. SCADA functions such as trend display or alarm handling are also available on mobile end devices.



SSL encryption

Secure communication with SSL-encrypted data transmission.



Remote monitoring

Our remote monitoring software (PORTICO) and industrial-grade KVM Extenders allow you to monitor data over large distances.



Extended temperature range

This refers to the ambient temperature in which the device will be permanently operated. Special components are often used for systems that are designated for extended temperature ranges.



High ingress protection

Protected from dust, water, and other particles.



Service-friendly

In the event that maintenance is required, certain components of the device are accessible without the need for tools.



Cockpit

Administration and configuration made easy. Everything required for setup and operation is consolidated at a single location.



HTML5

The web standard, providing all options for HMI projects in combination with CSS and JavaScript.

What is it?

Phoenix Contact eXtended Reality

Using PXR

Scan QR codes located throughout this document with your mobile device camera or QR code reader to launch **PXR**.

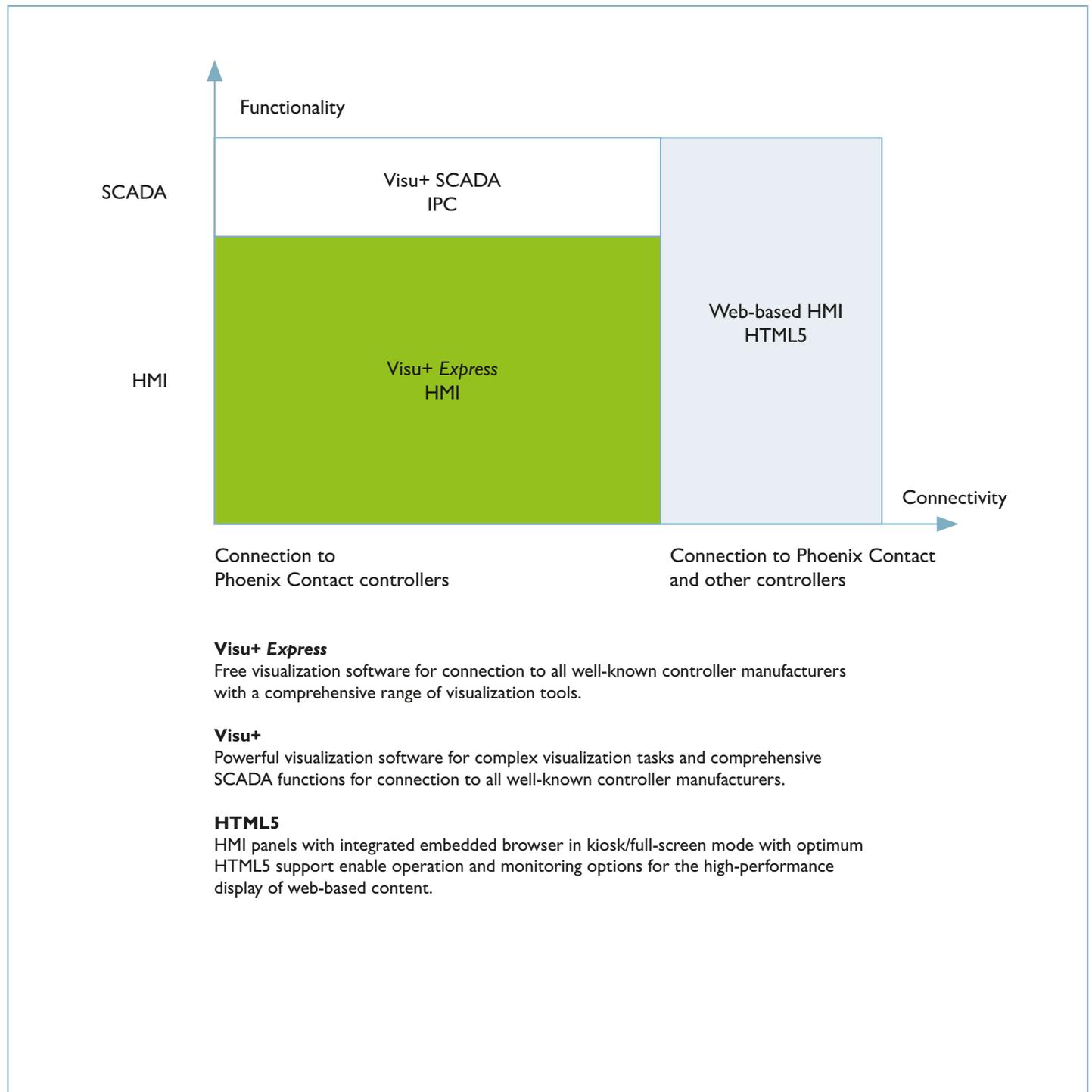
Interact with the 3D model of the product. Click the “View product list” button to see listings or “View in my space” to project the model into your area (AR experience).

Scan the QR code at right to get started!



Selection guide for HMIs

Our human machine interfaces provide user-friendly visualization for automation systems in a multitude of industries and applications.



Step 1: Visualization as the basis for selecting an HMI

The requirements for the user interface, functionality, and system coupling determine which visualization system is appropriate and which particular HMI type should be selected.

- The user interface aspect refers to the graphical options for designing an interface
- The functionality aspect indicates the software's operation and monitoring functions
- The system coupling aspect refers to communication and integration in control systems

Step 2: Assess the resource requirements based on the scope of the application

It is crucial to match each application with the right HMI. Response and display refresh times can vary greatly with the number of graphics and their overall complexity. HMI applications can range from simple push-button replacers to graphic-rich user

interfaces utilizing advanced alarming, trending, or recipe-handling features.

Step 3: Select the right device

Based on their features (CPU capacity, display resolution, and memory capacity) as well as their suitability for different

applications, the individual device families can be divided into three classes: basic (BWP 2000, BTP 2000), standard (WVP 6000

and TP 6000), and high-end applications (IPC). Select the right operator panel to meet your application needs.

			HMI for HTML5		HMI for Visu+		Industrial PC
			BWP 2000	WP 6000	BTP 2000	TP 6000	IPC
Page			10	11	14	15	16
Visualization		Runtime on HMI panel			●	●	●
		Web-based	●	●			●
Connection to control systems	Phoenix Contact	AXC or RFC controller running PLCnext	●	●	●	●	●
		ILC, AXC, or RFC controller running PCWorx	●	●	●	●	●
		Emalytics View & Automation, Niagara, Dglux		○			●
		PLC logic			●	●	
	Other	OPC UA			●	●	●
		Third-party manufacturer	●	●	●	●	●
		Multi-driver PLC communication		●	○	●	●
		CODESYS	○	●		●	
Remote Data Access (RDA)			○	○	○	●	●
Touch technology/ interface		Resistive touch (polyester)	●		●		●
		PCAP touch		●		●	●
Hardware		Metal housing		●		●	●
		Plastic housing	●		●		
Environmental influences and approvals		Expanded temperature range					●
		Displays can be read in direct sunlight					●
		UL (Ordinary/Hazardous location)	●/●	●/–	●/●	●/+	●/●
		ATEX Zone II and IECEx Zone II					●
		Value / Performance	●/○	○/●	●/○	○/●	●/●

- * With browser or visualization software installed
- Best option
 - Limited / alternative option
 - + Planned / future implementation
 - Not available

HMI's with open web browsers for HTML5-based visualizations

HTML5 web technology enhances control and visualization systems by allowing easy data exchange between the HMI and any web server. The HTML5-based web panel simply requires configuration of the web server's IP address, and then its contents can be displayed on both our competitive BWP 2000 and WVP 6000 series HMI's. This makes these web panels the perfect fit for PLCnext-based control systems or any other device with a built-in web server.

Your advantages

- ✓ Open web standards ensure/guarantee compatibility with any web server
- ✓ No runtime license costs
- ✓ Independent visualization where you can program your JavaScript applications
- ✓ Time and location independence – interact with your machine remotely via smartphone or PC

PLCnext Engineer

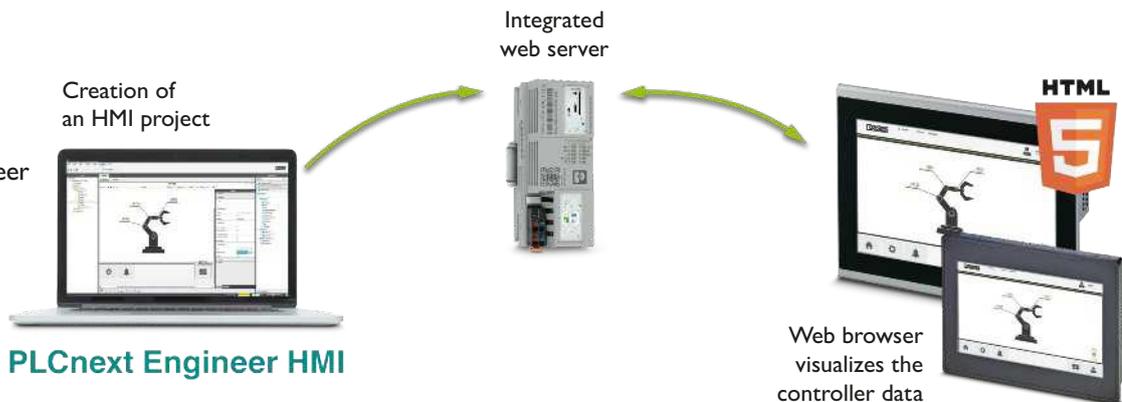
PLCnext Engineer software is optimized for the creation of modern visualization solutions. With respect to the technology, the visualization integrated into PLCnext Engineer is based on open standards such as HTML5 and JavaScript. No web skills are required, since the software offers numerous symbols and templates that can be individually extended.

- Programming and visualization for the new generation of Phoenix Contact controllers
- End-to-end engineering: Configuration, programming, visualization, and diagnostics
- Comprehensive symbol libraries can be extended and reused as often as required
- Free download and licensed add-ins available at phoenixcontact.com

Further information on controllers compatible with PLCnext Engineer available at:

 **Web code: #2310**


PLCnext Engineer
Engineering Software



HTML5 web panels with resistive touch

General technical data

- Display type: TFT
- Processor: Arm® 9 i.MX6DL Duallite, 454 MHz (dual-core)
- Memory: 1 GB RAM, 4 GB eMMC Flash
- Interfaces: 1 x Ethernet (10/100 Mbps), 1 x USB Host 2.0
- Operating system: Linux Yocto
- Operating temperature: 0°C to +50°C
- Storage temperature: -20°C to +85°C
- Relative humidity: 10% to 95%, non-condensing
- Housing: plastic
- Degree of protection: IP66 (front), IP20 (back)
- Power supply: 24 V DC ±15%
- Installation type: portrait (planned)/landscape
- Mounting type: front installation
- Approvals: UL/cUL, Class 1 Div 2

Your advantages

- ✓ HTML5-compatible browser integrated in all devices
- ✓ Easy startup: Just enter the IP address and URL
- ✓ No security updates required for Java or Flash plug-ins
- ✓ Energy-efficient LED backlight
- ✓ Best price/performance ratio



Web panels with open browser for simple HTML5 applications



Designation	BWP 2043W	BWP 2070W	BWP 2102W
Item number	1060549	1060632	1060630
Display size (cm / in)	10.92 / 4.3"	17.78 / 7"	25.9 / 10.2"
Touch technology	Analog resistive (polyester)		
Colors	16.7 million		
Resolution, W x H (pixels)	480 x 272 (WQVGA)	800 x 480 (WVGA)	1024 x 600 (WSVGA)
Brightness (cd/m)	400	350	
Backlight MTBF (h)	20,000	25,000	
Viewing angle, left / right / top / bottom (°)	70 / 70 / 50 / 70		65 / 65 / 45 / 65
Front plate dimensions, W x H x D (mm)	120 x 89 x 5	186 x 138 x 5	268 x 190 x 5
Mounting cutout, W x H (mm)	111 x 80	175 x 127	256 x 178
Installation depth (mm)	31.5	31	33
Weight (kg)	0.2	0.4	0.9
Power consumption (W)	5.3	6	8.4

HTML5 web panels with PCAP multi touch

General technical data

- Display type: TFT
- Processor: Arm® Cortex®-A9, 1.6 GHz, Quad-core
- Memory: 4 GB RAM, 8 GB eMMC Flash
- Interfaces: 1 x Ethernet (10/100/1000 Mbps), 2 x USB Host 2.0,
- 1 x USB-C; 1 x microSD
- Operating system: Linux Yocto
- Housing: aluminum/sheet steel, zinc-plated
- Degree of protection: IP66 (front), IP20 (back)
- Power supply: 24 V DC ±20%
- Installation type: portrait/landscape
- Mounting type: front installation
- Approvals: UL/cUL

Your advantages

- ✓ Flexible with open web standards and choice of HTML5 web servers and visualization software
- ✓ No security updates required for Java or Flash plug-ins
- ✓ Ideal for use with PLCnext Engineer or CODESYS V3
- ✓ Secure communication with SSL-encrypted data transmission



Web panels with open browser for HTML5 applications



Designation	WP 6070-WVPS	WP 6101-WXPS	WP 6121-WXPS	WP 6156-WHPS	WP 6185-WHPS	WP 6215-WHPS
Item number	1290800	1290801	1290802	1290803	1290807	1290809
Display size (cm / in)	17.78 / 7"	25.65 / 10.1"	30.73 / 12.1"	39.6 / 15.6"	47 / 18.5"	54.6 / 21.5"
Touch technology	Projective capacitive (PCAP)					
Colors	16.7 million					
Resolution, W x H (pixels)	800 x 480 (WVGA)	1280 x 800 (WXGA)		1920 x 1080 (FHD)		
Brightness (cd/m ²)	500		400	450	350	400
Backlight MTBF (h)	50,000					
Viewing angle left / right / top / bottom in (°)	89 / 89 / 89 / 89	85 / 85 / 85 / 85	88 / 88 / 88 / 88	85 / 85 / 85 / 85	89 / 89 / 89 / 89	
Front plate dimensions, W x H x D (mm)	202 x 146 x 6.9	263 x 200 x 6.9	302 x 229 x 6.9	398 x 273 x 6.9	465 x 310 x 6.9	532 x 346 x 6.9
Mounting cutout, W x H (mm)	195 x 139	252 x 189	292 x 219	388 x 263	455 x 300	522 x 336
Installation depth (mm)	51					
Weight (kg)	1.3	2.1	2.5	4.2	4.8	6.4
Power consumption (W)	14.7	19.0	21.5	30.5	32.2	32.9
Operating temperature	-20°C to +50°C			0°C to +50°C		
Storage temperature	-25°C to +85°C			-20°C to +60°C		
Relative humidity	20% to 85%, non-condensing			10% to 90%, non-condensing		

HMI with Visu+ software

Scalable for demanding applications

Visu+ is Phoenix Contact's visualization software, which allows you to create graphic-rich user interfaces for industrial applications. The free Express version is designed for our BTP 2000 and TP 6000 HMI series, as well as select IPCs. Visu+ is available with different feature sets, configured to work as a high-end HMI when bundled with our industrial PCs, or as a SCADA system with the stand-alone Visu+ software license options.





Visu+ / Visu+ Express

Visualizations with SCADA functions deliver impressive scalability and versatility. Monitor and operate complex machines, systems, or automated processes with Visu+.

- Create sophisticated graphical user interfaces
- Native communication drivers provide direct communication with all relevant PLC and device manufacturers in the industrial marketplace
- Remote data access via Visu+ mobile app and HTML5 web client
- The license for the runtime environment is already included in the price of HMI devices
- Visu+ is also available as a configuration option for our industrial PCs to create PC-based HMI solutions

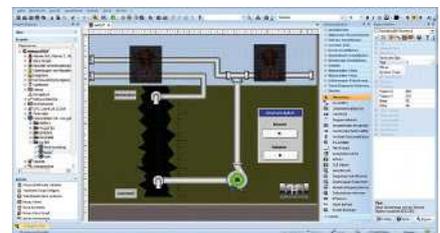
Visu+ Express:

- Free Express version
- Functionality optimized for typical HMI requirements

Visu+:

- SCADA scope of functions
- Supports all touch panel and IPCs

Try the free Visu+ Express development license today. Visit the Phoenix Contact website and search for part number [2402774](#).



VISU+
SCADA Visualization



Touch panels with resistive touch

General technical data

- Display type: TFT
- Processor: Arm® Cortex® A7, 700 MHz
- Memory: 512 MB RAM, 4 GB eMMC
- Interfaces: 1 x Ethernet (10/100 MBit/s), 1 x USB Host 2.0, 1 x μUSB device, 2 x COM (RS-232/422/485), 1 x SD card slot
- Operating system: Windows® Embedded Compact 7
- Operating temperature: 0°C to +50°C (-20...60°C for non-UL installations)
- Storage temperature: -20°C to +85°C
- Relative humidity: 10% to 95%, non-condensing
- Housing: plastic
- Degree of protection: IP66 (front), IP20 (back)
- Power supply: 24 V DC ±15%
- Mounting type: front installation
- Approvals: CE, UL/cUL, Class I Div 2

Your advantages

- ✓ Visu+ runtime included in all devices
- ✓ Native communication drivers for direct communication to all relevant PLC and device manufacturers in the industrial marketplace
- ✓ Developed for simple applications with an attractive price/performance ratio
- ✓ Remote data access via Visu+ mobile app and HTML5 web client



BTP 2020

Visu+ Touch panels with resistive touch



Designation	BTP 2043W	BTP 2070W	BTP 2102W
Item number	1050387	1046666	1046667
Display size (cm / in.)	10.92 / 4.3"	17.78 / 7"	25.9 / 10.2"
Touch technology	Analog resistive (polyester)		
Colors	262,144		
Resolution, W x H (pixels)	480 x 272 (WQVGA)	800 x 480 (WVGA)	
Brightness (cd/m²)	400	350	400
Backlight MTBF (h)	50,000		
Viewing angle, horizontal / vertical (°)	70 / 70 / 50 / 70		65 / 65 / 45 / 65
Front plate dimensions, W x H x D (mm)	120 x 89 x 5	186 x 138 x 5	268 x 190 x 5
Mounting cutout, W x H (mm)	111 x 80	175 x 127	256 x 178
Installation depth (mm)	31.5	31	33
Weight (kg)	0.2	0.4	0.9
Power consumption (W)	4	9	7

Touch panels with PCAP multi touch

General technical data

- Display type: TFT
- Processor: Arm® Cortex®-A9, i.MX6, 800 MHz (4 cores)
- Memory: 8 GB eMMC, 1 GB RAM
- Interfaces: 1 x Ethernet (10/100/1000 Mbps), RJ45 Intel, 2 x USB 2.0, 1 x COM (RS-232/422/485), 1 x MicroSD
- Operating system: Windows® Embedded Compact 7
- Housing: aluminum/sheet steel
- Degree of protection: IP66 (front), IP20 (back)
- Power supply: 24 V DC ±20%
- Mounting type: front installation, VESA 100
- Approvals: CE, UL/cUL

Your advantages

- ✓ Robust and sturdy with glass front suitable for industrial use
- ✓ Visu+ runtime included in all devices
- ✓ Native communication drivers for direct communication to all relevant PLC and device manufacturers in the industrial marketplace
- ✓ Powerful quad-core processor with fast response and display refresh times
- ✓ Remote data access via Visu+ mobile app and HTML5 web client



Visu+ Touch panels with PCAP multi touch



Designation	TP 6070-WVPS	TP 6101-WXPS	TP 6121-WXPS	TP 6156-WHPS	TP 6185-WHPS	TP 6215-WHPS
Item number	1189629	1190417	1190420	1190421	1190423	1190424
Display size (cm / in.)	17.78 / 7"	25.65 / 10.1"	30.73 / 12.1"	39.6 / 15.6"	47 / 18.5"	54.6 / 21.5"
Touch technology	Protective capacitive (PCAP)					
Colors	16.7 million					
Resolution, W x H (pixels)	800 x 480 (WVGA)	1280 x 800 (WXGA)		1920 x 1080 (FHD)		
Brightness (cd/m ²)	500		400	450	350	400
Backlight MTBF (h)	50,000					
Viewing angle, horizontal / vertical (°)	89 / 89 / 89 / 89	85 / 85 / 85 / 85	88 / 88 / 88 / 88	85 / 85 / 85 / 85	89 / 89 / 89 / 89	
Front plate dimensions, W x H x D (mm)	202 x 146 x 6.9	263 x 200 x 6.9	302 x 229 x 6.9	398 x 273 x 6.9	465 x 310 x 6.9	532 x 346 x 6.9
Mounting cutout, W x H (mm)	195 x 139	252 x 189	292 x 219	388 x 263	455 x 300	522 x 336
Installation depth (mm)	51					
Weight (kg)	1.3	2.1	2.5	1.7	4	5.5
Power consumption (W)	14.71	19.01	21.53	16.8	24	28.8
Operating temperature	-20°C to +50°C			0°C to +50°C		
Storage temperature	-25°C to +85°C			-20°C to +60°C		
Relative humidity	20% to 85%, non-condensing			10% to 90%, non-condensing		

Industrial PCs

The right system for every application

As the interface between human and machine or as a central system controller, industrial PCs are an essential component in industrial applications. In addition to box PCs, the Phoenix Contact portfolio also includes powerful panel PCs as well as devices for special industrial requirements. Enjoy the benefits of a robust and configurable solution for collecting and processing, measuring, controlling, and visualizing your data.



Box PCs

- The right performance for every application with Intel® Celeron™ through Intel® Core™ processors
- Passive cooling and no moving parts
- Access to all important components without the use of tools
- Easy connection to existing I/O devices via serial interfaces

For further information, refer to pages 18 to 23



Touch monitors

- Display sizes ranging from 15.6" to 21.5" in 16:9 format
- PCAP multi-touch functionality
- High shock resistance and electromagnetic protection
- Easy VESA 100 mounting

For further information, refer to pages 36 to 37

Programmable edge computer

- Connectivity from sensor to cloud
- Based on PLCnext Technology
- Integrated programming tools
- Bridge between IT and OT

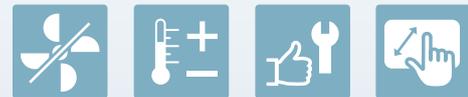
For additional information, refer to pages 40-41



Panel PCs

- The right performance for every application with Intel® Atom™ through Intel® Core™ processors
- Display sizes ranging from 15" to 21.5" in 4:3 or 16:9 format
- Analog resistive or PCAP touch
- Passive cooling and no moving parts

For further information, refer to pages 26 to 35



Industrial PCs for hazardous locations

- Display sizes ranging from 15.6" to 21.5" in 4:3 or 16:9 wide-screen format
- Extended temperature range
- Resistant to UV and IR radiation and other environmental influences such as salt spray
- Designed and certified to operate in explosive atmospheres
- Passive cooling and no moving parts

For further information, refer to pages 42 to 43

Box PCs

Box PCs are designed to work in a wide variety of automation tasks, from simple data collection to high-speed control systems. Their rugged design, various mounting options, and scalable performance provide the right IPC solution for virtually any industry or application.



Box PCs

General technical data

- Operating systems (configurable): Windows® 10 IoT Enterprise 2021
- Housing: sheet steel/aluminum
- Degree of protection: IP30
- Power supply: 24 V DC ±20%
- Mounting type: wall or DIN rail mounting
- Approvals: UL/cUL, Class I Div 2

Your advantages

- ✓ Passive cooling and no moving parts
- ✓ Service-friendly with easily accessible components
- ✓ Individually configurable
- ✓ Windows® 11 ready
- ✓ Secure hardware option, equipped with TPM 2.0



VL3 box PCs



VL3 BPC				
Item number	1376797			
Processor	Intel® Celeron® 6305E 1.8 GHz (dual-core)	Intel® Core™ i3-1115G4E 3.0 GHz (dual-core)	Intel® Core™ i5-1145G7E 2.6 GHz (quad-core)	Intel® Core™ i7-1185G7E 2.8 GHz (quad-core)
Cooling	Passive			
RAM (configurable)	Max. 16 GB DDR4	Max. 64 GB DDR4		
Data memory (configurable)	2 x m.2 SSD			
RAID support (configurable)	0/1			
Ethernet interfaces	2 x (10/100/1000 Mbps), RJ45, Intel® i225LM; i211AT			
USB	4 x USB 3.1			
Serial interfaces	1 x COM (RS-232/RS-422/RS-485) Optional: Wireless LAN Optional: Extended Function modules			
Hardware security	Trusted Platform Module (TPM 2.0)			
Video output	2 x DisplayPort (DP++)			
Graphics processor	Intel® HD Graphics	Intel® HD Graphics 4400		
PCI/PCIe slots (configurable)	1 x full size PCIe			
Dimensions, W x H x D (mm)	70 x 225 x 230 mm (base system) // 109 x 225 x 230 mm (with PCIe)			
Weight (kg)	4.2		4.8	
Power consumption ¹ (W) ¹	37.4	41.3	42.7	38.9
Operating temperature	-20°C to +50°C			
Storage temperature	-40°C to +70°C			
Relative humidity	10% to 95%, non-condensing			

¹ Power consumption value represents maximum power consumption without PCI/PCIe interface. Actual system power consumption depends on system loading. See user manual for details.

Box PCs

General technical data

- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel i210-AT
- Operating system: Windows® 10 IoT Enterprise
- Operating temperature: 0°C to +50°C
- Storage temperature: -40°C to +70°C
- Relative humidity: 5% to 95%, non-condensing
- Housing: sheet steel/aluminum
- Degree of protection: IP20
- Power supply: 24 V DC ±20%
- Mounting type: wall or DIN rail mounting
- Approvals: UL/cUL

Your advantages

- ✓ Passive cooling and no moving parts
- ✓ Easy connection to existing I/O devices via serial interfaces
- ✓ Compact design in high-quality metal housing
- ✓ Individually configurable
- ✓ 7th generation Intel processor (Intel's 15-year support roadmap)
- ✓ Windows® 10 IoT support

BL2 series box PCs



Designation	BL2 BPC 1000	BL2 BPC 2000	BL2 BPC 7000
Item number	2404777	2404844	1016240
Processor	Intel® Celeron® N3350 1.1/2.4 GHz (dual-core)	Intel® Pentium® N4200 1.1/2.5 GHz (quad-core)	Intel® Core™ i5-7442EQ 2.1/2.9 GHz (quad-core)
Cooling	Passive		Convection booster
RAM (configurable)	max. 4 GB DDR3L	max. 8 GB DDR3L	max. 16 GB DDR4
Data memory (configurable)	M.2 SSD		
Number of slots	1		
USB	2 x USB 2.0, 2 x USB 3.0		
Serial interfaces	1 x COM (RS-232/RS-422/RS-485), 2 x COM (RS-232)		
Video output	2 x DisplayPort (DP++)		
Graphics processor	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 630
PCI/PCIe slots (configurable)	1 x Mini PCIe 802.11 a/b/g/n WLAN		
Dimensions, W x H x D (mm)	162 x 146 x 49		186 x 146 x 49
Weight (kg)	1.5		2
Power consumption (W) ¹	25.7	34.6	43.9

¹ Power consumption value represents maximum power consumption. Actual system power consumption depends on system loading. See user manual for details.

Box PCs

General technical data

- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel i210-IT
- Operating systems (configurable):
Windows® 7 and Windows® 10 IoT Enterprise
- Operating temperature: 0°C to +50°C
- Storage temperature: -40°C to +70°C
- Relative humidity: 10% to 90%, non-condensing
- Housing: sheet steel/aluminum
- Degree of protection: IP20
- Power supply: 24 V DC ±20%
- Mounting type: wall mount and DIN rail (1100 and 2100 only)
- Approvals: UL/cUL

Your advantages

- ✓ Passive cooling and no moving parts
- ✓ Compact design in high-quality metal housing
- ✓ Individually configurable
- ✓ 6th generation Intel processor (Intel's 15-year support roadmap)
- ✓ Windows® 10 IoT and Windows® 7 support
- ✓ Support for 2.5" HDD / SSD SATA drive

BL2 series box PCs



Designation	BL2 BPC 1100	BL2 BPC 2100	BL2 BPC 3100	BL2 BPC 7100	BL2 BPC 9100
Item number	1105772	1105773	1105776	1105777	1105778
Processor	Intel® Celeron® N3350 1.1/2.4 GHz (dual-core)	Intel® Pentium® N4200 1.1/2.5 GHz (quad-core)	Intel® Core™ i3-6100U 2.3 GHz (dual-core)	Intel® Core™ i5-6300U 2.4/3.0 GHz (dual-core)	Intel® Core™ i7-6600U 2.6/3.4 GHz (dual-core)
Cooling	Passive				
RAM (configurable)	max. 8 GB DDR3		max. 16 GB DDR3		
Data memory (configurable)	M.2 SSD	M.2 SSD, 2.5" SSD or HDD			
Number of slots	-				
USB	2 x USB 2.0, 2 x USB 3.0				
Serial interfaces	1 x COM (RS-232/RS-422/RS-485), 2 x COM (RS-232)				
Video output	2 x DisplayPort (DP++)				
Graphics processor	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 520	Intel® HD Graphics 630	Intel® HD Graphics 520
PCI/PCIe slots (configurable)	1 x Mini PCIe				
Dimensions, W x H x D (mm)	185 x 131 x 54		247 x 145 x 54		
Weight (kg)	1.2		2		
Power consumption (W) ¹	26.4	31.2	45.6	46.1	47.3

Compact box PCs

General technical data

- Graphics processor: Intel® HD Graphics 500
- Video output: 1 x DisplayPort (DP++)
- Ethernet interfaces: 2 x (10/100/1000 MBps), RJ45, Intel® i210
- USB: 2 x USB 3.0
- Onboard storage: 32 GB eMMC
- Operating system: Windows® 10 IoT, Linux
- Storage temperature: -40°C to +85°C
- Relative humidity: 5 to 95%, non-condensing
- Housing: sheet steel/aluminum
- Degree of protection: IP30
- Power supply: 12-30 V DC
- Mounting: DIN rail (wall mount optional)
- Approvals: CE, UL/cUL

Your advantages

- ✓ Compact design fits into small cabinet boxes
- ✓ Efficient performance Intel CPUs
- ✓ High reliability with passive cooling and solid-state mass-storage media
- ✓ Secure hardware option, equipped with TPM 2.0
- ✓ Flexible mounting options to complement your application



BL2BPC1000

BL2 series box PCs



Designation – BL2 BPC...	1501S	1501S-W	1501E	1501E-W	1501E-64-W10	1501E-W-64-W10	1501E-128-W10	1501E-W-128-W10	1501E-64-W10-T	1501E-W-64-W10-T	1501E-128-W10-T	1501E-W-128-W10-T
Item number	1130682	1141904	1130669	1141843	1158241	1158252	1158235	1158245	1158247	1158244	1158243	1158231
Processor	Intel® Celeron® N3350, 1.1 / 2.4 GHz (dual-core), passive cooled											
RAM	2 GB LPDDR4		4 GB LPDDR4									
Data memory	N/A		N/A		64 GB m.2 SSD		128 GB m.2 SSD		64 GB m.2 SSD		128 GB m.2 SSD	
Serial interfaces	N/A		1 x COM (RS-232); 1 x COM (RS 232/422/485)									
Wireless LAN		•		•		•		•		•		•
Windows 10 IOT					•	•	•	•	•	•	•	•
Hardware security	N/A								•	•	•	•
Dimensions, W x H x D (mm)	97 x 46 x 94		97 x 63 x 94									
Weight (kg)	0.55		0.65									
Power consumption (W) ¹	10.8		12.72									
Operating temperature	-20 to 50°C ²											

¹ Power consumption value represents maximum power consumption. Actual system power consumption depends on system loading. See user manual for details.

² Temperatures listed require a minimum of 0.5 m/s airflow.

Compact box PCs

General technical data

- Graphics processor: Intel® HD Graphics 500
- Video output: 1 x DisplayPort (DP++)
- Ethernet interfaces: 2 x (10/100/1000 MBps), RJ45, Intel® i210
- USB: 2 x USB 3.0
- Operating system: Windows® 10 IoT, Linux
- Storage temperature: -40°C to +85°C
- Relative humidity: 5 to 95%, non-condensing
- Housing: sheet steel/aluminum
- Degree of protection: IP30
- Power supply: 12-30 V DC
- Mounting: DIN rail (wall mount optional)



BL2 series box PCs



Designation	BL2 BPC 1541S-4/64	BL2 BPC 1541S-4/64-W10	BL2 BPC 1541E-8/0	BL2 BPC 1541E-8/128-W10
Item number	1272827	1272688	1272829	1272687
Processor	Intel® Atom® E3940 1.6 / 1.8 GHz (quad-core), passive cooled			
RAM	4 GB LPDDR4		8 GB LPDDR4	
Data memory	64 GB eMMC		N/A	128 GB m.2
Serial interfaces	N/A		1 x COM (RS-232); 1 x COM (RS-232/422/485)	
Wireless LAN				
Windows 10 IOT		•		•
Hardware security				
Dimensions, W x H x D (mm)	97 x 46 x 94		97 x 63 x 94	
Weight (kg)	0.55		0.65	
Power consumption (W) ¹	10.8		12.72	
Operating temperature	-40 to 70°C ²		-20 to 60°C ²	

Rackmount PCs

For large centralized automation installations

For the data collection and processing of large amounts of sensor data, extensive SCADA visualization and image processing are available with the powerful 19" rack-installed industrial PCs from Phoenix Contact. Offering advanced performance for demanding applications, the 19" rack form factor allows simple installation into controlled industrial environments.



Industrial PCs for 19" racks

General technical data

- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel® i210, Intel® i217
- Operating system (configurable): Windows® 10
- Power supply: 110...230 V AC
- Operating temperature: 0... +50C
- Storage temperature: 0...+70C
- Relative humidity: 5...95%, non-condensing
- Housing: powder-coated sheet metal
- Protection class: IP20
- Approvals: CE, cUL

Your advantages

- ✓ Fits perfectly into 19" racks
- ✓ Available in two sizes – 2U and 4U – to accommodate accessory cards
- ✓ Mass-storage devices mechanically protected and locked
- ✓ Easy serviceability with hot-swappable mass-storage devices
- ✓ Easily serviceable air filters



BL RACKMOUNT

Rack IPCs		
		
Designation	BL Rackmount 2U	BL Rackmount 4U
Item number	2400063	2400064
Processor (configurable)	Intel® Core i3-9100TE, 2.2 GHz // Intel Core i7-9700TE	
Cooling	Active – forced air	
RAM configurable	8 GB to 64 GB; ECC RAM options available with i3 and XEON CPUs	
Data memory (configurable)	Up to 4 TB 3.5" HDD or up to 480 GB 2.5" SSD per drive	
RAID level (configurable)	0/1	0/1/5
Number of slots for mass-storage devices	2	3
USB	2 x USB 2.0, 2 x USB 3.0	4 x USB 2.0, 2 x USB 3.0
Serial ports	1 x COM (RS-232), 1 x COM (RS-232/422/485)	
Video output	DVI-I	
Graphics processor	Intel® Graphics 630	
PCI/PCIe slots (configurable)	3 x PCI, 1 x PCIe x8, 1 x PCIe x16	8 x PCI, 3 x PCIe x1, 1 x PCIe x16
Mounting	Rackmount 2U	Rackmount 4U
Dimensions, W x H x D (mm)	482 x 89 x 429	482 x 177 x 461
Weight (kg)	13.5	14.5
Power consumption (W)	500	

Panel PCs

Panel PCs are the front end of any high-end control or visualization task. The VL3 panel PCs provide a reliable user interface for a multitude of applications and industries requiring touch-screen operation and rugged design. Combined with the Visu+ software, you can design high-end, graphics-rich visualization systems.



Panel PCs

General technical data

- Display type: TFT
- Colors: 16.7 million
- Operating system (configurable): Windows® 10 IoT Enterprise
- Operating temperature: -20°C to +50°C
- Storage temperature: -40°C to +70°C
- Relative humidity: 10% to 95%, non-condensing
- Housing: aluminum/sheet steel, zinc-plated
- Degree of protection: IP66 (front), IP30 (back)
- Power supply: 24 V DC ±20%
- Mounting type: front installation
- Approvals: UL/cUL, Class I Div 2 (future)

Your advantages

- ✓ Passive cooling and no moving parts (excludes i7)
- ✓ Easy access to all important components like storage devices and RTC battery
- ✓ Glove capable PCAP touch screens in full HD resolution
- ✓ Individually configurable
- ✓ Windows® 11 ready



VL3 series panel PCs



Designation	VL3 PPC		
Item number	1376789		
Display size (cm / in)	39.6 / 15.6"	47 / 18.5"	54.6 / 21.5"
Touch technology	10 pt. projected capacitive (PCAP), glove capable, wet application suitable		
Resolution, W x H (pixels)	1920 x 1080 (Full HD)		
Brightness (cd/m²)	450	350	400
Backlight MTBF (h)	50,000		
Viewing angle, left / right / top / bottom (°)	85 / 85 / 85 / 85	89 / 89 / 89 / 89	89 / 89 / 89 / 89
Processor	Celeron 6305E 1.8 GHz (2 core), Core i3-1115G4E 3.0 GHz (2 core), Core i5-1145G7E 2.6 GHz (4 core) Core i7-1185G7E 2.8 GHz (4 core)		
Cooling	Passive (i7 model with convection booster)		
RAM (configurable)	Up to 32 GB DDR4		
Data memory (configurable)	2 x m.2 SSD, RAID capable		
Interfaces	2 x 10/100/1000 Mbps, RJ45, Intel i211 / i225 4 x USB 3.1 1 x COM (RS-232 / 422 / 485), BIOS configurable 1 x DisplayPort (DP++)		
System expansion options	WLAN a, b, g, n 4 x COM (RS-232 / 422 / 485), BIOS configurable		
Graphics processor	Intel UHD Graphics (Celeron, i3) / Intel Iris Xe (i5; i7)		
Dimensions incl. front plate, W x H x D (mm)	398 x 273 x 89	465 x 310 x 89	532 x 346 x 89
Mounting cutout, W x H (mm)	338 x 263	455 x 300	522 x 336
Weight (kg)	6.7	7.8	8.6
Power consumption (W) ¹	65 / 75 / 76 / 84	65 / 74 / 80 / 86	65 / 74 / 82 / 86

¹ Power consumption value represents maximum power consumption at 24V DC without system expansion options. Actual system power consumption depends on system loading. See user manual for details.

Panel PCs with resistive touch

General technical data

- Display type: TFT
- Colors: 16.2 million
- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel i210-AT
- Operating system: Windows® 10 IoT Enterprise
- Operating temperature: 0°C to +50°C
- Storage temperature: -40°C to +70°C
- Relative humidity: 5% to 95%, non-condensing
- Housing: sheet steel/aluminum
- Degree of protection: IP65 (front), IP20 (back)
- Power supply: 24 V DC ±20%
- Mounting type: front installation
- Approvals: UL/cUL

Your advantages

- ✓ Passive cooling and no moving parts
- ✓ Easy connection to existing I/O devices via serial interfaces
- ✓ Individually configurable
- ✓ 7th generation Intel® processor (Intel's 15-year support roadmap)
- ✓ Windows® 10 IoT support

BL2 series panel PCs with resistive touch



Designation	BL2 PPC 1000	BL2 PPC 2000	BL2 PPC 7000
Item number	2404845	2404846	1016236
Display size (cm / in.)	30.7 / 12.1"; 38.1 / 15"; 43 / 17"		
Touch technology	Analog resistive (polyester)		
Resolution, W x H (pixels)	1024 x 768 (XGA) / 1024 x 768 (XGA) / 1280 x 1024 (SXGA)		
Brightness (cd/m²)	500 / 300 / 350		
Backlight MTBF (h)	50,000		
Viewing angle, left / right / top / bottom (°)	Depends on the configuration	Depends on the configuration	Depends on the configuration
Processor	Intel® Celeron® N3350 1.1/2.4 GHz (dual-core)	Intel® Pentium® N4200 1.1/2.5 GHz (quad-core)	Intel® Core™ i5-7442EQ 2.1/2.9 GHz (quad-core)
Cooling	Passive		Convection booster
RAM (configurable)	max. 4 GB DDR3L	max. 8 GB DDR3L	Max. 16 GB DDR4
Data memory (configurable)	M.2 SSD		
Number of slots	1		
USB	2 x USB 2.0, 2 x USB 3.0		
Serial interfaces	1 x COM (RS-232/RS-422/RS-485), 2 x COM (RS-232)		
Video output	2 x DisplayPort (DP++)		
Graphics processor	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 630
PCI/PCIe slots (configurable)	1 x Mini PCIe 802.11 a/b/g/n WLAN		
Dimensions incl. front plate, W x H x D (mm)	365 x 282 x 84 / 410 x 309 x 86 / 452 x 356.5 x 86		
Mounting cutout, W x H (mm)	334 x 253 / 386.6 x 285.6 / 424 x 329.5		
Weight (kg)	4.1 / 5.7 / 7.1		4.6 / 6.2 / 7.6
Power consumption (W) ¹ depending on screen size	31.9 / 34.8 / 42.7	39.4 / 42 / 46.8	52.6 / 54 / 60

¹ Power consumption value represents maximum power consumption. Actual system power consumption depends on system loading. See user manual for details.

Panel PCs with PCAP multi touch

General technical data

- Display type: TFT
- Colors: 16.2 million
- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel i210-AT
- Operating systems (configurable):
Windows® 7 and Windows® 10 IoT Enterprise
- Operating temperature: 0°C to +50°C
- Storage temperature: -40°C to +70°C
- Relative humidity: 10% to 90%, non-condensing
- Housing: sheet steel/aluminum
- Degree of protection: IP65 (front), IP20 (back)
- Power supply: 24 V DC ±20%
- Mounting type: front installation
- Approvals: UL/cUL

Your advantages

- ✓ Passive cooling and no moving parts
- ✓ Easy connection to existing I/O devices via serial interfaces
- ✓ PCAP multi-touch
- ✓ Individually configurable
- ✓ 6th generation Intel processor (Intel's 15-year support roadmap)
- ✓ Windows®10 IoT and Windows® 7 support
- ✓ Support for 2.5" HDD/SSD SATA drive



BL2 series panel PCs with PCAP multi touch



Designation	BL2 PPC 2100	BL2 PPC 3100	BL2 PPC 7100	BL2 PPC 9100
Item number	1105780	1105781	1105782	1105783
Display size (cm / in.)	39.7 / 15.6"; 47.2 / 18.5"; 54.8 / 21.5"			
Touch technology	Projective capacitive (PCAP)			
Resolution, W x H (pixels)	1366 x 768 (WXGA)/1366 x 768 (WXGA)/1920 x 1080 (FHD)			
Brightness (cd/m²)	300			
Backlight MTBF (h)	50,000			
Viewing angle, left / right / top / bottom (°)	85 / 85 / 80 / 80			
Processor	Intel® Pentium® N4200 1.1 GHz (quad-core)	Intel® Core™ i3-6100U 2.3 GHz (dual-core)	Intel® Core™ i5-6300U 2.4/3.0 GHz (dual-core)	Intel® Core™ i7-6600U 2.6/3.4 GHz (dual-core)
Cooling	Passive			
RAM (configurable)	max. 4 GB DDR3	max. 16 GB DDR3		
Data memory (configurable)	m.2 SATA or 2.5" SATA			
Number of slots	-			
USB	2 x USB 2.0, 2 x USB 3.0			
Serial interfaces	1 x COM (RS-232/RS-422/RS-485), 2 x COM (RS-232)			
Video output	2 x DisplayPort (DP++)			
Graphics processor	Intel® HD Graphics 505	Intel® HD Graphics 520	Intel® HD Graphics 630	Intel® HD Graphics 520
PCI/PCIe slots (configurable)	1 x Mini PCIe			
Dimensions incl. front plate, W x H x D (mm)	417 x 312 x 82 / 490 x 320 x 81 / 562 x 382 x 81			
Mounting cutout, W x H (mm)	401 x 296 / 475 x 306 / 547 x 367			
Weight (kg)	5.5 / 6.2 / 7.8	6 / 6.7 / 8.3		
Power consumption (W) ¹ depending on screen size	40.8 / 43.2 / 50.4	55.4 / 56.2 / 64.3	55.4 / 56.6 / 65.5	58.1 / 55.4 / 66.7

¹ Power consumption value represents maximum power consumption. Actual system power consumption depends on system loading. See user manual for details.

Stand-alone IP65-protected panel PCs

BL2 PPC AIO65 is a family of configurable, all-around IP65-protected industrial PCs. Choose from a variety of performance classes, display and mounting options, as well as matching expansion options including the push-button box and stack light. The modular design of the BL2 PPC AIO65 offers an advanced level of solution flexibility – directly on the machine.



All-in-one panel PCs with IP65 protection

General technical data

- Display type: TFT
- Colors: 16.7 million
- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel® i210-AT
- USB interfaces: 2 x USB Host 2.0, 2 x USB 3.0
- Serial interfaces: 1 x COM (RS-232/422/485)
- Operating System: Windows® 10 IoT Enterprise
- Operating temperature: 0 ... +45 °C
- Storage temperature: -40 ... 70 °C
- Relative humidity: 5 ... 95%, non-condensing
- Housing: Aluminum
- Degree of protection: IP65 all-around
- Power supply: 24V DC ±20%
- Mounting types: VESA, swing arm mount, pole mount
- Approvals: UL / cUL

Your advantages

- ✓ All-around IP65 protection without the need for a cabinet
- ✓ Attractive, modern industrial design
- ✓ Scalable processor performance
- ✓ Easy installation and service
- ✓ Highly reliable with passive cooling and solid state mass storage media
- ✓ Optional push-buttons box and stack light



BL2 series all-in-one panel PCs



Designation	BL2 PPC AIO65 2000	BL2PPC AIO65 7000	BL2 AIO65 9 PB Box	BL2 AIO65 11PB Box
Item number	1138366	1138367	1160210	1160209
Display size (cm / in.)	39.6 / 15.6"; 47 / 18.5"; 54.6 / 21.5"		Push-button box, prepared to accommodate nine 22 mm push-buttons. Wiring and buttons not included.	Push-button box, prepared to accommodate eleven 22 mm push-buttons. Wiring and buttons not included.
Touch technology	PCAP multi-touch			
Resolution, W x H (pixels)	1920 x 1080			
Brightness (cd/m²)	400 / 450 / 300			
Backlight MTBF (h)	50000			
Viewing angle, left / right / top / bottom (°)	15.6" and 18.5" display: 85/85/80/80 21.5" display: 89 / 89 / 89 / 89			
Processor	Intel® Pentium® N4200 1.1 / 2.5 GHz (4-core)	Intel® Core™ i5-7442EQ 2.1 / 2.9 GHz (4-core)		
RAM (configurable)	Max. 8 GB DDR3L	Max. 16 GB DDR4		
Data memory (configurable)	mSATA SSD			
Graphics processor	Intel® HD Graphics 505	Intel® HD Graphics 630		
Dimensions VESA mount, W x H x D (mm)	410 x 275 x 86 / 475 x 313 x 86 / 546 x 352 x 86			
Dimensions pole mount, W x H x D (mm)	410 x 275 x 100 / 475 x 313 x 100 / 546 x 352 x 100			
Weight VESA mount (kg)	7.7 / 8.4 / 9.4			
Weight pole mount (kg)	8.6 / 9.3 / 9.7			
Power consumption (W) ¹	49.4 / 52.1 / 48	64.6 / 67 / 60		

¹ Power consumption value represents maximum power consumption. Actual system power consumption depends on system loading. See user manual for details.

Hygienic industrial panels in stainless steel

Hygienic industrial PCs and monitors from Phoenix Contact are protected on all sides in a stainless-steel enclosure where all device surfaces are shielded from contaminant build-up. These powerful and reliable panel PCs and monitors are optimized for use with machines in the hygienic-restricted areas of the pharma, food, beverage, and chemical industries.



Panels with stainless-steel enclosures

General technical data

- Display type: TFT
- Colors: Max of 16.2 million colors
- Operating temperature: 0°C ... +45°C, (17,3" panel version 0°C ...50°C)
- Storage temperature -10 °C ... +60 °C, (17,3" panel version 0°C ...+50°C)
- Relative humidity: 10...85%, non-condensing
- Housing: All-around protected stainless steel (V2A / 304)
- Protection class: IP69K all around
- Power supply: 24 V DC (18 - 30 V DC)
- Mounting types: VESA, swing arm mount, pole mount
- Approvals: UL/cUL

Your advantages

- ✓ Robust and powerful in extreme environments
- ✓ Rugged construction inside a stainless-steel enclosure
- ✓ Hygienic design with passive cooling
- ✓ Scalable processor performance
- ✓ Easy installation to VESA, pole or swing arm systems
- ✓ Options to connect to WLAN or Bluetooth-capable devices
- ✓ Capacitive multi-touch display can be operated with gloves



Hygienic industrial PCs and monitors



	All-in-one industrial PC		Monitors		
Designation	PPC 17.3 AIO 69K	PPC 23.8 AIO 69K	FPM 15.6 69K	FPM 17.3 69K	FPM 23.8 69K
Item number	1262469	1262470	1261660	1261657	1261659
Display size (cm / in.)	44 / 17.3"	60.4 / 23.8"	39.6 / 15.6"	44 / 17.3"	60.4 / 23.8"
Touch technology	PCAP multi-touch				
Resolution, W x H (pixels)	1920 x 1080 (FHD)				
Brightness (cd/m²)	400	250	400	400	250
Backlight MTBF (h)	50,000	30,000	50,000	50,000	30,000
Viewing angle, left / right / top / bottom (°)	89 / 89 / 89/ 89		90 / 90 / 90 / 90	89 / 89 / 89/ 89	
Processor	Intel® Celeron™ 1.6 GHz (2980U) Intel® Core™ i5 1.9 GHz (4300U)		-	-	-
RAM	Up to 8 GB DDR3		-	-	-
Data memory	120 GB 2,5" SSD or 250 GB 2,5" SSD		-	-	-
Ethernet interfaces	2 x 1 Gbps Ethernet RJ45		-	-	-
Interfaces	1 x USB 2.0 2 x USB 3.0		1 x USB 2.0 1 x DisplayPort (DP)	3 x USB; 2.01 x USB slave 1 x HDMI; 1 x DisplayPort (DP)	
Wireless interfaces (optional)	Integrated WLAN-Modul IEEE 802.11 ac/a/b/g/n		-	-	-
Operating system (optional)	Windows® 10 IoT Enterprise		-	-	-
Dimensions, W x H x D (mm)	431 x 261 x 68	578 x 374 x 67	372 x 239 x 31	431 x 261 x 68	578 x 347 x 67
Weight (kg)	5	7.5	4.5	5	7.5
Power consumption (W)	Max. 96		Max. 48	Max. 48	Max. 12
Panel with screen shatter protection	(Configurable)		FPM 15.6 69K SP 1261658	FPM 17.3 69K SP 1261656	FPM 23.8 69K SP 1261662

Rugged all-around protected panels

The advanced design and quality of the VMT 9000 series is particularly suitable for machine and system operation directly in the field. Features such as additional front keys or the sunlight-readable display are already included as standard with the terminal family. In combination with the particularly compact and at the same time extremely robust housing, the operator terminals offer reliable operation even in the toughest environments.



All-in-one panel PCs with small display sizes

General technical data

- Display type: TFT
- Interfaces: 2 x (10/100/1000 Mbps), RJ45, 1 x COM (RS-232), 3 x USB 3.0, 1 x USB 3.0 on the front with cover, optional: 1 x COM (RS-232)
- Operating systems (configurable): Windows® 10 IoT Enterprise
- Optional: LTE/GPS module
- Optional: Wi-Fi 802.11 a/b/g/n/ac + Bluetooth
- Optional: RFID
- Battery connection for UPS
- Operating temperature: -30°C to 60°C
- Relative humidity: 5% to 95%, non-condensing
- Degree of protection: IP66
- Impact strength: IK08 (EN 62262)
- Supply voltage: 9 to 60 V DC
- Mounting type: VESA in back cover, optional additional holders
- Approvals: UL/cUL in preparation

Your advantages

- ✓ Display can be read in direct sunlight
- ✓ Can be operated when wearing work gloves (also with PCAP)
- ✓ Convenient operation using four customer-configurable front buttons
- ✓ Tool-free maintenance design for easy cleaning

Stand-alone IP66 protected panel PCs with sunlight-readable displays



Stand-alone IP66 protected panel PCs with sunlight-readable displays				
				
Designation	VMT 9000			
Item number	1084510 (configurable)			
Touch technology (configurable)	Analog resistive (polyester) / projective capacitive (PCAP)		Projective capacitive (PCAP)	Analog resistive (polyester) / projective capacitive (PCAP)
Display size (cm / in.)	26.4 / 10.4"		30.7 / 12.1"	38.1 / 15"
Resolution, W x H (pixels)	1024 x 768 (XGA)		1280 x 800 (WXGA)	1024 x 768 (XGA)
Brightness (cd/m²)	500	600	400	300
Backlight MTBF (h)	50,000			
Viewing angle, left / right / top / bottom (°)	88 / 88 / 88 / 88	70 / 70 / 80 / 80	88 / 88 / 88 / 88	
Processor	Intel® Atom™ x7-E3950 2 GHz			
RAM (configurable)	max. 8 GB LPDDR4			
Data memory (configurable)	64 GB eMMC, optional: 128 GB M.2 SSD			
Cooling	Passive			
Dimensions, W x H x D (mm)	277 x 249 x 50	312 x 277 x 50	331 x 256 x 50	380 x 326 x 50
Weight (kg)	3.2	3.65	3.7	4.7
Power consumption (W)	Depends on the configuration			

Industrial touch monitors

Phoenix Contact offers multi-touch monitors in a modern industrial design for industrial operating concepts where the processing unit and display unit are physically separated. The robust devices can be used directly on the machine. A choice of graphical interfaces allows for easy connection to any PC without the need for adapters or converters.



Touch monitors

General technical data

- Display type: TFT
- Colors: 16.7 million
- Operating temperature: -10°C to +60°C
- Storage temperature: -20°C to +75°C
- Relative humidity: 10% to 90%, non-condensing
- Housing: sheet steel, painted
- Degree of protection: IP65 (front), IP20 (back)
- Power supply: 24 V DC ±20%
- Mounting type: front installation / VESA MIS-D, 100
- Approvals: UL/cUL

Your advantages

- ✓ Multi-touch screens with 10-point technology
- ✓ PCAP multi-touch interface
- ✓ Numerous video interfaces
- ✓ Slim design



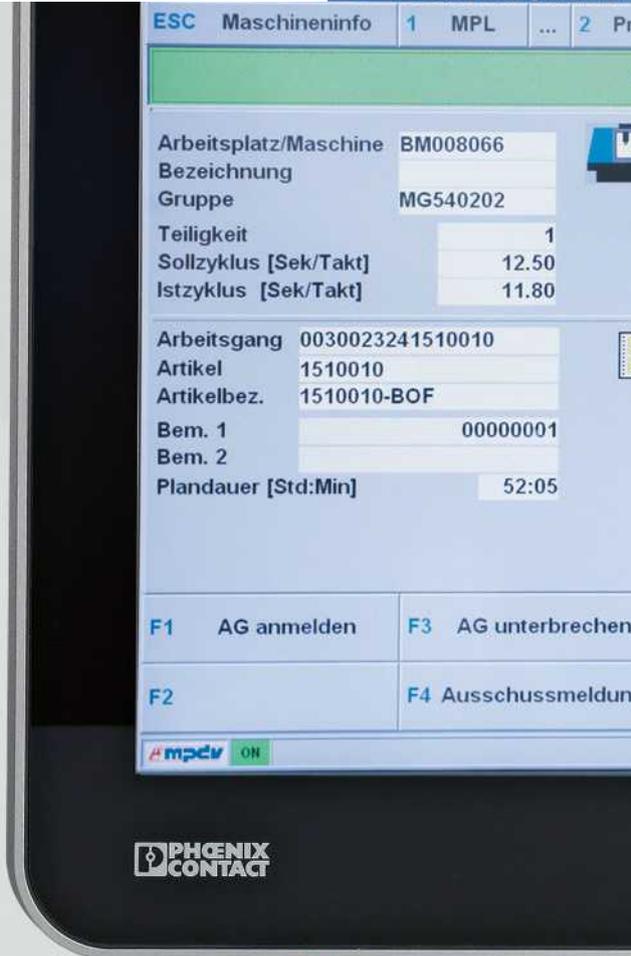
Industrial monitors with PCAP touch



Designation	BL FPM 15.6	BL FPM 18.5	BL FPM 21.5
Item number	2402980	2402981	2400515
Display size (cm / in.)	39.6 / 15.6"	46.9 / 18.5"	54.6 / 21.5"
Touch technology	Projective capacitive (PCAP)		
Resolution, W x H (pixels)	1366 x 768 (WXGA)		1920 x 1080 (Full HD)
Brightness (cd/m ²)	300		
Backlight MTBF (h)	50,000		
Viewing angle, left / right / top / bottom (°)	85 / 85 / 80 / 80		
USB	1 x USB 2.0		
With front USB	-		
Video input	1 x DisplayPort (DP++), 1 x VGA, 1 x DVI-D		
Front plate dimensions, W x H x D (mm)	417 x 312 x 6	491 x 321 x 10	562 x 382 x 9
Mounting cutout, W x H (mm)	401 x 296	475 x 306	547 x 367
Installation depth (mm)	46	41	42
Weight (kg)	5.48	6.24	7.87
Power consumption (W)	14.2	17.8	21.6

Remote monitoring

Our remote monitoring software (Portico) and industrial-grade KVM extenders allow you to manage data over long distances. With our remote software, you can manage and control cost-effective multi-access applications. Our KVM extender provides secure touch screen control and video transmission up to 90 meters.



KVM extender

Transmit keyboard, video, and mouse signals over distances up to 90 m from the IPC.

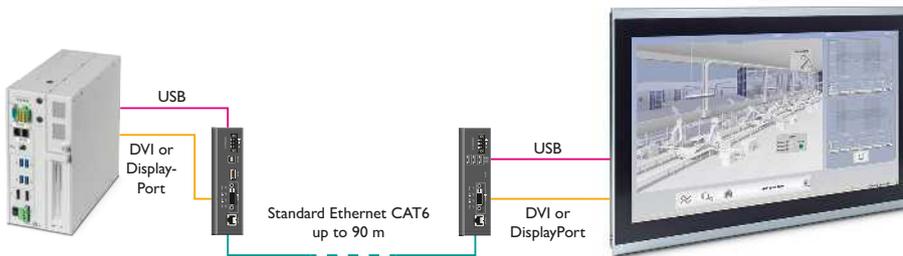


Hardware and software solution

KVM extender

The VL KVM extender enables data transmission between an industrial PC and an operator panel over a distance of up to 90 m. With just one standard Ethernet cable, video, audio, and USB signals are transmitted between an operator panel and a control cabinet PC without losses. The system is platform-independent and is based on a pure hardware solution.

- Maximum resolution: 1920 x 1080 pixels at 60 Hz (Full HD)
- External dimensions: 150 x 80 x 43 mm
- Wall, bookshelf, or DIN rail mounting
- Interfaces: 1x DVI-D, 1x DP++
- 24 V DC \pm 20%
- Item Number: [2404770](#)
- Transmitter: VL KVM (TX) - [2404769](#)
- Receiver: VL KVM (RX) - [2404771](#)



Your advantages

- ✓ Flexible remote operating solutions up to 90 m
- ✓ Cost-effective with the elimination of cable and mounting costs
- ✓ Increased system availability with the use of purely passive displays
- ✓ Industry-capable with the extended temperature range from -20°C to +50°C

Portico remote software

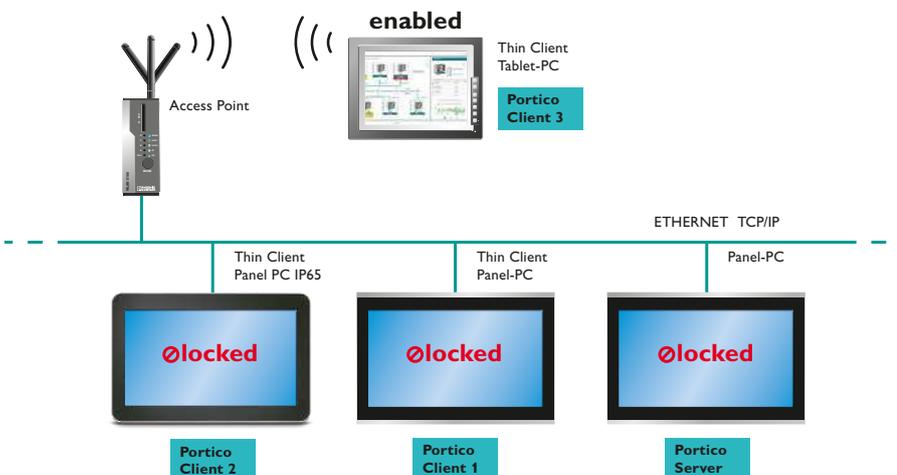
With the Portico software, you can install up to 16 thin clients exactly where you need them. The simultaneous display of IPC screen information at several operating stations without a server operating system enables simultaneous access to one machine from different locations. The integrated

configuration tool enables the convenient management of access rights, protecting your system against unauthorized access.

Visit the Phoenix Contact website and search for item number [2701453](#).

Portico

Remote Network Portal



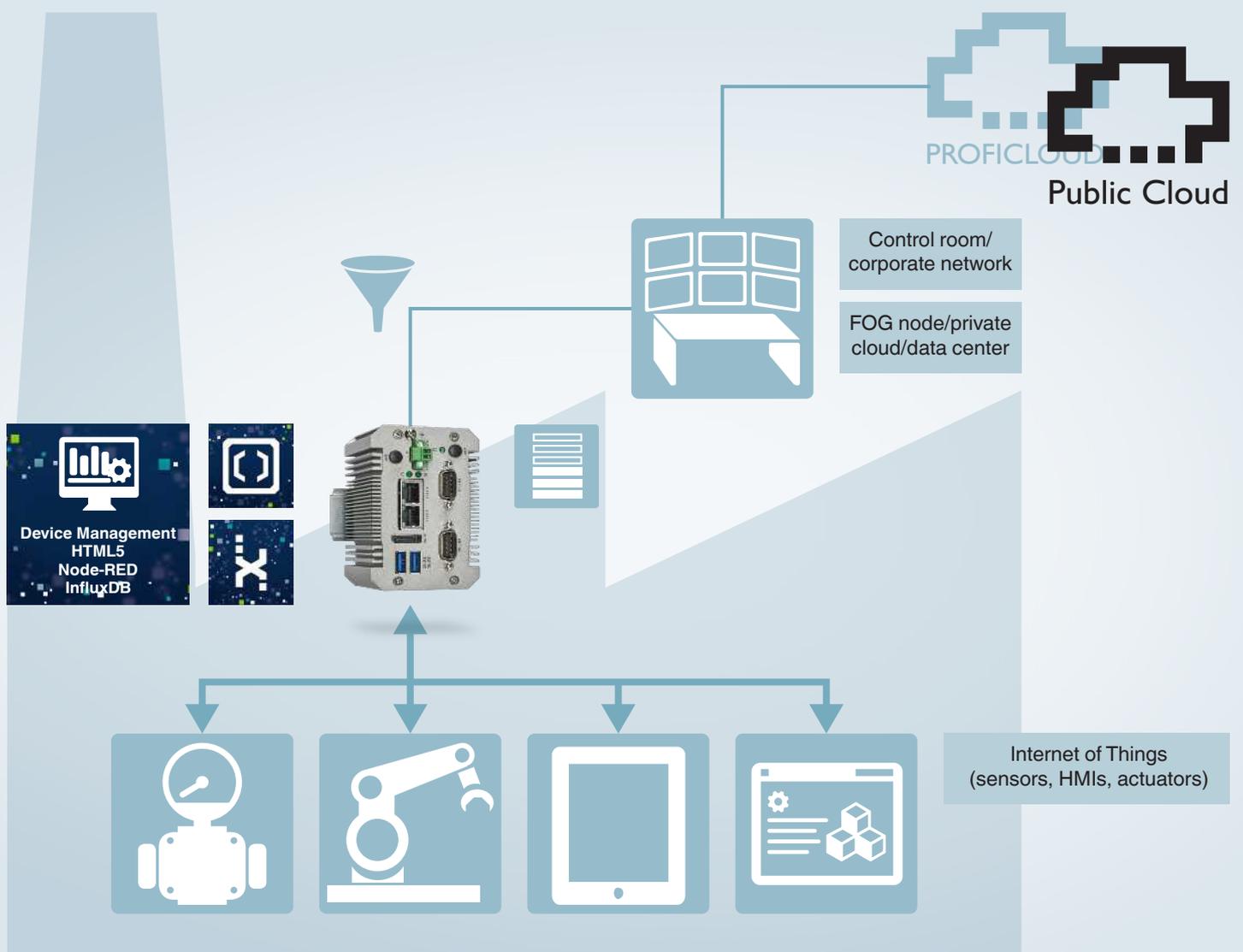
Your advantages

- ✓ Individual operation and monitoring concepts with up to 16 clients
- ✓ Inexpensive, due to the use of thin clients
- ✓ Fast screen and input response with communication via TCP/IP network protocol
- ✓ Low memory usage by server and client

Optimal data usage

Edge computing for PLCnext Technology

Process your data at the edge of your network and take advantage of modern cloud solutions to save resources. Data processing close to data sources reduces network latency and increases the response time and flexibility of your application. These controllers combine the ruggedness of industrial PCs with open PLCnext Technology, enabling the setup of intelligent IoT edge solutions to close the gap between IT and OT worlds.



Programmable edge computer

General technical data

- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ56, Intel i210
- Operating system: Linux
- Operating temperature: 0 to 50°C
- Storage temperature: -40°C to 85°C
- Permissible humidity: 5% to 85%, non-condensing
- Housing material: Aluminum
- Degree of protection: IP30
- Power supply: 12-30 V DC ±20%
- Approvals: CE, UL
- PLCnext
- Node-RED
- Apps for direct download via the PLCnext Store
- HTML5-based configuration
- Local HTML5 server to support web-based visualization (eHMI)

Your advantages

- ✓ Pre-installed software tools such as Node-RED provide a local time-series database and simple cloud connection
- ✓ PLCnext-programmable
- ✓ Multiple configuration and programming tools
- ✓ Rugged, industrial PC hardware
- ✓ Perfect for maximizing application uptime and data retention
- ✓ Reduced network data traffic and latency



EPC 1500 series industrial edge computers



Designation	EPC 1502	EPC 1522
Item number	1185416	1185423
Processor	Intel® Celeron® N3350 1.1/2.4 GHz (dual core), passive cooled	
RAM	2 GB LPDDR4	4 GB LPDDR4
Storage	32 GB eMMC (onboard)	32 GB eMMC (onboard), 128 GB M.2 SSD
Interfaces	2 x USB 3.0	2 x USB 3.0, 2 x COM
Hardware security (TPM 1.2)	Yes	
Video output	1 x DisplayPort (DP++)	
Dimensions, W x H x D (mm)	97 x 46 x 94	97 x 63 x 94
Weight (kg)	0.55	0.65
Power consumption (W)	10.8	12.72
Device management	Preinstalled user interface via local HTML	
PLCnext inside	Yes	
Cloud	Local administration of PROFICLOUD, AWS, Azure, Google Cloud	

Industrial PCs for Ex environments

Our VL2 PPC EX series industrial PCs come with Triple HazLoc approval and are a perfect fit for applications in process plants and utilization in the oil and gas industry. They feature ATEX, IECEx, and UL Class I Div 2 approvals. These IPCs are available in various performance levels and display sizes to meet demanding application requirements.

Worldwide use

These approvals enable our devices to be used in all potentially explosive environments around the globe:

- UL Class I, Div. 2 for use in North America
- ATEX for use throughout Europe
- IECEx for applications in potentially explosive environments around the globe



Industrial PCs for Ex environments

General technical data

- Display type: TFT
- Colors: 16.7 million
- Ethernet interfaces: 2 x (10/100/1000 Mbps), RJ45, Intel® i210
- Operating systems (configurable):
Windows® 7 and Windows® 10 IoT Enterprise
- Housing: sheet steel/aluminum
- Degree of protection: IP65 (front), IP30 (back)
- Power supply: 24 V DC ±20%
- Maximum current consumption (in A): depends on the configuration
- Connected load (in W): depends on the configuration
- Mounting type: front installation
- Approvals: UL/cUL, Class 1 Div 2, NEMA 4, IECEx, ATEX Zone 2/22

Your advantages

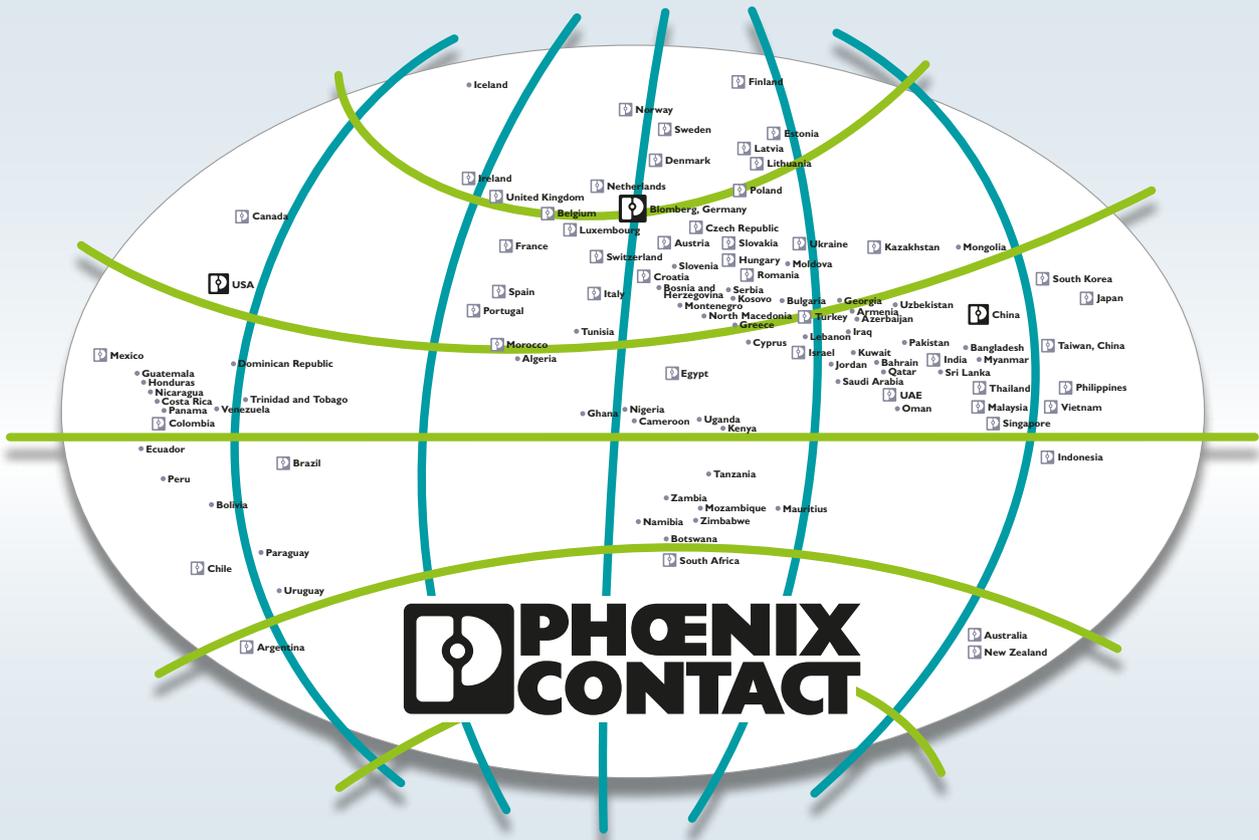
- ✓ Passive cooling and no moving parts
- ✓ Certified for use in EX zones 2 and 22
- ✓ Same display size and feature set as non-EX panels for easy integration into existing applications



VL2 series panel PCs for Ex areas



Designation	VL2 BPC 9000 EX	VL2 PPC 9000 EX
Item number	1054023	1050364
Display size (cm / in.)	NA	39.6 / 15.6"; 47 / 18.5"; 54.6 / 21.5"
Touch technology	NA	Projective capacitive (PCAP)
Resolution, W x H (pixels)	NA	1366 x 768 (HD) / 1920 x 1080 (Full HD)
Brightness (cd/m ²)	NA	400/300/300
Viewing angle, left / right / top / bottom (°)	NA	89 / 89 / 89 / 89
Processor	Intel® Core™ i7-6822EQ 2.0 GHz / 2.8 GHz (quad-core)	
Cooling	Convection booster	
RAM (configurable)	max. 32 GB DDR4	
Data memory (configurable)	2.5" HDD or SSD, RAID support 0/1	
Number of slots	1	
USB	2 x USB 2.0, 2 x USB 3.0	
Serial interfaces	1 x COM (RS-232/RS-422/RS-485) Optional: 2 x COM (RS-232) + 1 x COM (RS-232/RS-422/RS-485) Optional: Mini PCI Express (mPCIe) Optional: WLAN	
Video output	2 x DisplayPort (DP++)	
Graphics processor	Intel® HD Graphics 530	
PCI/PCIe slots (configurable)	1 x PCI or 1 x PCIe	
Dimensions, W x H x D (mm)	264 x 215 x 95	408 x 275 x 121 / 465 x 313 x 123 / 532 x 354 x 119
Mounting cutout, W x H (mm)	NA	394 x 263 / 455 x 303 / 522 x 344
Weight (kg)	4.8	8.6/10.4/12.7
Operating temperature	HDD: 0°C to +45°C SSD: -20°C to +50°C	
Relative humidity	5% to 95%, non-condensing	



Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing future-oriented products and solutions for the electrification, networking, and automation of all sectors of the economy and infrastructure. With a global network reaching across more than 100 countries with over 20,000 employees, we maintain close relationships with our customers, something we believe is essential for our common success.

Our wide range of innovative products makes it easy for our customers to implement the latest technology in a variety of applications and industries. This especially applies to the target markets of energy, infrastructure, industry, and mobility.

You can find your local partner at
phoenixcontact.com