HMIs and Industrial PCs

Design, quality, and service

PHOENIX CONTACT
INSPIRING INNOVATIONS

PHOENIX CONTACT – In contact with customers and partners worldwide

Phoenix Contact is a global market leader in the field of electrical engineering, electronics, and automation. Founded in 1923, the family-owned company now employs around 14,500 people worldwide. A sales network with over 50 sales subsidiaries and more than 30 additional global sales partners guarantees customer proximity directly on site, anywhere in the world.

Our range of services consists of products associated with various electrotechnical applications. This includes numerous connection technologies for device manufacturers and machine building, components for modern control cabinets, and tailor-made solutions for many applications and industries, such as the automotive, wind energy, solar energy, and process industries as well as applications in the fields of water management, power transmission/distribution, and transportation infrastructure.

Design, quality, and service

Are you looking for intelligent concepts for the operation and monitoring of machines and systems? Phoenix Contact offers a wide portfolio of robust and reliable technology, from HMIs (Human Machine Interfaces) to powerful industrial PCs to customized solutions for specific industrial requirements. We will provide you with an impressive complete package consisting of design, quality, and service.

Design

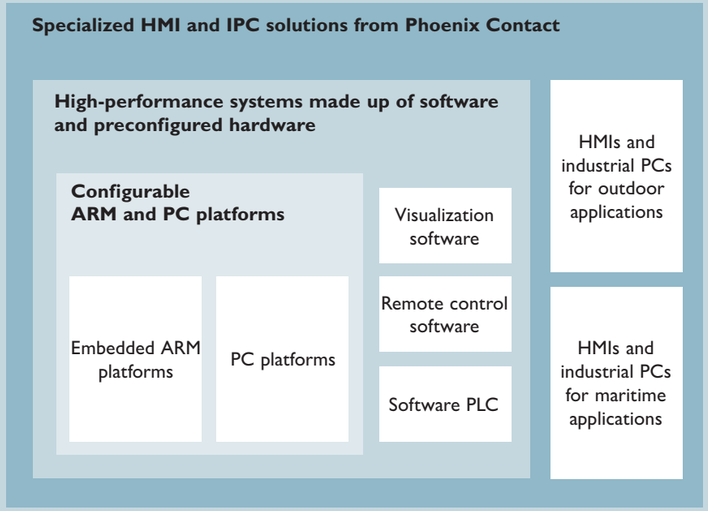
Our HMIs and industrial PCs offer an attractive and outstanding product design. Compact and versatile, they can be added seamlessly into your systems or your machine designs.

Quality

Made by Phoenix Contact – you can rely on this promise of quality. We put great emphasis on durable components that meet industry standards and high quality requirements.

Service

Enjoy the benefits of our extensive service, from selecting your product to retrofitting your existing systems. We also have a solution for your specific automation tasks.



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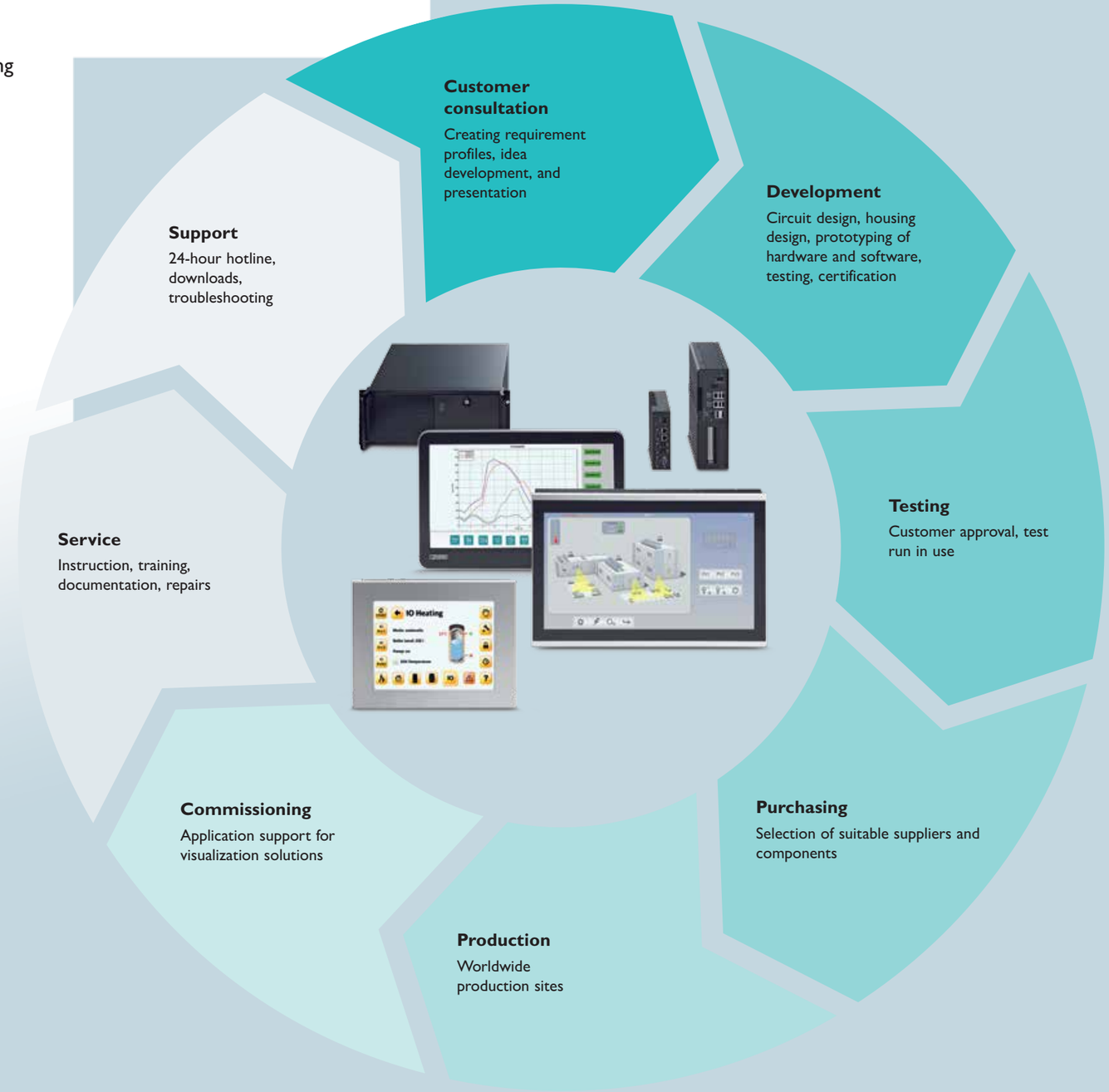
Our expertise for your success

The entire development and manufacturing process of our hardware and software solutions takes place in-house. At Phoenix Contact, everything you receive comes from a single source, from the first customer consultation, the circuit design, the housing design, and the software programming to commissioning and support. We develop modular and customized solutions in accordance with your customer requirements while building on standards. This results in excellent and customer-specific products used in a wide variety of applications.



Future-proof design

Versatile
Enjoy the benefits of a product range with display sizes from 2.8 to 21.5 inches, different processor performances, and storage variants.
Our software supports all device classes.

Robust
High-quality components ensure reliable operating in harsh industrial environments. Phoenix Contact does not use rotating parts and minimizes internal cabling to reduce EMI susceptibility.

Reliable
Our HMIs and industrial PCs are designed for 24/7 operation. Each unit goes through a thorough burn-in test prior to delivery to our customers.

Ready to use
We supply preconfigured hardware and preinstalled software to ensure the fast commissioning of products.

Long-term availability
Phoenix Contact utilizes components with long-term availability. This ensures sustainable use and investments that can be planned.

Powerful
Equipped with the latest processor technology, such as the new generation of Intel Core-i processors, our industrial PCs are the right choice for any application in an industrial environment.

Energy efficient
Excellent performance does not automatically translate to high energy consumption. Phoenix Contact relies exclusively on energy-efficient processors. This saves not only time, but also the use of fans.

Tailor-made
Individually adjust your device to meet the needs of your application. To do so, combine any processor performance and housing sizes on industrial PCs within any series.

Passionate about your industry

Products, industry-specific functions, and coordinated software provide the basis for industry solutions from Phoenix Contact. With our expert know-how for the relevant industry, Phoenix Contact provides support for stand-alone solutions as well as complex industrial systems.

Factory automation

Process industry

Energy

Infrastructure

Excellent products

Quality is no coincidence

Our wide range of industrially tested connection and automation technology forms the basis for the efficient design of your processes.

Innovative systems

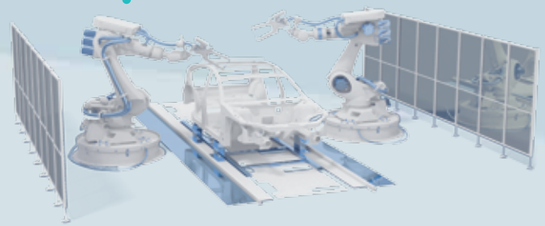
Everything from a single source

From the terminal blocks to the housing, intelligent combinations of excellent products result in innovative systems tailored to your exact requirements.

Exciting industry solutions

Tailored to your industry

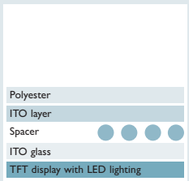
We develop exciting solution packages in cooperation with our customers and partners. Enjoy the benefits of our industry expertise. After all, it is the foundation for new innovations.



Customer-specific solutions

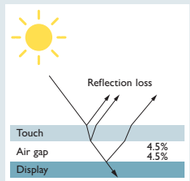
Our HMIs and industrial PCs are tailored to your specific needs. Design and functionality can be adapted to your requirements. The specific application environment and the prevailing conditions there are critical for the type and version of a solution, especially when it comes to extremes.

Touch technologies



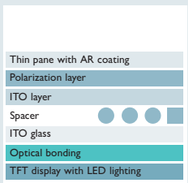
Polyester touch

A resistive touchscreen consists of two polyester plates that lie on top of each other, which are coated with the semiconductor indium tin oxide, or ITO. Spacers are used to create a gap between the plates that is filled with air. The contact is triggered with a finger or any other object.



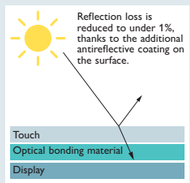
Antireflective coating (AR coating)

Antireflective coatings are used to reduce disruptive light reflections on glass surfaces. This ensures displays are rich in contrast and can be read easily by the viewer if there is incoming ambient light or glistening sunlight.



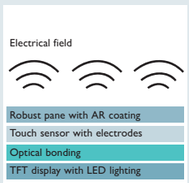
Glass-film-glass touch (GFG)

The GFG touch combines the proven, pressure-based analog resistive-touch technology with a high-quality glass design. As a result, it is best suited for harsh ambient conditions. The device can be operated with fingers, gloves, pins, or any other object, without causing damage.



Optical bonding

In this special adhesive procedure, optical components, such as the display, touch, or glass, are connected to one another with a transparent adhesive over their entire surface in a highly technical procedure. The removal of the air gap minimizes the internal reflections and leads to an improvement of the optical properties.



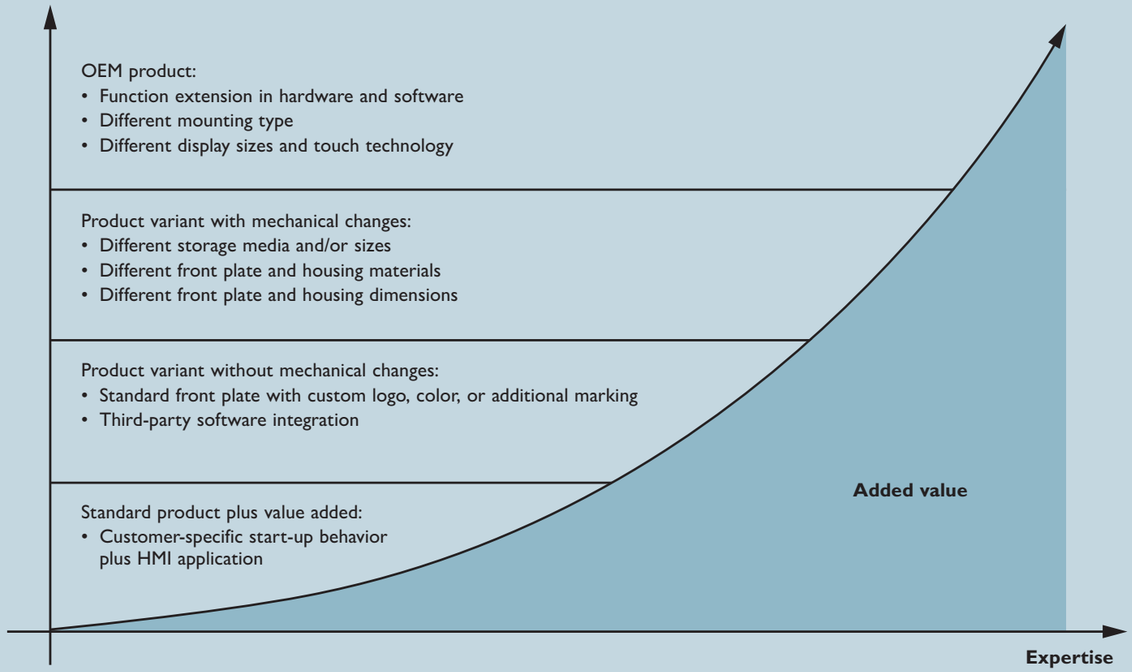
Projective-capacitive touch (PCAP)

A transparent ITO layer underneath the glass cover, consisting of touch sensors, projects a uniform electrical field that extends through the glass to the user. Even thicker glass and operation when wearing gloves are no problem. A multitouch function is always possible.

Custom-tailored HMI solutions

We develop HMI solutions tailored to our customers' specific needs, such as sunlight readable, wide-temperature operation, specific degree of protection, corrosion resistance, and specific shock and vibration requirements. We invite you to discuss your HMI requirements with us to find the perfect HMI solution for your application.

Individualization level



Touch display
- Chemical-resistant surfaces
- Increased operational reliability
- Easy to use when wearing work gloves
- The surfaces have a high resistance to abrasion
- Antivandalism requirements

Mechanics
- Flush surface
- Fronts made from special materials, e.g., stainless steel
- Increased degrees of protection, e.g., IP67 and higher
- Extremely robust full-metal housing version
- Rear installation
- Installation in special housing and operator stations
- Mounting on swivel arms
- Additional command and signaling devices

Electronics
- Various processors
- Various mass storage devices
- Nonvolatile memory
- Additional interfaces
- Wide range of supply voltage

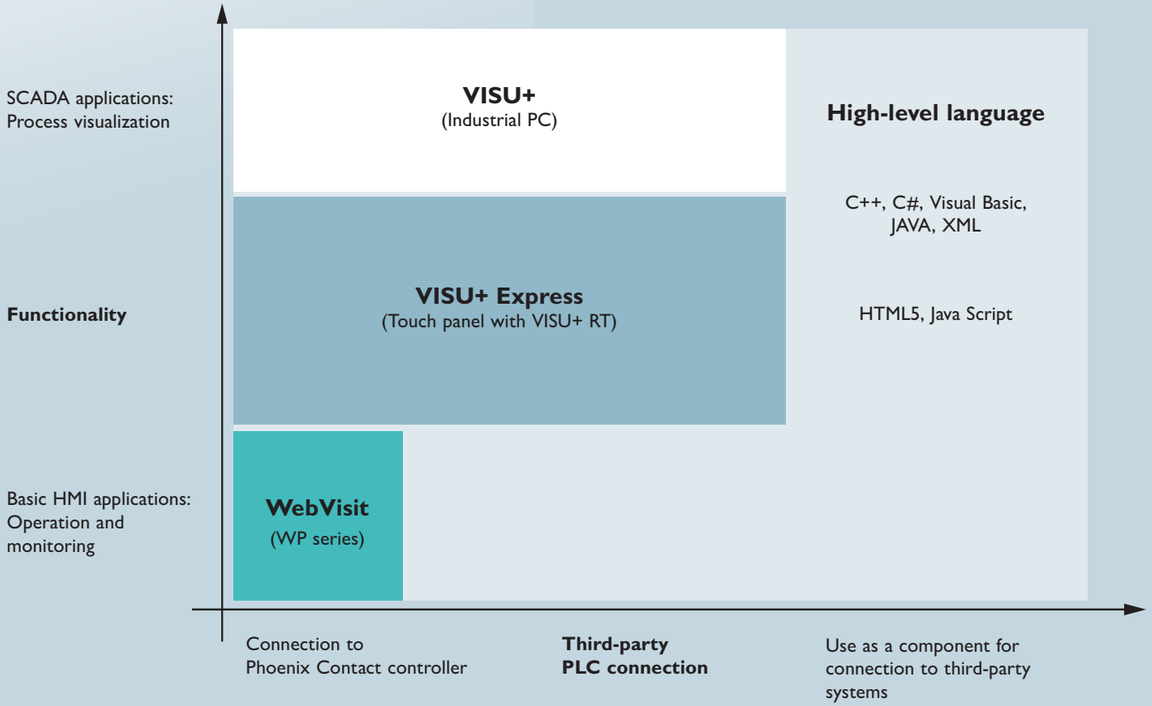
Software
- Different operating systems
- Soft keys for dimming the backlighting
- Software solutions with software PLC and visualization from various providers

Cross-component
- External horn and floating contact
- Advanced EMC requirements
- Resistance to shock and strong vibrations
- Extreme temperature requirements
- Additional functions, such as integrated heating
- Solutions for potentially explosive areas (ATEX 2/22)
- Individual approvals and certifications

Visualization software

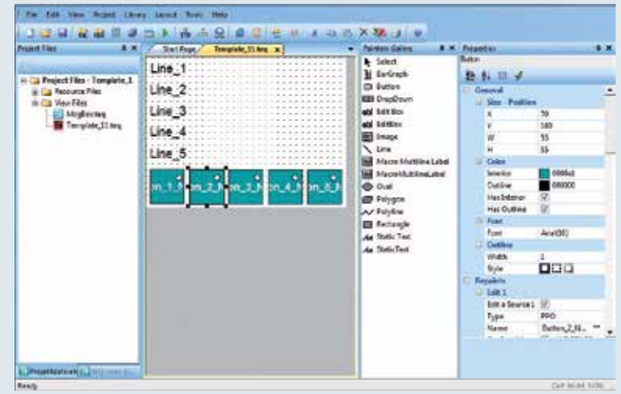
Whether in the central control room, in the production area, or directly in the machine, efficient automation requires the right visualization. The requirements for user interface, functionality, and system coupling determine which visualization system is appropriate and which particular HMI type should be selected.

Your advantages
- Scalable design software
- Fast startup and screen switchover times of HMI hardware
- Easy multiuser support with server-client architecture and web connection



WebVisit

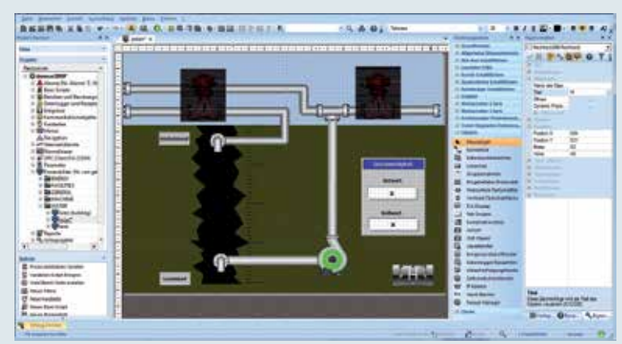
The WebVisit editor enables you to easily create user interfaces for visualization. The visualization is created directly via the controller's integrated web server.
- Easy to get started with process visualization
- Free express version for creating up to 10 visualization pages and linking a maximum of 60 process variables (PPO)
- Service friendly, because each project is started and completed in one location
- Can be displayed on all touch panels with an integrated microbrowser
- All WebVisit visualization pages can be displayed in any standard browser
- Java is ideal for stationary and on-site service for all touch panels with an integrated microbrowser
- HTML5 is ideal for location-independent multiservice on all screen devices using a standard browser: stationary and mobile



WebVisit software interface

Visu+

Visualizations with SCADA functions are impressive in their scalability and versatility. Monitor and operate complex machines, systems, or automated processes with Visu+.
- Create graphically sophisticated user interfaces and connect to numerous control systems
- Full range of SCADA functions for HMIs and industrial PCs
- App for access to the application through mobile end devices
- Free VISU+ EXPRESS version for TP series HMI
- The license for the runtime environment is already included in the price of HMI devices
- Comprehensive template database included to reduce engineering time



VISU+ software interface

Software for remote operation and control

Turn your industrial PC into a high-performance PLC with our PC WORX runtime packages. Available in two performance classes to suit your application.

Our Portico remote desktop software allows safe and efficient operation of larger machines or distributed assets.

Portico

- Individual operation and monitoring concepts with up to 16 clients
- Simultaneous display of an industrial PC's screen information at multiple operating stations without a server operating system
- Configuration tool for convenient management of access rights
- Fast screen and input response
- Low memory usage by server and client
- For machines with more than one operator panel and for long-distance thin clients

PC WORX SRT

- Software PLC for installation for any PC running Windows operating systems
- Low demands on the hardware profile are ideal for small applications
- Communication via PROFINET, Modbus/TCP, and serial RS-232/422/485 interface
- I/O points: 8 kbit to 28 kbit

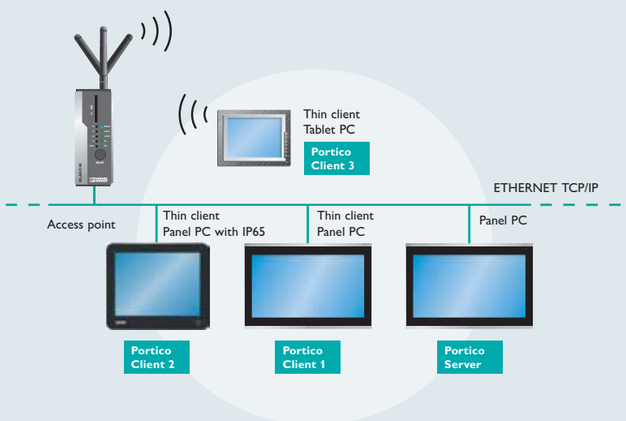
PC WORX RT BASIC

- Real-time-capable software PLC for installation on a multicore industrial PC
- Communication via PROFINET, INTERBUS, or Modbus
- I/O points: 8 kbit to 512 kbit
- Crash-proof operating system
- Real-time OS, running on dedicated CPU core
- Integrated web server and support for all common IT standards
- AX OPC server support

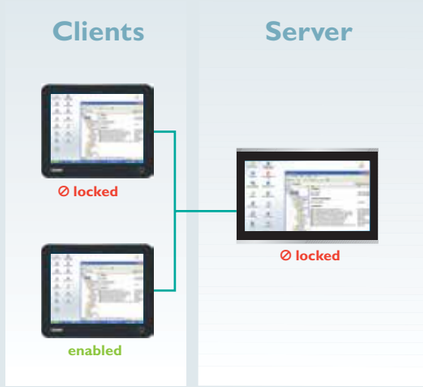
Remote network portal software

Flexible operation of industrial PCs

Optimally tailor your operating concept to the requirements of your system. With the Portico software, you can install up to 16 thin clients exactly where you need them. If employees based in various locations need to access the machine, you can design individual solutions in this way. In addition, the system is also protected against unauthorized access.



Portico offers an inexpensive way of creating operating concepts featuring multiuser operation, no matter what distances are involved.



A configuration tool enables you to easily manage access rights. This enables you to prevent simultaneous operation.

Software PLC

Installation transforms the industrial PC into a controller

The installation of the PC WORX RT BASIC software PLC transforms the industrial PC into a full-fledged controller in just a few minutes. A real-time extension is added to the standard operating system in the process. The actual software PLC then operates in this real-time environment. The extension shields the control application from the Windows world in such a way that the integrity and the deterministic behavior of the software PLC are ensured.

With a multicore processor, one processor core is used exclusively for the software PLC. This offers additional protection for the control application. Additional hardware, such as Ethernet controllers and part of the RAM, is also available exclusively to the controller.

During the installation of PC WORX RT BASIC, an additional virtual Ethernet interface is created. Data can be exchanged via TCP/IP and OPC by means of the internal connection between Windows and the controller.

The software PLC supports the tried-and-true INTERBUS system and the Ethernet-based PROFINET and Modbus/TCP standards. INTERBUS devices are connected by means of an INTERBUS PCI card installed in the industrial PC.

PC WORX RT BASIC uses a standard Ethernet interface on the industrial PC to communicate with the installed I/O modules via PROFINET.

HMIs

Do you want to expand your automation solution by adding a simple, yet robust concept for operation and monitoring? Our comprehensive portfolio provides HMI devices for everything from simple display of operating data right up to high-end visualizations. And in every performance class, you will benefit from our many years of automation expertise and our hallmark of quality: Made by Phoenix Contact.

Visualization software for every area of application

From the central control room to the production area to directly on the machine, the right visualization is essential for efficient automation. Whatever the visualization task you want to implement, we offer the right software. Enjoy the benefits of our extensive portfolio for operation and monitoring.

HMI for simple applications

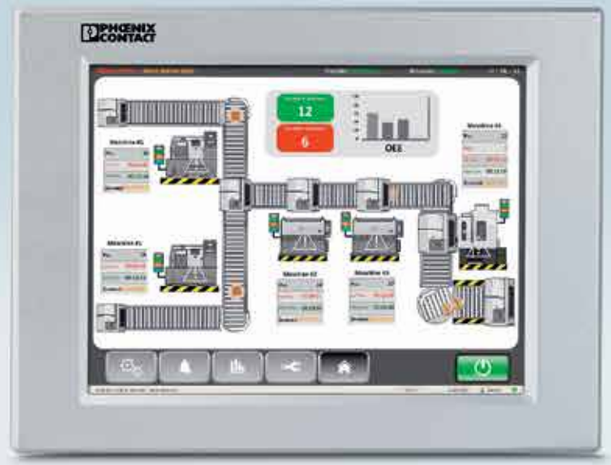
- 7.1 cm (2.8 inches) TFT touch display (TD 1030T)
- 2-bit color depth, which enables four colors to be displayed simultaneously
- Supported software: PC WORX and WebVisit
- Supported controllers: ILC and AXC from Phoenix Contact

HMI for basic applications

- Six display variants ranging in size from 3.5 to 15.4 inches in 4:3 or 16:9 formats
- Variants with analog resistive polyester touch (AR)
- Variants with analog resistive glass-film-glass touch (GFG) for outdoor applications within wide temperature environments or with direct sunlight exposure
- Supported software: WebVisit
- Supported controllers: ILC, RFC, and AXC from Phoenix Contact

HMI for standard applications

- Ten display variants ranging in size from 3.5 to 15.4 inches in 4:3 or 16:9 formats
- Variants with analog resistive polyester touch (AR)
- Variants with analog resistive glass-film-glass touch (GFG) for outdoor applications within wide temperature environments or with direct sunlight exposure
- Variants with projective-capacitive touch (PCAP)
- Supported software: WebVisit or Visu+
- Supported controllers: ILC, RFC, and AXC from Phoenix Contact, as well as numerous third-party systems



HMI for high-end applications

- Three display variants ranging in size from 12.1 to 17 inches
- Variants with analog resistive polyester touch (AR)
- Supported software: VISU+
- Supported controllers: ILC, RFC, and AXC from Phoenix Contact, as well as some selected third-party systems

Selection guide for HMIs

Whether in the central control room, in the production area, or directly on the machine, efficient automation requires the right visualization. And visualization requirements determine which HMI device is the right one to choose.

Follow these three steps to find the optimum solution for your application.

1

Select visualization by means of

- User interface
- Functionality
- System coupling

2

Assess the scope of functions needed

- Basic
- Standard
- High-end

3

Select devices

- HMIs for WebVisit
- HMIs for Microbrowser
- HMIs for Visu+ Express
- Panel PC

Step 1: Visualization as a basis for selecting an HMI

The requirements for 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

Software	WebVisit	Visu+ Express	Visu+
User interface			
Display of operating data • Alphanumerical • Simple graphic display • Graphic-intensive display • Dundas Gauges	 Yes Yes – –	 Yes Yes Yes –	 Yes Yes Yes Yes
Color spectrum	8 bpp (256 colors)	16 bpp (65K colors)	Unlimited (hardware-dependent)
Supported image formats • GIF/JPG/PNG/SVG • BMP/TIF/WMF/WPF	 Yes/Yes/Yes/Yes –/–/–/–	 Yes/Yes/Yes/– Yes/Yes/–/–	 Yes/Yes/Yes/– Yes/Yes/Yes/–
Animation • Simple object animation • Polygon filling/rotation	 Yes –/–	 Yes –/–	 Yes Yes/Yes
Functionality			
Target value input • Numerical/alphanumerical	 Yes/Yes	 Yes/Yes	 Yes/Yes
Alarm management • Visual notification • Audible notification • Notification via e-mail • Notification via text message	 Yes – – –	 Yes Yes Yes –	 Yes Yes Yes Yes
User management	Yes	Yes	Yes
Trend representation • Online (dynamic) • Offline (plus historical data)	 Yes Yes	 Yes Yes	 Yes Yes
Online language selection	Yes	Yes	Yes
Archiving (data logger) • Local • External	 –	 Yes –	 Yes Yes
Report generation and printing	–	Yes	Yes
Recipe management	–	Yes	Yes
VBA scripts and IL logic	–	Yes	Yes
Time switch	–	Yes	Yes
Access via standard browser	Yes (PLC-dependent)	Max. 2	Max. 100 (depends on the license)
System coupling			
Connection to Phoenix Contact PLC	Yes (http)	Yes (OPC, Modbus)	
Connection to third-party systems	–	Yes (select)	Yes (common)
Manufacturer-independent protocols • Modbus TCP/IP • EtherNet/IP™ • PROFINET • OmronFINS • Other third party	 – – – – –	 Yes Yes Yes Yes No	 Yes Yes Yes Yes Yes
Compatible devices			
HMI (including a suitable runtime)	HMI for WebVisit	HMI for VISU+	
Industrial PC plus runtime	Panel PC with browser	–	Panel PC (plus runtime)

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

The user friendliness of a device depends on the application programming. By contrast, the response and display refresh time (operating efficiency) is primarily based on the complexity of the visualization application. The operating efficiency is influenced by various factors. For example, poor CPU performance or low memory capacity have a negative influence on the response and display refresh time.

The following factors significantly influence the operating efficiency of an HMI. Please take these factors into consideration when selecting the HMI performance class.

Software	Recommendation			Max. HMI incl. RT	Max. PC plus RT
	Basic	Standard	High-end		
Resolution of the display					
Standard format (4:3)	With VGA (640 x 480 pixels)	With SVGA (800 x 600 pixels)	With XGA (1024 x 768 pixels)	Unlimited	Unlimited
Widescreen format (16:9)	With WVGA (800 x 480 pixels)	With WSVGA (1024 x 600 pixels)	With WXGA (1366 x 768 pixels)	Unlimited	Unlimited
Memory required for visualization					
Max. number of pages	16	64	256	2048	8192
Max. number of graphic elements	32	128	512	1024	8192
Max. number of objects per page	–	32	64	64	256
Max. number of animated objects per page	1 per page	5 per page	5 per page	Unlimited	Unlimited
Variables					
Max. number of variables (tags)	256	1024	2048	4096	128,000
Polling rate	1000 ms	500 ms	250 ms	Unlimited	Unlimited
System coupling and communication					
Max. number of controllers	1	5	10	Unlimited	Unlimited
Max. no. drivers used parallel	1	1 plus OPC	2 plus OPC	2 plus OPC	2 plus OPC
Max. number of controllers for each driver	1	2	5	128	128
VBA scripts and IL logic (instruction list)					
Max. number of scripts	4	8	16	64	4096
Can be executed simultaneously	1	2	4	4	128
Number and frequency of logs (data logging)					
Max. number of pens	4	8	16	16	64
Max. number of data loggers	0	16	32	32	512
Scanning time	1000 ms	1000 ms	1000 ms	1000 ms	100 ms
Retention period	Dependent on memory space			365 days	9999 days
Alarm management					
Max. number of alarms	128	512	1024	4096	32000
User management					
Max. number of users	16	512	1024	1024	8192
Max. number of user groups	4	16	64	64	512
Report generation and printing					
Textual reporting	–	Yes	Yes	Yes	Yes
Graphical reporting	–	–	Yes	Yes	Yes
Events					
Max. number of event objects	16	64	128	128	512
Recipe management					
Max. no. recipes per project	4	8	16	16	512
Max. no. columns recipe	8	32	128 (90 with IMDB)	128 (90 with IMDB)	1024 (127 with IMDB)
Language selection					
Max. number of languages	4	16	32	32	128
Access via the web browser					
Max. number of instances of access	–	1	2	2	64

Step 3: Selecting 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, standard, and high-end applications. Select the right operator panel according to your requirements.

	Basic	Standard	High-end
VISU+	HMI for VISU+ Express		Panel PC with appropriate runtime
WebVisit	HMI for WebVisit	Panel PC with standard browser	
PC WORX	TD 1030T		

Product range			HMI for WebVisit	HMI for Visu+ Express
Display size (4:3)				
3.5"	320 x 240	QVGA	✓	✓
5.7"	320 x 240	QVGA	✓	✓
5.7"	640 x 480	VGA	–	✓
10.5"	800 x 600	SVGA	✓	✓
12.1"	800 x 600	SVGA	–	✓
15.1"	1024 x 769	XGA	✓	✓
17"	1280 x 1024	SXGA	–	✓
Display size (16:9)				
4.3"	480 x 272	WQVGA	–	✓
7"	800 x 480	WVGA	✓	✓
9"	800 x 480	WVGA	✓	✓
12"	1280 x 800	WXGA	–	✓
15.4"	1280 x 800	WXGA	–	✓
15.6"	1366 x 769	WXGA	–	(✓)
18.5"	1366 x 769	WXGA	–	(✓)
Touch technology				
Analog resistive polyester touch			✓	✓
Analog resistive glass-film-glass touch			✓	(✓)
Projective-capacitive touch (PCAP)			–	(✓)
Interfaces				
Ethernet			✓	✓
Dual CAN			–	(✓)
RS-485			–	(✓)

(✓) = project-specific possibility

HMIs for basic applications

WebVisit touch panel with polyester touch technology

Basic model	WP04T	WP06T	WP07T/WS	WP09T/WS	WP10T	WP15T
Display size	8.89 cm (3.5 inches)	14.48 cm (5.7 inches)	17.78 cm (7 inches)	22.86 cm (9 inches)	26.42 cm (10.4 inches)	38.10 cm (15.1 inches)
Colors	65536	65536	65536	65536	65536	65536
Resolution (W x H in pixels)	320 x 240 (QVGA)	320 x 240 (QVGA)	800 x 480 (WVGA)	800 x 480 (WVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)
Brightness (in cd/m²)	350	400	350	400	330	480
Reading angle (vertical/horizontal)	150°/130°	135°/150°	130°/140°	170°/170°	110°/140°	135°/160°
Backlight (MTTF in h)	40000	40000	40000	70000	50000	50000
Touch technology	Analog resistive (polyester)					
Processor	ARM9™ CPU, 200 MHz					
Temperature range	Operation: -0°C ... +50°C Storage: -25°C ... +70°C					
Degree of protection (front side/rear side)	IP65/IP20					
Front plate dimensions (W x H x D in mm)	120 x 90 x 5	168 x 126 x 5	203 x 147 x 5	260 x 172 x 5	295 x 220 x 5	400 x 329 x 5
Installation depth (in mm) including fieldbus interface	35 –	42 –	54 –	54 –	55 –	60 –
Mounting cutout (W x H in mm)	112 x 82	160 x 118	195 x 139	252 x 164	287 x 212	373 x 302
Weight (in kg)	0.43	0.69	1.0	1.3	1.8	2.3
Type of power consumption	7.2 W at 24 V	9.6 W at 24 V	12 W at 24 V	14.4 W at 24 V	14.4 W at 24 V	24 W at 24 V
Approvals	UL/cUL 61010 (previously: 508), ABS, BV, GL/DNV, LR, RINA, EN60945					
	General technical data					
Display type	TFT/LED (white)					
Memory	32 MB Flash, 64 MB SDRAM					
Interfaces	1x Ethernet (10/100 MBit/s), 2x USB Host 2.0					
Serial interfaces	–					
Fieldbus interfaces	–					
Operating system	Windows® CE 5.0					
Relative humidity	For operation and storage: 20% ... 85% (noncondensing)					
Installation type	Portrait/landscape					
Mounting type	Front installation					
Power supply	24 V DC ±20 %					

WebVisit outdoor touch panel with GFG touch

WP06T/WT	WP07T/WT
14.48 cm (5.7 inches)	17.78 cm (7 inches)
65536	65536
320 x 240 (QVGA)	800 x 480 (WVGA)
400	350
135°/150°	130°/140°
40000	40000
Analog resistive (GFG), antireflective coating	
ARM9™ CPU, 184 MHz	
Operation: -20°C ... +70°C Storage: -30°C ... +80°C	
IP67/IP20	
195 x 153 x 5	234 x 174 x 5
42 –	42 –
161 x 119	200 x 140
0.75	1.0
4.8 W at 24 V	7.2 W at 24 V
UL/cUL 61010 (previously: 508)	
General technical data	
TFT/LED (white)	
32 MB Flash, 64 MB SDRAM	
1x Ethernet (10/100 MBit/s), 2x USB Host 2.0	
–	
–	
Windows® CE 5.0	
For operation and storage: 20% ... 85% (noncondensing)	
Portrait/Landscape	
Front installation	
24 V DC ±20%	

Touch panel with polyester touch technology

Model	Resolution	WebVisit
WP04T	320 x 240	2913632
WP06T	320 x 240	2913645
WP07T/WS	800 x 480	2700307
WP09T/WS	800 x 480	2700309
WP10T	800 x 600	2700934
WP15T	1024 x 768	2700935

Outdoor touch panel with GFG touch technology

Model	Resolution	WebVisit
WP06T/WT	320 x 240	2400163
WP07T/WT	800 x 480	2400164

HMIs for standard applications

Web panels with open browser for HTML5 applications

These touch panels are operator panels with a WebKit-based browser as the user software. This means that all web-based visualizations that support the current HTML5 web standard can be displayed. Your advantages:

- Used exclusively for operation, the browser is the only interactive interface
- Open web standard and user-selectable web server and visualization
- Independent visualization with self-programmed JavaScript applications
- Secure communication, thanks to SSL-encrypted data transmission
- No security updates needed
- Display formats in 4:3 or 16:9

Model view					
Designation	**WP 3057V**	**WP 3070W**	**WP 3090W**	**WP 3105S**	**WP 3121S**
Display	14.48 (5.7")	17.78 (7")	22.9 cm (9")	26.42 (10.4")	30.73 (12.1")
Colors	262,144	262,144	262,144	262,144	262,144
Resolution (W x H in pixels)	640 x 480 VGA	800 x 480 WVGA	800 x 480 WVGA	800 x 600 SVGA	800 x 600 SVGA
Brightness (in cd/m²)	400	350	800	340	360
Reading angle (vertical/horizontal)	107°/130°	130°/140°	130°/140°	110°/140°	140°/160°
Backlight (MTTF in h)	40000	40000	40000	50000	50000
Touch technology	Polyester, analog resistive				
Processor	ARM® Cortex®-A8, 800 MHz, real-time clock (with battery backup)				
Temperature range	Operation: -0°C ... +50°C, storage: -25°C ... +70°C				
Degree of protection (front/back)	IP65/IP20				
Front panel dimensions (W x H x D in mm)	168 x 126 x 5	203 x 147 x 5	260 x 172 x 5	295 x 220 x 5	340 x 270 x 5
Installation depth (in mm) including fieldbus interface	42	42	54	54	55
Mounting cutout (W x H in mm)	160 x 118	195 x 139	164 x 252	287 x 212	313 x 243
Weight (in kg)	0.8	0.8	1.3	1.9	2.2
Typical power consumption	7.2 W at 24 V	7.2 W at 24 V	14.4 W at 24 V	12 W at 24 V	12 W at 24 V
Approvals	UL/cUL, Class I Div.2				
	General technical data				
Display type	TFT/LED (white)				
Memory	1 GB Flash, 512 SDRAM				
Interfaces	1 x Ethernet 10/100 Mbps, 2 x USB Host 2.0, 1 x SD card slot				
Operating system	Debian GNU/Linux and Firefox browser				
Relative humidity	For operation and storage: 20% to 85%, noncondensing				
Installation type	Portrait/landscape				
Mounting type	Installation in front panel				
Power supply	24 V DC ±20%				

Designation	**WP 3120W**	**WP 3150S**
Display	30.73 (12.1")	38.1 (15")
Colors	262,144	262,144
Resolution (W x H in pixels)	1280 x 800 WXGA	1024 x 768 XGA
Brightness (in cd/m²)	320	480
Reading angle (vertical/horizontal)	176°/176°	145°/160°
Backlight (MTTF in h)	50000	50000
Touch technology	Polyester, analog resistive	
Processor	ARM® Cortex®-A8, 800 MHz, real-time clock (with battery backup)	
Temperature range	Operation: -0°C ... +50°C Storage: -25°C ... +70°C	
Degree of protection (front/back)	IP65/IP20	
Front panel dimensions (W x H x D in mm)	330 x 225 x 5	400 x 329 x 5
Installation depth (in mm) including fieldbus interface	48	55
Mounting cutout (W x H in mm)	322 x 217	372 x 301
Weight (in kg)	1.7	3
Typical power consumption	16.8 W at 24 V	16.8 W at 24 V
Approvals	UL/cUL, Class I Div.2	
	General technical data	
Display type	TFT/LED (white)	
Memory	1 GB Flash, 512 SDRAM	
Interfaces	1 x Ethernet 10/100 Mbps, 2 x USB Host 2.0, 1 x SD card slot	
Operating system	Debian GNU/Linux and Firefox browser	
Relative humidity	For operation and storage: 20 % to 85 %, non-condensing	
Installation type	Portrait/landscape	
Mounting type	Installation in front panel	
Power supply	24 V DC ±20 %	

Touch panels with polyester touch technology

Model	Resolution	HTML5
WP 3057V	640 x 480	2400251
WP 3070W	800 x 480	2400253
WP 3090W	800 x 480	2402634
WP 3105S	800 x 600	2400254
WP 3121S	800 x 600	2402635
WP 3120W	1280 x 800	2400255
WP 3150S	1024 x 768	2400285

HMI for standard applications

VISU+ Express touch panel with polyester touch technology

Basic model	TP3043W	TP3057Q	TP3057V	TP3070W	TP3090W	TP3105S	TP3121S
Display size	10.92 cm (4.3 inches)	14.48 cm (5.7 inches)	14.48 cm (5.7 inches)	17.78 cm (7 inches)	22.68 cm (9 inches)	26.42 cm (10.4 inches)	30.73 cm (12.1 inches)
Colors	262144	262144	262144	262144	262144	262144	262144
Resolution (W x H in pixels)	480 x 272 (WQVGA)	320 x 240 (QVGA)	640 x 480 (VGA)	800 x 480 (WVGA)	800 x 480 (WVGA)	800 x 600 (SVGA)	800 x 600 (SVGA)
Brightness (in cd/m²)	385	400	400	350	400	340	360
Reading angle (vertical/horizontal)	138°/150°	107°/130°	107°/130°	130°/140°	170°/170°	110°/140°	140°/160°
Backlight (MTTF in h)	40000	40000	40000	40000	70000	50000	50000
Touch technology	Analog resistive (polyester)						
Processor	ARM® Cortex®-A8, 800 MHz						
Temperature range	Operation: -0°C ... +50°C, storage: -25°C ... +70°C						
Degree of protection (front side/rear side)	IP65/IP20						
Front plate dimensions (W x H x D in mm)	140 x 100 x 5	203 x 147 x 5	168 x 126 x 5	203 x 147 x 5	260 x 172 x 5	295 x 220 x 5	340 x 270 x 5
Installation depth (in mm)	42	42	42	42	54	54	55
including fieldbus interface	71	71	71	71	59	59	60
Mounting cutout (W x H in mm)	132 x 92	195 x 139	160 x 118	195 x 139	252 x 164	287 x 212	313 x 243
Weight (in kg)	0.6	0.9	0.8	0.8	1.3	1.9	2.2
Type of power consumption	4.8 W at 24 V	7.2 W at 24 V	7.2 W at 24 V	7.2 W at 24 V	14.4 W at 24 V	12 W at 24 V	16.8 W at 24 V
Approvals	UL/cUL 61010 (previously: 508), in preparation: ABS, BV, GL/DNV, LR, RINA, EN60945						
	General technical data						
Display type	TFT/LED (white)						
Memory	1 GB Flash, 512 MB SDRAM (Optional 1 MB SRAM)						
Interfaces	1x Ethernet (10/100 Mbps), 2x USB Host 2.0, 1x SD card slot						
Serial interfaces	Special order						
Fieldbus interfaces	Special order						
Operating system	Windows® Embedded Compact 7						
Relative humidity	For operation and storage: 20% ... 85% (noncondensing)						
Installation type	Portrait/Landscape						
Mounting type	Front installation						
Power supply	24 V DC ±20%						

	TP3120W	TP3150S	TP3154W
Display size	30.73 cm (12.1 inches)	38.1 cm (15 inches)	39.1 cm (15.4 inches)
Colors	262144	262144	262144
Resolution (W x H in pixels)	1280 x 800 (WXGA)	1024 x 768 (XGA)	1280 x 800 (WXGA)
Brightness (in cd/m²)	320	480	360
Reading angle (vertical/horizontal)	176°/176°	145°/160°	140°/160°
Backlight (MTTF in h)	50000	50000	50000
Touch technology	Analog resistive (polyester)		
Processor	ARM® Cortex®-A8, 800 MHz		
Temperature range	Operation: -0°C ... +50°C, storage: -25°C ... +70°C		
Degree of protection (front side/rear side)	IP65/IP20		
Front plate dimensions (W x H x D in mm)	330 x 225 x 5	400 x 329 x 5	420 x 297 x 5
Installation depth (in mm)	48	55	59
including fieldbus interface	53	60	64
Mounting cutout (W x H in mm)	322 x 217	372 x 301	396 x 273
Weight (in kg)	1.7	2.3	1.9
Type of power consumption	16.8 W at 24 V	19.2 W at 24 V	21.6 W at 24 V
Approvals	UL/cUL 61010 (previously: 508), in preparation: ABS, BV, GL/DNV, LR, RINA, EN60945		
	General technical data		
Display type	TFT/LED (white)		
Memory	1 GB Flash, 512 MB SDRAM (optional 1 MB SRAM)		
Interfaces	1x Ethernet (10/100 Mbps), 2x USB Host 2.0, 1x SD card slot		
Serial interfaces	Special order		
Fieldbus interfaces	Special order		
Operating system	Windows® Embedded Compact 7		
Relative humidity	For operation and storage: 20% ... 85% (noncondensing)		
Installation type	Portrait/Landscape		
Mounting type	Front installation		
Power supply	24 V DC ±20%		

Touch panel with polyester touch technology

Variants without additional interface

Model	Resolution	Visu+ Express
TP3043W	480 x 272	2402629
TP3057Q	320 x 240	2400452
TP3057V	640 x 480	2400453
TP3070W	800 x 480	2400454
TP3090W	800 x 480	2402630
TP3105S	800 x 600	2400455
TP3121S	800 x 600	2400456
TP3120W	1280 x 800	2400457
TP3150S	1024 x 768	2400458
TP3154W	1280 x 800	2402631

HMIs for high-end applications

VISU+ Express touch panel with PCAP touch technology

Basic model	TP3070W/P	TP3090W/P	TP3120W/P	TP3156W/P	TP3185W/P
Display size	17.78 cm (7 inches)	22.86cm (9 inches)	30.73 cm (12.1 inches)	39.62 cm (15.6 inches)	47 cm (18.5 inches)
Colors	262144	16.7 million	262144	262144	262144
Resolution (W x H in pixels)	800 x 480 (WVGA)	800 x 480 (WVGA)	1280 x 800 (WXGA)	1366 x 768 (WXGA)	1366 x 768 (WXGA)
Brightness (in cd/m²)	350	400	320	320	240
Reading angle (vertical/horizontal)	130°/140°	170°/170°	176°/176°	160°/160°	160°/170°
Backlight (MTTF in h)	40000	70000	50000	70000	50000
Touch technology	Projective-capacitive (PCAP)			Projective-capacitive (PCAP)	
Processor	ARM® Cortex®-A8, 1 GHz			ARM® Cortex®-A8, 1 GHz	
Temperature range	Operation: 0°C ... +50°C Storage: -25°C ... +70°C			Operation: 0°C ... +50°C Storage: -25°C ... +70°C	
Degree of protection (front side/rear side)	IP65/IP20			IP65/IP20	
Front plate dimensions (W x H x D in mm)	208 x 149 x 6	271 x 179 x 6	336 x 234 x 6	436 x 278 x 6	485 x 329 x 6
Installation depth (in mm) including fieldbus interface	53 82	53 82	53 82	53 82	53 82
Mounting cutout (W x H in mm)	198 x 138	261 x 169	326 x 224	425 x 260	475 x 311
Weight (in kg)	1.1	1.8	1.7	1.9	1.9
Type of power consumption	9.6 W at 24 V	19.2 W at 24 V	16.8 W at 24 V	24 W at 24 V	21.6 W at 24 V
Approvals	UL/cUL 61010 (previously: 508) In preparation: ABS, BV, GL/DNV, LR, RINA, EN60945			UL/cUL 61010 (previously: 508) In preparation: ABS, BV, GL/DNV, LR, RINA, EN60945	
	General technical data				
Display type	TFT/LED (white)			TFT/LED (white)	
Memory	1 GB Flash, 512 MB SDRAM (Optional 1 MB SRAM)			1 GB Flash, 512 MB SDRAM (optional 1 MB SRAM)	
Interfaces	1x Ethernet (10/100 MBit/s), 2x USB Host 2.0, 1x SD card slot			1x Ethernet (10/100 Mbps), 2x USB Host 2.0, 1x SD card slot	
Serial interfaces	Special order			1x COM (RS-232), 1x COM (RS-422/485) (electrically isolated)	
Fieldbus interfaces	Special order			2x CAN (electrically isolated)	
Operating system	Windows® Embedded Compact 7			Windows® Embedded Compact 7	
Relative humidity	For operation and storage: 20% ... 85% (noncondensing)			For operation and storage: 20% ... 85% (noncondensing)	
Installation type	Portrait/Landscape			Portrait/Landscape	
Mounting type	Front installation			Front installation	
Power supply	24 V DC ±20%			24 V DC ±20%	

Touch panel with PCAP touch technology

Model	Resolution	Visu+ Express
TP3070W/P	800 x 480	2403459
TP3090W/P	800 x 480	2403460
TP3120W/P	1280 x 800	2403461
TP3156W/P	1366 x 768	2403462
TP3185W/P	1366 x 768	2403862

HMIs and industrial PCs for harsh conditions

Phoenix Contact offers outdoor/sunlight-readable as well as maritime-approved HMIs and industrial PCs for use in harsh conditions.

Operation with gloves

You can now operate and monitor even faster and easier. All outdoor devices can be operated when wearing gloves.

Sunlight readable

You can even use your devices in direct sunlight. The displays of the outdoor devices can be easily read at all times.

IP65/IP67 degree of protection

Regardless of the prevailing environmental conditions in your system, the IP67 front offers reliable protection at all times.

Outdoor applications

- Display sizes ranging from 7" to 15" in 4:3 and 16:9 formats
- Temperature range from -20°C to +60°C; some selected devices from -30°C to +70°C
- Unique optical bonding technology and antireflective coating make screens sunlight readable yet energy efficient
- Resistant to UV and IR radiation and other environmental influences, such as salt spray
- Variants with analog resistive glass-film-glass touch (GFG)
- Variants with projective-capacitive touch (PCAP)
- Fanless design and no moving parts
- Easy to use, even when wearing work gloves

EN 60945

Black front bezel

It must be possible to use the maritime device's user interface in bright sunlight. The front plate made from black anodized aluminum absorbs light and prevents reflections.

Floating output

Additional connection options are available via the floating output, such as for an external signal generator. I/O devices can therefore be connected directly, without including a controller, I/Os, and relay between the maritime device and signal generator. This reduces wiring effort and costs.

Safe compass distance

Tested by the Bundesamt für Seeschifffahrt und Hydrographie (BSH, Federal Maritime and Hydrographic Agency of Germany). Maritime devices are certified through measurement of the safe distances from the standard magnetic and steering magnetic compass in accordance with ISO R 694 and DIN EN 60945 Paragraph 11.2.

Audible warning signal

An audible warning signal also indicates critical operating state changes.

Dimmable

For navigation at night and operation in the dark, it is essential that the backlighting of the display can be set to a defined dimming setting.

Maritime applications

- Display sizes ranging from 7-to-15 inches in in 4:3 and 16:9 formats
- Tailor-made for onshore and offshore maritime applications
- Variants with analog resistive polyester touch (AR)
- Variants with analog resistive glass-film-glass touch (GFG)
- Display can be read in sunlight, is made of weather-resistant materials, and is resistant to chemicals, such as aggressive cleaning agents for variants with GFG touch
- Fanless design and no moving parts

HMIs for outdoor applications

VISU+ Express outdoor touch panel with GFG touch technology

The outdoor touch panels with new processor generation and glass-film-glass (GFG) touchscreens offer power and robustness for demanding applications. Operate and monitor your system in any environment, thanks to the C1D2 HAZLOC certification for extreme application conditions.

Your advantages:

- Optical bonded display can be read in direct sunlight
- Resistant to UV and IR radiation
- Wide-temperature operation
- Resistant to environmental influences, such as salt spray, termites, and chemicals, due to IP67 degree of protection
- Can be operated with gloves

Model view

Designation	TPE057SGV	TPG070SGW	TP 3043W/WT	TP 3057V/WT	TP 3070W/WT	TP 3121S/WT
Display	14.48 cm (5.7 inches)	17.78 cm (7 inches)	10.92 cm (4.3 inches)	14.48 (5.7 inches)	17.78 cm (7 inches)	30.73 (12.1 inches)
Colors	262144	16.7 million	262,144	262,144	16,77 Mio.	262,144
Resolution (W x H in pixels)	640 x 480 (VGA)	800 x 480 (WVGA)	480 x 272 WQVGA	640 x 480 VGA	800 x 480 WVGA	800 x 600 SVGA
Brightness (in cd/m²)	400	400	385	400	350	360
Reading angle (vertical/horizontal)	130°/107°	120°/140°	138°/150°	107°/130°	120°/140°	140°/160°
Backlight (MTTF in h)	40000	50000	40000	40000	50000	50000
Touch technology	Analog resistive (GFG), antireflective coating		GFG, analog resistive, antireflective coating			
Processor	ARM® Cortex®-A8, 1 GHz Optical bonding		ARM® Cortex®-A8, 1000 MHz			
Temperature range	Operation: -20°C ... +70°C Storage: -30°C ... +80°C	Operation: -32°C ... +70°C Storage: -40°C ... +80°C	Operation: -20°C ... +70°C Storage: -30°C ... +80°C			
Degree of protection (front/back)	Front: IP65 or IP67 (depending on model) Rear: IP20		IP67/IP20			
Front panel dimensions (W x H x D in mm)	195 x 153 x 5	234 x 174 x 5	131 x 171 x 5	153 x 195 x 5	174 x 234 x 5	280 x 359 x 5
Installation depth (in mm) including fieldbus interface	42 71	48.5 77	42 68	42 68	48 77	58 58
Mounting cutout (W x H in mm)	161 x 119	202 x 140	95 x 135	119 x 161	140 x 200	244 x 323
Weight (in kg)	0.8	1.1	0.55	0.8	1.1	2.7
Typical power consumption	9.6 W at 24 V	9.6 W at 24 V	4.8 W at 24 V	12 W at 24 V	9.6 W at 24 V	12 W at 24 V
Approvals	UL/cUL 61010 (previously: 508), in preparation: UL/cUL 61010/ANSI-12.12.01 UL/cUL 61010/ANSI-12.12.01 (previously: 1604)		UL/cUL, Class1 Div2			
	General technical data					
Display type	TFT/LED (white)		TFT/LED (white)			
Memory	256 MB Flash, 512 MB SDRAM		1 GB NAND flash, 512 MB LPDDR SDRAM, 1 MB SRAM			
Interfaces	1x Ethernet (10/100 MBit/s), 2x USB Host 2.0, 1x SD card slot		1 x Ethernet 10/100 Mbps, 2 x USB Host 2.0			
Serial interfaces (optional)	Special order		Special order			
Fieldbus interfaces (optional)	Special order		Special order			
Operating system	Windows® Embedded Compact 7		MS Windows® Embedded Compact 7			
Relative humidity	For operation and storage: 20% ... 85% (noncondensing)		For operation and storage: 20% to 85% (noncondensing)			
Installation type	Portrait/Landscape		Portrait/landscape			
Mounting type	Front installation		Installation in front panel			
Power supply	24 V DC ±20%		24 V DC ±20%			

Outdoor touch panel with GFG touch technology (IP67)

Model	Resolution	Visu+ Express
TP 3043W/WT	800 x 480	2404286
TP 3057V/WT	800 x 480	2403464
TP 3070W/WT	800 x 600	2403465
TP 3121S/WT	800 x 600	2403466

Outdoor touch panel with GFG touch technology (IP65)

Model	Resolution	Visu+ Express
TPE057SGV	640 x 480	2401643
TPG070SGW	800 x 480	2401650
TPG104SGS	800 x 600	TBD
TPG121SGS	800 x 600	TBD
TPG151SGS	1024 x 768	TBD

Visu+ Express maritime touch panel with polyester touch technology

The powerful HMIs from the TPM 3000 series are designed for demanding applications onboard ships. New display sizes and a wide range of functions provide you with user-friendly and reliable operation, monitoring, and alerting while at sea. Your advantages:

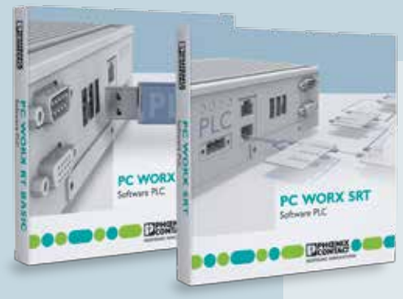
- Light-absorbing front bezel
- Dimmable backlight
- Certifications in accordance with ABS, BV, DNV-GL, LR, RINA
- Certified compass safe distance in accordance with DIN EN 60945
- Acoustic warning from integrated buzzer
- All common communication standards supported
- Floating output
- Display formats in 4:3 or 16:9

Model view				
Designation	**TPM 3043**	**TPM 3057**	**TPM 3070**	**TPM 3090**
Order number	**2404516**	**2404517**	**2404518**	**2404519**
Display	10.92 cm (4.3")	14.48 (5.7")	17.78 (7")	22.68 (9")
Colors	262,144			
Resolution (W x H in pixels)	480 x 272 WQVGA	640 x 480 VGA	800 x 480 WVGA	800 x 480 WVGA
Brightness (in cd/m²)	385	400	350	800
Reading angle (vertical/horizontal)	138°/150°	107°/130°	130°/140°	170°/170°
Backlight (MTTF in h)	40000	40000	40000	70000
Touch technology	Polyester, analog resistive			
Processor	ARM® Cortex®-A8, 1000 MHz, real-time clock (with battery backup)			
Temperature range	Operation: (silver) 0°C ... +55°C Storage: (black) -20°C ... +60°C Operation: (silver) -25°C ... +70°C Storage: (black) -30°C ... +80°C			
Degree of protection (front/back)	IP65/IP20			
Front panel dimensions (W x H x D in mm)	sil: 140 x 100 x 5 bl: 140 x 118 x 5	sil: 168 x 126 x 5 bl: 168 x 147 x 5	sil: 203 x 147 x 5 bl: 203 x 165 x 5	260 x 172 x 5
Installation depth (in mm) including fieldbus interface	sil: 42; bl: 53 sil: 71; bl: 79	sil: 42; bl: 49 sil: 71; bl: 75	sil: 42; bl: 42 sil: 71; bl: 71	54 59
Mounting cutout (W x H in mm)	sil: 132 x 92 bl: 132 x 110	sil: 160 x 118 bl: 160 x 139	sil: 195 x 139 bl: 195 x 157	252 x 164
Weight (in kg)	0.55	0.8	0.8	1.3
Typical power consumption	7.2 W at 24 V	9.6 W at 24 V	7.2 W at 24 V	19.2 W at 24 V
Approvals	UL/cUL, Class I, Div. 2, ABS, BV, DNV-GL, LR, RINA, EN60945			
	General technical data			
Display type	TFT/LED (white)			
Memory	1 GB Flash, 512 SDRAM, 1 MB SRAM			
Interfaces (configurable)	1 x RS232, 1 x RS485 / 1 x RS232, 1 x RS485, 2 x CAN / 2 x CAN			
Operating system	MS Windows® Embedded Compact 7			
Software (configurable)	VISU+ Express			
Relative humidity	For operation and storage: 20% to 85%, (noncondensing)			
Installation type	Portrait/landscape			
Mounting type	Installation in front panel			
Power supply	24 V DC ±20%			

TPM 3105	**TPM 3121**	**TPM 3120**	**TPM 3150**	**TPM 3154**
2404520	**2404521**	**2404522**	**2404524**	**2404525**
26.42 (10.4")	30.73 (12.1")	30.73 (12.1")	38.1 (15")	39.1 (15.4")
262,144				
800 x 600 SVGA	800 x 600 SVGA	1280 x 800 WXGA	1024 x 768 XGA	1280 x 800 WXGA
340	360	320	480	360
110°/140°	140°/160°	176°/176°	145°/160°	140°/160°
50000				
Polyester, analog resistive				
ARM® Cortex®-A8, 1000 MHz, real-time clock (with battery backup)				
Operation: (silver) 0°C ... +55°C; storage: (black) -20°C ... +60°C Operation: (silver) -25°C ... +70°C; storage: (black) -30°C ... +80°C				
IP65/IP20				
sil: 295 x 220 x 5 bl: 328 x 265 x 5	sil: 340 x 270 x 5 bl: 340 x 285 x 5	sil: 330 x 225 x 5 bl: 336 x 252 x 5	sil: 400 x 329 x 5 bl: 400 x 338 x 5	420 x 297 x 5
sil: 54; bl: 58 sil: 54; bl: 58	sil: 55; bl: 52 sil: 55 bl: 52	sil: 48; bl: 54 sil: 48; bl: 54	sil: 55; bl: 63 sil: 55; bl: 63	64 64
sil: 287 x 212 bl: 302 x 237	sil: 313 x 243 bl: 315 x 259	sil: 48; bl: 54	sil: 372 x 301 bl: 373 x 312	396 x 273
1.9	2.2	1.7	3	3.3
14.4 W at 24 V	14.4 W at 24 V	19.2 W at 24 V	19.2 W at 24 V	21.6 W at 24 V
UL/cUL, Class I, Div. 2, ABS, BV, DNV-GL, LR, RINA, EN60945				
General technical data				
TFT/LED (white)				
1 GB Flash, 512 SDRAM, 1 MB SRAM				
1 x RS232, 1 x RS485 / 1 x RS232, 1 x RS485, 2 x CAN / 2 x CAN				
MS Windows® Embedded Compact 7				
VISU+ Express				
For operation and storage: 20% to 85% (non-condensing)				
Portrait/landscape				
Installation in front panel				
24 V DC ±20%				

Box PCs and rack PCs

Industrial PCs are indispensable in industrial environments. Box PCs for the DIN rail or with extensive expansion options are just as much a part of the portfolio as powerful rack PCs in the 19-inch rack-mount format. Enjoy the benefits of a robust and configurable solution for collecting and processing, measuring, controlling, and visualizing your data.



Software PLC: The PC becomes the controller

Your Windows PC or industrial PC now also manages control tasks with the reliability you have become accustomed to and the stability of a typical controller through the use of the software PLC. This transforms your PC into a combined control unit, operator interface, and visualization unit in your automation system. It controls your processes as required via PROFINET, INTERBUS, or Modbus/TCP.

Small-frame box PCs

- Latest Intel processors with high-processing power
- Fanless design and no moving parts
- High resistance to shock and vibration
- Can be installed on DIN rail

Box PCs

- Latest Intel processors with high-processing power
- Fanless design and no moving parts
- Access to all-important components without the use of tools
- Optional: two PCI slots
- Easy connection to existing peripheral equipment through serial interfaces
- Configurable

Box PCs

- Latest Intel processors with high-processing power
- Fanless design and no moving parts
- Access to all-important components without the use of tools
- Optional: PCI/PCIe slot
- Easy connection to existing peripheral equipment through serial interfaces
- RAID support (0/1)

19-inch rack PCs

- Powerful Intel Core processors
- Solutions with 2U or 4U
- RAID support (0/1/5)
- Two or three hot-swap drives
- Lockable front door
- Wide variety of PCI/PCIe slots
- PCI and PCI-e expansion slots

Industrial PC selection guide

Whether as a simple operating station or a central processing unit in the server cabinet, industrial PCs from Phoenix Contact are available in numerous types and with various different functions. High reliability and durability is something they all have in common. It is the application, performance requirements, and functionality that determine which industrial PC is the right choice for you.

1

Select the application

- For the control cabinet
- For front installation
- For the server cabinet
- For use in the field

2

Assess the performance required

- Basic
- Standard
- High-end

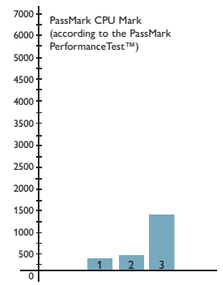
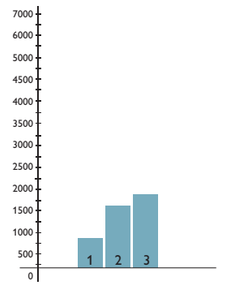
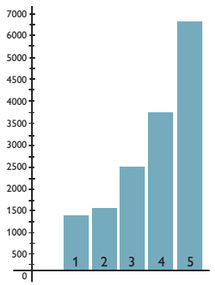
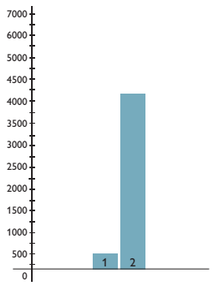
3

Select the right industrial PC

- Embeddedline
- Basicline
- Valueline
- Designline

Product range	Embeddedline	Basicline	Valueline	Designline
Application				
For the control cabinet (Box PCs)	–	✓	✓	–
For front installation (Panel PCs)	✓	✓	✓	–
For the server cabinet (Rack PCs)	–	✓	–	–
For use in the field (Panel PCs in IP65)	–	–	–	✓
Power				
Basic performance	✓	✓	✓	✓
Standard performance	–	✓	✓	–
High-end performance	–	✓	✓	✓
Functionality				
Display formats	4:3 and 16:9	4:3	4:3 and 16:9	4:3 and 16:9
Touch operation mode	Analog resistive	Analog resistive	Analog resistive/ projective-capacitive	Analog resistive/ projective-capacitive
7-to-10-inch displays	✓	–	✓	–
12-to-18.5-inch	✓	✓	✓	✓
> 18.5" displays	–	–	✓	✓
Cooling	Passive	Active/passive	Passive	Passive
Extended temperature range	–	–	✓	✓
Can be extended via slots	–	–	PCI/PCIe	–
Access to important components	Via rear cover	Via rear cover	Via service panel	Via service panel
Approvals	Standard	Standard	Advanced	Standard

(✓) = project-specific possibility

	Embeddedline	Basicline	Valueline	Designline
Performance Level	 1: AMD® G-Series (T40R) 1.0 GHz 2: AMD® G-Series (T40E) 1.0 GHz 3: Intel® Atom™ E3845 1.91 GHz	 1: Intel® Celeron® N3350 1.1 GHz 2: Intel® Celeron® N2930 1.83 GHz 3: Intel® Pentium™ N4200 1.1 GHz	 1: Intel® Atom™ E3845 1.91 GHz 2: Intel® Celeron® N2930 1.83 GHz 3: Intel® Core™ i3-4010U 1.70 GHz 4: Intel® Core™ i5-4300U 1.90 GHz 5: Intel® Core™ i7-6822EQ 2.8 GHz	 1: Intel® Atom™ E680 1.60 GHz 2: Intel® Core™ i7-4650U 1.70 GHz

Box PCs for basic applications

Designation	**BL2 BPC 1000**	**BL2 BPC 2000**	**BL BPC 2000**
Order number	**2404777**	**2404844**	**2701712**
Processor	Intel® Celeron® N3350 1.1 GHz (Dual core)	Intel® Pentium™ N4200 1.1 GHz (Quad Core)	Intel® Celeron® N2930 1.83 GHz (Quad Core)
RAM (configurable)	4 GB	8 GB	Max. 8 GB DDR3
Data memory (configurable)	M.2	M.2	CFast, HDD, and SSD
Number of drives	1	1	1
RAID support (configurable)	–	–	–
USB	2x USB 2.0, 2x USB 3.0	2x USB 2.0, 2x USB 3.0	3x USB 2.0, 1x USB 3.0
Serial interfaces	1x COM (RS-232/422/485) 2x COM (RS-232)	1x COM (RS-232/422/485) 2x COM (RS-232)	1x COM (RS-232/422/485) 2x COM (RS-232)
Video out	2x DisplayPort	2x DisplayPort	2x DisplayPort
Graphics processor	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45 Optional 802.11 a/b/g/n	2x (10/100/1000 MBit/s), RJ45 Optional 802.11 a/b/g/n	2x (10/100/1000 MBit/s), RJ45
LAN chipset	2x Intel® i210AT	2x Intel® i210AT	Realtek® 8111F PCIe
PCI/PCIe slots (configurable)	–	–	–
Maximum card size (PCI/PCIe)	–	–	–
Operating systems (configurable)	Windows® 10 IoT Ent. LTSB 2016	Windows® 10 IoT Ent. LTSB 2016	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise
Cooling	Passive	Passive	Passive
Mounting type	VESA 100, Wall, or DIN rail-mounting	VESA 100, Wall, or DIN rail-mounting	Wall, or DIN rail-mounting
Dimensions (W x H x D in mm)	161 x 146 x 49	161 x 146 x 49	162 x 146 x 49 (without SSD/HDD) 162 x 146 x 64 (with SSD/HDD)
Weight (in kg)	1.4	1.4	1.6
Power supply	24 V DC ±20%	24 V DC ±20%	24 V DC ±20%
Maximum power consumption	25.7 W at 24 V	34.6 W at 24 V	21.3 W at 19.2 V
Temperature range	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C
Relative humidity	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP20	IP20	IP20
Approvals	CE, UL, cUL	CE, UL, cUL	CE, UL, cUL

Box PCs for standard applications

Designation	**VL2 BPC 1000**	**VL BPC 2000**	**VL2 BPC 2000**
Order number	**2403046**	**2402759**	**2400332**
Processor	Intel® Atom™ E3845 1.91 GHz (Quad Core)	Intel® Celeron® N2930 1.83 GHz (Quad Core)	Intel® Celeron® N2930 1.83 GHz (Quad Core)
RAM (configurable)	Max. 4 GB DDR3	Max. 8 GB DDR3	Max. 8 GB DDR
Data memory (configurable)	SD, HDD and SSD	CFast, HDD, and SSD	HDD and SSD
Number of drives	1	2	2
RAID support (configurable)	–	–	–
USB	2x USB 2.0, 1x USB 3.0	3x USB 2.0, 1x USB 3.0	4x USB 2.0
Serial interfaces	1x COM (RS-232/422/485) Options: 1x COM (RS-232) + 1x COM (RS-485) 2x CAN	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)
Video out	1x DisplayPort	1x VGA 1x DisplayPort	2x DisplayPort
Graphics processor	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
LAN chipset	Intel® I210	Intel® I210	Intel® I210
PCI/PCIe slots (configurable)	–	2x PCI	1x PCI or 1x PCIe
Maximum card size (PCI/PCIe)	–	180.9 x 107.9 mm	175 mm x 100 mm x 15 mm
Operating systems (configurable)	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise
Cooling	Passive	Passive	Passive
Mounting type	Wall or bookshelf mounting	Wall or bookshelf mounting	Wall or bookshelf mounting
Dimensions (W x H x D in mm)	271 x 211 x 65	265 x 207 x 49 265 x 207 x 87 (with PCI-Slots)	264 x 215 x 95
Weight (in kg)	2.4	3.4 5.35 (with PCI-Slots)	4.2
Power supply	24 V DC ±20%	24 V DC ±20 %	24 V DC ±20 %
Maximum power consumption	–	63.2 W at 19.2 V	37.4 W at 19.2 V With PCI-PCIe 40.8 W
Temperature range	Operation with HDD: 0°C ...+45°C With SSD: 0°C … +50°C Storage: -25°C ... +70°C	Operation with HDD: 0°C ...+50°C With SSD, CFast: -20°C … +55°C	Operation with HDD: 0°C ...+45°C With SSD: -20°C … +50°C Storage: -40°C ... +70°C
Relative humidity	20% ... 85% (noncondensing)	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP30	IP20	IP30
Approvals	CE, in preparation: UL, cUL, Class I, Div. 2	CE, in preparation: UL, cUL, Class I, Div. 2	CE, UL, cUL, Class I, Div. 2

Box PCs for standard and high-end applications

Designation	**VL BPC 3000**	**VL2 BPC 3000**	**VL2 BPC 7000**	**VL2 BPC 9000**
Order number	**2400183**	**2400492**	**2400333**	**2400499**
Processor	Intel® Core™ i3-4010U 1.7 GHz (Dual Core)	Intel® Core™ i3-4010U 1.7 GHz (Dual Core)	Intel® Core™ i5-4300U 1.90 GHz (Dual Core)	Intel® Core™ i7-6822EQ 2 GHz (Quad Core)
RAM (configurable)	Max. 16 GB DDR3	Max. 16 GB DDR3	Max. 16 GB DDR3	Max. 16 GB DDR4
Data memory (configurable)	CFast, HDD, and SSD	HDD and SSD	HDD and SSD	HDD or SSD
Number of drives	2	2	2	2
RAID support (configurable)	–	0/1	0/1	0/1
USB	3x USB 2.0, 1x USB 3.0	2x USB 2.0, 2x USB 3.0	2x USB 2.0, 2x USB 3.0	2 x USB 2.0, 2 x USB 3.0
Serial interfaces	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)	1x COM (RS232/422/485) Optional: 2x COM (RS-232) + 1 x COM (RS-232/422/485)
Video out	1x DVI-D 1x DisplayPort	2x DisplayPort	2x DisplayPort	2 x DisplayPort
Graphics processor	Intel® HD Graphics 4400	Intel® HD Graphics 4400	Intel® HD Graphics 4400	Intel® HD Graphics 530
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45	2 x (10/100/1000 Mbps), RJ45
LAN chipset	Intel® I210	Intel® I210	Intel® I210	Intel® I210
PCI/PCIe slots (configurable)	2x PCI	1 x PCI or 1 x PCIe	1 x PCI or 1 x PCIe	1 x PCI or 1 x PCIe
Maximum card size (PCI/ PCIe)	180.9 x 107.9 mm	175 mm x 100 mm x 15 mm	175 mm x 100 mm x 15 mm	175 mm x 100 mm x 15 mm
Operating systems (configurable)	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise	Windows® Embedded Standard 7 Windows® 7 Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise
Cooling	Passive	Passive	Passive	Active
Mounting type	Wall or bookshelf mounting	Wall or bookshelf mounting	Wall or bookshelf mounting	Wall or bookshelf mounting
Dimensions (W x H x D in mm)	265 x 207 x 49 265 x 207 x 87 (with PCI-Slots)	264 x 215 x 95	264 x 215 x 95	264 x 215 x 95
Weight (in kg)	3.4 5.35 (with PCI-Slots)	4.8	4.8	4.8
Power supply	24 V DC ±20 %	24 V DC ±20 %	24 V DC ±20 %	24 V DC ±20 %
Maximum power consumption	67.4 W at 19.2 V	41.28 W at 19.2 V With PCI-PCIe 46.4 W	42.7 W at 19.2 V With PCI-PCIe 50.4 W	With PCI-PCIe 93.6 W @ 24 V
Temperature range	Operation with HDD: 0°C ...+55°C With SSD, CFast: -20°C … +55°C Storage: -40°C ... +70°C	Operation with HDD: 0°C ...+45°C With SSD: -20°C … +50°C Storage: -40°C ... +70°C	Operation with HDD: 0°C ...+45°C With SSD: -10°C … +50°C Storage: -40°C ... +70°C	Operation with HDD: 0°C … +45°C With SSD: -20°C … +50°C Storage: -40°C ... +70°C
Relative humidity	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)	5% … 95% (non-condensing)
Degree of protection	IP20	IP30	IP30	IP30
Approvals	CE, UL, cUL, Class I, Div. 2	CE, UL, cUL, Class I, Div. 2	CE, UL, cUL, Class I, Div. 2	CE, UL, cUL, Class I, Div. 2

Rack PCs

BL RACKMOUNT 2U	**BL RACKMOUNT 4U**
2400063	**2400064**
Intel® Core™ i3-4330T 3.0 GHz, Intel® Core™ i7-4770S 3.1 GHz/3.9 GHz	Intel® Core™ i3-4330T 3.0 GHz, Intel® Core™ i7-4770S 3.1 GHz/3.9 GHz
With i3: maximum 8 GB RAM With i7: maximum 16 GB RAM	With i3: maximum 8 GB RAM With i7: maximum 16 GB RAM
HDD and SSD	HDD and SSD
2	3
0/1/5	0/1/5
2x USB 2.0, 2x USB 3.0	4x USB 2.0, 2x USB 3.0
1x COM (RS-232) 1x COM (RS-232/422/485)	1x COM (RS-232) 1x COM (RS-232/422/485)
VGA, DVI-I	VGA, DVI-I
Intel® HD Graphics 4600	Intel® HD Graphics 4600
2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
Intel® I210 Intel® I217	Intel® I210 Intel® I217
3x PCI, 1x PCIe x8, 1x PCIe x16	8x PCI, 3x PCIe x1 3, 1x PCIe x16
–	–
Windows® Embedded Standard 7 Windows® 7 Professional	Windows® Embedded Standard 7 Windows® 7 Professional
Active	Active
Rack mounting 2U	Rack mounting 4U
482 × 89 × 429	482 × 177 × 461
13.5	14.5
115 V AC to 230 V AC (350 W internal power supply)	115 V AC to 230 V AC (500 W internal power supply)
–	–
Operation: 0°C ... +55°C Storage: -40°C ... +70°C	Operation: 0°C ... +55°C Storage: -40°C ... +70°C
5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
–	–
CE, in preparation: UL, cUL	CE, in preparation: UL, cUL

Panel PCs and monitors

Phoenix Contact offers touchscreen monitors, as well as powerful panel PCs. Transform your operator panel into your system's business card.

High-performance software for your industrial PCs

Trending, alarming, data logging, and reporting are only a few functions the Visu+ visualization software is capable of. SCADA supports common standards in data formats or communication. In addition to our operation and monitoring software, we offer solutions for state-of-the-art visualization concepts. Make multiuser process operation a reality with Portico. Assign access rights, and reflect the display of an industrial PC to other operating stations without the need for a server operating system.

Touchscreen monitors

- Display sizes ranging from 12 to 21.5 inches with 4:3 or 16:9 formats
- Variants with analog resistive polyester touch (AR)
- Variants with projective-capacitive touch (PCAP)
- High shock resistance and electromagnetic compatibility
- Optional front USB
- Easy VESA 100 assembly

GERMAN DESIGN AWARD SPECIAL 2017

reddot design award winner 2015

Panel PCs

- Display sizes ranging from 7 to 21.5 inches with 4:3 or 16:9 formats
- Variants with analog resistive polyester touch (AR)
- Variants with projective-capacitive touch (PCAP)
- Latest Intel processors with high-processing power
- Fanless design and no moving parts
- Optional: PCI/PCIe slot

iF DESIGN AWARD 2015

Direct machine mount panel PCs (IP65)

- Protection against jet water and dust
- Display sizes ranging from 12 to 21.5 inches with 4:3 or 16:9 formats
- Variants with analog resistive polyester touch (AR)
- Variants with projective-capacitive touch (PCAP)
- Latest Intel processors with high-processing power
- Fanless design and no moving parts
- Easy VESA 100 assembly

Panel PCs with analog resistive touch for basic, standard, and high-end applications

Designation	**VL PPC 2000**	**VL PPC 3000**
Order number	**2402760**	**2400184**
Touch technology	Analog resistive	Analog resistive
Display size	30.7 to 60.9 cm/12.1 inches to 24 inches (optional: front USB)	
Display type	TFT/LED (white)	TFT/LED (white)
Colors	Depends on the configuration	Depends on the configuration
Resolution (W x H in pixels)	800 x 600 (SVGA) up to 1920 x 1080 (Full HD)	
Brightness (in cd/m²)	Depends on the configuration	Depends on the configuration
Reading angle (vertical/horizontal)	Depends on the configuration	Depends on the configuration
Backlight (MTTF in h)	> 50000	> 50000
Processor	Intel® Celeron® N2930 1.83 GHz (Quad Core)	Intel® Core™ i3-4010U 1.70 GHz (Dual Core)
RAM (configurable)	Max. 8 GB DDR3	Max. 16 GB DDR3
Storage	CFast, HDD, and SSD	CFast, HDD, and SSD
Number of drives	2	2
RAID support (configurable)	–	–
USB	3x USB 2.0, 1x USB 3.0	3x USB 2.0, 1x USB 3.0
Serial interfaces	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)
Video out	1x VGA 1x DisplayPort	1x DVI-D 1x DisplayPort
Graphics processor	Intel® HD Graphics	Intel® HD Graphics 4400
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
LAN chipset	Intel® I210	Intel® I210
PCI/PCIe slots (configurable)	2x PCI	2x PCI
Maximum card size (PCI/PCIe)	180.9 x 107.9 mm	180.9 x 107.9 mm
Operating systems (configurable)	Windows® Embedded Standard 7 Windows® Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise	Windows® Embedded Standard 7 Windows® Professional Windows® 7 Ultimate Windows® 10 IoT Enterprise
Cooling	Passive	Passive
Mounting type	Front installation	Front installation
Dimensions (W x H x D in mm)	Dependent on configuration	Dependent on configuration
Weight (in kg)	Dependent on configuration	Dependent on configuration
Power supply	24 V DC ±20 %	24 V DC ±20 %
Type of power consumption	Dependent on configuration	Dependent on configuration
Temperature range	Operation: -20°C ... +55°C	Operation: -20°C ... +50°C Storage: -40°C ... +70°C
Relative humidity	5% … 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP65/IP20	IP65/IP20
Approvals	CE, in preparation: UL, cUL, Class I, Div. 2	CE, UL, cUL, Class I, Div. 2

Designation	**BL2 PPC 1000**	**BL2 PPC 2000**
Order number	**2404845**	**2404846**
Touch technology	Analog resistive	Analog resistive
Display size	30.7 cm/12.1 inches 38.1 cm/15 inches	30.7 cm/12.1 inches 38.1 cm/15 inches
Display type	TFT/LED (white)	TFT/LED (white)
Colors	Dependent on configuration	Dependent on configuration
Resolution (W x H in pixels)	800 x 600 (SVGA) 1024 x 768 (XGA)	800 x 600 (SVGA) 1024 x 768 (XGA)
Brightness (in cd/m²)	Dependent on configuration	Dependent on configuration
Reading angle (vertical/horizontal)	Dependent on configuration	Dependent on configuration
Backlight (MTTF in h)	> 50000	> 50000
Processor	Intel® Celeron® N3350 1.1GHz (Dual Core)	Intel® Pentium™ N4200 1.1 GHz (Quad Core)
RAM (configurable)	4GB DDR3	8GB DDR3
Storage	M.2	M.2
Number of drives	1	1
RAID support (configurable)	–	–
USB	2x USB 3.0, 2x USB 2.0	2x USB 3.0, 2x USB 2.0
Serial interfaces	1x COM (RS-232/422/485) 2x (RS-232)	1x COM (RS-232/422/485) 2x (RS-232)
Video out	2x DP (One DP out) Max. 2 screens on Intel® Atom® Processor E3845	2x DP (max. 3 screens including on) N4200
Graphics processor	Intel® HD Graphics 500	Intel® HD Graphics 505
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/100 MBit/s), RJ45
LAN chipset	Intel® I210AT	Intel® I210AT
PCI/PCIe slots (configurable)	–	–
Maximum card size (PCI/PCIe)	–	–
Operating systems (configurable)	Windows® 10 IoT Ent. LTSB 2016	Windows® 10 IoT Ent. LTSB 2016
Cooling	Passive	Passive
Mounting type	Panel or VESA 100	Panel or VESA 100
Dimensions (W x H x D in mm)	Dependent on configuration	Dependent on configuration
Weight (in kg)	Dependent on configuration	Dependent on configuration
Power supply	24 V DC ±20 %	24 V DC ±20 %
Type of power consumption	Dependent on configuration	Dependent on configuration
Temperature range	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C
Relative humidity	5% … 95% (noncondensing)	5% … 95% (noncondensing)
Degree of protection (front side/rear side)	IP65/IP20	IP65/IP20
Approvals	CE, UL, cUL	CE, UL, cUL

Panel PCs with projective-capacitive touchscreens for low-performance applications

Designation	**VL2 PPC7 1000**	**VL2 PPC 9 1000**	**VL2 PPC12 1000**
Order number	**2403708**	**2403709**	**2403710**
Touch technology	Projective-capacitive, four-touch control		
Display size	17.8 cm/7 inches	22.9 cm/9 inches	30.7 cm/12.1 inches
Display type	TFT/LED (white)		
Colors	16.7 million	16.7 million	16.7 million
Resolution (W x H in pixels)	800 x 480 (WVGA)	800 x 480 (WVGA)	1280 x 800 (WXGA)
Brightness (in cd/m²)	350	400	320
Reading angle (vertical/horizontal)	130°/140°	170°/170°	176°/176°
Backlight (MTTF in h)	> 40,000	> 70,000	> 50,000
Processor	Intel® Atom™ E3845 4 x 1.91 GHz (Quad Core)		
RAM (configurable)	Max. 4 GB DDR3L	Max. 4 GB DDR3L	Max. 4 GB DDR3L
Data memory (configurable)	SATA DOM-SSD		
Number of drives	1		
RAID support (configurable)	–		
USB	2 x USB 2.0, 1 x USB 3.0		
Serial interfaces	1x COM (RS-232/422/485) options: 1x RS-232 + 1x RS-485 2x CAN		
Video out	1 x DisplayPort		
Graphics processor	Intel® HD Graphics		
Ethernet interfaces	2 x (10/100/1000 Mbps), RJ45		
LAN chipset	Intel® I210		
PCI/PCIe slots (configurable)	–		
Maximum card size (PCI/PCIe)	–		
Operating systems (configurable)	Windows® Embedded Standard 7/Windows® 7 Professional/Windows® 7 Ultimate/Windows® 10 IoT Enterprise		
Cooling	Passive		
Mounting type	Front installation		
Dimensions (W x H x D in mm)	208 x 149 x 88, with optional interfaces: 208 x 149 x 111	271 x 179 x 88, with optional interfaces: 271 x 179 x 111	336 x 234 x 88, with optional interfaces: 336 x 234 x 111
Weight (in kg)	2.3	2.6	3.3
Power supply	24 V DC ±20 %		
Maximum power consumption	25.56 W at 18 V	33 W at 30 V	34.5 W at 30 V
Temperature range	Operation with SSD: 0°C ...+50°C Storage: -25°C ... +70°C		
Relative humidity	20% ... 85% (noncondensing)		
Degree of protection (front side/rear side)	IP65/IP30		
Approvals	In preparation: UL, cUL, NEMA 4, Class 1 Div 2		

Panel PCs with projective-capacitive touchscreens for low-, medium-, and high-performance applications

VL2 PPC 1000	**VL2 PPC 2000**	**VL2 PPC 3000**	**VL2 PPC 7000**	**VL2 PPC 9000**
2403047	**2400334**	**2400498**	**2400346**	**2400500**
Projective-capacitive, 10-touch control				
39.6 cm/15.6"/47 cm/18.5 inches/54.6 cm/21.5 inches				
TFT/LED (white)				
16.7 million	16.7 million	16.7 million	16.7 million	16.7 million
1366 x 768 (HD)/1366 x 768 (HD)/1920 x 1080 (Full HD)				
400/300/300				
170°/170°/170°/170°/178°/178°				
> 50,000				
Intel® Atom™ E3845 4 x 1.91 GHz (Quad Core)	Intel® Celeron® N2930 1.83 GHz/2.16 GHz (Quad Core)	Intel® Core™ i3-4010U 1.7 GHz (Dual Core)	Intel® Core™ i5-4300U 1.90 GHz (Dual Core)	Intel® Core™ i7-6822EQ 2 GHz (Quad Core)
Max. 4 GB DDR3L	Max. 8 GB DDR3 SODIMM	Max. 16 GB DDR3	Max. 16 GB DDR3	Max. 16 GB DDR4
HDD or SSD	HDD or SSD	HDD or SSD	HDD or SSD	HDD or SSD
1	2	2	2	2
–	–	0/1	0/1	0/1
2 x USB 2.0, 1 x USB 3.0	4 x USB 2.0	2 x USB 2.0, 2 x USB 3.0	2 x USB 2.0, 2 x USB 3.0	2 x USB 2.0, 2 x USB 3.0
1 x COM (RS-232/422/485) Optional: 1 x RS232 + 1 x RS485 2 x CAN	1 x COM (RS-232/422/485) Optional: 2 x COM (RS-232) + 1 x COM (RS-232/422/485)	1 x COM (RS-232/422/485) Optional: 2 x COM (RS-232) + 1 x COM (RS-232/422/485)	1 x COM (RS-232/422/485) Optional: 2 x COM (RS-232) + 1 x COM (RS-232/422/485)	1 x COM (RS-232/422/485) Optional: 2 x COM (RS-232) + 1 x COM (RS-232/422/485)
1 x DisplayPort	2 x DisplayPort	2 x DisplayPort	2 x DisplayPort	2 x DisplayPort
Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics 4400	Intel® HD Graphics 4400	Intel® HD Graphics 530
2 x (10/100/1000 Mbps), RJ45				
Intel® I210				
–	1 x PCI or 1 x PCIe	1 x PCI or 1 x PCIe	1 x PCI or 1 x PCIe	1 x PCI or 1 x PCIe
–	175 mm x 100 mm x 15 mm	175 mm x 100 mm x 15 mm	175 mm x 100 mm x 15 mm	175 mm x 100 mm x 15 mm
Windows® Embedded Standard 7/Windows® 7 Professional/Windows® 7 Ultimate/Windows® 10 IoT Enterprise				
Passive	Passive	Passive	Passive	Active
Front installation				
408 x 275 x 100/ 465 x 313 x 102/532 x 354 x 99	408 x 275 x 121/465 x 313 x 123/532 x 354 x 119			
6.3/8.1/10.4	8.6/10.4/12.7			
24 V DC ±20 %				
Depends on the configuration				
Operation with HDD: 0°C … +45°C With SSD: 0°C … +50°C Storage: -25°C ... +70°C	Operation with HDD: 0°C … +45°C With SSD: -20°C … +50°C Storage: -40°C ... +70°C	Operation with HDD: 0°C … +45°C With SSD: -10°C … +50°C Storage: -40°C ... +70°C	Operation with HDD: 0°C … +45°C With SSD: -20°C … +50°C Storage: -40°C … +70°C	Operation with HDD: 0°C … +45°C With SSD: -20°C … +50°C Storage: -40°C … +70°C
20 % ... 85 % (noncondensing)	5 % ... 95 % (noncondensing)	5 % ... 95 % (noncondensing)	5 % ... 95 % (noncondensing)	5% ... 95% (noncondensing)
IP65/IP30				
UL, cUL, Class 1 Div 2, NEMA 4	UL, cUL, Class 1 Div 2, NEMA 4	UL, cUL, Class 1 Div 2, NEMA 4	UL, cUL, Class 1 Div 2, NEMA 4	In preparation: UL, cUL, Class 1 Div 2

Direct machine mount panel PCs (IP65)

Designation	**DL PPC15 1000**	**DL PPC15M 1000**	**DL PPC15M 7000**
Order number	**2701665**	**2701666**	**2400017**
Touch technology	Analog resistive, single-touch control	Projective-capacitive, two-touch control	Projective-capacitive, two-touch control
Display size	38.1 cm/15 inches	38.1 cm/15 inches	38.1 cm/15 inches
Display type	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
Colors	16.2 million	16.2 million	16.2 million
Resolution (W x H in pixels)	1024 x 768 (XGA)	1024 x 768 (XGA)	1024 x 768 (XGA)
Brightness (in cd/m²)	400	400	400
Reading angle (vertical/horizontal)	160°/160°	160°/160°	160°/160°
Backlight (MTTF in h)	> 50000	> 50000	> 50000
Processor	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz	Intel® Core™ i7-4650U 3.30 GHz (Dual Core)
RAM (configurable)	Max. 2 GB DDR2	Max. 2 GB DDR2	Max. 12 GB DDR3
Storage	HDD and SSD	HDD and SSD	HDD and SSD
Number of drives	1	1	1
RAID support (configurable)	–	–	–
USB	5x USB 2.0	5x USB 2.0	4x USB 2.0, 1x USB 3.0
Serial interfaces	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)
Video out	–	–	–
Graphics processor	Integrated	Integrated	Intel® HD Graphics 5000
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
LAN chipset	Intel® 82574IT	Intel® 82574IT	Intel® I210
PCI/PCIe slots (configurable)	–	–	–
Maximum card size (PCI/PCIe)	–	–	–
Operating systems (configurable)	Windows® Embedded Standard 7/Windows® 7 Professional/Windows® 7 Ultimate/ Windows® 10 IoT Enterprise		
Cooling	Passive	Passive	Passive
Mounting type	VESA MIS-D, 100	VESA MIS-D, 100	VESA MIS-D, 100
Dimensions (W x H x D in mm)	375 x 315 x 60	375 x 315 x 60	375 x 315 x 60
Weight (in kg)	4.4	4.4	4.4
Power supply	24 V DC (9 V DC … 32 V DC)	24 V DC (9 V DC … 32 V DC)	24 V DC (9 V DC … 32 V DC)
Maximum power consumption	31.44 W at 24 V	31.44 W at 24 V	46.3 W at 19.2 V
Temperature range	DL 1000 is -20°C to 55°C (SSD) and 0°C to 45°C (HDD)/DL 7000 is -20°C to 45°C (SSD) and 0°C to 45°C (HDD)		
Relative humidity	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP65	IP65	IP65
Approvals	CE, UL, cUL	CE, UL, cUL	CE, UL, cUL

Designation	**DL PPC18.5M 7000**	**DL PP21.5M 7000**
Order number	**2400015**	**2400016**
Touch technology	Projective-capacitive, 10-touch control	Projective-capacitive, 10-touch control
Display size	47 cm/18.5 inches	54.6 cm/21.5 inches
Display type	TFT/LED (white)	TFT/LED (white)
Colors	16.2 million	16.2 million
Resolution (W x H in pixels)	1366 x 768 (WXGA)	1920 x 1080 (FHD)
Brightness (in cd/m²)	400	400
Reading angle (vertical/horizontal)	160°/160°	160°/160°
Backlight (MTTF in h)	> 50000	> 50000
Processor	Intel® Core™ i7-4650U 3.30 GHz (Dual Core)	Intel® Core™ i7-4650U 3.30 GHz (Dual Core)
RAM (configurable)	Max. 12 GB DDR3	Max. 12 GB DDR3
Storage	HDD and SSD	HDD and SSD
Number of drives	1	1
RAID support (configurable)	–	–
USB	4x USB 2.0, 1x USB 3.0	4x USB 2.0, 1x USB 3.0
Serial interfaces	1x COM (RS-232/422/485)	1x COM (RS-232/422/485)
Video out	–	–
Graphics processor	Intel® HD Graphics 5000	Intel® HD Graphics 5000
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
LAN chipset	Intel® I210	Intel® I210
PCI/PCIe slots (configurable)	–	–
Maximum card size (PCI/PCIe)	–	–
Operating systems (configurable)	Windows® Embedded Standard 7/Windows® 7 Professional/ Windows® 7 Ultimate/ Windows® 10 IOT Enterprise	
Cooling	Passive	
Mounting type	VESA MIS-D, 100	VESA MIS-D, 100
Dimensions (W x H x D in mm)	469 x 315 60	534 x 355 x 60
Weight (in kg)	5.7	7.6
Power supply	24V DC (9 V DC … 32 V DC)	24V DC (9 V DC … 32 V DC)
Maximum power consumption	49.9 W at 19.2 V	51.8 W at 19.2 V
Temperature range	Operation with HDD: 0°C to +45°C/With SSD: -20°C to +55°C Storage: -40°C to +70°C	
Relative humidity	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP65	IP65
Approvals	CE, UL, cUL	CE, UL, cUL

Panel PCs for outdoor applications

Designation	**EL PPC7 1000/WT**	**EL PPC12 1000/WT**	**EL PPC15 1000/WT**
Order number	**2400065**	**2400066**	**2400067**
Touch technology	Analog resistive (GFG) Optical bonding	Analog resistive (GFG) Optical bonding	Analog resistive (GFG) Optical bonding
Display size	17.8 cm/7 inches	30.73 cm/12.1 inches	38.1 cm/15 inches
Display type	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
Colors	262144	262144	262144
Resolution (W x H in pixels)	800 x 400 (WVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)
Brightness (in cd/m²)	350	360	480
Reading angle (vertical/horizontal)	140°/140°/130°/130°	160°/160°/130°/150°	160°/160°/120°/160°
Backlight (MTTF in h)	> 50000	> 50000	> 50000
Processor	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz
RAM (configurable)	2 GB DDR2 800	2 GB DDR2 800	2 GB DDR2 800
Data memory (configurable)	SATA DOM-SSD	SATA DOM-SSD	SATA DOM-SSD
Number of drives	–	–	–
RAID support (configurable)	–	–	–
USB	4x USB 2.0	4x USB 2.0	4x USB 2.0
Serial interfaces	Optional: 1x COM (RS-232), 1x COM (RS-485)	Optional: 1x COM (RS-232), 1x COM (RS-485)	Optional: 1x COM (RS-232), 1x COM (RS-485)
Video out	–	–	–
Graphics processor	–	–	–
Ethernet interfaces	1x (10/100/1000 MBit/s), RJ45	1x (10/100/1000 MBit/s), RJ45	1x (10/100/1000 MBit/s), RJ45
LAN chipset	Mikrel® KSZ9021RN	Mikrel® KSZ9021RN	Mikrel® KSZ9021RN
PCI/PCIe slots (configurable)	–	–	–
Maximum card size (PCI/PCIe)	–	–	–
Operating systems (configurable)	Windows® Embedded Standard 7	Windows® Embedded Standard 7	Windows® Embedded Standard 7
Cooling	Passive	Passive	Passive
Mounting type	Front installation	Front installation	Front installation
Dimensions (W x H x D in mm)	234 x 174 x 81	359 x 180 x 92	416 x 325 x 92
Weight (in kg)	1.1	2.4	3.7
Power supply	24 V DC ±20%	24 V DC ±20%	24 V DC ±20%
Type of power consumption	12 W at 24 V	24 W at 24 V	19.2 W at 24 V
Temperature range	Operation: -20°C ... +60°C Storage: -30°C ... +80°C	Operation: -20°C ... +60°C Storage: -30°C ... +80°C	Operation: -20°C ... +60°C Storage: -30°C ... +80°C
Relative humidity	20% ... 85% (noncondensing)	20% ... 85% (noncondensing)	20% ... 85% (noncondensing)
Degree of protection (front side/rear side)	IP67/IP20	IP67/IP20	IP67/IP20
Approvals	CE, UL, cUL, NEMA 4	CE, UL, cUL, NEMA 4	CE, UL, cUL, NEMA 4

Panel PCs for maritime applications

Designation	**EL PPC7 1000/M**	**EL PPC7G 1000 M**	**EL PPC12 1000/M**
Order number	**2400068**	**2400282**	**2400069**
Touch technology	Analog resistive	Analog resistive (GFG)	Analog resistive
Display size	17.8 cm/7 inches	17.8 cm/7 inches	30.7 cm/12.1 inches
Display type	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
Colors	262144	262144	262144
Resolution (W x H in pixels)	800 x 480 (WVGA)	800 x 480 (WVGA)	1280 x 800 (SVGA)
Brightness (in cd/m²)	350	350	320
Reading angle (vertical/horizontal)	140°/140°/130°/130°	140°/140°/130°/130°	176°/176°/176°/176°
Backlight (MTTF in h)	> 40000	> 40000	> 50000
Processor	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz
RAM (configurable)	2 GB DDR2 800	2 GB DDR2 800	2 GB DDR2 800
Data memory (configurable)	SATA DOM-SSD	SATA DOM-SSD	SATA DOM-SSD
Number of drives	–	–	–
RAID support (configurable)	–	–	–
USB	4x USB 2.0	4x USB 2.0	4x USB 2.0
Serial interfaces	Optional: 1x COM (RS-232), 1x COM (RS-485)	Optional: 1x COM (RS-232), 1x COM (RS-485)	Optional: 1x COM (RS-232), 1x COM (RS-485)
Video out	–	–	–
Graphics processor	–	–	–
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
LAN chipset	Realtek® 8111C PCI-E	Realtek® 8111C PCI-E	Realtek® 8111C PCI-E
PCI/PCIe slots (configurable)	–	–	–
Maximum card size (PCI/PCIe)	–	–	–
Operating systems (configurable)	Windows® Embedded Standard 7	Windows® Embedded Standard 7	Windows® Embedded Standard 7
Cooling	Passive	Passive	Passive
Mounting type	Front installation	Front installation	Front installation
Dimensions (W x H x D in mm)	203 x 165 x 87	234 x 189 x 72	336 x 252 x 87
Weight (in kg)	1.1	1.1	2.3
Power supply	24 V DC (18 … 30 V DC)	24 V DC (18 … 30 V DC)	24 V DC (18 … 30 V DC)
Type of power consumption	16.8 W at 24 V	16.8 W at 24 V	21.6 W at 24 V
Temperature range	Operation: 0°C ... +55°C Storage: -25°C ... +70°C	Operation: 0°C ... +55°C Storage: -25°C ... +70°C	Operation: 0°C ... +55°C Storage: -25°C ... +70°C
Relative humidity	20% ... 85% (noncondensing)	20% ... 85% (noncondensing)	20% ... 85% (noncondensing)
Degree of protection (front side/rear side)	IP65/IP20	IP65/IP20	IP65/IP20
Approvals	ABS, BV, CE, GL/DNV LR, RINA, UL, cUL	ABS, BV, CE, GL/DNV LR, RINA, UL, cUL	ABS, BV, CE, GL/DNV LR, RINA, UL, cUL

Panel PCs for maritime applications

Designation	**EL PPC12G 1000/M**	**EL PPC15 1000/M**	**EL PPC15G 1000/M**
Order number	**2400283**	**2400070**	**2400284**
Touch technology	Analog resistive (GFG)	Analog resistive	Analog resistive (GFG)
Display size	30.7 cm/12.1 inches	38.1 cm/15 inches	38.1 cm/15 inches
Display type	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
Colors	262144	262144	262144
Resolution (W x H in pixels)	1280 x 800 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)
Brightness (in cd/m²)	320	480	480
Reading angle (vertical/horizontal)	176°/176°/176°/176°	160°/160°/130°/160°	160°/160°/130°/160°
Backlight (MTTF in h)	> 50000	> 50000	> 50000
Processor	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz	Intel® Atom™ E680T 1.6 GHz
RAM (configurable)	2 GB DDR2 800	2 GB DDR2 800	2 GB DDR2 800
Data memory (configurable)	SATA DOM-SSD	SATA DOM-SSD	SATA DOM-SSD
Number of drives	–	–	–
RAID support (configurable)	–	–	–
USB	4x USB 2.0	4x USB 2.0	4x USB 2.0
Serial interfaces	Optional: 1x COM (RS-232), 1x COM (RS-485)	Optional: 1x COM (RS-232), 1x COM (RS-485)	Optional: 1x COM (RS-232), 1x COM (RS-485)
Video out	–	–	–
Graphics processor	–	–	–
Ethernet interfaces	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45	2x (10/100/1000 MBit/s), RJ45
LAN chipset	Realtek® 8111C PCI-E	Realtek® 8111C PCI-E	Realtek® 8111C PCI-E
PCI/PCIe slots (configurable)	–	–	–
Maximum card size (PCI/PCIe)	–	–	–
Operating systems (configurable)	Windows® Embedded Standard 7	Windows® Embedded Standard 7	Windows® Embedded Standard 7
Cooling	Passive	Passive	Passive
Mounting type	Front installation	Front installation	Front installation
Dimensions (W x H x D in mm)	344 x 260 x 84	400 x 338 x 92	338 x 400 x 82
Weight (in kg)	2.3	3.7	3.7
Power supply	24 V DC (18 … 30 V DC)	24 V DC (18 … 30 V DC)	24 V DC (18 … 30 V DC)
Type of power consumption	21.6 W at 24 V	24 W at 24 V	24 W at 24 V
Temperature range	Operation: 0°C ... +55°C Storage: -25°C ... +70°C	Operation: 0°C ... +55°C Storage: -25°C ... +70°C	Operation: 0°C ... +55°C Storage: -25°C ... +70°C
Relative humidity	20% ... 85% (noncondensing)	20% ... 85% (noncondensing)	20% ... 85% (noncondensing)
Degree of protection (front side/rear side)	IP65/IP20	IP65/IP20	IP65/IP20
Approvals	ABS, BV, CE, GL/DNV LR, RINA, UL, cUL	ABS, BV, CE, GL/DNV LR, RINA, UL, cUL	ABS, BV, CE, GL/DNV LR, RINA, UL, cUL

Monitors with analog resistive touch

Designation	**VL FPM 12**	**VL FPM 12U**	**VL FPM 15**
Order number	**2913015**	**2913016**	**2913017**
Touch technology	Analog resistive	Analog resistive	Analog resistive
Display size	30.7 cm/12.1 inches	30.7 cm/12.1 inches	38.1 cm/15 inches
Display type	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
Colors	16.7 million	16.7 million	16.7 million
Resolution (W x H in pixels)	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)
Brightness (in cd/m²)	400	400	350
Reading angle (vertical/horizontal)	140°/120°	140°/120°	170°/160°
Backlight (MTTF in h)	> 50000	> 50000	> 50000
USB	1x USB 1.1, 1x USB 2.0	1x USB 1.1, 1x USB 2.0 1x USB on the front	1x USB 1.1, 1x USB 2.0
Video out	1x DVI-D 1x VGA	1x DVI-D 1x VGA	1x DVI-D 1x VGA
Mounting type	Front installation/ VESA MIS-D (100 or 75)	Front installation/ VESA MIS-D (100 or 75)	Front installation/ VESA MIS-D (100 or 75)
Dimensions (W x H x D in mm)	365 x 282 x 92	365 x 282 x 92	452 x 356,5 x 97
Weight (in kg)	4.47	4.47	6.43
Power supply	24 V DC ±20%	24 V DC ±20%	24 V DC ±20%
Maximum power consumption	25.12 W at 19.2 V	25.12 W at 19.2 V	25.12 W at 19.2 V
Temperature range	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C
Relative humidity	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP65/IP20	IP65/IP20	IP65/IP20
Approvals	CE	CE	CE

Monitors with analog resistive touch

Designation	**VL FPM 15U**	**VL FPM 17**	**VL FPM 17U**
Order number	**2913018**	**2913019**	**2913020**
Touch technology	Analog resistive	Analog resistive	Analog resistive
Display size	38.1 cm/15 inches	43.2 cm/17 inches	43.2 cm/17 inches
Display type	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
Colors	16.7 million	16.7 million	16.7 million
Resolution (W x H in pixels)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)
Brightness (in cd/m²)	350	350	350
Reading angle (vertical/horizontal)	170°/160°	170°/160°	170°/160°
Backlight (MTTF in h)	> 50000	> 50000	> 50000
USB	1x USB 1.1, 1x USB 2.0	1x USB 1.1, 1x USB 2.0	1x USB 1.1, 1x USB 2.0 1x USB on the front
Video out	1x DVI-D 1x VGA	1x DVI-D 1x VGA	1x DVI-D 1x VGA
Mounting type	Front installation	Front installation	Front installation
Dimensions (W x H x D in mm)	452 x 356.5 x 97	452 x 356.5 x 97	452 x 356.5 x 97
Weight (in kg)	6.43	6.43	6.43
Power supply	24 V DC ±20%	24 V DC ±20%	24 V DC ±20%
Maximum power consumption	25.12 W at 19.2 V	37.25 W at 19.2 V	37.25 W at 19.2 V
Temperature range	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: 0°C ... +50°C Storage: -40°C ... +70°C
Relative humidity	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)	5% ... 95% (noncondensing)
Degree of protection (front side/rear side)	IP65/IP20	IP65/IP20	IP65/IP20
Approvals	CE	CE	CE

Monitors with projective-capacitive touch

VL FPM 19U	**BL FPM 15.6**	**BL FPM 18.5**	**BL FPM 21.5**
2913021	**2402980**	**2402981**	**2400515**
Analog resistive	Projective-capacitive, 10-touch control	Projective-capacitive, 10-touch control	Projective-capacitive, 10-touch control
48.3 cm/19 inches	39.6 cm/15.6 inches	46.9 cm/18.5 inches	54.6 cm/21.5 inches
TFT/LED (white)	TFT/LED (white)	TFT/LED (white)	TFT/LED (white)
16.7 million	16.7 million	16.7 million	16.7 million
1280 x 1024 (SXGA)	1366 x 768 (WXGA)	1366 x 768 (WXGA)	1920 x 1080 (Full HD)
300	300	300	300
178°/178°	170°/160°	170°/160°	170°/160°
> 50000	> 50000	> 50000	> 50000
1x USB 1.1, 1x USB 2.0 1x USB on the front	–	–	–
1x DVI-D 1x VGA	1x DisplayPort 1x DVI-D 1x VGA	1x DisplayPort 1x DVI-D 1x VGA	1x DisplayPort 1x DVI-D 1x VGA
Front installation	Front installation/ VESA MIS-D, 100	Front installation/ VESA MIS-D, 100	Front installation/ VESA MIS-D, 100
489 x 406 x 95	417 x 312 x 52	491 x 321 x 51	562 x 382 x 51
9.51	5.48	6.24	7.87
24 V DC ±20%	24 V DC (12 V DC ... 24 V DC)	24 V DC (12 V DC ... 24 V DC)	24 V DC (12 V DC ... 24 V DC)
41.28 W at 19.2 V	14.2 W at 24 V	17.8 W at 24 V	21.6 W at 24 V
Operation: 0°C ... +50°C Storage: -40°C ... +70°C	Operation: -10°C … +60°C Storage: -20°C … +75°C	Operation: -10°C … +60°C Storage: -20°C … +75°C	Operation: -10°C ... +60°C Storage: -20°C … +75°C
5% ... 95% (noncondensing)	10 % ... 90% (noncondensing)	10% ... 90% (noncondensing)	10% ... 90% (noncondensing)
IP65/IP20	IP65/IP20	IP65/IP20	IP65/IP20
CE	CE, UL, cUL	CE, UL, cUL	CE, UL, cUL

IPC device accessories (may be product specific)

Type	Order No.	Designation	Description
Cover	2400277	SILICONE USB COVER KIT	USB end cover replacement for Valueline industrial PCs
Cover	2403293	VL2 PCI COVER	PCI slot cover
Adapter	2400174	DP TO DVI ADPTR	DisplayPort to DVI-i video adapter
Adapter	2400173	DP TO VGA ADPTR	DisplayPort to VGA video adapter
Bracket	2400014	DL ADAPTER PLATE VESA75-100	Mounting plate for Designline 15 inch for attaching Designline to VESA 75 mount. VESA 100 hole size includes keyholes for easy mounting. Color: RAL 7035 (light gray)
Bracket	2400013	DL WALL MOUNT	Wall bracket for Designline. Hole size: VESA 100 with keyholes for easy mounting. Color: RAL 7035 (light gray). Length: 218 mm
Data cable	2403720	DisplayPort cable 1.8 m	1.8 meter DisplayPort cable
Data cable	2403719	DVI cable 1.8 m	1.8 meter DVI cable
Data cable	2320500	IFS-USB-DATACABLE	Used for communicating between industrial PCs and Phoenix Contact devices with the 12-pos. IFS data port, such as QUINT UPS or TRIO UPS
Data cable	1404514	SI-SES-U1A/0,6	Service socket with USB (socket/plug), type A with 0.6 m cable
Energy storage	2320351	UPS-BAT/ LI-ION/24DC/120WH	Energy storage device, LI-ION technology, 24 V DC, 120 Wh, for ambient temperatures of -20°C ... +58°C, automatic detection and communication with QUINT UPS-IQ
Energy storage	2320296	UPS-BAT/VRLA/24DC/1.3AH	Energy storage device, lead AGM, VRLA technology, 24 V DC, 1.3 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ
Energy storage	2320306	UPS-BAT/VRLA/24DC/3.4AH	Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ
Hard drive mounting frame	2400026	BL 3000/7000 SATA TRAY	2.5 inch SATA tray kit for Basicline 3000 and 7000 industrial PCs
Hard drive mounting frame	2403331	BL BPC 2000 2.5" SATA BAY	2.5 inch HDD/SSD mounting frame. Compatible with Basicline BPC 2000
Hard drive mounting frame	2400423	BL PPC 1000 SATA TR	Installation hardware and empty drive tray ready for installation of SSD/HDD. For use with the Basicline PPC 1000
Hard drive mounting frame	2400033	DL HDD/SSD TRAY KIT	2.5 inch SATA kit for Designline industrial PC
Hard drive mounting frame	2913185	HDD TRAY KIT	Hard drive mounting frame for Valueline industrial PCs
Hard drive mounting frame	2403291	IPC HDD/SSD TRAY STYLE D	HDD/SSD mounting frame. Compatible with VL2 industrial PCs
PCB connector	1751312	MC 1,5/3-STF-3,5 BD:1-3	Plug for Embeddedline industrial PCs, nominal current: 8 A, number of positions: 3, pitch: 3.5 mm, connection method: screw connection with tension sleeve, color: green, contact surface: tin
PCB connector	1777992	MSTB 2,5/3-STF-5,08	Plug for Designline, Basicline, and Valueline industrial PCs, nominal current: 12 A, rated voltage (III/2): 320 V, number of positions: 3, pitch: 5.08 mm, connection method: screw connection with tension sleeve, color: green, contact surface: tin
PCB connector	1786844	MSTB 2,5/3-STF	Plug for industrial monitors (FPM), nominal current: 12 A, rated voltage (III/2): 320 V, number of positions: 3, pitch: 5 mm, connection method: screw connection with tension sleeve, color: green, contact surface: tin

IPC device accessories (may be product specific)

Type	Order No.	Designation	Description
Assembly adapter	2402681	DL 15 RITTAL ADAPTER	The DL...RITTAL ADAPTER attaches to a Designline industrial PC and enables seamless integration with a Rittal CP40 or CP60 series support arm
Assembly adapter	2402682	DL 18.5 RITTAL ADAPTER	The DL...RITTAL ADAPTER attaches to a Designline industrial PC and enables seamless integration with a Rittal CP40 or CP60 series support arm
Assembly adapter	2402683	DL 21.5 RITTAL ADAPTER	The DL...RITTAL ADAPTER attaches to a Designline industrial PC and enables seamless integration with a Rittal CP40 or CP60 series support arm
Assembly adapter	2320089	UTA 107/30	Universal DIN rail adapter for Basicline 1000/2000
Buffer module	2402832	PC-PWR-FLTR-1	The PC-PWR-FLTR-1 buffers incoming power until operating voltage is reached. For use with 24 V DC power sources with rise times above 100 ms
Mounting kit	2403285	DL CABLE ENTRY GASKET KIT	Cable sealing set for Designline industrial PC
Mounting kit	2403344	DL PPC15 USB door-top	Replacement USB cover, including screws for Designline PPC15 1000
Mounting kit	2403288	IPC MOUNTING BLOCK STYLE B	Industrial PC assembly block, style B. Compatible with VL2 PPC 2000/3000/7000 and Basicline PPC 1000/3000/7000
Mounting kit	2403287	IPC MOUNTING BLOCK STYLE C	Industrial PC mounting block, style C. Compatible with Basicline FPM
Mounting kit	2913160	VL BOOKSHELF MOUNTING KIT	Mounting kit, Valueline industrial PC, without PCI expansion slots, for bookshelf mounting
Mounting kit	2913164	VL BOOKSHELF MOUNTING KIT/EXPANSION	Mounting kit, Valueline industrial PC, with PCI expansion slots, for bookshelf mounting
Mounting kit	2913159	VL PANEL MOUNTING KIT	Mounting kit, Valueline industrial PC, for installation on a front plate
Mounting kit	2701177	VL PANEL+ MOUNTING KIT	Mounting kit, Valueline industrial PC. For use with 15- and 17-inch displays to accommodate thicker panels, including the required hardware
Mounting kit	2913161	VL WALL MOUNTING KIT	Mounting kit, Valueline industrial PC, for wall mounting
Mounting plate	2701716	VL PPC12 19" RACKMOUNT PLATE	Mounting plate for the installation of Basicline and Valueline 12-inch PPC products and 12-inch FPM products through standard PPC mounting in a 19-inch rack
Mounting plate	2701715	VL PPC15 19" RACKMOUNT PLATE	Mounting plate for the installation of Basicline and Valueline 15-inch PPC products and 15-inch FPM products through standard PPC mounting in a 19-inch rack
Mounting plate	2701714	VL PPC17 19" RACKMOUNT PLATE	Mounting plate for the installation of Basicline and Valueline 17-inch PPC products and 17-inch FPM products through standard PPC mounting in a 19-inch rack
Protective foil	2913165	VL 15" DISPLAY PROTECTIVE FOIL	Protective foils for 15-inch touchscreen (10-pack)
Software	2701453	VL PORTICO SERVER 1 CLIENT	Remote network portal software for remote controlling one PC to another
Software	2701456	VL PORTICO SERVER 16 CLIENT	Remote network portal software for remote controlling up to 16 client PCs from one single server
Software	2701455	VL PORTICO SERVER 4 CLIENT	Remote network portal software for remote controlling up to four client PCs from one single server

IPC device accessories (may be product specific)

Type	Order No.	Designation	Description
Software package	2402618	WIN 7 PRO SP1 X64-DE UPGRADE	Kit for upgrading a Windows® XP operating system to Windows® 7 Professional SP1 (64-bit German-language operating system). Kit includes a USB drive and Microsoft® Certificate of Authority (CoA) sticker
Software package	2400574	WIN 7 PRO SP1 X64-EN UPGRADE	Kit for upgrading a Windows® XP operating system to Windows® 7 Professional SP1 (64-bit English-language operating system). Kit includes a USB drive and Microsoft® Certificate of Authority (CoA) sticker
Software package	2402617	WIN 7 PRO SP1 X86-DE UPGRADE	Kit for upgrading a Windows® XP operating system to Windows® 7 Professional SP1 (32-bit German-language operating system). Kit includes a USB drive and Microsoft® Certificate of Authority (CoA) sticker
Software package	2400573	WIN 7 PRO SP1 X86-EN UPGRADE	Kit for upgrading a Windows® XP operating system to Windows® 7 Professional SP1 (32-bit English-language operating system). Kit includes a USB drive and Microsoft® Certificate of Authority (CoA) sticker
Software package	2402620	WIN 7 ULT SP1 X64 UPGRADE	Kit for upgrading a Windows® XP operating system to Windows® 7 Ultimate SP1 (64-bit multilanguage operating system). Kit includes a USB drive and Microsoft® Certificate of Authority (CoA) sticker
Software package	2402619	WIN 7 ULT SP1 X86 UPGRADE	Kit for upgrading a Windows® XP operating system to Windows® 7 Ultimate SP1 (64-bit multilanguage operating system). Kit includes a USB drive and Microsoft® Certificate of Authority (CoA) sticker
Software package	2400303	WES2009/WES7 RECOVERY USB	Operating system recovery kit for Windows® Embedded 2009 and Windows Embedded 7 operating systems. The kit includes a USB drive
Mass storage	2701668	16 GB CF	CompactFlash® card, pluggable, 16 GB
Mass storage	2701669	32 GB CF	CompactFlash® card, pluggable, 32 GB
Mass storage	2400022	BL 3000/7000 16 GB SSD KIT	16 GB, 2.5 inch SATA SSD kit with tray for Basicline 3000 and 7000 industrial PCs
Mass storage	2400025	BL 3000/7000 160 GB SSD KIT	160 GB, 2.5 inch SATA SSD kit with tray for Basicline 3000 and 7000 industrial PCs
Mass storage	2400023	BL 3000/7000 32 GB SSD KIT	32 GB, 2.5 inch SATA SSD kit with tray for Basicline 3000 and 7000 industrial PCs
Mass storage	2400021	BL 3000/7000 320 GB HDD KIT	320 GB, 2.5 inch SATA HDD kit with tray for Basicline 3000 and 7000 industrial PCs
Mass storage	2400024	BL 3000/7000 80 GB SSD KIT	80 GB, 2.5 inch SATA HDD kit with tray for Basicline 3000 and 7000 industrial PCs
Mass storage	2403280	BL BPC 2000 16 GB SSD KIT	16 GB, 2.5 inch SATA SSD kit with tray for Basicline BPC 2000
Mass storage	2403283	BL BPC 2000 160 GB SSD KIT	160 GB, 2.5 inch SATA SSD kit with tray for Basicline BPC 2000
Mass storage	2403281	BL BPC 2000 32 GB SSD KIT	32 GB, 2.5 inch SATA SSD kit with tray for Basicline BPC 2000
Mass storage	2403284	BL BPC 2000 320 GB SSD KIT	320 GB, 2.5 inch SATA SSD kit with tray for Basicline BPC 2000
Mass storage	2403282	BL BPC 2000 80 GB SSD KIT	80 GB, 2.5 inch SATA SSD kit with tray for Basicline BPC 2000
Mass storage	2400073	BL PPC 1000 16 GB SSD KIT	16 GB, 2.5 inch SATA SSD kit for Basicline PPC 1000, with mounting frame
Mass storage	2400076	BL PPC 1000 160 GB SSD KIT	160 GB, 2.5 inch SATA SSD kit for Basicline PPC 1000, with mounting frame
Mass storage	2400074	BL PPC 1000 32 GB SSD KIT	32 GB, 2.5 inch SATA SSD kit for Basicline PPC 1000, with mounting frame
Mass storage	2400078	BL PPC 1000 320 GB HDD KIT	320 GB, 2.5 inch SATA HDD kit for Basicline PPC 1000, with mounting frame
Mass storage	2400075	BL PPC 1000 80 GB SSD KIT	80 GB, 2.5 inch SATA SSD kit for Basicline PPC 1000, with mounting frame
Mass storage	2403286	BL PPC 1000 THERMAL PAD KIT	Thermal transfer pad replacement, compatible with Basicline PPC 1000

IPC device accessories (may be product specific)

Type	Order No.	Designation	Description
Mass storage	2400029	DL 16 GB SSD KIT	16 GB, 2.5 inch SATA SSD kit with tray for Designline industrial PC
Mass storage	2400032	DL 160 GB SSD KIT	160 GB, 2.5 inch SATA SSD kit with tray for Designline industrial PC
Mass storage	2400030	DL 32 GB SSD KIT	32 GB, 2.5 inch SATA SSD kit with tray for Designline industrial PC
Mass storage	2400028	DL 320 GB HDD KIT	320 GB, 2.5 inch SATA HDD kit with tray for Designline industrial PC
Mass storage	2403278	DL 4 GB SSD KIT	4 GB, 2.5 inch SATA SSD kit with tray for Designline industrial PC
Mass storage	2403279	DL 8 GB SSD KIT	8 GB, 2.5 inch SATA SSD kit with tray for Designline industrial PC
Mass storage	2400031	DL 80 GB SSD KIT	80 GB, 2.5 inch SATA SSD kit with tray for Designline industrial PC
Mass storage	2400170	IPC 16 GB CFAST KIT	CFast® card with 16 GB
Mass storage	2402978	IPC 32 GB CFAST KIT	CFast® card with 32 GB
Mass storage	2400168	IPC 4 GB CFAST KIT	CFast® card with 4 GB
Mass storage	2400169	IPC 8 GB CFAST KIT	CFast® card with 8 GB
Mass storage	2403289	IPC THERMAL PAD HDD/ SSD TYPE A	Thermal pad replacement for 6.5 mm to 7 mm drives on VL2 ... 2000/3000/7000
Mass storage	2403290	IPC THERMAL PAD HDD/ SSD TYPE B	Thermal pad replacement for 9.0 mm to 9.4 mm drives on VL2 ... 2000/3000/7000
Mass storage	2913155	VL 1 GB CF	CompactFlash® card, pluggable, 1 GB
Mass storage	2913156	VL 2 GB CF	CompactFlash® card, pluggable, 2 GB
Mass storage	2913157	VL 4 GB CF	CompactFlash® card, pluggable, 4 GB
Mass storage	2913158	VL 8 GB CF	CompactFlash® card, pluggable, 8 GB
Mass storage	2913199	VL 16 GB SSD (SLC) KIT	16 GB, 2.5 inch SATA solid-state drive (SLC) kit for Valueline industrial PC, with mounting frame
Mass storage	2701113	VL 160 GB SSD KIT	160 GB, 2.5 inch SATA solid-state drive (MLC) kit for Valueline industrial PC, with mounting frame
Mass storage	2913200	VL 32 GB SSD (SLC) KIT	32 GB, 2.5 inch SATA solid-state drive (SLC) kit for Valueline industrial PC, with mounting frame
Mass storage	2701111	VL 320 GB HDD KIT	320 GB, 2.5 inch SATA HDD kit (SLC) for Valueline industrial PC, with mounting frame
Mass storage	2701112	VL 80 GB SSD KIT	80 GB, 2.5 inch SATA solid-state drive (MLC) kit for Valueline industrial PC, with mounting frame
Mass storage	2400337	VL2 16 GB SLC SSD SATA KIT	16 GB, 2.5 inch SATA SSD kit with tray for VL2… industrial PPC and BPC products
Mass storage	2400340	VL2 160 GB MLC SSD SATA KIT	160 GB, 2.5 inch SATA SSD kit with tray for VL2… industrial PPC and BPC products
Mass storage	2400338	VL2 32 GB SLC SSD SATA KIT	32 GB, 2.5 inch SATA SSD kit with tray for VL2… industrial PPC and BPC products
Mass storage	2400341	VL2 320 GB HDD SATA KIT	320 GB, 2.5 inch SATA SSD kit with tray for VL2… industrial PPC and BPC products
Mass storage	2400335	VL2 4 GB SLC SSD SATA KIT	4 GB, 2.5 inch SATA SSD kit with tray for VL2… industrial PPC and BPC products

HMI device accessories (may be product specific)

Type	Order No.	Designation	Description
Battery	2701383	HMI BATTERY	Spare battery for maintaining the real-time clock with battery backup
Connector plug	1847068	MC 1,5/3-STF-3,5	3-pos. MSTB 1,5/3-STF connector plug (TPxxxSTx, TPxxxSKx, TPxxxSGx)
Connector plug	1786844	MSTB 2,5/3-STF	3-pos. MSTB 2,5/3-STF connector plug (TPxxxXiT)
Connector plug	1786857	MSTB 2,5/4-STF	4-pos. MSTB 2,5/4-STF connector plug (TP 5xxxS)
Mass storage	2988162	SD FLASH 2 GB	2 GB SD card
Mass storage	2401626	SD FLASH 4 GB	4 GB SD card
Mass storage	2402809	USB FLASH DRIVE	8 GB USB stick
Touch pen	2701379	TOUCH PEN	Operating stylus for devices based on polyester touch technology
Mass storage	2400336	VL2 8 GB SLC SSD SATA KIT	8 GB, 2.5" SATA SSD kit with tray for VL2… industrial PPC and BPC products
Mass storage	2400339	VL2 80 GB MLC SSD SATA KIT	80 GB, 2.5" SATA SSD kit with tray for VL2… industrial PPC and BPC products
Mounting kit	2701384	HMI SCB MOUNTING KIT 4	4 mounting clips for fastening TP xxx devices (up to 6 mm)
Mounting kit	2701385	HMI SCB MOUNTING KIT 6	6 mounting clips for fastening TP xxx devices (up to 6 mm)
Mounting kit	2701387	HMI SCB MOUNTING KIT 8	8 mounting clips for fastening TP xxx devices (up to 6 mm)
Mounting kit	2701380	HMI WALL MOUNTING KIT	2 spring steel clips for fastening TP xxx devices (up to 6 mm)
Mounting kit	2701381	HMI WALL BOX	Mounting frame for drywall for the TP070xxx device
Protective foil set	2401516	4.3-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 4.3-inch touchscreen (TP043STB)
Protective foil set	2701371	5.7-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 5.7-inch touchscreen (TP57XIT, TP057STQ)
Protective foil set	2701371	5.7-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 5.7-inch touchscreen (TP057STV)
Protective foil set	2701374	7-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 7-inch touchscreen (TP70XIT, TP070STW)
Protective foil set	2701375	9-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 9-inch touchscreen (TP90XIT, TP090STW)
Protective foil set	2701376	10-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 10-inch touchscreen (TP105XIT, TP105STS)
Protective foil set	2701377	12-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 12-inch touchscreen (TP121XIT, TP121STS)
Protective foil set	(✓)	ON REQUEST	10 protective foils for protecting a 12-inch touchscreen (TP121STM)
Protective foil set	(✓)	ON REQUEST	10 protective foils for protecting a 12-inch touchscreen (TP 5120S)
Protective foil set	2701378	15-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 15-inch touchscreen (TP151XIT, TP150STX)
Protective foil set	(✓)	ON REQUEST	10 protective foils for protecting a 15-inch touchscreen (TP154STM)
Protective foil set	2913165	15-inch DISPLAY PROTECTIVE FOIL	10 protective foils for protecting a 15-inch touchscreen (TP 5150S)
Protective foil set	(✓)	ON REQUEST	10 protective foils for protecting a 17-inch touchscreen (TP 5170S)
Touch pen	2701379	TOUCH PEN	Touch pen for HMIs, silver coated, delivery includes self-adhesive penholder

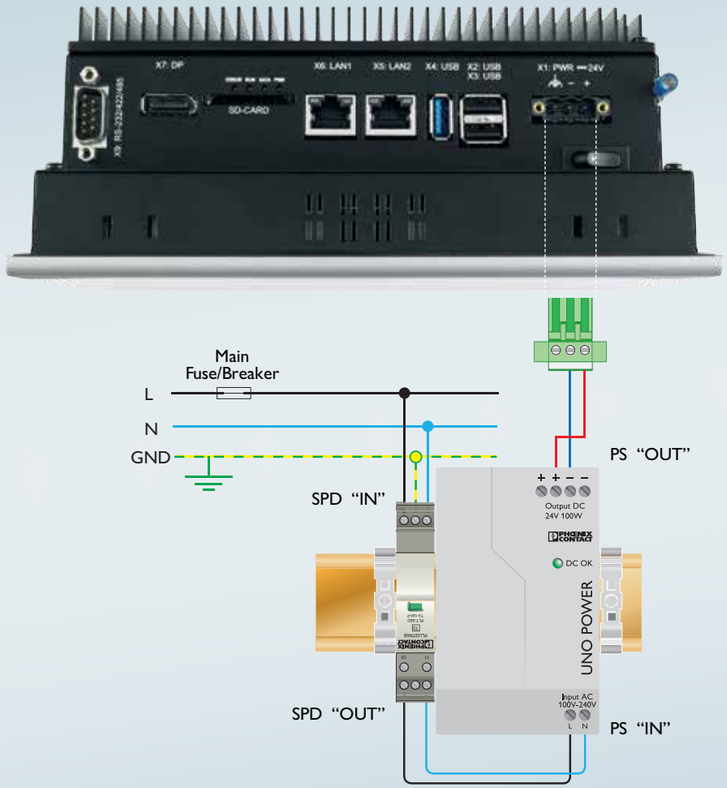
Notes

IPC warranty

Phoenix Contact industrial PCs (IPCs) are for use in a wide variety of automation, process visualization, and control applications. Reducing susceptibility to surges is crucial for increasing uptime and extending the life expectancy of the IPC and its power supply. Phoenix Contact's surge suppression protects these devices from damaging surges, protecting your investment.

With properly installed surge protection devices (SPDs), any damage that occurs is contained within the SPD. The modular SPD design allows the end-of-life plug to be replaced without cutting off power. Additionally, the SPD can be connected to a remote monitoring system to notify the operator that the module needs to be replaced.

Phoenix Contact will extend the existing, comprehensive two-year warranty on the IPC to a five-year limited warranty when used with a Phoenix Contact-recommended surge protection solution and a Phoenix Contact power supply.



Type	Order number	Designation	Description
Power supply	2866747	QUINT-PS-1AC/24DC/3.5	3.5 A power supply
Power supply	2904600	QUINT4-PS/1AC/24DC/5	5 A power supply
Power supply	2903147	TRIO-PS-2G/1AC/24DC/3/C2LPS	3 A power supply
Power supply	2903148	TRIO-PS-2G/1AC/24DC/5	5 A power supply
Power supply	2902992	UNO-PS/1AC/24DC/60W	60 W power supply (equal to 2.5 A)
Power supply	2902993	UNO-PS/1AC/24DC/100W	100 W power supply (equal to 4.16 A)
Surge suppression	2905228	PLT-SEC-T3-120FM	120 V AC surge suppression plug and header
Surge suppression	2905234	PLT-SEC-T3-120-P	120 V AC surge suppression replacement plug only
Surge suppression	2905229	PLT-SEC-T3-230FM	230 V AC surge suppression plug and header
Surge suppression	2905535	PLT-SEC-T3-230-P	230 V AC surge suppression replacement plug only

Cabinet Confidence – your trusted partner for the control cabinet

Controllers

Phoenix Contact offers controllers in all performance classes for efficient automation of your system.

Industrial Ethernet

With the products from Phoenix Contact, you can make the most of all the options offered by an Ethernet network to ensure consistency, speed, and extreme flexibility.

I/O systems

Collect and transmit signals and data quickly and reliably to your systems.

Wireless data communication

Modern wireless technology offers efficient and consistent communication for all industrial applications.

Software

Benefit from innovative software solutions optimally tailored to hardware from Phoenix Contact.

Power supplies and UPS

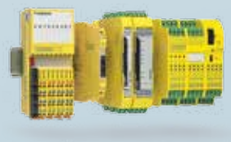
Maximum availability for your systems – our solutions for your power supply are technologically groundbreaking.

Fieldbus components and systems

Save time during planning and installation. With this versatile product range, you can create a fieldbus network for every application.

Surge protection and interference suppression filters

Do you want system operation to be unaffected by interference? Then surge protection from Phoenix Contact will help you fulfill an essential requirement.



Functional safety

Innovative safety solutions for all requirements. Play it safe; make the right choice.

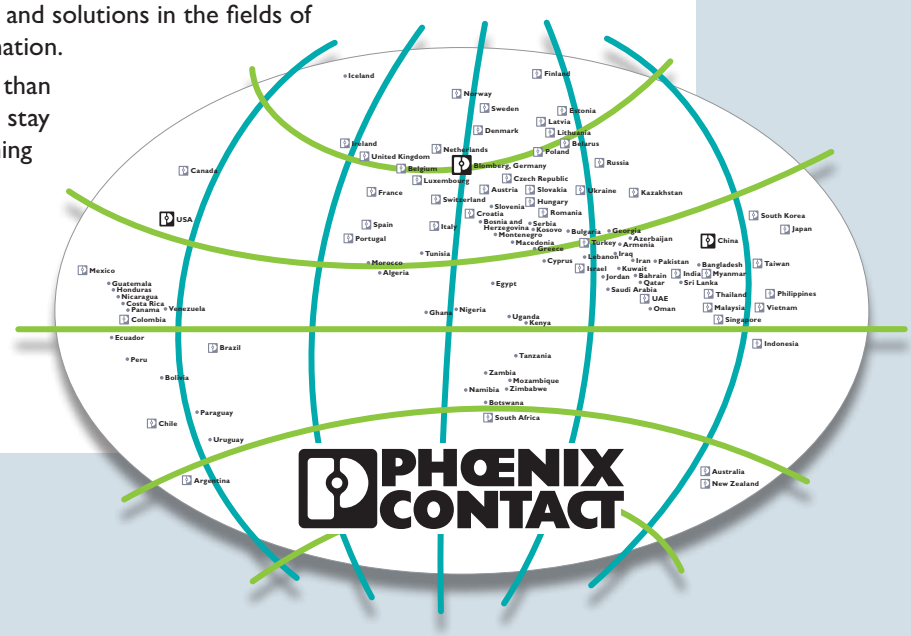
Lighting and signaling

Whether you are dealing with the system state, product quality, or hard-to-inspect dark areas, with more intelligent lighting and signaling technology, you always have everything within view.

Ongoing communication with customers and partners worldwide

Phoenix Contact is a global, market leader based in Germany. Our group is known for its future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation.

With a global network reaching across more than 100 countries and 14,500 employees, we can stay in close contact with our customers, something we believe is essential to success. The wide variety of our innovative products makes it easy for our customers to find future-oriented solutions for multiple applications and industries. We especially focus on the fields of energy, infrastructure, process, and factory automation.



You will find our complete product range at:

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