



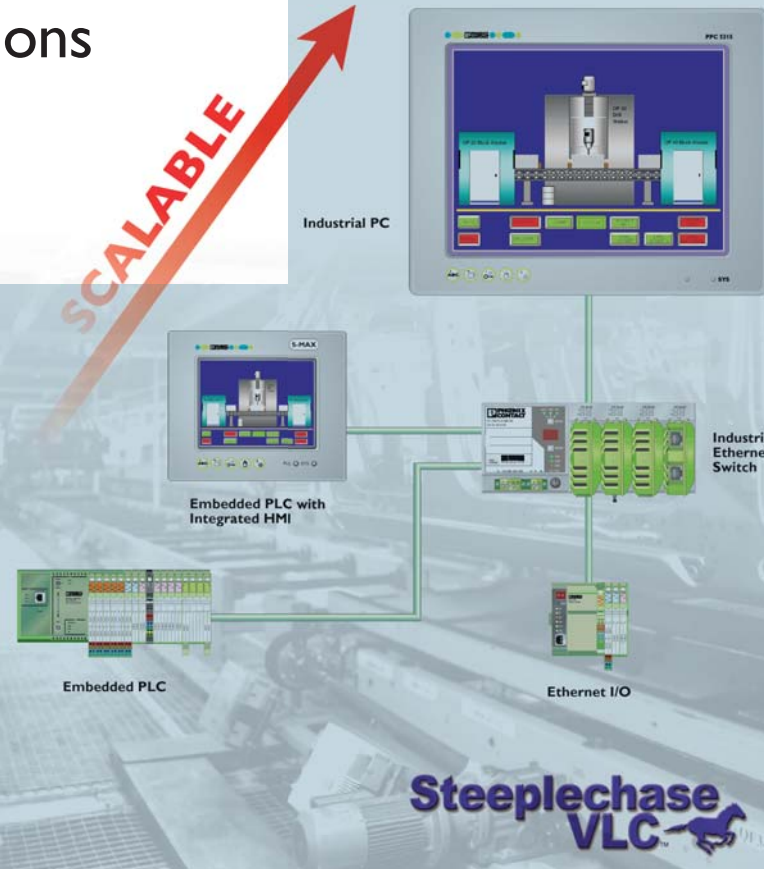
CONTROL

Control and monitoring solutions at a glance

Scalable control solutions

Steeplechase VLC is available on the ILC 150, ILC 350 and S-MAX series of embedded controllers from Phoenix Contact. Users now have complete scalability with one control environment — from simple ILC 150 VLC blind nodes to integrated panel S-MAX VLC controllers that support both Citect HMI and Iconics MachineWorX, to full PC-based control using the latest industrial PCs.

All major fieldbus networks such as INTERBUS, Profibus or DeviceNet, as well as popular Ethernet-based protocols such as MODBUS TCP or Ethernet IP, are supported.



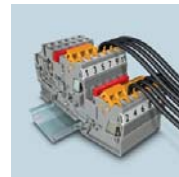
	Programming		Visualization	
	PCWORX	Steeplechase VLC	Iconics MachineWorX	Citect HMI
General functions:	Programming in accordance with IEC 61131-3 in the following programming languages: Function block diagram, instruction list, structured text, ladder diagram, sequential function chart, machine sequential function chart and fixed-format ladder configuration of INTERBUS and PROFINET networks; parameterization of INTERBUS and PROFINET devices; diagnosis of INTERBUS and PROFINET networks.	Steeplechase VLC is the proven leader in PC-based flow chart control software. Version 7 provides enhanced usability features that let users create control projects faster and easier than ever. The unique flow chart logic scan enables sub-millisecond logic solve times. The intuitive flow chart programming tools accelerate design cycles, installation and system launch. To ease transition from traditional PLCs, Steeplechase VLC provides RLL programming based on IEC 61131 with flow charting enhancements. Steeplechase VLC offers interfaces for all major fieldbus networks.	MachineWorX is a limited function version of embedded GENESIS 32 with a fixed 500 I/O point count (OPC tags). It includes multi-language capabilities, VBScript and Jscript as well as Alarm Server, Alarm Viewer Active X and Trend Viewer Active X.	Citect HMI is a limited function version of the Citect SCADA software. It includes alarming and real-time trending (no historical trending).
Hardware requirements:	CPU Hard disk Main Memory Monitor Operating devices CD-ROM drive	Minimum 800 MHz P3 Minimum 512 MB Minimum 256 MB SVGA (800 x 600) Keyboard and mouse Yes	Minimum 800 MHz P3 Minimum 512 MB Minimum 256 MB SVGA (800 x 600) Keyboard and mouse Yes	Minimum 800 MHz P3 Minimum 512 MB Minimum 256 MB SVGA (800 x 600) Keyboard and mouse Yes
Software Requirements:	Internet Explorer Operating systems	Version 5.5 or higher Windows 2000 or Windows XP Pro	Version 5.5 or higher Windows 2000 or Windows XP Pro	Version 5.5 or higher Windows 2000 or Windows XP Pro

Performance Class	100			200		300				400	
Type Order No.	ILC 150 ETH 2985330	ILC 155 ETH 2988188	ILC 150 VLC 2985783	FC 200 PCI-IB 27 30 66 6	ILC 200 UNI-PAC 28 62 29 1 ILC 200 IB-PAC 28 62 28 8	ILC 350 ETH 27 37 20 3 ILC 350 PN 28 76 92 8	ILC 350 VLC 29 85 01 3	ILC 370 ETH 2TX-IB 28 76 99 9 ILC 370 PN 2TX-IB 28 76 91 5	ILC 390 PN 2TX-IB 29 85 31 4	FC 350 PCI ETH 27 30 84 4 FC 350 PCI PN 28 76 94 4	RFC 450 ETH-IB 27 30 20 0 RFC 430 ETH-IB 27 30 19 0
Programming system	PCWORX 5/ PCWORX Express	PCWORX 5/ PCWORX Express	Steeplechase VLC 7.2/ ILC 150 Programming Pack	PCWORX 3 / 5	PCWORX 3 / 5	PCWORX 3 / 5	Steeplechase VLC 7.0	PCWORX 3 / 5	PCWORX 3 / 5	PCWORX 3 / 5	PCWORX 2 / 3 / 5
IEC 61131 Runtime System	1.5 ms, typical	1.5 ms, typical	Scan time < 20 ms	1.3 ms, typical	1.3 ms, typical	0.5 ms, typical	Scan time < 20 ms	0.3 ms, typical	0.2 ms, typical	0.5 ms, typical	0.1 ms, typical 0.05 ms, typical
Processing speed (per 1-K instructions)	256 KB	512 KB	256 KB	380 KB	380 KB	1 MB	1 MB	2 MB	2 MB	1 MB	8 MB
Program memory	256 KB	512 KB	256 KB	340 KB	320 KB	2 MB	2 MB	4 MB	4 MB	2 MB	16 MB
Data memory	8 KB	48 KB	8 KB	16 KB	8 KB	64 KB	64 KB	96 KB	96 KB	64 KB	96 KB
Retentive data memory											
Interfaces	10/100 Master Master/Slave	10/100 Master Master/Slave	10/100 Master Slave Slave	— Master	10/100 Master/Slave Slave (optional)- UNI only Slave (optional)- UNI only Slave (optional)- UNI only	10/100 Master — — PN model	10/100 Master Master/Slave Master/Slave	10/100 Master/Slave Master/Slave	10/100 Master/Slave — — Yes	10/100 Master — — PN model 5/3 (optional)	10/100 Master — — 5/3
Direct inputs/outputs	8/4	8/4	8/4	4/2 (interrupt inputs, fast counters)	4/2 (interrupt inputs, fast counters, pulse generator)	12/4 (interrupt inputs)	12/4 (interrupt inputs)	12/4 (interrupt inputs)	12/4 (interrupt inputs)	12/4 (interrupt inputs)	5/3
OPC communication	Via Ethernet	Via Ethernet	Via Ethernet	Via PCI, RS-232	Via INTERBUS, RS-232	Via Ethernet, RS-232	Via Ethernet, RS-232	Via Ethernet, RS-232	Via Ethernet, RS-232	Via Ethernet	Via Ethernet, RS-232
I/O basic specifications	512	512	512	512	512	512	512	512	512	512	512
Fieldbus-supported devices	4,096	4,096	4,096	4,096	4,096	8,192	8,192	8,192	8,192	8,192	8,192
Fieldbus I/O points	—	—	Unlimited	—	—	—	Unlimited	—	—	—	—
Ethernet-based I/O	—	—	—	—	—	—	—	—	—	—	—

Phoenix Contact offers a full family of modular components covering virtually all of your electrical and electronic needs as well as a broad range of value-added services.

CLIPLINE

- DIN rail-mount terminal blocks
- Marking materials and printers
- Tools
- Ferrules



TRABTECH

- Surge voltage protection



INTERFACE

- Analog signal converters
- Power supplies
- Relays
- PLC cabling
- Rail-mount breakout modules
- Intrinsic safety modules



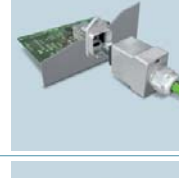
COMBICON

- PCB terminal blocks
- Electronic component housings



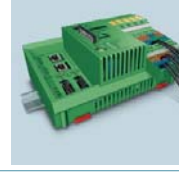
PLUSCON

- Industrial plug connectors
- Sensor cabling and sensor boxes



AUTOMATION

- Solutions, products and services for DeviceNet, Profibus, Ethernet and Interbus
- Controllers and software
- Fieldbus I/O
- Ethernet infrastructure components



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PC-based control concepts: flexible and powerful

Phoenix Contact offers a comprehensive product range of control and monitoring devices in several screen size choices and form factors. Selections include panel-mount PCs, blind-node industrial PCs, Thin Clients and Vehicle Mount Terminals (VMT). Processors in different performance classes allow you to tailor your control solution to your system requirements. The new generation CPUs and motherboards feature reduced current consumption and associated heat dissipation as well as a compact, cable-reduced design. The new line of S-MAX VLC embedded controllers combine the safety of a PLC, a color touch screen operator panel and fieldbus master in one compact and powerful unit.



		Panel PCs						Industrial PCs		VMT			Thin Clients	Monitor Solutions		S-MAX VLC		
Type Order No. Type Order No. Type Order No. Type Order No.		PPC 5112 ¹⁾ 28 87 41 2 PPC 5112 SM EN 29 00 08 5	PPC 5115 ¹⁾ 28 87 42 5 PPC 5115 PM 1.1 EN 28 93 97 2	PPC 5212 ¹⁾ 28 87 43 8	PPC 5315 2887441 PPC 5315 SM EN 29 00 37 3 PPC 5315 PM EN 28 93 92 7	PPC 5317 ¹⁾ 2887454	PPC 5319 ¹⁾ 2887467	PPC 5515 ¹⁾ 28 87 47 0	IPC 1100 ¹⁾ 28 87 49 6 IPC 1100 PM 1.1 EN 28 93 94 3	IPC 5100 ¹⁾ 28 87 45 8 IPC 5300 ¹⁾ 28 87 55 1 IPC 5500 ¹⁾ 28 87 56 4	VMT 5010 28 87 58 0 VMT 5012 28 87 59 3	VMT 5015 28 87 60 3 VMT 5015 PM 1.1 EN 2900629	VMT5017 PM 2913360	PPC 5012 28 87 98 8 PPC 5015 28 87 99 1 PPC 5017 28 95 42 0 PPC 5015 1.1 EN 2900687	LCD 5012 28 87 63 2	LCD 5015 28 87 64 5	S-MAX 5012 VLC ²⁾ HMI Options: • Iconics MachineWorX • Citect HMI	S-MAX 5015 VLC ²⁾ HMI Options: • Iconics MachineWorX • Citect HMI
Display	Display diagonal	12.1"	15"	12.1"	15"	17"	19"	15"	-	-	10.4";12.1"	15"	17" widescreen	12.1";15";17"	12.1"	15"	12.1"	15"
	Display resolution	800 x 600	1024 x 768	800 x 600	1024 x 768	1280 x 1024	1280 x 1024	1024 x 768	-	-	800 x 600 800 x 600	1024 x 768	1440 x 900	800 x 600 1024 x 768 1280 x 1024	800 x 600	1024 x 768	800 x 600	1024 x 768
	Touch Screen	S	S	S	S	S	S	S	-	-	S	S	S	S	-	O	S	S
Slots	PCI/ISA slots	1	1	2	2	2	2	3	-	-	-	-	-	-	-	-	-	-
	ISA slots	-	-	-	1	1	1	1	1	1-3	0-1	0-1	-	-	-	-	-	-
Disk drives	CD, CD-RW, DVD-RW	-	-	O	O	O	O	O	-	O ^{h)}	-	-	-	-	-	-	-	-
	Floppy disk drive	-	-	S	S	S	S	S	-	S ^{h)}	-	-	-	-	-	-	-	-
Interfaces	Ethernet	2	2	2	2	2	2	2	2	2	1	1	1	1	-	-	3	3
	Serial	3	3	3	3	3	3	3	3	3	1	1	1	1	-	-	1	1
	USB	3	3	3	3	3	3	3	3	3	2	2	2	2	-	-	2	2
	USB front	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	-	-
	Parallel	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
	Keyboard (PS/2)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Mouse (PS/2)	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
External monitor connection	PhD (DVI and USB)	S	S	S	S	S	S	S	S	S	-	-	-	S	S	S	S	S
	VGA only	-	-	-	-	-	-	-	-	-	-	-	-	-	O	O	-	-
Processor	Celeron M 800 MHz	O	O	O	O	O	O	O	O	O	O	O	O	O	-	-	Celeron M 800 MHz	Celeron M 800 MHz
	Celeron M 1.0 GHz	O	O	O	O	O	O	O	O	O	O	O	O	O	-	-	-	-
	Pentium M 1.1 GHz	O	O	O	O	O	O	O	O	O	O	O	O	O	-	-	-	-
	Pentium M 1.6 GHz	O	O	O	O	O	O	O	O	O	O	O	O	O	-	-	-	-
Memory	RAM (max.)	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	1 GB	-	-	256 MB	256 MB
	Hard disk (max.)	40 GB	40 GB	160 GB	160 GB	160 GB	160 GB	160 GB	40 GB	40 GB / 160 GB ^{h)}	40 GB	40 GB	40 GB	40 GB	-	-	512 MB	512 MB
	Flash disk (max.)	4 GB	4 GB	-	-	-	-	-	4 GB	-	4 GB	4 GB	-	4 GB	-	-	-	-
Fieldbus	INTERBUS	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	-	-	-	-	-	-	-	-	-
	PROFIBUS	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	-	-	-	-	-	-	-	-	-
	DeviceNet™	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	O ¹⁾	-	-	-	-	-	-	-	O	O
	MODBUS TCP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O
	Ethernet IP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O
	PROFINET (in preparation)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O
Operating system	Win 2000, Win XP	O	O	O	O	O	O	O	O	O	O	O	Win XP	O	-	-	-	-
	Win CE, Win XP Emb.	O	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Power supply	110 ... 240 V AC	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	24 V DC	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	10 ... 32 V DC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protection classes	Degree of protection (front)	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP50	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
	Degree of protection (rear)	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP50	IP20	IP65	IP65	IP65	IP20	IP20*	IP65	IP20*	IP65
Installation options		Panel mount	Panel mount	Panel mount	Panel mount	Panel mount	Panel mount	Panel mount	Mounting plate DIN rail	Panel mount Mounting plate	Support bracket left/right Table stand VESA bracket Rittal bracket connection adapter	Support bracket left/right Table stand VESA bracket Rittal bracket connection adapter	Support bracket left/right Table stand VESA bracket Rittal bracket connection adapter	Panel mount	Panel mount*	Panel mount	Panel mount	

Bundled Solutions

A single order number combines a Phoenix Contact Industrial PC, a fieldbus master of your choice, Steeplechase VLC and optional HMI package into a bundled automation solution. These custom units can be tailored to meet your application needs.

Operation & Monitoring included



Panel PC – As a high-end solution, our Panel PCs combine the properties of a powerful industrial PC with operating and monitoring functions. The outstanding features of the devices are the compact design and low installation depth. They can also be used in harsh environmental conditions thanks to the use of aluminum for the solid front panel and the housing. A software keyboard is standard.

Industrial grade with fieldbus controller board



Industrial PCs – The blind-node PCs from Phoenix Contact have a cable-reduced internal design that increases ruggedness and features a new generation of CPUs with reduced current consumption. These new CPUs have a reduced heat dissipation, and certain models eliminate the need for CPU fans. For applications that require the display of machine data, Phoenix Contact offers 12" or 15" panel-mount or direct machine-mount external LCD monitors.

Also suitable for mobile applications



VMT – The Vehicle Mount Terminal (VMT) are IP65-rated direct machine-mount control devices that offer a wide input voltage range from 10V DC to 32V DC. They are perfectly suited for mobile applications as the VMT have no internal fan and are available with optional non-rotating Compact Flash drives. The VMT series is also available with an optional built-in wireless Ethernet card.

Maximum availability in a harsh environment



Thin Client – For remote operation over medium to long distances, our thin clients, based on the embedded operating systems VWindows XP or CE, are just the right solution. The devices in the magnesium die-cast housing have no hard disk, are equipped with a boot operating system and are designed for use in environments subject to high levels of vibration. The scope of performance is rounded off with network monitoring, software, keyboard and terminal emulation.

The powerful all-in-one controller



S-MAX – The S-MAX VLC series combines the reliability of a PLC with the performance of a PC. Options include the choice of two HMI software packages, three screen sizes and fieldbus choices for DeviceNet, Profibus, MODBUS TCP, Profinet and Ethernet IP.

Key

- S = Basic version (standard)
- O = Configurable
- = Not available
- ¹⁾ = Fieldbus possible via PCI/ISA card
- ²⁾ = Requires Steeplechase VLC 7.x for programming
- ³⁾ = Only with IPC 5300 and IPC 5500
- ⁴⁾ = The illustration can vary depending on the configuration