Welcome

Panorama y selección de PPC´s

Panel PC´s

Antonio Gordillo IMA Enero 2021

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Webinars

Agenda

- Panorama de Paneles PC´s
- Tecnologías Touch
- Aplicaciones

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Webinar IMA Enero 2021

Panorama y selección de PPC Panel PC´s

Fecha	**11 Enero 2021**
Hora	9:00
Hora	
Duración	1 hora
Costo	gratuito

Conozca las nuevas PPCs compactas que formarán parte de la gama de Computadoras Industriales PPCs.

Durante la sesión, se revisará el panorama y selección de la oferta actual de Computadoras Industriales denominadas Panel PC´s así como explorar las nuevas computadoras compactas y sus aplicaciones en el ambiente Industrial. Nuevas alternativas de montajes, más opciones de conectividad requeridas y una amplia gama de posibilidades de desempeño serán comentadas durante la sesión.

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HMI & Industrial PCs - Overview

HMI

Visu+ Touch Panel

HTML5 Web Panel

Specialty &
Industry Ready

Industrial PC

Box PCs

Panel PCs

Stand-alone Panel PCs

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HMI and Industrial PCs – Overview

HMI

- Runtime based HMI
- HTML5 Web HMI

Box PC

- Ultra-compact PCs

- Basic Box PCs

- Standard Box PCs

Panel PC

- Basic Panel PCs

- Standard Panel PCs

- Standalone Panel PCs

- Specialty & Industry ready IPC

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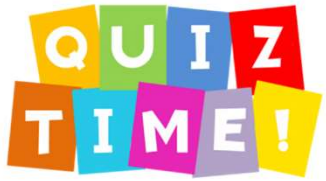
Quiz

What makes an industrial PC *industrial*?



- ✓ Passive cooling
- ✓ 24V DC powered
- ✓ Metal construction
- ✓ Single board computer
- ✓ Embedded system
- ✓ High shock & vibration
- ✓ Wide temperature range
- ✓ Industry relevant approvals / certifications
- ✓ Maintenance friendliness
- ✓ Long product life cycle
- ✓ Mounting options

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Best Practice Industrial PC Design

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Best Practice Industrial PC Design

Flush display front (easy to keep clean)

10 finger multi touch interface for gesture operation

LED backlight for long product life

Glass front surface to reduce scratches

Rugged metal design increases EMC immunity

PCAP touch technology

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Best Practice Industrial PC Design

All interfaces one side
Easy installation

24 VDC Power
No internal power supply

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Single Form Factor
One size across performance classes

Rugged Aluminium housing for mechanical protection

Aluminium housing for excellent EMC protection

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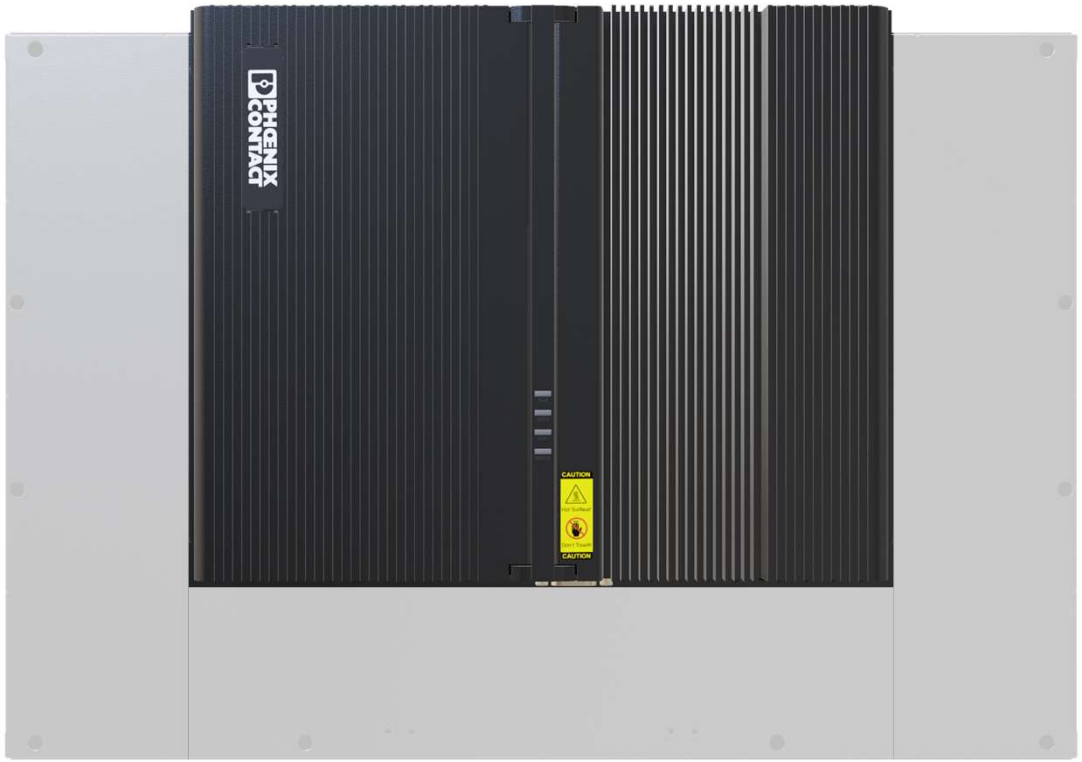

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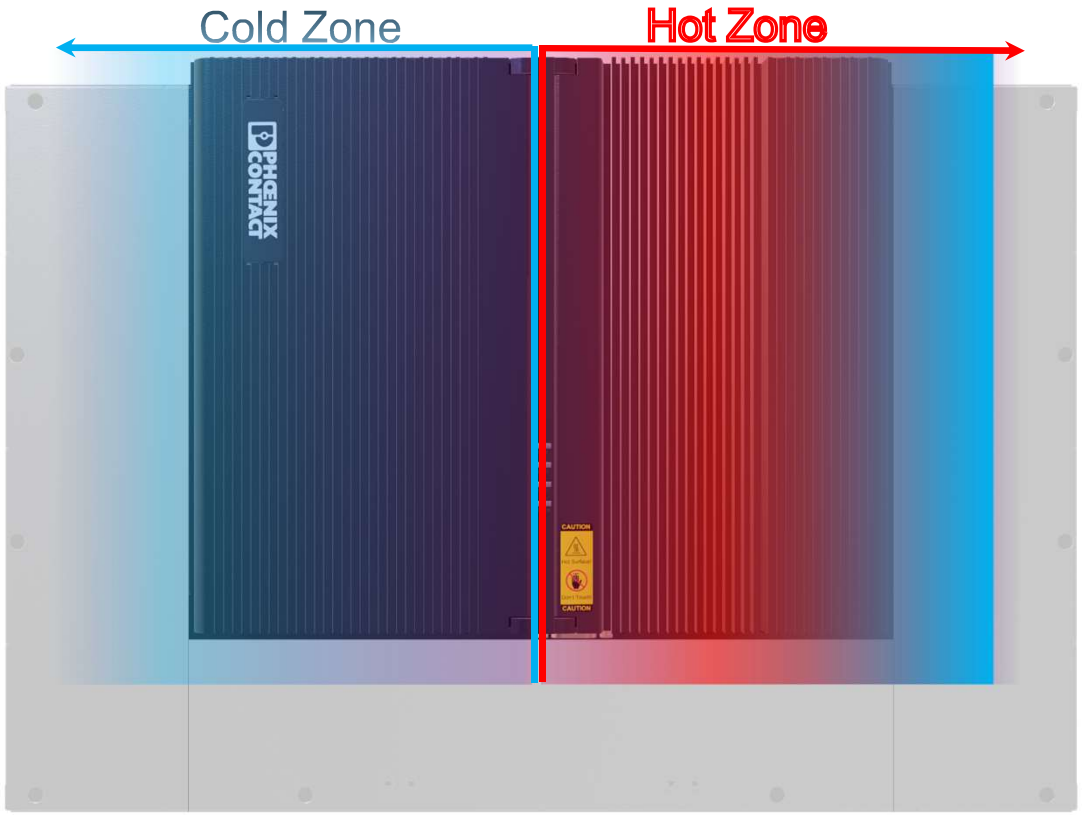

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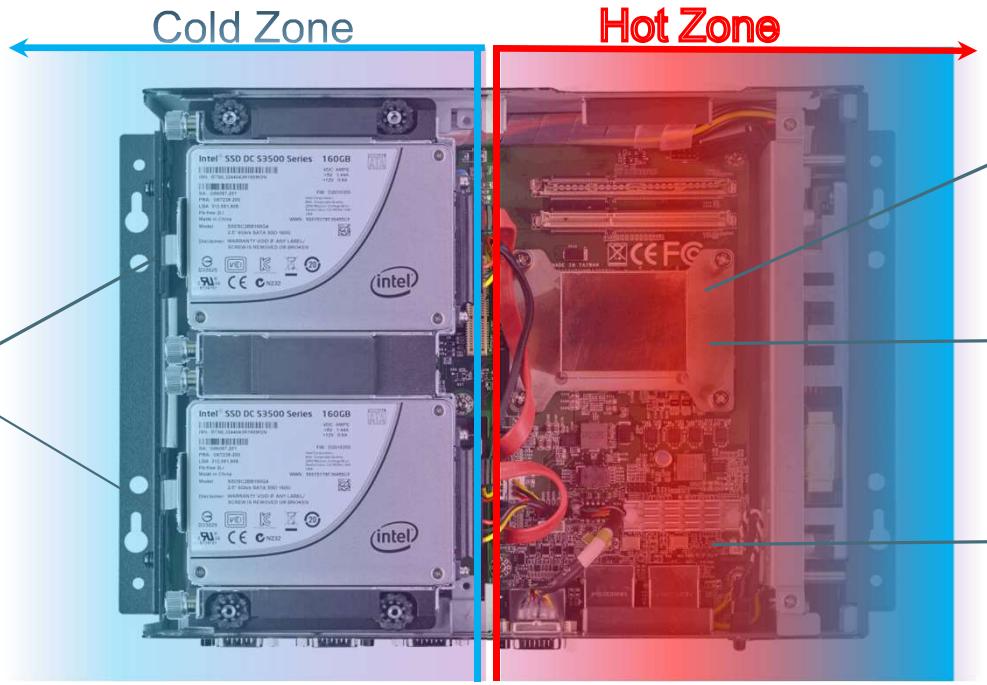
Best Practices in industrial PC design



Industrial storage devices and RAID support
Wide operating temperature, long life and high data availability

Passive Cooling
Intelligent Thermal Design instead of fans

Long term availability
Same form factor, same performance

Industrial components
Intel Ethernet chipset for real-time tasks

Thermal Separation
To keep temperature sensitive components cool

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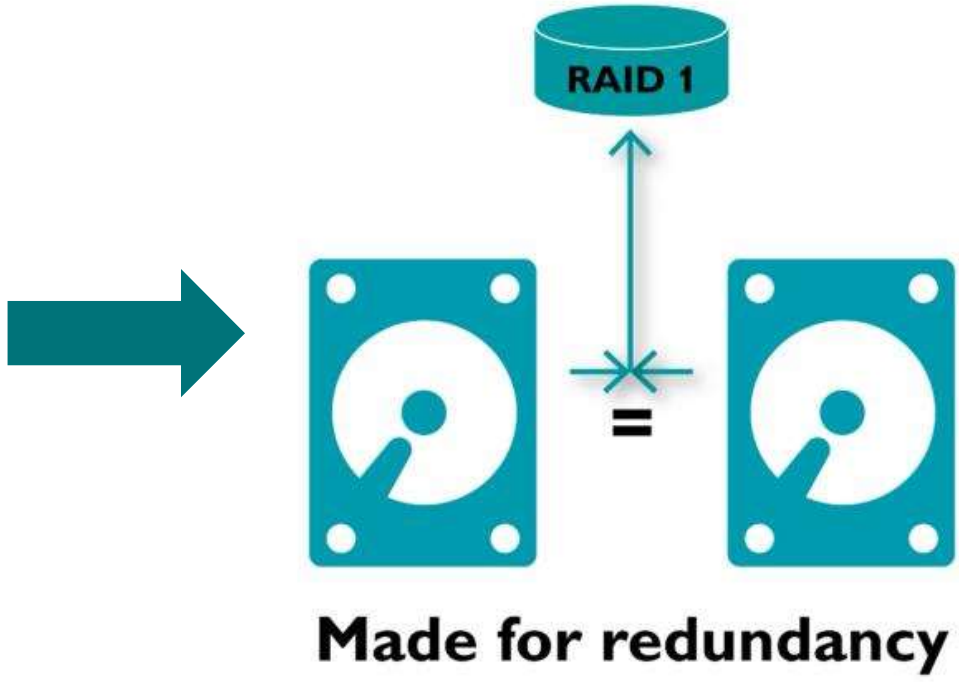
RAID Explained

RAID 0 - Striping
- Made for speed/performance improvement
- Not recommended in industrial environment
  - Reliability is more important than speed

RAID 1 - Mirroring
- **Made for reliability with 2 or more drives**
- **BIOS selectable**
- **Configuration option**

RAID 5 – Parity
- Made for speed and reliability
- Minimum 3 drives needed



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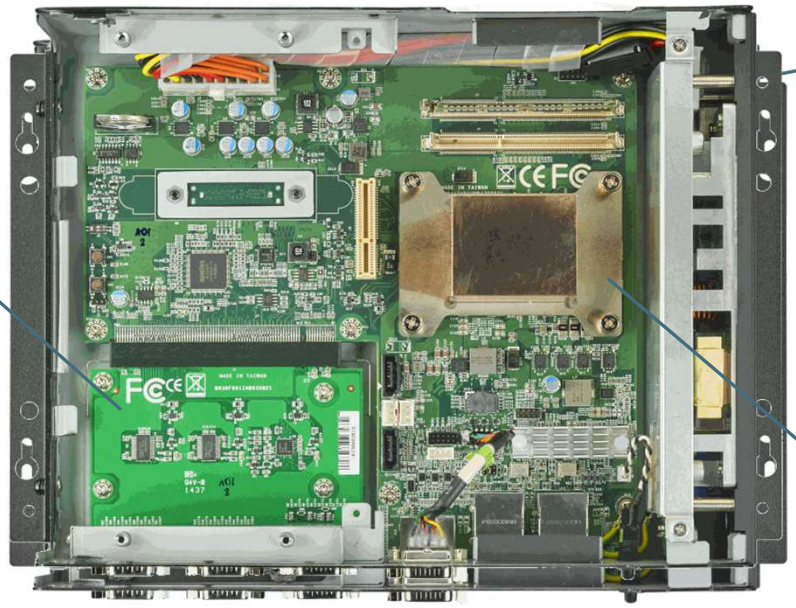
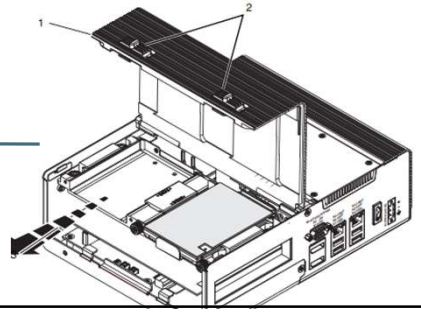
Best Practice Industrial PC Design

Wiring
- Minimized wiring
- Intelligent routed



Accessory Cards
Easy installation of PCI / PCIe card to meet application needs

Industrial Technology
- Powerful
- Energy efficient CPUs



Service Door
Fast & Easy access to change drives and battery

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Product testing

Design verification & Field simulation

Drop & shock

Vibration

Protection Class

Altitude Simulation

Rapid Aging

Temperature

Electromagnetic Noise

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Manufacturing Excellence

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IPC Production network

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Industrial PC Products

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Box PC, Panel PC and Monitor

Box PC

- Intelligent component in Automation without a display to run any application like control system, MES, data acquisition tasks, etc.

Flat Panel Monitor

- Display unit to connect to
  - Box PC
  - Panel PC as additional (secondary) display

Panel PC

- Intelligent component in Automation with a display to run any application like control system, MES, data acquisition tasks, etc.
- Allows connection to additional displays (FPM)

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Panel PCs

Technologies

Single Touch

BL2 PPC 1000
BL2 PPC 2000
BL2 PPC 7000

VL PPC 2000
VL PPC 3000

Multi Touch

BL2 PPC 2100
BL2 PPC 3100
BL2 PPC 7100
BL2 PPC 9100

BL2 PPC15.6 2101
BL2 PPC15.6 3101
BL2 PPC15.6 7101
BL2 PPC15.6 9101

BL2 PPC18.5 2101

BL2 PPC21.5 2101
BL2 PPC21.5 7101

Multi Touch

VL2 PPC 1000
VL2 PPC 2000
VL2 PPC 3000
VL2 PPC 7000
VL2 PPC 9000

VL2 PPC7 1000
VL2 PPC9 1000
VL2 PPC12 1000

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Panel PCs IP 65

Technologies

Single Touch

VMT 9000

Multi Touch

BL2 PPC AIO65 2000
BL2 PPC AIO65 7000

DL PPC15M 2000
DL PPC15M 7000

DL PPC18.5M 7000

DL PPC21.5M 7000

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Panel PCs Ex

Technologies

Multi Touch

VL2 PPC 1000 EX
VL2 PPC 2000 EX
VL2 PPC 3000 EX
VL2 PPC 7000 EX
VL2 PPC 9000 EX

Ask availability and Certificates before Purchasing

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Technologies

Single Touch

HTP10 1000

Multi Touch

ITC 8113

Ask availability and Certificates before Purchasing

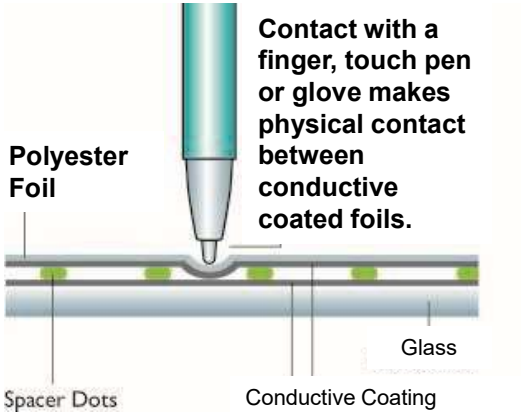
Touch Technologies – (analog) Resistive Touch

Advantages

- ✓ Inexpensive
- ✓ Pressure point sensor (operation with finger, touch pen, glove, etc.)
- ✓ High resolution
- ✓ Energy efficient

Limitations

- ✓ Reduced image transparency (Polyester type)
- ✓ Polyester touch foil is prone to physical damage



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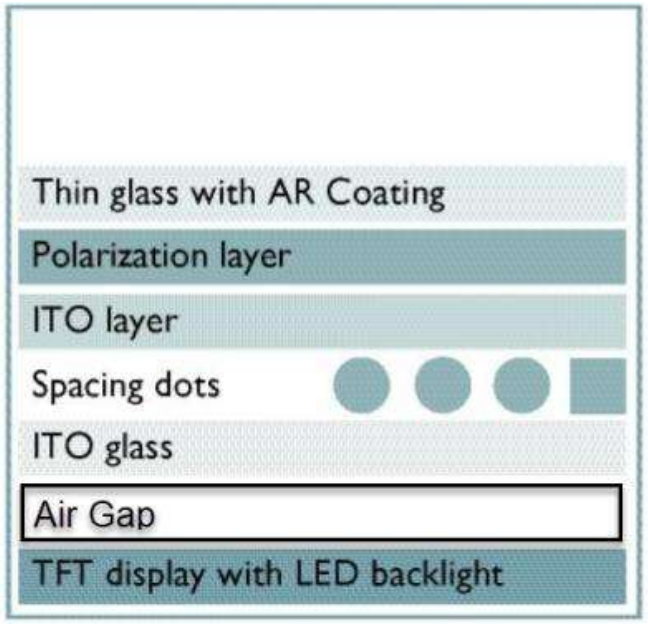
GFG (Glass Film Glass) Touch

Advantages

- ✓ Proven resistive touch technology
- ✓ Pressure point sensor (operation with finger, stencil, glove, etc.)
- ✓ High resolution
- ✓ High chemical resistance
- ✓ Scratch resistant Glass Front Surface
- ✓ Daylight readability

Limitations

- ✓ Higher cost
- ✓ Single-Touch interface
- ✓ Calibration necessary



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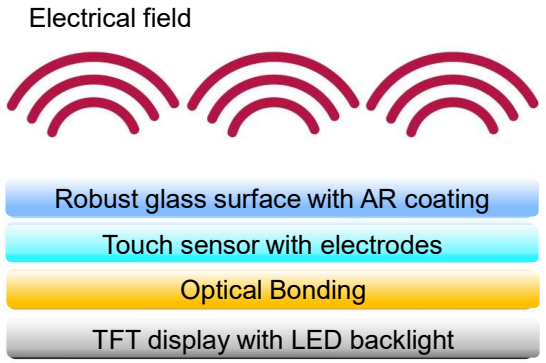
Touch Technologies – (Projected) Capacitive Touch

Advantages

- ✓ High chemical resistance
- ✓ Scratch resistance (sharp objects)
- ✓ Multiple Touch points at the same time possible
- ✓ Modern All Glass Front designs
- ✓ Cleaner design with less pollution surfaces
- ✓ No calibration necessary

Limitations

- ✓ Works only when touched with conductive materials
- ✓ Possible false operation in wet applications
- ✓ Application software needs to be developed for this technology
- ✓ Higher cost



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Demo multitouch presentation

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Touch Technologies

Table

Technology	Analog-resistive touch technology		Capacitive touch technology		Optical touch technology	Acoustic touch technology
Design	Polyester touch structure	Glass-film-glass	Surface-capacitive	Projective-capacitive	Infrared	Surface acoustic wave
Abbreviation	AR touch	GFG	S-CAP	P-CAP	IR touch	SAW
Method of operation	Upon touching the surface, two conductive ITO layers meet, causing a voltage drop (voltage divider).	Polyester film laminated in between two sheets of glass. Same functional principle, but with robust and scratch-proof surface	Touching causes changes in an electric field.	P-CAP uses a sensor pattern. Changes in the electric field are detected individually in each part of the pattern.	Touching interrupts the light beams.	Touching causes partial absorption of the wave energy.
Control mode **• Finger** **• Glove** **• Touch pen**	 Yes Yes Yes	 Yes Yes Yes	 Yes No No	 Yes Yes (with restrictions) No	 Yes Yes Yes	 Yes Yes No

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Touch Technologies

Table

Technology	Analog-resistive touch technology		Capacitive touch technology		Optical touch technology	Acoustic touch technology
Surface material	Polyester	Glass	Glass	Glass	Glass	Glass
Touch operation mode	Single-touch control	Single-touch control	Single-touch control	Multi-touch control	Multi-touch control	Two-touch control
Typing frequency	+	+	+	+++	+	+
Positioning accuracy	++	++	0	+++	0	0
Light permeability	0	0	+	+++	+++	+++

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Touch Technologies

Table

Technology	Analog-resistive touch technology		Capacitive touch technology		Optical touch technology	Acoustic touch technology
Surface hardness (mech. sensitivity)	-	+	---	+++	+	0
Vibration resistance (mech. sensitivity)	+++	+++	+	+++	0	---
Chemical resistance	-	+++	--	+++	+++	+++
EMC sensitivity	+++	+++	---	---	-	+++

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Touch Technologies

Table

Technology	Analog-resistive touch technology		Capacitive touch technology		Optical touch technology	Acoustic touch technology
Sunlight resistance (UV sensitivity)	---	+++	-	+++	+	+++
Outdoor suitability (temperature sensitivity)	0	+++	0	+++	0	0
Dust/water tightness	+++	+++	0	+++	+	-
Gas tightness	+++	+++	-	+++	-	++
Cost efficiency	+++	0	0	++	--	--

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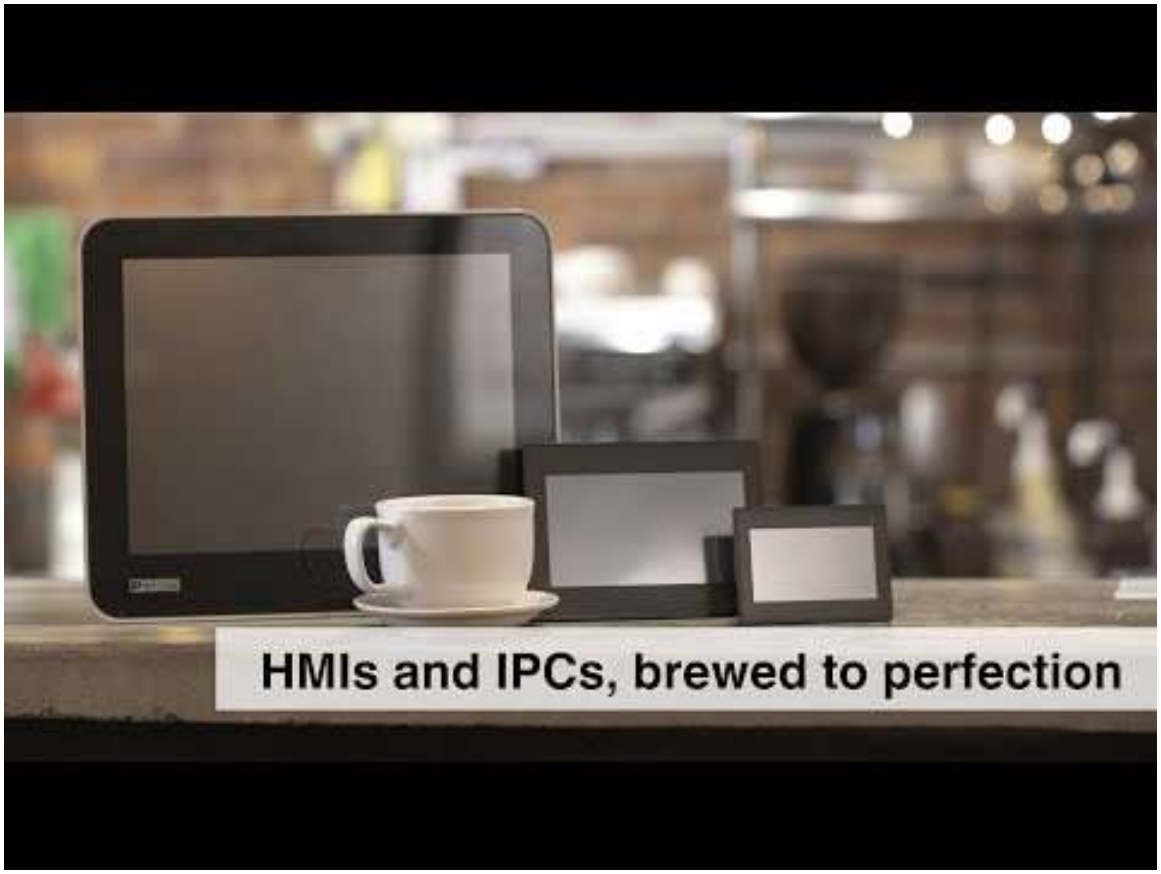
White paper

User study on multitouch in the industrial environment



HMIs and IPCs: The perfect blend for your application

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Panel IPCs & Monitor Solutions

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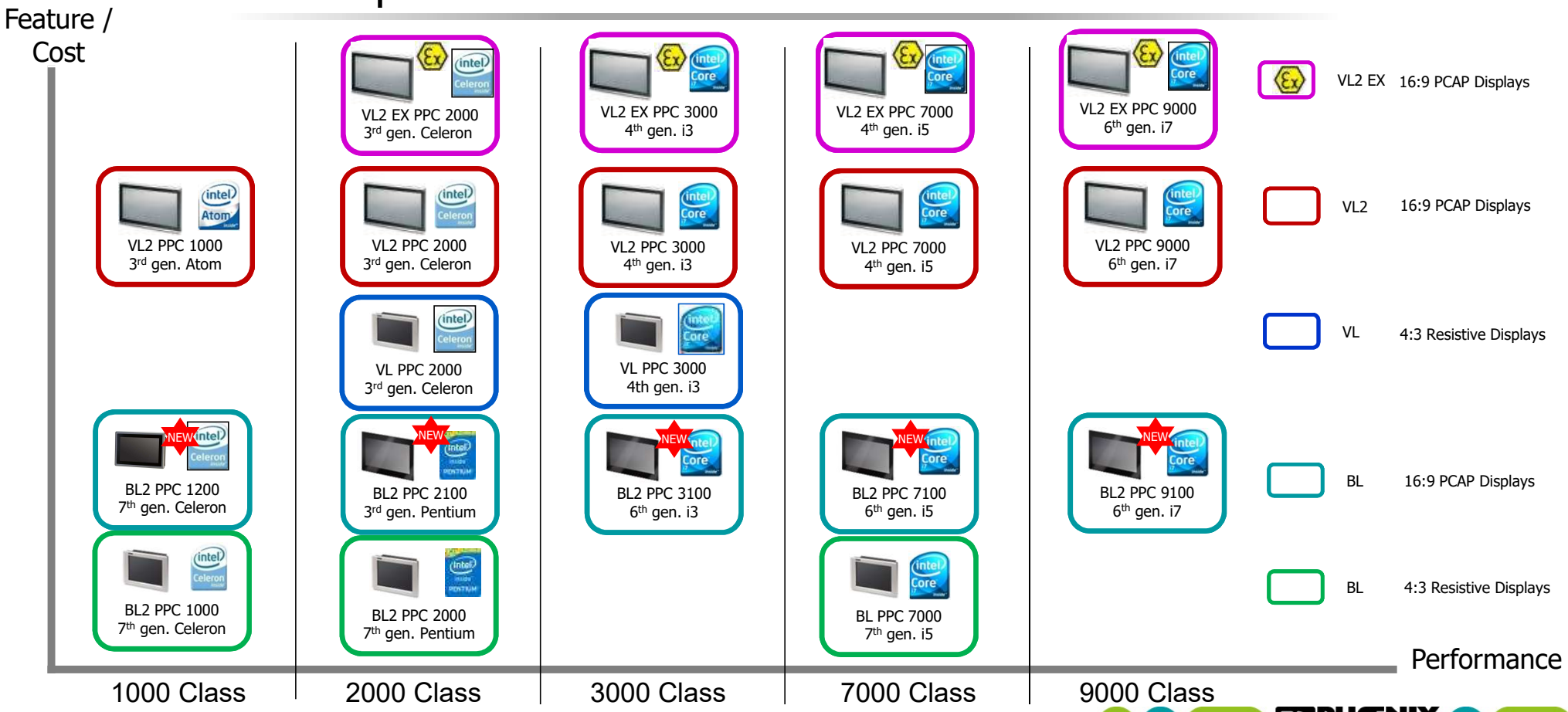
Panel PC Lineup



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Touch Monitors & Display Solutions

- ✓ Industrial design
- ✓ True flat glass front
- ✓ Robust metal base construction
- ✓ Multiple display connectivity options
- ✓ 10 pt. PCAP Multi-Touch

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BL FPM - Flat Panel Monitors

BL FPM 15.6

- 16:9 aspect ratio with 1366 x 768 resolution
- 1x VGA, 1x DVI-I, 1x DP++, 1x USB 1.1\2.0 Type A

BL FPM 18.5

- 16:9 aspect ratio with 1366 x 768 resolution
- 1x VGA, 1x DVI-I, 1x DP++, 1x USB 1.1\2.0 Type A

BL FPM 21.5

- 16:9 aspect ratio with 1920 x 1080 resolution
- 1x VGA, 1x DVI-I, 1x DP++, 1x USB 1.1\2.0 Type A

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Box & Panel PC

LIMITATIONS (max. cable length standards):

- USB cable: 5m
- VGA cable: 5m - 10m, resolution dependent
- DVI cable: 5m - 15m, resolution dependent
- Display Port cable: 5m

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Keyboard Video Mouse Extender

- ✓ Flexible use of displays, up to 90 m away from PC
- ✓ Cost efficient wiring with single cable between TX and RX
- ✓ Increased application reliability with PC in safe location
- ✓ Industrial wide temperature design
- ✓ Fast setup with plug and play technology

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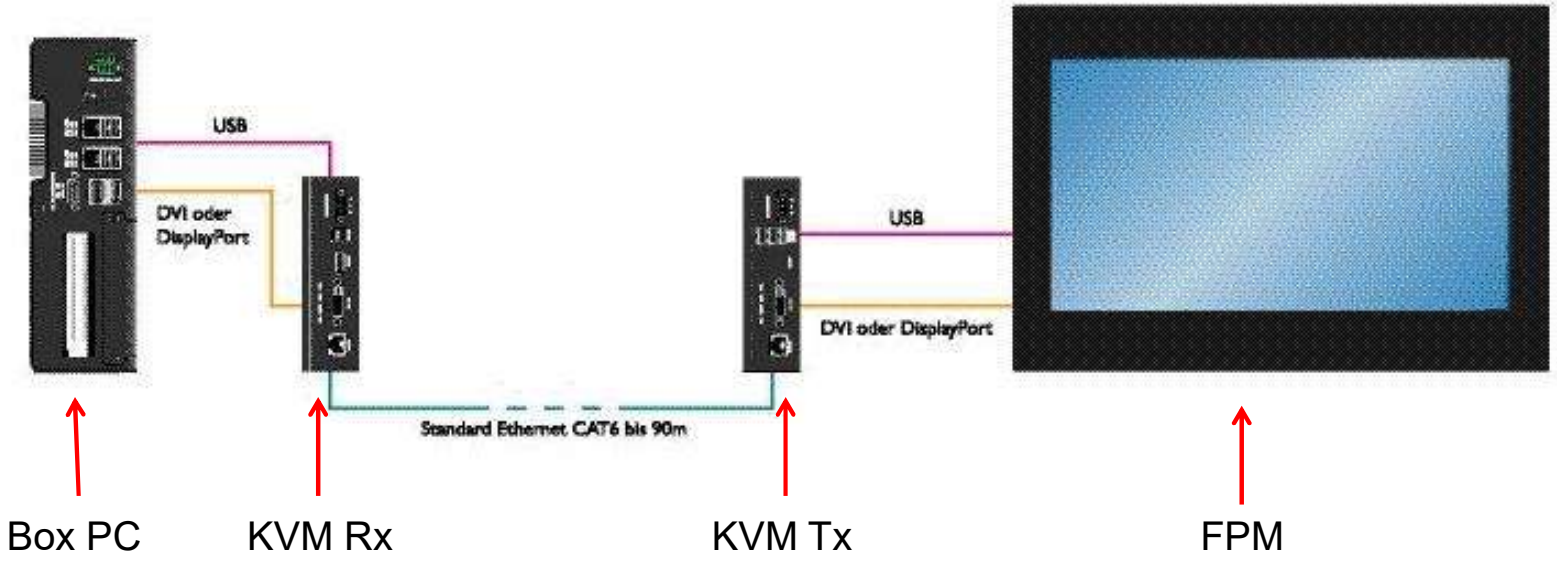
BL KVM Extender 90 m solution



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Remote Monitoring using Portico

BPC

Standard CAT 5 Ethernet

- ✓ Software based solution using standard ethernet cable
- ✓ Unlimited distance, bandwidth dependent
- ✓ Up to 16 simultaneously connected clients
- ✓ Client control arbitration, USB redirection features
- ✓ Portico can be used with all PxC IPC products

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Basic Panel PCs

BL2 PPC

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BL2 PPC xx00 Series

- ✓ Suitable for every system with display sizes from 12" to 17" (4:3) and 15.6” to 21.5” (16:9)
- ✓ Analog Resistive Single-Touch and Projective-Capacitive Multi-Touch available – the right touch for every application
- ✓ The right processor performance for each application
- ✓ Long-term available and energy-efficient Intel® Atom™, Celeron®, Pentium® or Core™ i processors
- ✓ Passive cooling for long product life

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Compact Basic Panel PC – BL2 PPC 1000

- 10 pt. PCAP (Multi-Touch) Panel PCs in 16:9 display aspect ratio
  - ✓ Display sizes 7” and 10”
  - ✓ Expansion option (USB / COM)
  - ✓ Windows 10 IoT
  - ✓ Passive cooled
  - ✓ mSATA mass storage
  - ✓ Panel- and VESA mount

- 7th gen. Intel (Apollo Lake) CPU technology
  - ✓ BL2 PPC 1000 – Intel Celeron N3350 1.1/2.4 GHz (2 core)

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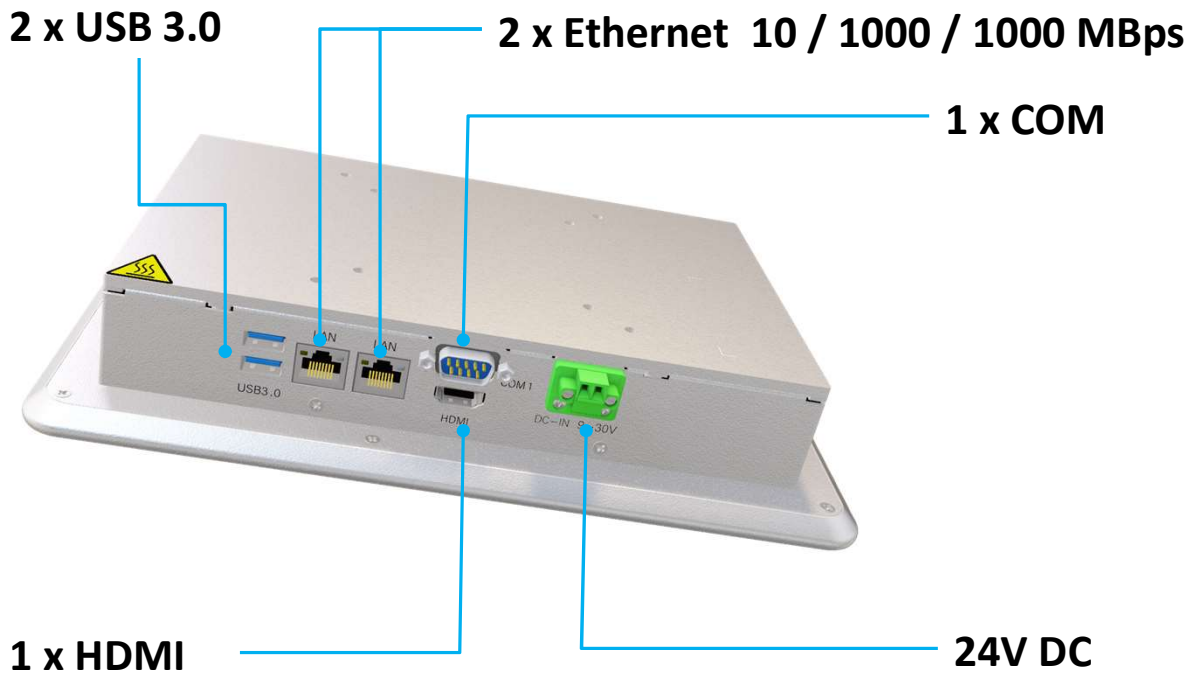
BL2 PPC 1200 – Compact basic panel PC

General technical data

- 7“ and 10“ PCAP multi touch (10 finger)
- Intel Celeron N3350 CPU
- mSATA storage options
- Windows 10 IoT & Linux support
- I/O expansion options
- VESA 75 and panel mount



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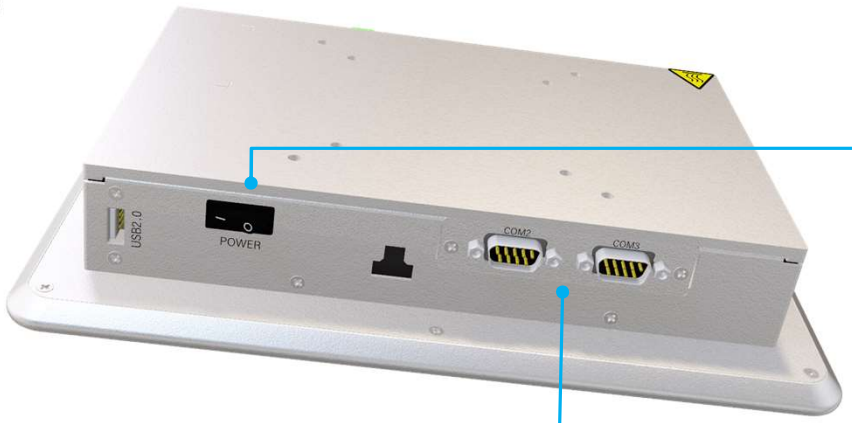

Power button

Expansion slot

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BL2 PPC 1200 – Compact basic panel PC

Value statements

- Compact, elegant all metal design
- Flush IP65 front with 10 pt. PCAP multi touch interface
- Efficient performance with Intel Celeron N3350 CPU
- Interface - rich with additional slot for I/O expansion

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BL2 PPC 1200 – Compact basic panel PC

Target applications

- High-end industrial HMI
- Smart home control panel
- IIoT applications
- Operator panel for smart city applications
- Distributed data collector & processing
- Edge and data driven services
- Machine building operator panel
- Kiosks

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BL2 PPC 1200 – Compact basic panel PC (7”)

	Phoenix Contact BL2 PPC7 1201	Phoenix Contact VL2 PPC 1000		
				
CPU	N3350	E3845	N4200	N2600
Screen	7“ – 16:9 – 2 pt. PCAP	7“ – 16:9 – 10 pt. PCAP	7” PCAP	7” PCAP
List price				
Interfaces	2 x ETH; 2 x USB 2.0; 2x USB 3.0; 2 x COM	2 x ETH; 2 x USB 2.0; 1.x USB 3.0; 1 x COM	2 x ETH; 2 x USB 3.0; 2 x COM	2 x ETH; 2 x USB; 2 x COM, 1 x AUX
Options / Expansions	2 x COM; 2 x USB 2.0; WIFI	2 x COM + 2 x CAN OR 2 x COM	POE; camera; RFID, barcode scanner; LED bar	--
Operating system	Windows 10 IoT	Win 7; Win 10 IoT	Win 10 IoT	Win 7
Operating temp.	0 .. 50C	0 .. 50C	0 .. 40C	0 .. 50C
Power consumption	14.9 W	26.4 W	25W	n/a

BL2 PPC 1200 – Compact basic panel PC (10”)

	Phoenix Contact BL2 PPC10 1201	Phoenix Contact VL2 PPC9 1000			
					
CPU	N3350	E3845	N2930	N4200	N2930
Screen	10“ PCAP – 2 pt.	9“ PCAP – 10 pt.	10” PCAP	10” PCAP – 10pt	10.4” PCAP
List price (standard model)					
Interfaces	2 x ETH; 2 x USB 2.0; 2x USB 3.0; 2 x COM	2 x ETH; 2 x USB 2.0; 1.x USB 3.0; 1 x COM	2 x ETH; 1 x AUX; 1 x USB 2.0; 1 x USB 3.0; 2 x COM	2 x ETH; 4 x USB 3.0; 1 x HDMI,; 1 x VGA; 2 x COM, 8 x DIO	2 x ETH; 2 x USB 2.0; 1 x USB 3.0; 2 x COM
Options / Expansions	2 x COM; 2 x USB 2.0; WIFI	2 x COM + 2 x CAN OR 2 x COM	--	WIFI & Bluetooth	--
Operating system	Windows 10 IoT	Win 7; Win 10 IoT	n/a	Win 10 IoT; Ubuntu	Win 7, Win 10 IoT
Operating temp.	0 .. 50C	0 .. 50C	0 .. 50C	0 .. 50C	0…50C
Power consumption	14.9 W	33.6 W	n/a	40W	16 W

Future 2021 BL2 PPC 1200 – Compact basic panel PC

1139136	**BL2 PPC 1200**	**configuration dependent**
1274012	**BL2 PPC7 1201-4/64/W10** (4 GB RAM, 64 GB SSD, Windows 10 IoT)	
1274014	**BL2 PPC10 1201-4/128-W10** (4 GB RAM, 128 GB SSD, Windows 10 IoT)	

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BL2 PPC 1200 – Compact basic panel PC

Key Take Aways

- Compact form factor to fit into compact cabinets and spaces
- Clean, flush design
- Embedded CPU technology
- Configurable options
- Expandable
- Robust full metal housing for impact protection and EMI
- Competitively priced!

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Basic Panel PC – BL2 PPC x100

- Projected Capacitive (PCAP Multi-Touch) Panel PCs in 16:9 display aspect ratio
  - ✓ Display sizes 15.6”, 18.5” and 21.5”
  - ✓ Expansion option
  - ✓ Windows 7 & Windows 10 IoT
  - ✓ Passive cooled
  - ✓ VESA or panel mount
  - ✓ M.2 and 2.5” SATA mass storage

- 6th gen. Intel (Apollo Lake) CPU technology
  - ✓ BL2 PPC 2100 – Intel Pentium N4200 1.1/2.5 GHz (4 core)
  - ✓ BL2 PPC 3100 – Intel Core i3-6100U 2.3 GHz (2 core)
  - ✓ BL2 PPC 7100 – Intel Core i5-6300U 2.4 GHz (2 core)
  - ✓ BL2 PPC 9100 – Intel Core i7-6600U 2.6 GHz (2 core)

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Basic Panel PC – BL2 PPC x000

- Analog resistive (Single-Touch) Panel PCs in 4:3 display aspect ratio
  - ✓ Display sizes 12”, 15” and 17”
  - ✓ Expansion option (WIFI)
  - ✓ Windows 10 IoT
  - ✓ Passive cooled
  - ✓ VESA or panel mount
  - ✓ M.2 SATA mass storage

- 7th gen. Intel (Apollo Lake) CPU technology
  - ✓ BL2 PPC 1000 – Intel Celeron N3350 1.1/2.4 GHz (2 core)
  - ✓ BL2 PPC 2000 – Intel Pentium N4200 1.1/2.5 GHz (4 core)
  - ✓ BL2 PPC 7000 – Intel Core i5-7442EQ 2.1/2.9 GHz (4 core)

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Standard Panel PCs

VL2 PPC

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Standard resistive panel PCs – VL PPC Series

- ✓ Suitable for every application with display sizes from 12” to 18.5” in 4:3 (non-widescreen) and 16:9 (widescreen) format
- ✓ Analog Resistive Single-Touch
- ✓ Scalable processor performance for each application
- ✓ Passive cooling for long product life
- ✓ Easy serviceability with easily accessible components

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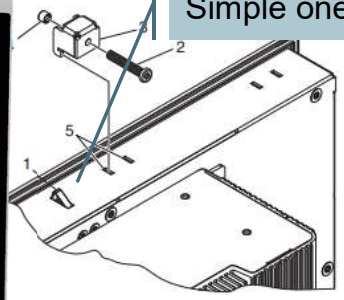
Standard Capacitive Touch Panel PCs – VL2 PPC Series

Display variety
7” to 21.5” screen sizes

Modern Design
- Small bezel frame
- No logo
- Anti-glare

User-Interface
- PCAP Multi-Touch interface
- Glass front



Installation
Simple one-man installation

Higher Protection Class
IP66

Wide Operating Temperature
-20°C ... up to 65°C (SSD media)

reddot award
product design

PHOENIX CONTACT
INSPIRING INNOVATIONS

Standard Capacitive Touch Panel PCs – VL2 PPC Series

- Projected Capacitive (PCAP Multi-Touch) Panel PCs in 16:9 display aspect ratio
  - ✓ Display sizes 7” to 21.5”
  - ✓ Expansion options (PCI & Option card)
  - ✓ Windows 7 & Windows 10 IoT
  - ✓ Passive cooled & Thermal barrier
  - ✓ 2.5” HDD & SSD SATA mass storage
  - ✓ VESA or panel mount

- Intel CPU technology
  - ✓ VL2 BPC 1000 – 3rd gen. (Bay Trail) E3845 1.91 GHz (4 core)
  - ✓ VL2 BPC 2000 – 3rd gen. (Bay Trail) N2930 1.6 GHz (4 core)
  - ✓ VL2 BPC 3000 – 4th gen. (Haswell) Core i3-4010U 1.7 GHz (2 core)
  - ✓ VL2 BPC 7000 – 4th gen. (Haswell) Core i5-4300U 2.4 GHz (2 core)
  - ✓ VL2 BPC 9000 – 6th gen. (Sky Lake) Core i7-6822 EQ 2 GHz (4 core)

PHOENIX CONTACT
INSPIRING INNOVATIONS

Standard Capacitive Touch Panel PCs – VL2 PPC Series

7” Wide Screen 10 pt. PCAP Touch, 800 x 480 resolution

9” Wide Screen 10 pt. PCAP Touch, 800 x 480 resolution

12.1” Wide Screen 10 pt. PCAP Touch, 1366 x 768 resolution

15.6” Wide Screen 10 pt. PCAP Touch, 1366 x 768 or Full HD resolution

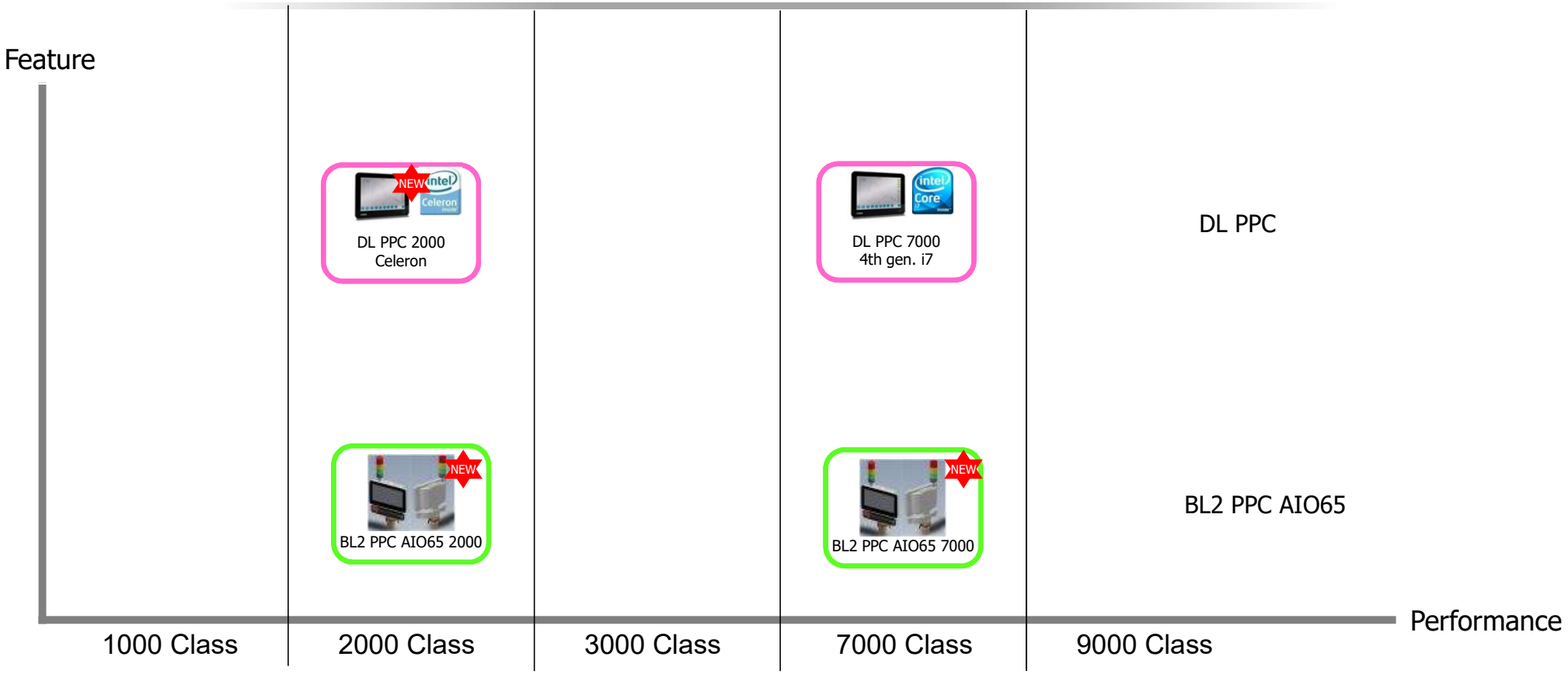
18.5” Wide Screen 10 pt. PCAP Touch, 1366 x 768 or Full HD resolution

21.5” Wide Screen 10 pt. PCAP Touch, 1920 x 1080 (Full HD) resolution

PHOENIX CONTACT
INSPIRING INNOVATIONS

All-in-one and all-round IP65 protected panel PCs

All-in-one and all-round IP65 protected Panel PCs



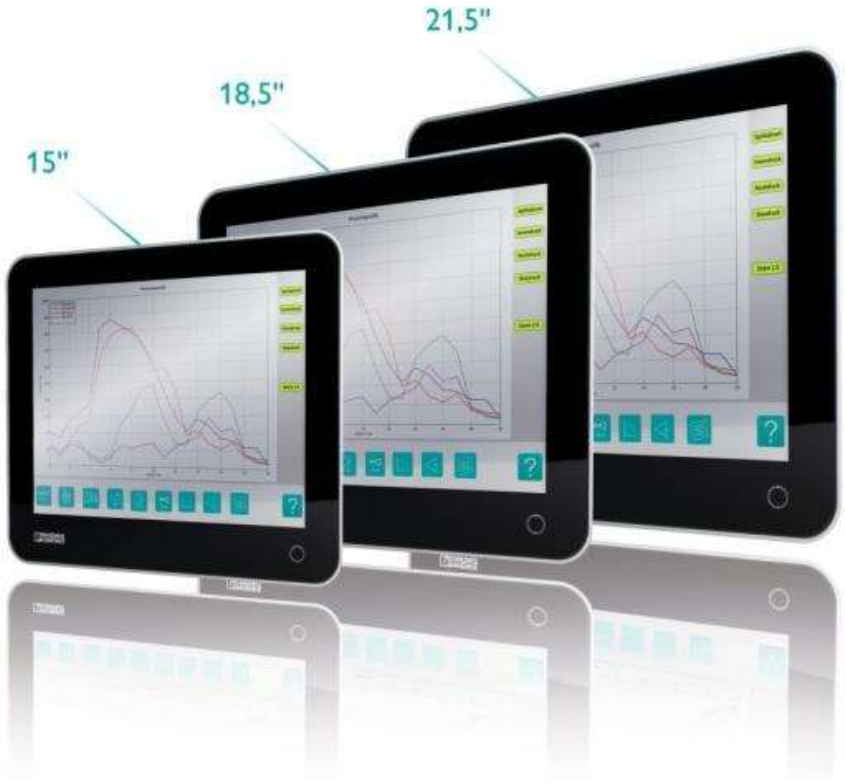
PHOENIX CONTACT
INSPIRING INNOVATIONS

Evolution in Cabinet Design

INSPIRING INNOVATIONS

All-in-one panel PC - DL PPC Series

- ✓ Attractive, modern industrial design
- ✓ PCAP Multi-Touch allows intuitive gesture control
- ✓ Wide operating temperature range
- ✓ High Performance, passive cooled Intel® Core™ i7 processor
- ✓ Space saving on factory floor without need for cabinet and just 60 mm system depth
- ✓ Easy maintenance with easily accessible parts



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INSPIRING INNOVATIONS

All-in-one panel PC - DL PPC Series

- All-round IP65 protected Projected Capacitive (PCAP Multi-Touch) Panel PCs in

  - ✓ Display sizes 15”, 18.5” and 21.5”
  - ✓ Expansion options (mPCIe)
  - ✓ Windows 7 & Windows 10 IoT
  - ✓ Passive cooled
  - ✓ VESA mount or arm adapter
  - ✓ 2.5” HDD & SSD SATA mass storage

- Intel CPU technology
  - ✓ DL PPC 2000 – 3rd gen. Celeron 2980U (2 core)
  - ✓ DL PPC 7000 – 4th gen. Core i7-4650 1.71 GHz (4 core)

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INSPIRING INNOVATIONS

All-in-one panel PC - DL PPC Series

Easy maintenance
Service door (HDD/CMOS)

Easily accessible
IP65 protected interfaces

Intuitive gesture control
Projected Capacitive Touch

Attractive design
60 mm panel depth

Easy setup and service
External IP65-rated USB port

Convenient operation
integrated function key

PHOENIX CONTACT
INSPIRING INNOVATIONS

Basic all-in-one and all-round IP65 protected panel PC BL2 PPC

PHOENIX CONTACT
INSPIRING INNOVATIONS

Basic all-in-one and all-round IP65 protected panel PC BL2 PPC

Benefits

- ✓ All-around IP65 protection without the need for a cabinet
- ✓ Attractive, modern industrial design
- ✓ Scalable processor performance
- ✓ Easy installation and various mounting options
- ✓ Push button box and stack light accessories

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INSPIRING INNOVATIONS

Basic all-in-one panel PC – BL2 PPC AIO65 Series

- Two performance level options
  - 2000 class (Pentium N4200)
  - 7000 class (Core i5-7442EQ)
- Three display size options
  - 15.6”, 18.5” or 21.5” (Full HD)
  - 10-point PCAP touch
  - Glove operation
- Windows 10 IoT support

Configuration options

- AIO65 – VESA
- AIO65 – Pole mount

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INSPIRING INNOVATIONS

BL2 PPC AIO65 2000

The BL2 PPC AIO65 IPC is fully enclosed IP65 IPC with display that utilizes the Intel® processors chosen for their balance of processing power, graphic performance, and energy efficiency.

The robust design with arm or pole mounting options and I/O capability make the BL2 PPC AIO65 a product that can be used in a wide variety of applications.

IP65	**VESA, pole or arm**
Multitouch	**Rugged**
Widescreen display	**Configurable**
15.6” 18.5”	

1138366 BL2 PPC AIO65 2000

Intel® Pentium® N4200 processor 1.10/2.50 GHz
Up to 8 GB RAM Up to 960 GB mSATA

PHOENIX CONTACT
INSPIRING INNOVATIONS

BL2 PPC AIO65 7000

The BL2 PPC AIO65 IPC is fully enclosed IP65 IPC with display that utilizes the Intel® processors chosen for their balance of processing power, graphic performance, and energy efficiency.

The robust design with arm or pole mounting options and I/O capability make the BL2 PPC AIO65 a product that can be used in a wide variety of applications.

IP65	**VESA, pole or arm**
Multitouch	**Rugged**
Widescreen display	**Configurable**
15.6” 18.5”	

1138367 BL2 PPC AIO65 7000

Intel® Core™ i5-7442EQ processor 2.10/2.90 GHz

Up to 16 GB RAM Up to 960 GB mSATA

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Flexible installation

VESA configuration	Pole mount configuration	Support arm configuration
		
▪ VESA 100 mounting pattern ▪ 3 dual cable entry ▪ Rubber grommets ▪ **External cable routing**	▪ For 48mm standard, Bernstein- Pole or Rittal-Pole ▪ Cable entry through pole ▪ **Internal cable routing**	▪ For 48mm standard, Bernstein-Pole or Rittal-Pole ▪ Cable entry through pole ▪ **Internal cable routing**

Comparison DL PPC & BL2 PPC AIO65

DL PPC	BL2 PPC AIO65
1. 3 screen sizes 15”, 18.5”, 21.5” PCAP	1. 3 screen sizes 15.6”, 18.5”, 21.5” PCAP
2. 2 performance classes	2. 2 performance classes
a) Intel Celeron 2980U (Passmark 1593)	a) Intel Pentium N4200 (Passmark 2026)
b) Intel Core i7 4650U (Passmark 3963)	b) Intel Core i5 7442EQ (Passmark 6262)
3. 2.5” SSD / HDD mass storage	3. M.2 SSD mass storage
4. Configuration up to 12 GB DDR3 RAM	4. AIO65 2000 class: 8 GB DDR3 RAM AIO65 7000 class: 8 to 16 GB DDR4 RAM
5. mPCIe slot	5. Windows 10
6. Windows 7 & Windows 10	6. Modular design
7. Monolithic design	7. Push button box accessory (pole mount version)
8. Configurable front button	8. Stack light accessory (pole mount version)
9. External USB	9. VESA and pole /swing arm mount
10. VESA and Arm mount	10. Temp range 0…45°C
11. Temp range 0…45°C	11. Approvals CE, UL
12. Approvals CE, UL	

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All-in-one panel PC applications

Machine control

Quality assurance

Worker guidance

Data collection

Process visualization

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Specialty and Industry Ready Panel PCs

- ✓ Suitable for outdoor applications with sunlight readable display option
- ✓ UV and IR resistance
- ✓ Corrosion resistant materials (i.e. salt spray test)
- ✓ Rugged, passive cooled design with wide operating temperature components
- ✓ Usable with work gloves

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Box and panel PCs for hazardous locations - VL2 EX Series

- Complete range of fully configurable Box PCs
  - ✓ Passive cooled
  - ✓ Windows 7 & Windows 10 IoT
  - ✓ Expansion options
  - ✓ Box PC and PCAP panel PPCs
  - ✓ Designed for Oil & Gas
  - ✓ Unique part numbers
  - ✓ Thicker front glass
  - ✓ Triple HAZLOC
- Performance Classes
  - ✓ VL2 BPC 1000 – Intel Atom E3845 1.91 GHz (4 core)
  - ✓ VL2 BPC 2000 – Intel Celeron N2930 1.6 GHz (4 core)
  - ✓ VL2 BPC 3000 – Intel Core i3-4010U 1.7 GHz (2 core)
  - ✓ VL2 BPC 7000 – Intel Core i5-4300U 1.9 GHz (2 core)
  - ✓ VL2 BPC 9000 – Intel Core i7-6822 EQ 2 GHz (4 core)

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Box and panel PCs for hazardous locations - VL2 EX Series

- Enhanced approvals
  - ✓ BPC: Class I Div 2, ATEX Zone 2 and IECex Zone 2
  - ✓ PPC: Class I Div 2, ATEX Zone2/22 and IECex Zone2/22
    - ✓ NOTE: Not approved for C2D2 combustible dust!

- Changes from standard “VL2”
  - ✓ Unique “EX” part numbers
  - ✓ Component based system enhancements
  - ✓ Thicker front glass with higher impact resistance
  - ✓ Does not replace the “standard” VL2

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INSPIRING INNOVATIONS

Panel PCs for harsh environments – VL2 PPC 1000

Corrosion resistant design
- Housing, surfaces and components.

Outdoor installation possible
- Wide operating temperature (-20°C to +70°C)
- UV and IR protection

Sunlight readable displays
- GFG (Glass-Film-Glass), low reflective
- PCAP low reflective

Glass front surface
- Scratch resistant
- Higher impact resistance

Panel PCs for mobile applications – VMT 9000

- Fully enclosed, fanless IP66 outdoor rated Panel PCs
  - ✓ 4:3 Display sizes 10”, 12” and 15”
  - ✓ 16:9 Display size 12.1”
  - ✓ Sunlight readable
  - ✓ 4 configurable front buttons
  - ✓ Optional WIFI and LTE/GPS
  - ✓ Passive cooled
  - ✓ Impact resistant screen
  - ✓ -30°C to +60°C
  - ✓ 9V to 30VDC operation
  - ✓ UL ord. loc.

- Performance class
  - ✓ VMT 9000 – Atom x7-E3950 2.0 GHz

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Rugged HMI & IPC – Applications

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Tethered robot & machine teach-panels – HTP10 1000

- ✓ Hand-held operator panel with software for on-site visualization, or multi-user operation
- ✓ Rugged design for high shock resistance
- ✓ All-round protection (IP65)
- ✓ Ergonomic design
- ✓ Simple and intuitive operation
- ✓ Integrated safety function

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Tethered robot & machine teach-panels – HTP10 1000

- Hand-held operator panel with software for on-site visualization or multi-user operation
- 16:9 display aspect ratio

  - ✓ 10.1” Wide Screen Display
  - ✓ Mobile (tethered) panel operation
  - ✓ Ergonomic design
  - ✓ Windows 10 IoT
  - ✓ Passive cooled
  - ✓ Multiple accessories available
  - ✓ Integrated safety
  - ✓ Software flexibility

- Intel CPU technology

  - ✓ HTP10-1000 – 3rd gen. (Bay Trail) E3815 1.46 GHz (1 core)

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IPC Applications

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Basic industrial panel PC application

Printing / cutting machinery

Application
- ✓Print & Cutting Machines

IPC Model
- ✓ BL BPC 2000
- ✓ BL FPM

Winning factors
- ✓ Esthetics of BL FPM (clean, flush design)
- ✓ Competitive combination of BL BPC & BL FPM

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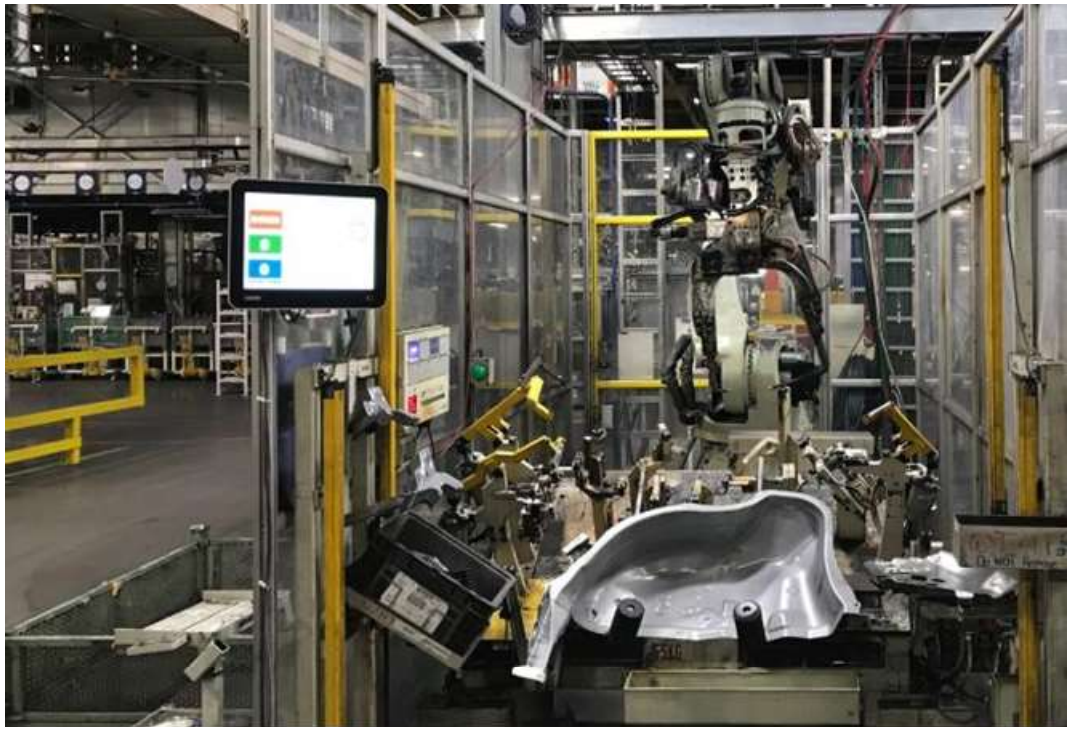
All-in-one panel PC application

Automotive

Application/Industry
- Welding robot control

IPC Model
- DL PPC15M 2000

Winning factors
- Custom part number
- Rugged design
- Space savings



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All-in-one panel PC application

Total plant management system

IPC Model
- ✓ DL PPC21.5 7000

Competiton
- ✓ N/A

Winning factors
- ✓ Modern, ergonomic design
- ✓ All-round IP65 protection
- ✓ Robust construction needed in harsh environment
- ✓ Easily serviceable
- ✓ VESA mount

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HazLoc industrial panel PC application

Process industry

Application/Industry
- ✓ Control systems for process

✓ IPC Model
- ✓ VL2 PPC EX 9000

✓ Winning factors
- ✓ Custom part number
- ✓ Custom software image
- ✓ Global support

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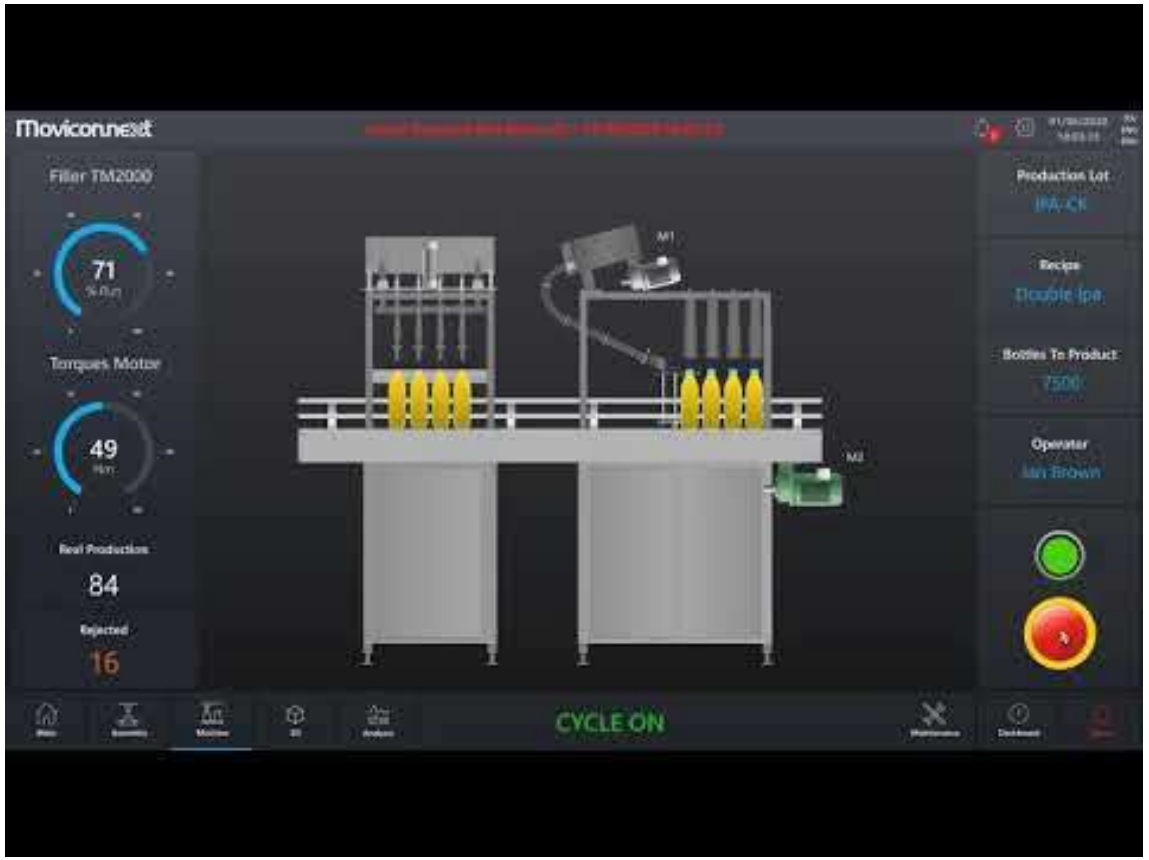
PPC

Phoenix Contact



Demo Manufacturing - Machines Movicon.NExT 4.0 Designline

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Webinar IMA 2020

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