PC and panel systems
Scalable. Rugged. Powerful.

PERFECTION IN AUTOMATION
A MEMBER OF THE ABB GROUP

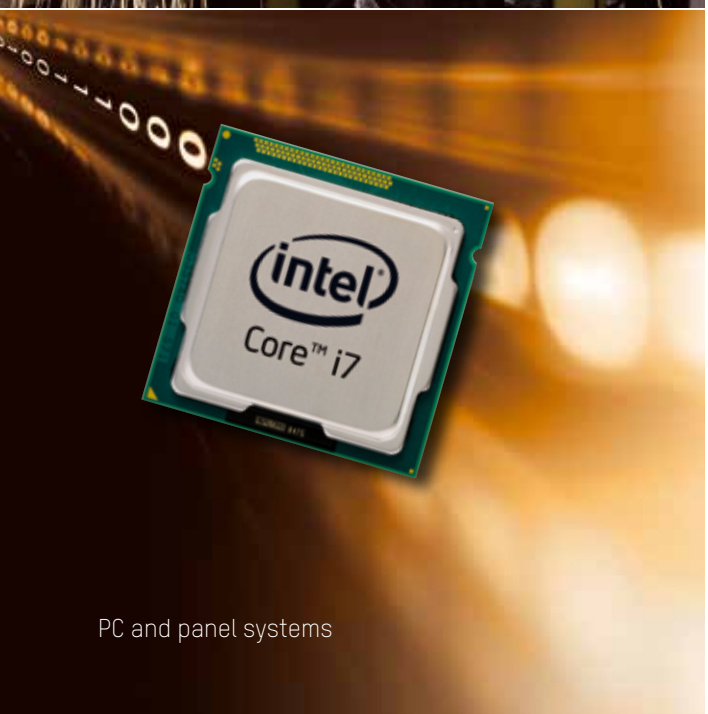
PC technology – Made by B&R

Scalable.

B&R systems adapt flexibly
to any requirement.

Rugged.

Uncompromising quality for long-term
operation in harsh industrial environments.



Powerful.

The absolute highest performance classes
with Intel processors: Core i3 / i5 / i7 / Xeon.

Compact power
High-performance graphics
Fanless operation

Your bonus package

PC and panel systems from B&R are designed and built to meet industrial customers' demands for maximum robustness, reliability and long-term availability.

Decision-makers in a wide range of industries select B&R industrial PCs because they know that, while other options may appear cheap at first glance, they can be the most expensive in the long run. The uncompromising quality of B&R PCs and panels ensures many years of trouble-free operation, even in the harshest industrial conditions. "Made by B&R" represents the highest standards in development and production – from circuit board engineering to logistics for replacement parts.

Powerful
Automation PC and Panel PC systems from B&R pack plenty of power. Using the latest technology, including the latest generation of Intel Core i-series processors, the Automation PC 910 and Panel PC 900 are the perfect choice for mastering highly demanding applications. USB 3.0 interfaces provide the optimal connection for integrating machine vision systems. And there are the obvious cost advantages of replacing several weaker PCs with a single high-performance

The advantages

- → Powerful
- → Energy efficient
- → Rugged
- → Reliable
- → Customized
- → Ready to use
- → Long-term availability

unit. Based on the latest Intel Atom technology, the Automation PC 2200 and Panel PC 2200 deliver performance up to the Core i-series range in a compact housing. For mid-range performance requirements B&R also offers the new Automation PC 3100 and Panel PC 3100.

Energy efficient
Another advantage of the latest generation Core i-series and Atom technology is that it manages to significantly increase performance while lowering power consumption – delivering maximized energy efficiency and virtually eliminating the need for internal fans. The Automation PC 2200/3100 and Panel PC 2200/3100 feature passive cooling as standard.

Rugged
The robust design of the Automation and Panel PCs is perfectly suited for operation in the harshest environments – even continuous 24-hour operation is no problem for these workhorses. Many variants of the PC systems have no internal cable connections whatsoever, let alone rotating parts.

Reliable
Each PC and panel undergoes comprehensive function testing prior to shipping. All system properties and interfaces are fully inspected. After years of reliable operation, your bottom line will notice the difference.

Customized
Automation PCs can be adapted perfectly to each application's unique requirements. This starts by selecting the necessary processor performance and housing size from within the series and then scaling everything else – memory capacity and storage media such as CFast, HDD or SSD, for example – as needed.

Ready to use
B&R industrial PCs are delivered completely ready to use. OEM machine builders can have the Automation PC sent directly to their panel maker with all software fully installed. Upon request, B&R can freeze versions of BIOS and firmware for guaranteed long-term consistency – a huge advantage for individually certified machines and systems.

Long-term availability
Both the Automation PCs and Panel PCs offer long-term availability. Once integrated into a machine, they require no additional maintenance from the machine builder. The machine enters series production and can continue to be manufactured for over a decade.

Cool design for maximum performance

Fanless operation that meets the highest demands
Many variants of the Automation PCs and Panel PCs provide the option of operation without the use of fans. When this feature is combined with CFast cards and SSDs, these PC systems are completely free of rotating parts – a huge advantage when it comes to maintenance-free operation.

The cooling system ensures optimal heat transfer out of the housing. To maximize convection for fanless operation, the heat sink design was optimized through an extensive evaluation process using simulated models.

On high-end systems with fans, air current is directed through the integrated cooling fins. As processors shrink in size, heat is generated on a smaller and smaller surface area. To deal with this, heat pipes are the best way to provide optimal heat dissipation.

Optimized air circulation
The honeycomb openings on the housing panels provide the perfect combination of air circulation and structural rigidity. Atom, Celeron and select Core i-series processors are able to operate without fans. Yet even without fans, Automation PCs are able to achieve performance results that previous PC generations required fans to achieve. In the high-end range, quad-core processors can be used with fan cooling to achieve performance values that not too long ago would have been inconceivable for such a compact form factor.

Maximum reliability

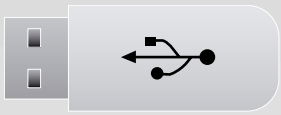
Automation PCs are designed and built for continuous operation in harsh industrial environments over a period of many years. They are encased in a robust welded housing that shields the electronics from the external environment.

A heavy-duty industrial coating protects the housing against aggressive conditions and keeps the Automation PC looking new, even after years of use. Circuit boards are connected using screw-in connectors, with extra resistance to vibration and shock provided by the elimination of all internal cable connections.

The Automation PC was developed with a special focus on providing fanless operation over a broad range of performance levels. Replacing hard disks with SSDs results in a PC with no rotating parts at all. Maintenance tasks such as regularly changing out fan filters have been completely eliminated.

In fact, all components have been selected with maximum reliability in mind. These components have been designed specifically for use in industrial environments, can withstand high ambient temperatures and enjoy long-term availability.

Comprehensive system diagnostics with the HMI Service Center



Industrial PCs from B&R have always offered extensive system diagnostics that go above and beyond those of a standard PC. Not only is it possible to read information like serial numbers and part numbers, but also statistical data like power-on cycles and temperature sensor values. This data is managed by the specially developed Maintenance Controller. Users benefit from maximum system transparency.

To offer optimum support whenever service is required, all informational and diagnostics features will be provided via the newly developed HMI Service Center. It could hardly be easier to use: Simply start the Automation PC or Panel PC with the USB flash drive inserted. This automatically boots the embedded operating system on the drive. The clearly structured user interface that appears provides access to all the necessary information and additional diagnostics features.

	Function
Battery	Feedback regarding battery status
BIOS	Read/write the BIOS version
Buzzer	Test the PC buzzer
COM	Test the serial interfaces on the PC and interface options
Device information	Factory settings Model numbers and serial numbers of the PC and connected Automation Panel
Fan	Speed Status Log entries for all available fans Fan test
Firmware	Firmware versions of the PC and connected Automation Panel
Key	Test the PC buttons and optional buttons on panel
LED	Test the LEDs on the PC and panel
Network	Configure and test the Ethernet interfaces
RAM	Read the size and factory settings Test memory with test patterns
SRAM	Read Device ID Check firmware version
Statistics	Power-on cycles Hours of operation
Storage	Model number and serial number Firmware version Location of installation SMART values
Temperature	Status and log entries for all temperature sensors Alarm for limit value violation including time period of occurrence
Touch screen	Test connected touch screen
UPS	Read voltage statistics UPS status UPS tests
USB	Test the USB interfaces on the PC and connected panels

Industrial PC production
Efficiency down to batch size 1

B&R's industrial PCs come from a completely connected factory, where a batch of one is just as efficient to produce as a batch of a thousand.

Each PC is configured according to the requirements of its intended application. After verifying the feasibility of the configuration, the ERP system automatically generates a bill of materials with a unique serial number. All-in-all, there are more than 250 billion different possible hardware configurations that could potentially be built. Nevertheless, the lead time from order placement to delivery is only six days.

Smart factory

The ERP system plans an optimized order processing schedule and ensures that the logistics run smoothly. Parts that come from the warehouse are delivered just in time. This is where one of the advantages of B&R's smart factory comes into play: it is completely networked, both vertically and horizontally. The homogeneous network incorporates every machine and every building automation component as well as the ERP system. That's what gives the ERP system the ability to control the automated storage and retrieval vehicles in the high bay warehouse. The ERP system sorts the

100% of circuit boards are subjected to in-circuit testing, where each electrical circuit is contacted and measured.

Each step is illustrated clearly in the production control system.

The fastening torque of screws is defined and monitored.

A light signal indicates which items are required for the next step.

Each Automation PC is built as configured – down to a batch size of one.

items in the high bay warehouse according to current and forecasted production volumes and triggers reorders when inventory is running low.

Extensive testing
By the time a PC order arrives at a worker's assembly station, all the necessary components are within reach. The worker is guided through the assembly of each PC by on-screen instructions and "pick-by-light" signals.

Each and every PC is tested repeatedly during and after assembly. They are checked for correct assembly and the CPU and RAM are subjected to functional and stress testing. Only when all tests have been completed successfully does the ERP system release the PC for shipping.

Every production step, test and key raw materials can be retraced even years later, because the data is linked to the device's serial number.

Access to all data
That gives customers an added layer of certainty. On its website, B&R provides a service portal where its customers can look up technical data and order-related information by simply entering their product's serial number. This includes version information, delivery date, warranty status and much more.

Highlights

- → Custom industrial PCs starting at batch size one
- → Customized hardware/software configuration
- → Traceable production status for entire product service life
- → 100% in-circuit testing of circuit boards
- → 100 % run-in testing of industrial PCs
- → Regular process audits for strictest quality standards
- → Eco-friendly packaging
- → Completely preconfigured turn-key system

The mainboard of the Automation PC 3100 – Made by B&R.

The production status of each and every industrial PC is seamlessly traceable.

During production, the housing of the Panel PC 2200 is customized to match the configuration.

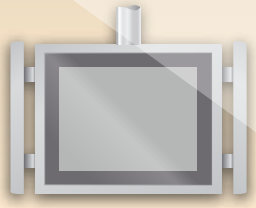
Each industrial PC undergoes intensive function testing following production.

The ergonomically designed workstations offer ideal conditions for performing tasks logically and accurately. Between assembly steps, periodic intermediate tests are performed.

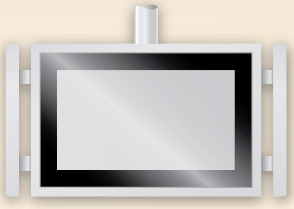
Modular PC and panel systems

Panels

Swing arm



15"



15.6"

18.5"

Multi-touch

7"

10.1"

12.1"

15.6"

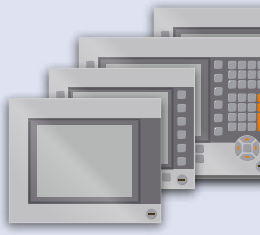
Single-touch

5.7"

7"

10.1"

12.1"



10.4"

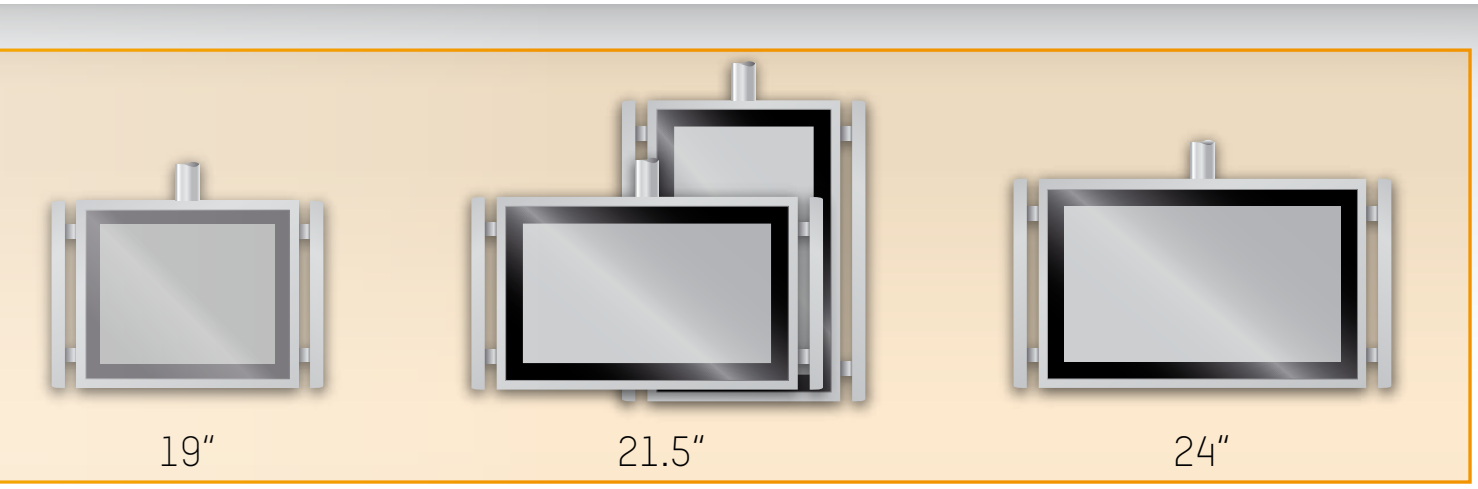
SDL / SDL3 / SDL4

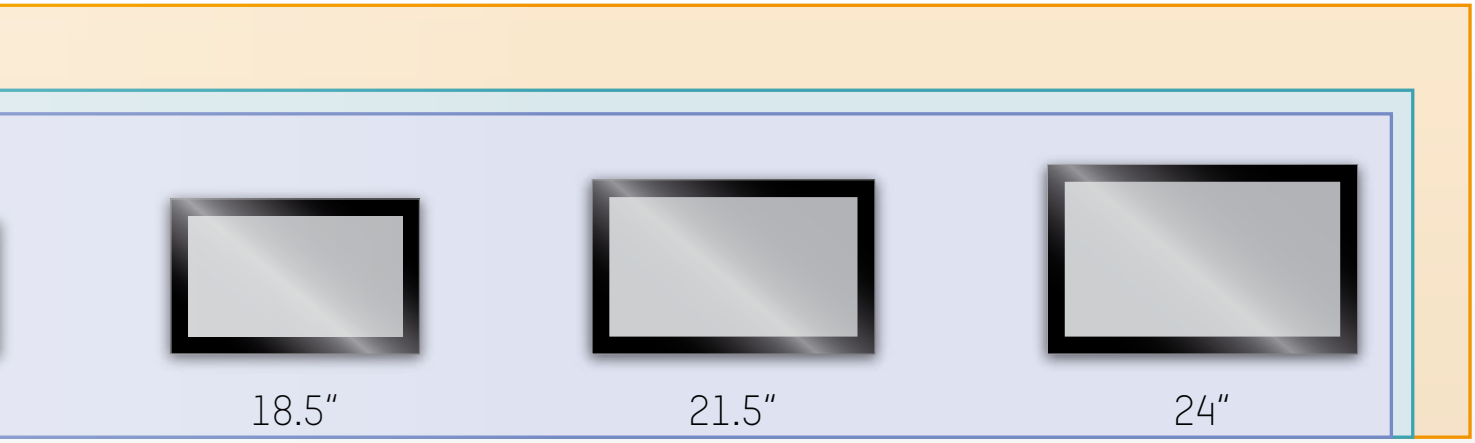
PCs

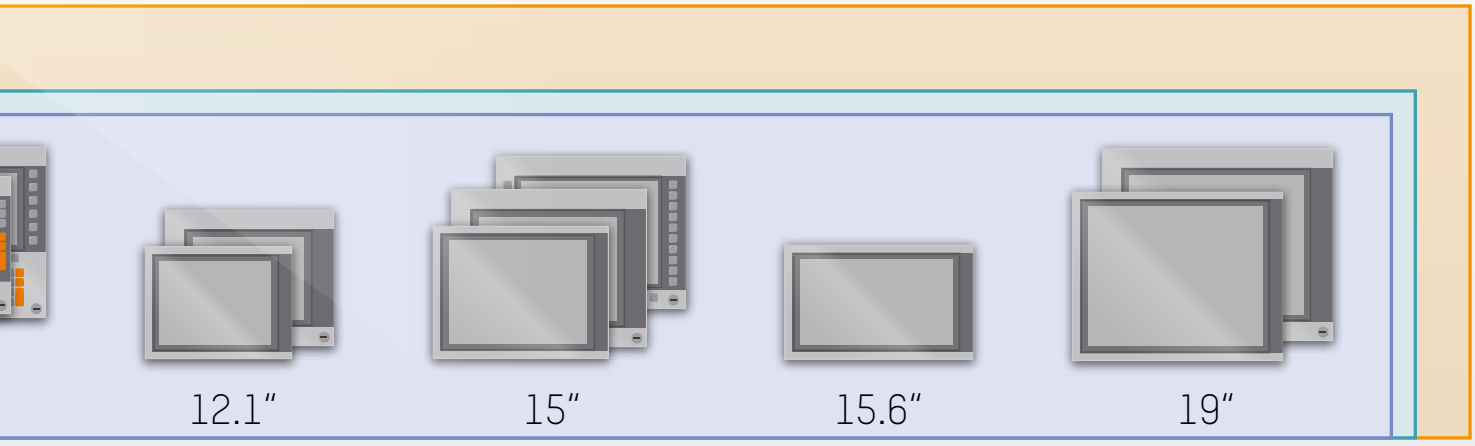
APC910

APC3100

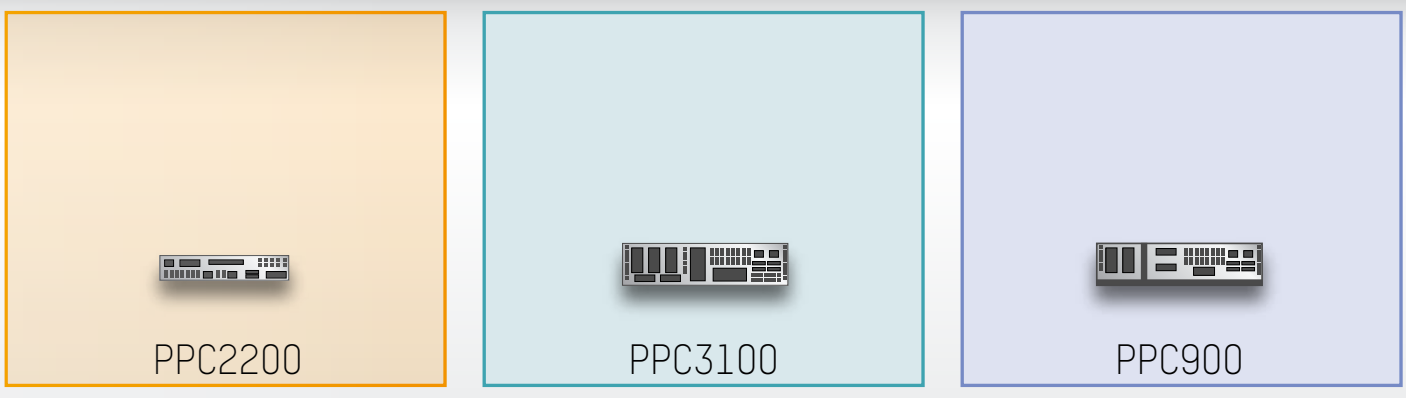
APC2200







Mounted Mounted Mounted



Automation PC 2200
Panel PC 2200

Compact Intel Atom technology

The deceptively compact housing of the Panel PC 2200 conceals a colossal performance that can turn any Automation Panel into a full-fledged Panel PC system. The control cabinet variant of the Automation PC 2200 provides a full-fledged PC system with minimized dimensions.

This innovative PC design is based on Intel Apollo Lake architecture, whose dual- and quad-core processor technology represents a milestone for embedded systems – all while offering an optimal price/performance ratio. All Automation PC 2200 and Panel PC 2200 variants have done away with internal fans.

Communication in all directions
All important interfaces are integrated in the Panel PC 2200. This includes 2x Gigabit Ethernet and 2x USB 3.0. Interface modules can also be added to take advantage of fieldbus technology such as POWERLINK and CAN. Compact CFast cards are used for data storage.

Maximum flexibility
All 2nd generation Automation Panels – whether single- or multi-touch – can be transformed into a complete PC system with the Panel PC 2200. Since the Panel PC 2200 is no larger than the DVI / Smart Display Link receiver, it does not increase the system's physical depth. Connecting cables to the Ethernet and fieldbus interfaces is also extremely user-friendly since they are all accessible on one side of the Panel PC 2200.

Maximum graphics performance
The graphics engine used by Intel Atom processors is derived from Core i technology and provides powerful processing. This is also the first time that support for DirectX 12 is provided in this segment, opening up even more possibilities for enhanced graphic capabilities in SCADA and other HMI systems. All resolutions and screen sizes up to 24.0" Full HD are supported.

Operating systems
Automation PC 2200 and Panel PC 2200 technology closes the gap between open and real-time operating systems. Both Windows 10 IoT Enterprise and Linux are available.

The real-time operating system Automation Runtime turns an industrial PC into full-fledged high-performance industrial controller. The hypervisor combines Automation Runtime and Windows and unites the open PC world with applications that require hard real time. Based on multi-core processor architecture, the real-time operating system runs on one core while the other cores are reserved for Windows.

Highlights

- Intel Atom E3900 processors
- Up to quad-core CPU performance
- Extremely powerful graphics
- Compact dimensions
- 2x Gigabit Ethernet
- SDL/DVI/SDL4 (Automation PC 2200)
- Fanless

Automation PC 2200

Optional interfaces

ETHERNET **POWERLINK**
RS232
CAN
FRAM

Smart Display Link

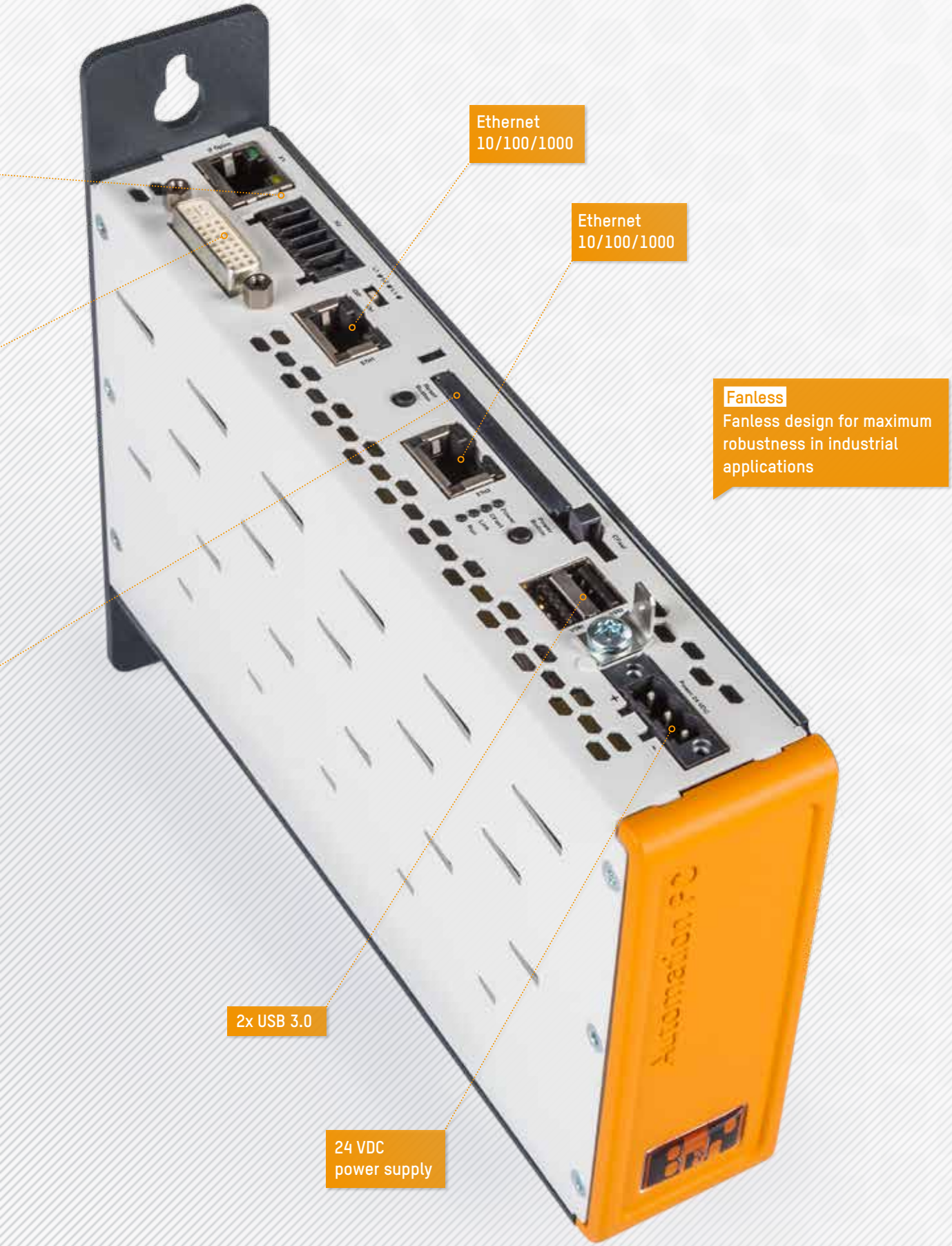
SDL/DVI
SDL3
SDL4

CFast

Combines the shape and dimensions of CompactFlash cards with the faster SATA interface

Operating systems

- Windows 10 IoT Enterprise 64-bit
- Linux
- Automation Runtime Embedded
- Hypervisor


Ethernet
10/100/1000
Ethernet
10/100/1000
Fanless
Fanless design for maximum robustness in industrial applications
2x USB 3.0
24 VDC
power supply

Panel PC 2200

Optional interfaces
ETHERNET POWERLINK
RS232
CAN
FRAM

Automation Panel
From 5.7" VGA to 24" Full HD
with single- or multi-touch

Ethernet
10/100/1000

Operating systems

- Windows 10 IoT Enterprise 64-bit
- Linux
- Automation Runtime Embedded
- Hypervisor

Fanless
Fanless design for maximum robustness in industrial applications

CFast
Combines the shape and dimensions of CompactFlash cards with the faster SATA interface

Ethernet 10/100/1000

2x USB 3.0

24 VDC power supply

Automation PC 3100
Panel PC 3100


intel
CORE i7
7th Gen

Optimized mid-range performance

The 3100-series combines the advantages of a compact system with the performance of the latest Core i-series processors. To top it off, they also offer added flexibility. Up to two interface cards can be added for additional options. They are available as either a box PC (Automation PC 3100) or as a panel PC (Panel PC 3100).

The Automation PC 3100 and Panel PC 3100 offer a variety of modular interface options. The two slots can accommodate cards for serial interfaces, Ethernet, CAN and POWERLINK. The slots can also be used for a UPS solution or audio interfaces. The PCs also offer standard slots for two CFast-format storage devices. With up to 256 GB each, the CFast cards can be used to boost performance, as back-up protection against failure or as a RAID set.

Broad performance spectrum
The processors are based on Intel's latest Core-i generation. They can be scaled over a very wide range, from Celeron to Core i7. This allows the processing power to be adapted exactly as needed to the respective application.

All variants are fanless, so the Automation PC 3100 and Panel PC 3100 feature no rotating parts. This makes maintenance tasks like replacing air filters a thing of the past. The scalable memory options range from 4 to 32 GB.

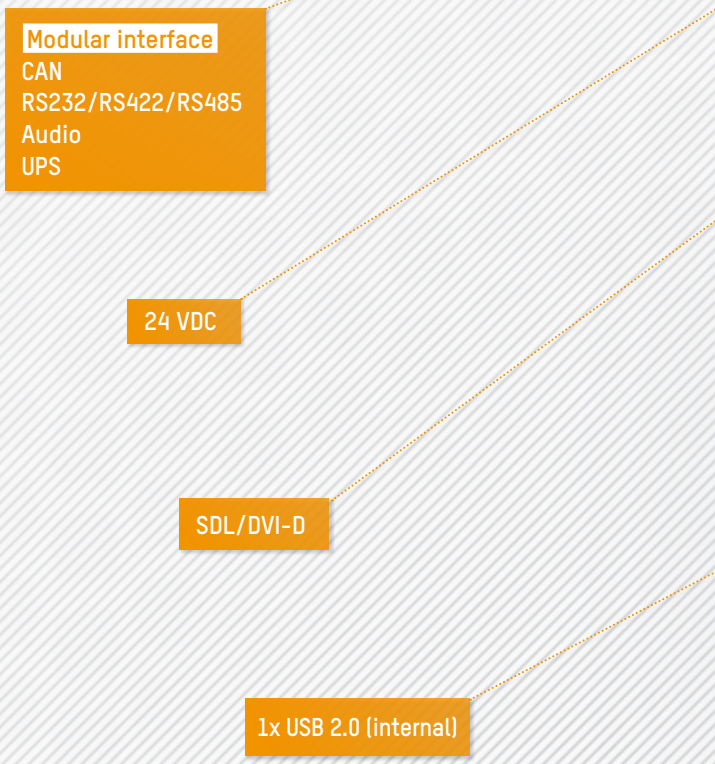
Scalable Panel PCs
Whereas the Automation PC 3100 is designed to control remote panels, the Panel PC 3100 combines the PC unit and display into a single system. The PC unit can be combined with any cabinet-mounted Automation Panel with a diagonal of 10.1" or larger. The options range from 4:3 VGA displays to Full HD widescreen panels, either single- or multi-touch.

Future-proof
B&R PC systems offer long-term availability with reliable updates well into the future. It is not necessary to make continuous adjustments to the PC hardware over time.

Highlights

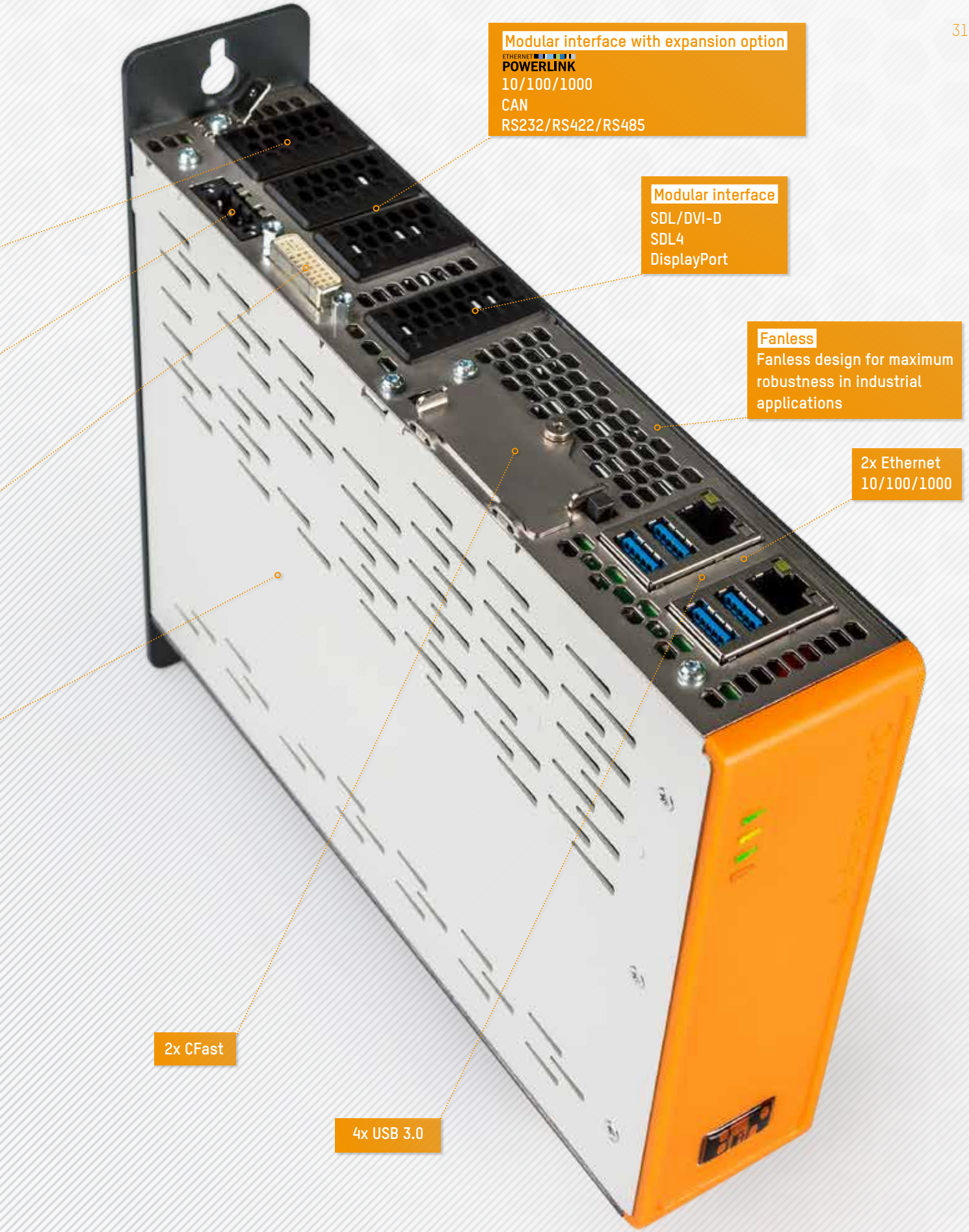
- Intel Core i processors
- Compact dimensions
- Numerous interfaces
- Modular interface options
- SDL/DVI/SDL4 (Automation PC 3100)
- Fanless

Automation PC 3100



Operating systems

- Windows 10 IoT Enterprise 64-bit
- Linux
- Automation Runtime Embedded
- Hypervisor


Modular interface with expansion option
ETHERNET POWERLINK
10/100/1000
CAN
RS232/RS422/RS485
Modular interface
SDL/DVI-D
SDL4
DisplayPort
Fanless
Fanless design for maximum robustness in industrial applications
2x Ethernet 10/100/1000
2x CFast
4x USB 3.0

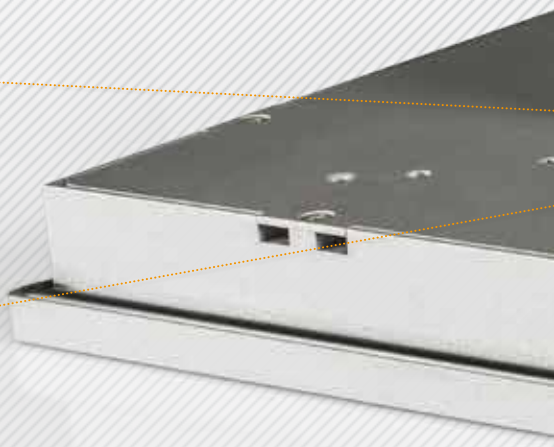
Panel PC 3100

1x USB 2.0 (internal)

Modular interface
CAN
RS232/RS422/RS485
Audio
UPS

24 VDC

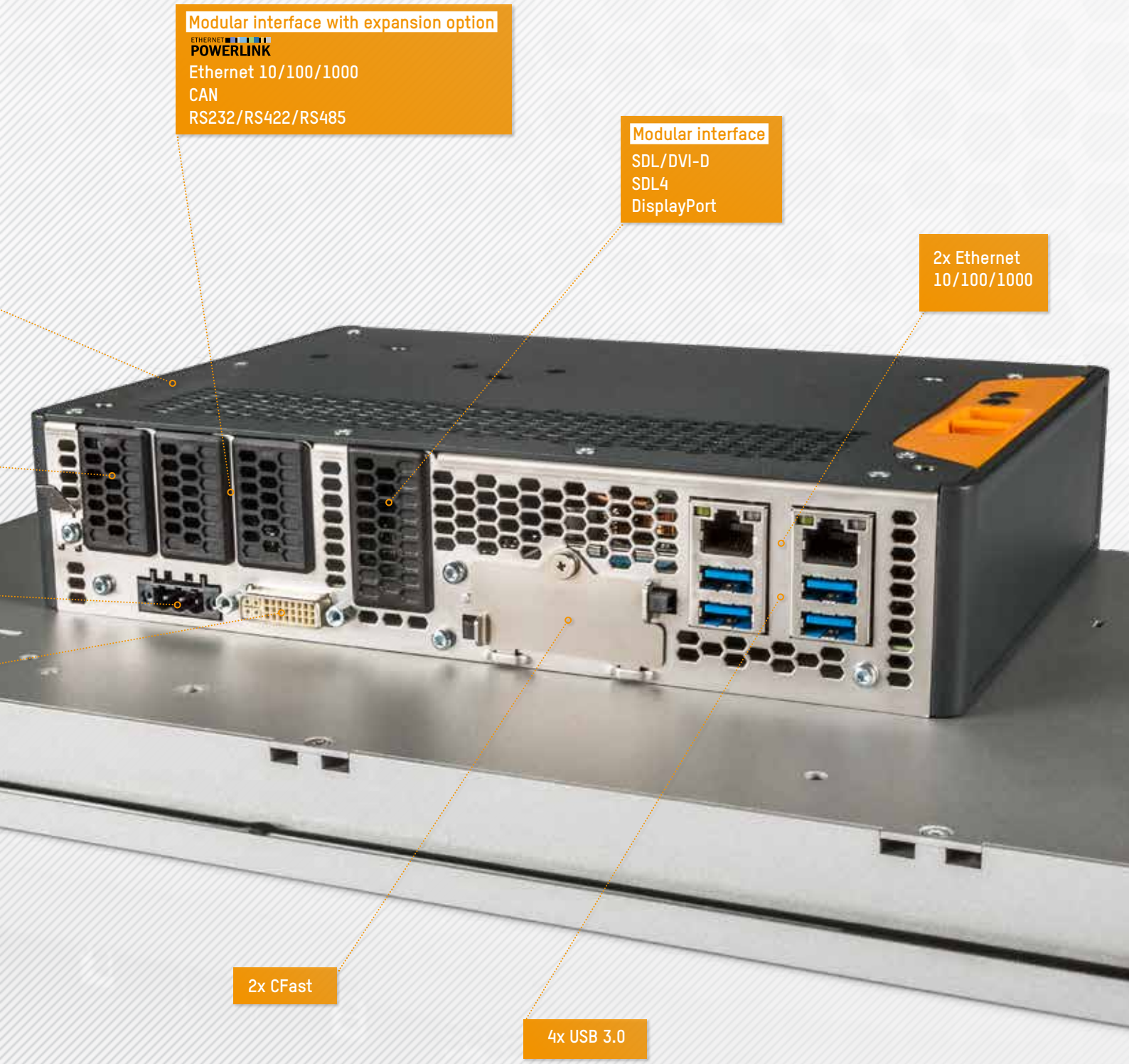
SDL/DVI-D



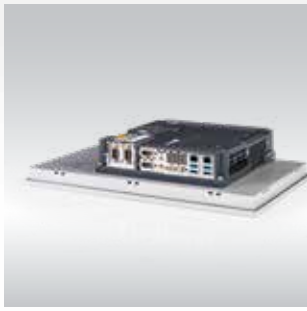
Fanless
Fanless design for maximum robustness in industrial applications

Operating systems

- Windows 10 IoT Enterprise 64-bit
- Linux
- Automation Runtime Embedded
- Hypervisor


Modular interface with expansion option
ETHERNET POWERLINK
Ethernet 10/100/1000
CAN
RS232/RS422/RS485
Modular interface
SDL/DVI-D
SDL4
DisplayPort
2x Ethernet 10/100/1000
2x CFast
4x USB 3.0

Automation PC 910
Panel PC 900



High-performance PC technology

Scalable performance
The entire line of processors used in Automation PC 910 and Panel PC 900 systems – from Celeron up to Xeon quad-core – covers a broad spectrum of CPU performance. Even without fans, both of these PC systems are the perfect platform for any application.

Future-proof
The Automation PC 910 and Panel PC 900 system platforms have a completely modular design that allows them to be individually adapted to an unlimited number of applications. With data storage options ranging from SSD to CFast, slots for both PCI and PCI Express and an integrated UPS, there are virtually no limits to what you can do.

Add to that the fact that these PC systems will be available over the long term, with reliable updates well into the future. It is not necessary to make continuous adjustments to the PC hardware over time, which adds up to its own cost advantages.

Modular panels
The Automation PC 910 is used to control remote panels, whereas the Panel PC 900 combines PC and display into a single system. One and the same panel can be operated with an Automation PC using a corresponding display link (DVI/SDL/SDL3/SDL4) or equipped with a Panel PC unit that turns it into a fully integrated PLC/HMI system.

The front of the Automation Panel is a premium quality projected capacitive touch screen with a 16:9 aspect ratio. The edge-to-edge, anti-glare glass surface and brilliant, high-resolution display represent the ultimate in sophisticated operating panel technology. This new series is available with mounting options for a control cabinet cutout or swing arm.

The displays are equipped with long-lasting, power-saving LED backlights. The classic 4:3 aspect ratio is also available with this modern design. Featuring an analog resistive touch screen and display sizes up to 19", Automation Panels are fully compatible with the previous device generation not just with respect to resolution, but to the shape of the displays as well.

Fanless
Many Panel PCs variants can be operated without fans. Together with SSD drives and/or CFast cards, the system completely eliminates rotating components, making maintenance work such as regularly replacing the air filter a thing of the past.

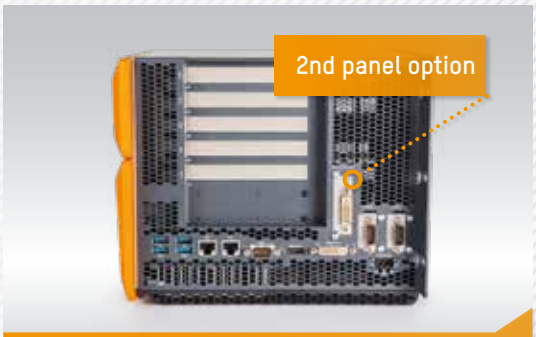
Highlights

- Intel Core i3/i5/i7/Xeon processors
- Intel Celeron processors
- Manufactured using state-of-the-art 14 nm process
- Maximum CPU performance
- Minimum power consumption
- Up to 4 cores
- Maximum graphics performance
- Intel Turbo Boost Technology
- Intel Hyper-Threading Technology
- Highly efficient energy management
- Multi-touch panels (projected capacitive)
- Single-touch panels (analog resistive)

Automation PC 910

1 PCI / PCI Express slot

2 PCI / PCI Express slots



5 PCI / PCI Express slots

2 modular interfaces
ETHERNET POWERLINK
Ethernet 10/100/1000
RS232/RS422/RS485
CAN/UPS/Audio/SRAM

Fanless
Same base device can be operated with or without a fan – maximum flexibility for all users

HDD & SSD
More than enough storage space with hard disk and solid-state drives

CFast
Combines the shape and dimensions of CompactFlash cards with the faster SATA interface


Smart Display Link
Single cable to easily connect operator panels, compatible with all Automation Panels in the field
SDL/DVI/Monitor
DisplayPort
RS232
2x Ethernet 10/100/1000
4x USB 3.0
Up to 5 PCI / PCI Express slots
SDRAM Up to 32 GB
Automation PC

Panel PC 900

85 - 264 VAC power supply

Expansion with 1 PCI / PCI Express slot

Expansion with 2 PCI / PCI Express slots

Automation Panel
Up to 24" Full HD with
single- or multi-touch

CFast
Combines the shape and dimensions of CompactFlash cards with the faster SATA interface

HDD & SSD
More than enough storage space with hard disk and solid-state drives

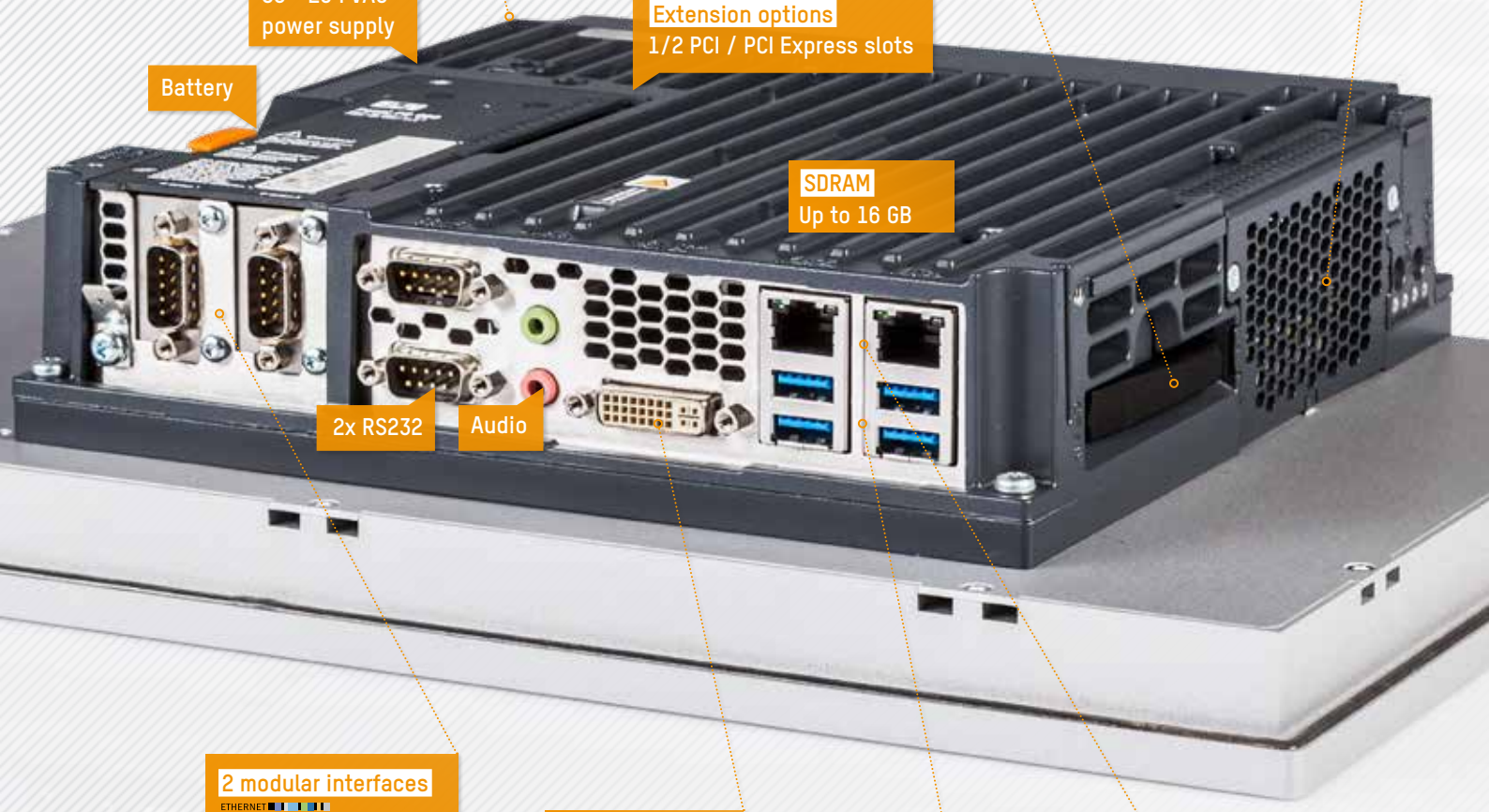
Fanless
Same base device can be operated with or without a fan – maximum flexibility for all users

Optional
85 - 264 VAC power supply

Extension options
1/2 PCI / PCI Express slots

Battery

SDRAM
Up to 16 GB



2x RS232

Audio

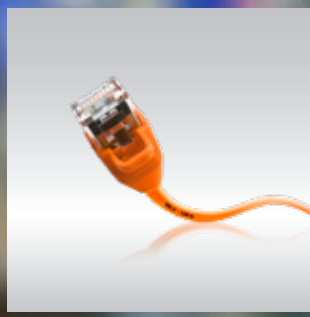
2 modular interfaces
ETHERNET POWERLINK
RS232/RS422/RS485
CAN/UPS/Audio/SRAM

SDL/DVI/Monitor

4x USB 3.0

2x Ethernet 10/100/1000

Panel systems



Versatile panel technology

B&R's Automation Panel systems offer an ideal HMI platform for any application. From classic built-in variants to swing arm systems, whether used as a monitor or set up as a Panel PC, the potential areas of use are practically unlimited.

As the complexity of machine and system topologies continues to increase, finding the optimal place for HMI panels within the overall design concept is becoming more and more important. After all, these are the locations where manufacturing processes are monitored and controlled. B&R meets this challenge by offering an extensive and flexible line of products that can either be mounted in the control cabinet or installed on swing arm systems.

Enough performance for any application

Each panel variant offers two possibilities: operation with an integrated PC system or a flexible connection to remote Automation PCs. With powerful Intel Atom processors, the built-in and swing arm variants of the Panel PC 2200 deliver processing power comparable that previously has required expensive PC architectures – even without a fan.

For mid-range performance requirements, the new Panel PC 3100 is now available. The upper end of the performance spectrum is covered by the Panel PC 900 series. As a cabinet-mounted device, it offers the highest possible computing performance with up to Core i7 quad-core processors.

Intelligent panel communication

If what you need is a remote operator panel with flexible connection options, the answer is an Automation Panel. For the many panels in the field, the Automation PC 910 and Automation PC 3100 are equipped with the proven Smart Display Link (SDL) interface, which can also be operated as a standard DVI interface. SDL makes connecting PCs and displays as simple as hooking up a single cable – the ideal solution for short distances.

The strengths of Smart Display Link 3 and 4 come to the fore when it comes to bridging larger distances. Automation Panels can be operated up to 100 meters away from the Automation PC. Thanks to CAT 6 and CAT 7 cables and a slim RJ45 connector, installing these devices on swing arm systems is virtually effortless.

For every industry

In addition to their standard variants, Automation Panels are also available in various industry-specific designs. They can therefore be used to cover special hygienic- or safety-related requirements in the food industry or even individual operating elements generally limited to the automotive industry.

Intuitive single- and multi-touch operation

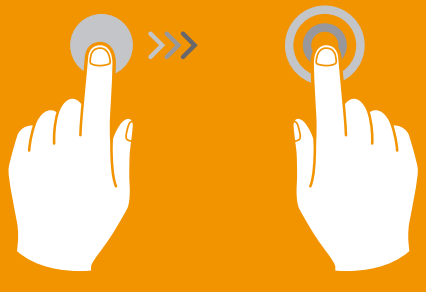
HMI panels have been used for many years to provide a way for operators to control machinery and plants. Many devices previously operated using buttons and keys have since been replaced by more versatile touch screen panels.

The advantages are clear: Whereas function keys must be retagged with slide-in labels when they are reassigned, this is possible on touch screen displays through simple software configuration. Touch screens make operating machinery and equipment much more intuitive and straightforward and help prevent operator errors.

Single-touch panels
For all applications that need to be compatible with existing systems, 4:3 panels with analog resistive touch screens are also available. This makes it possible to continue using HMI applications at their current resolution with the latest PC platform without having to modify the software.

Optimized operation
Multi-touch displays open up new dimensions for innovative HMI design. Numerous gestures for potential use in an application are available, including enlarging or shrinking objects using two fingers, scrolling through lists or switching over to the next screen with a quick swipe.

The main advantage of multi-touch technology is how it makes operation more intuitive. At the same time, two-hand gestures for critical or potentially dangerous operations provide an effective way of preventing unintentional operator errors.



Operating gestures

Multi-touch technology

- New dimensions when designing innovative user interactions
- Much more intuitive operator guidance
- Zoom function to aid commissioning and service personnel
- Two-hand operation prevents unintentional activation
- Reduction of operating layers
- Improved ergonomics

Automation Panel 1000

The Automation Panel is the foundation of B&R's modular platform strategy. The panel itself is the core component. Equipped with a modular SDL/DVI receiver, it becomes a dedicated display terminal. With a PC module, the same panel becomes a full-fledged Panel PC with scalable computing performance.

The core component is the panel itself, which is transformed into an Automation Panel by adding a modular SDL/DVI receiver. Alternatively, using SDL3 opens up additional possibilities for spanning longer distances and even easier cabling. Adding a PC unit turns the same panel into a full-fledged Panel PC with scalable processing performance. Using the same front-side platform reduces the amount of warehouse space required for replacement parts. Custom variants using Automation Panels and Panel PCs require only a single base unit.

Dividing the system into a panel, SDL/SDL3/SDL4 receiver and Panel PC brings considerable benefits in the field. A damaged display can be replaced quickly, for example, without having to exchange the entire Panel PC. This also reduces the number of replacement parts to be managed. Custom variants using Automation Panels and Panel PCs require only a single base unit.

Uniform system platform

B&R has created a uniform interface that establishes a flexible system platform for all future PC architectures. Separating the panel from the PC architecture allows users to take advantage of advancements in PC technology with much less cost and effort by simply replacing the PC module with the next generation and continuing to use the existing display unit.

Highlights

- Projected capacitive multi-touch
- Analog resistive single-touch
- Widescreen formats from 7" WVGA to 24" Full HD
- Connections for DVI, SDL, SDL3, SDL4
- Slim design
- Flexible mounting
- Anti-glare surface


24" Full HD
21.5" Full HD
18.5" HD | Full HD
15.6" HD | Full HD
12.1" WXGA
10.1" WXGA
7" WVGA
10:52
10:51
10:50
10:48
10:47
10:46

Modular swing arm systems

Fully enclosed panels with IP65 protection offer decisive advantages when it comes to positioning operator terminals at the most convenient locations on the machine.

The continuing reduction of control cabinets in particular is increasing the need for input stations that can be installed flexibly. For this reason, completely enclosed Automation Panel and Panel PC variants are available for mounting on swing arm systems.

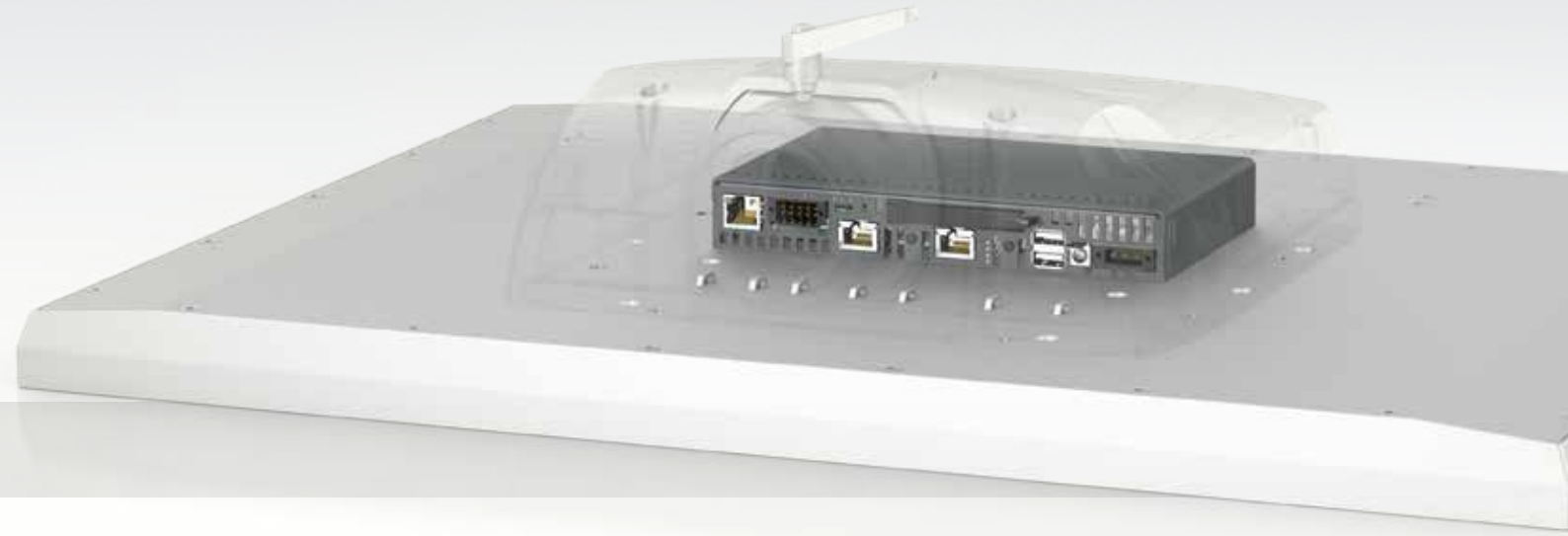
Simple cabling
Cables are installed through the swing arm system and connected to an easily accessible area with IP65 protection, which makes it possible to use inexpensive standard cables.

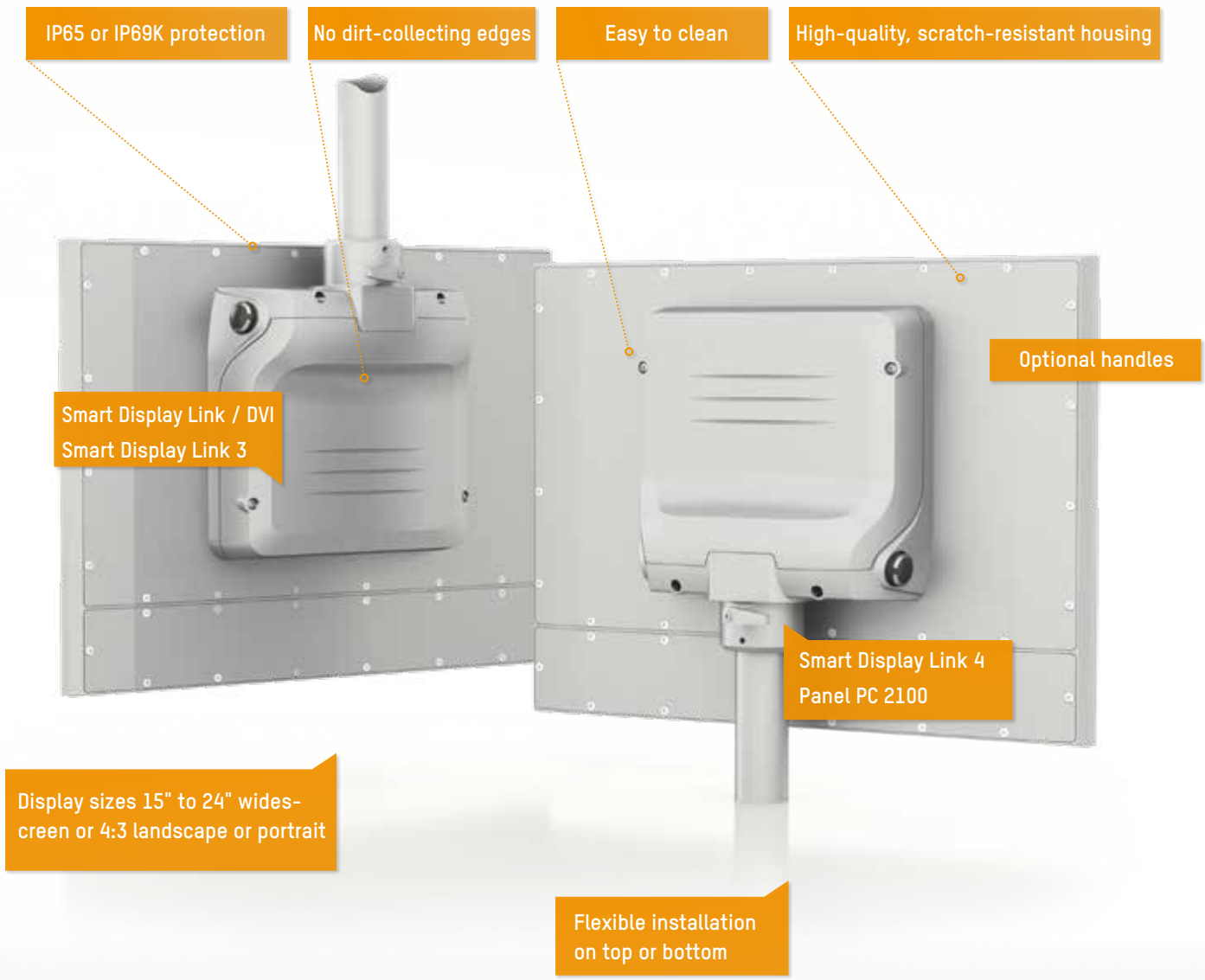
To facilitate extremely simple handling, an installed panel can be wired directly on the swing arm. Setting up the device is done in the same modular way as mounted devices. Customers who opt for Smart Display Link 3 or 4, B&R's display transmission technology, benefit from slim RJ45 connectors. They are the perfect choice when it comes to feeding through cables in extremely tight spaces, including the limited openings on swing arms.

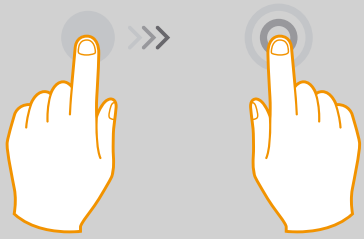
Easy operation
Swing arm devices are available in two variants: with touch screen or with touch screen and additional control elements. Multi-touch technology opens up whole new dimensions for designing innovative interactions for clean, intuitively structured user guidance. Implementation of two-hand gestures is an effective way to prevent operator errors. Buttons, selector switches, key switches and an integrated emergency stop button provide exceptional user comfort.

Side grips can be installed so that the user can easily move the panel into the optimal position. As an alternative to the swing arm system, the Automation Panel can also be installed on a VESA monitor mount.

Easy customization
To adapt optimally to the needs of each machine, keys and switches can be individually customized. The list of possible adaptations is practically endless, including virtually any arrangement of standard keys, illuminated ring keys and push buttons in various colors. Custom HMI devices are delivered fully assembled. This minimizes the time needed for configuration of series-produced machines. Customizable keypad modules are also available for maximum flexibility, especially for small quantities or custom applications.




IP65 or IP69K protection
No dirt-collecting edges
Easy to clean
High-quality, scratch-resistant housing
Optional handles
Smart Display Link / DVI
Smart Display Link 3
Smart Display Link 4
Panel PC 2100
Display sizes 15" to 24" wides-
creen or 4:3 landscape or portrait
Flexible installation
on top or bottom



Swipe, zoom, scroll

A wide selection of Automation Panels are available for swing arm mounting. The classic variant is available with analog resistive touch screens in 4:3 format, with a diagonal of 15" or 19" and XGA or SXGA resolution.

Multi-touch systems are quickly gaining popularity in industrial environments through benefits such as intuitive swiping, zooming and scrolling gestures. Two-hand gestures can be used to prevent inadvertent triggering of critical operations. Widescreen Automation Panels with projected capacitive touch screens are available in sizes ranging from 15.6" to 24" with either HD Ready or Full HD resolution.

Maximum convenience

Touch screens open up new forms of user interaction, yet mechanical controls continue to be preferred for certain operations. That's why B&R offers its swing-arm Automation Panels with optional push buttons, selector switches and key switches. An emergency stop button can also be installed on the swing arm device, where it is always within the operator's reach.

open SAFETY

Reliability without hardwiring

With an integrated openSAFETY interface, B&R operator panels are able to transfer safety-related data over the bus system. Hard-wired emergency stop, operating mode and start buttons are no longer needed.

Setting up operator panels with numerous hard-wired switches and buttons used to mean tediously threading cable after cable through the swing arm system. With openSAFETY operator panels, the only connections needed are for the bus and power. This means that these systems can be placed exactly where they are needed without having to deal with unwieldy cable harnesses.

Commissioning and service are also simplified, saving additional money in these areas as well. The emergency stop button is just as reliable as its hardwired counterpart.

Highlights

- → Simple cabling
- → Faster installation
- → Powerful customization features

Hygienic stainless steel operator panels with IP69K protection from a single source

The pharmaceutical, biomedical engineering and food industries place particularly high demands on machines. HMI systems must be free of wear and have no open grooves in order to meet stringent hygiene requirements. B&R's stainless steel panels provide IP69K protection and are perfectly suited for use in these conditions.

Cabinet-mounted panels

Hygiene is becoming more and more important in the processing industry. In the food processing and packaging industry, it is necessary to keep the materials being processed free of impurities. This issue is of course no less important in the pharmaceutical and biomedical engineering industries. Here it is also necessary to protect employees against infections and diseases.

Smooth stainless steel

B&R stainless steel panels feature a hygienic design and use especially resistant materials such as smooth stainless steel, a high-quality polyester overlay and special sealing materials. The range of available panels extends from simple touch screen visualization terminals to operator panels with integrated control and drive technology. Fully-fledged Panel PCs are also available.

Robust and suitable for hygienic applications
This stainless steel series, proven in harsh industrial environments, has been further optimized with regard to its hygienic properties and robustness. With its special design, the stainless steel Automation Panel 1000 is extremely well-suited for use in the foodstuffs industry, where frequent cleaning takes place. The seamless touch screen design also makes this device optimal for the beverage and pharmaceutical industries. The entire series is certified in accordance with DIN 40050 for IP69K protection and was developed to meet the requirements of DIN EN 1672-2 – foodstuffs machines, general design principles, part 2: Hygienic requirements.

Devices in the energy-efficient Automation Panel 1000 series range from 7" to 15" display sizes and are available with or without an RFID unit.

Highlights

- Unique sealing system eliminates gaps
- IP69K
- 7" to 24"
- Shatter protection
- DVI, SDL, SDL3, SDL4 and Panel PC

Touch screen swing arm panels – Reliable and intuitive

The dimensions of the operator panel were designed to make it especially sleek. This means that additional handles are not necessary. In addition to an IP65-rated USB interface on the back of the panel, it is also possible to mount these systems on any conventional swing arm system.

All stainless steel swing arm panels are equipped with multi-touch screens that can be operated easily and intuitively. Since touch screen technology is firmly anchored in everyday life, time-consuming training can be kept to a minimum. Operational security is increased by ensuring that only sensible options are displayed on the screen. As a result, the possibility of error is kept to a minimum.

The application determines which operating conditions can be selected. Users are also reliably guided step by step through complex processes. The touch screens themselves have a smooth surface so that their integration in the operator panel allows them to continue meeting strict hygienic requirements. The special structure of the screens increases robustness and also provides shatter protection. Touch screens can also be used with gloves or a suitable stylus pen.

Advantages

- Approved for food production
- Can be operated with gloves
- Flexible swing arm installation
- Easy to clean

Swing arm devices in new design

The new design allows B&R's swing arm panels for hygienic applications to be mounted with the flange on the top or the bottom. Each device can be converted on-site for either pendant or pedestal mounting. If there is a risk of condensation accumulating in the swing arm system, pedestal mounting should be used.

Individual solutions

These standard stainless steel panels can be adapted to meet special requirements at any time. Manufacturing candy has different requirements and environmental conditions than processing meat, while filling highly salty or sugary liquids has different requirements than pressing and packaging pharmaceutical products. B&R operator panels can be individually adapted to meet all of these challenges. Their external appearance can also be designed per customer request.

Illuminated ring keys and RFID readers

The RFID reader on the panel makes it possible to securely regulate access without direct contact without having to deal with passwords or key-operated switches. Not all operating elements can be implemented using a touch screen. Sometimes an illuminated pushbutton with a clear signal or tactile feedback is required. As a result, illuminated ring keys can be integrated on request.

They are a perfect alternative to conventional electromechanical pushbuttons because they

RFID

provide tactile feedback. And because they are integrated directly in the panel overlay, there are no edges or grooves, making cleaning extremely easy. Grooves and edges caused by add-on control elements are completely eliminated.

The integrated B&R illuminated ring keys can be easily customized with symbols, numbers or text using slide-in labels – which don't affect the protection rating or create hygiene issues the way external tags do.

The keys are easy to configure from the PC. Available in four different colors, the keys could be used as follows: green for run, red for stop, blue for reset and white as a neutral color for confirmation. If input is to be evaluated via a direct connection to a PLC, the panel features convenient connectors for direct wiring.

Individual design options

- → Illuminated ring keys
- → Emergency stop switch
- → RFID reader
- → Custom design
- → Industrial PC integration

Operator terminal for automotive production

Automotive production demands the most of manufacturing technologies and logistics. Accordingly, the associated development and production processes are extremely resource-intensive. Considering the enormous cost impact of a single production outage, plant availability is a top priority. Particularly in terms of maintenance, technical systems must be efficient to service and recover quickly from any downtime.

In automobile production lines, only a few minutes of downtime can rack up tens of thousands in costs, so new devices and their components must be quick and easy to replace. B&R has developed an operator terminal tailored to the needs of maintenance experts and service technicians in the field of automotive production. It offers fast and easy access to the display, industrial PC and operating elements. Operators can replace individual components without stopping the line, or quickly upgrade to a more powerful industrial PC.

Access panel for quick service

The operator panel is divided into two independent units: a PC module and an operating element module. With four quick-release fasteners, service personnel can quickly open the rear access panel to reach the cables for the display and PC. The expansion unit is also readily accessible. The PC and operating element modules have separate power supplies, so the safety circuit for the line remains closed when replacing the PC unit.

Extended operating options
Some applications require additional functions, such as extra control elements or an RFID reader. B&R's operator panel features placeholders – hidden behind the overlay – that can be pressed out of the front panel to add two more electromechanical controls at any time. Wiring the new controls to open I/O terminals is easy thanks to the large access panel.

On the top of the device, a four-channel signal light can be mounted on either the left or right side. Room is left on the other side for the customer to add on equipment, such as a WLAN module or barcode scanner. The internal 24 VDC power supply can also be routed to the exterior.

Compact, flexible design
The PC and expansion units are integrated in a sleek housing and can be adapted to the operating standards in place at the respective factory. The swing arm flange can be installed on the top or bottom to allow for either pendant or pedestal mounting. The mounting orientation can also be changed on site.

Customizing quick and easy – In under 2 weeks

Panel Designer allows all B&R panels and the front doors of Automation PCs to be designed individually. This web-based application makes it possible to create professional designs within a few minutes without any previous experience.

B&R customers receive their customized device in series quality in less than 2 weeks. To create a design, all that needs to be done is to select a hardware product. The appearance is then adapted using Panel Designer – B&R's free, easy-to-use software tool for creating custom panel designs. Colors, shapes and text can be added as desired. External graphics, such as company logos, can also be easily loaded into the program and added to the design.

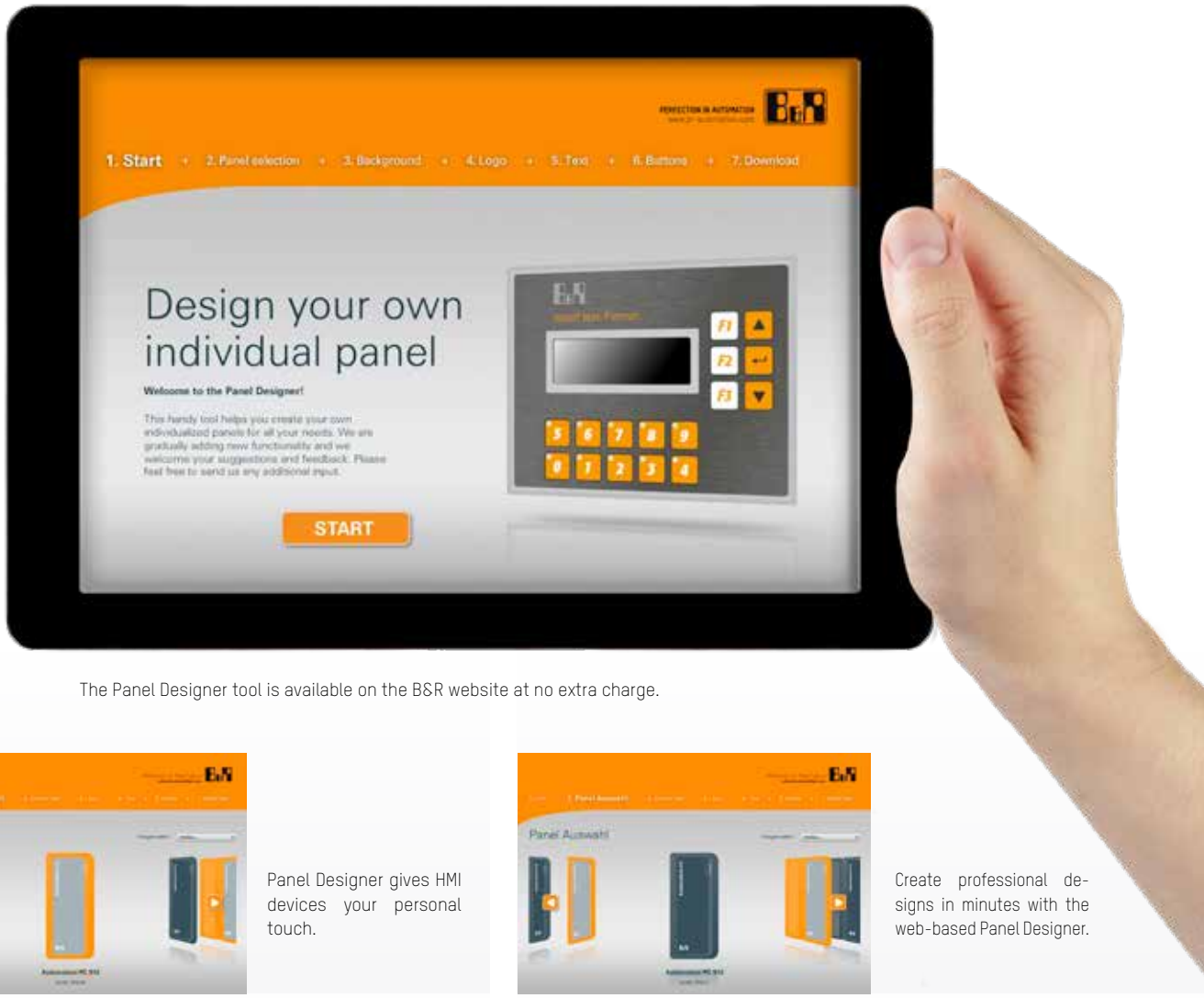
Panel Designer provides a real-time preview of the final result. This makes it easy for companies to ensure that their HMI devices perfectly match their corporate design. The design file that is created is sent straight to B&R's production. With a revolutionary minimum order quantity of 1, it's never been easier or more cost-effective to create custom layouts tailored to specific machines or end users.

Highlights

- → Custom design for any order size
- → Ready in less than 2 weeks
- → Subsequent orders at series price
- → Support for custom devices available worldwide
- → Unique design: any time, anywhere
- → Online and free
- → Intuitive user guidance
- → Corporate design only clicks away
- → Support from B&R design team on request

Link to Panel Designer
http://paneldesigner.br-automation.com

Panel Designer video
http://www.youtube.com/watch?v=MxVXzrUtW30



The Panel Designer tool is available on the B&R website at no extra charge.

Panel Designer gives HMI devices your personal touch.

Create professional designs in minutes with the web-based Panel Designer.

The front cover of an Automation PC can be personalized.

Colors, shapes, graphics and text – Panel Designer gives you extensive design freedom.

Panel Designer can be opened in any Web browser.

Once finished, your design is saved and passed on to B&R's production team.

The face of your machine

Design is becoming an increasingly important factor in the capital goods industry. Especially important is a uniform appearance across all products – the corporate design. In the eyes of the user, this begins with the human-machine interface.

A custom design can be accomplished quickly and easily by simply integrating your company's logo onto the device or by adapting key tags, symbols and slide-in labels to the needs of the application. Operator panels can also be given a custom printed overlay to match your color requirements. Since the overlay is the only difference compared to a standard device, these customizations are available quickly and guarantee full compatibility with B&R's entire product portfolio.

Highlights

- Custom company logos and colors
- Custom keys, symbols and slide-in labels
- Additional components (emergency stop, key switch, etc.)
- Complete integration of connections, swing arm flange, etc.
- Hygienic design
- Various touch screen technologies
- Stainless steel design
- Protection up to IP69K

Customizing the appearance

With Panel Designer (paneldesigner.br-automation.com), you can create an impressive custom design with just a few mouse clicks. Further on in the process, you can modify the number of keys and their layout. It is also possible to customize the dimensions of the panel. You can select any of B&R's standard touch screen or display products and integrate additional components such as an emergency stop button, key switch or RFID reader. A custom panel can be constructed either as an Automation Panel or a Panel PC.

Revolutionary cabling - Smart Display Link 3

Smart Display Link 3 digital transmission technology offers clear advantages for constructing modular machines and systems.

The third generation of this digital display transmission technology represents a new chapter in the success story that is Smart Display Link. Smart Display Link's unsurpassed convenience is owed to two key advantages: complete independence from the operating system and the ability to connect the PC to the operator panel using only a single cable.

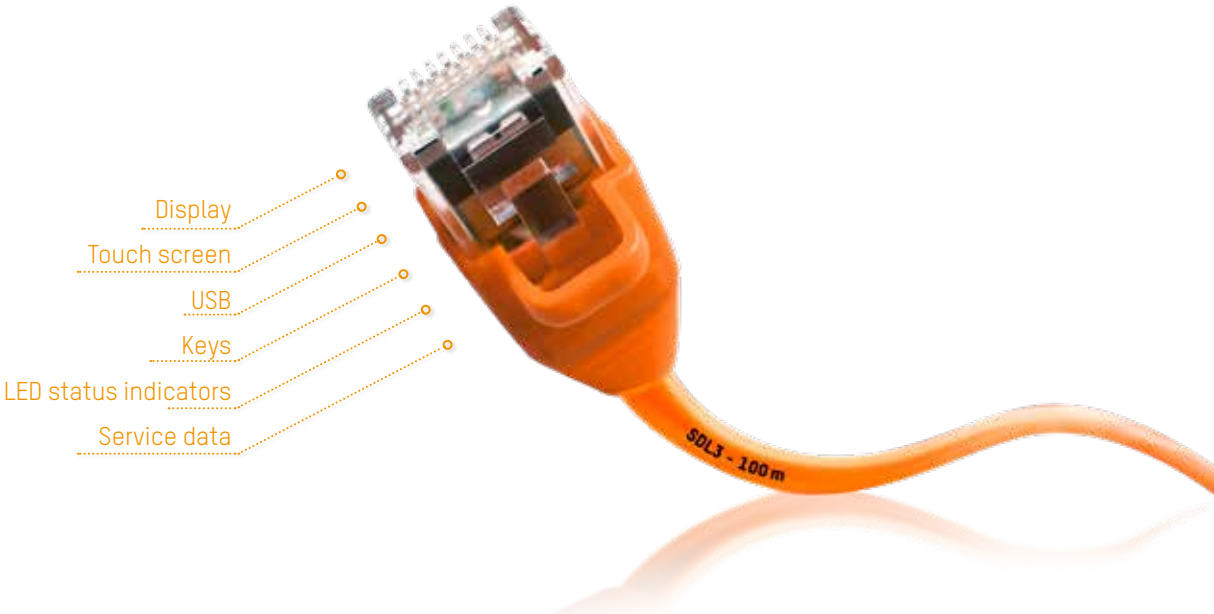
Up to 100 m
Smart Display Link 3 (SDL3) makes it possible to transmit display content and other data over much greater distances. It's possible to span up to 100 meters between PC and display. This allows for optimal placement of Automation PCs and operator panels even on more expansive systems.

A second highlight of SDL3 is its use of standard Ethernet cables, which drastically reduces cable costs over longer distances. The thin cable and slim RJ45 connector are a perfect fit in tight situations such as feed-through openings and swing arm systems.

Simple cabling
Similar solutions used to require a thin client with a complete PC design. This not only took up more space, but was also dependent on the software and operating system being used. On top of that were the added costs of

SDL3 technology

- SDL3 transmits all communication channels between PC and panel via a standard Ethernet cable.
- Up to 100 m
- Independent of operating system and software
- Simplified cabling
- Small connector – also suitable for tight feed-throughs
- No need for a CPU in the panel
- No load on the PC system
- Maximum graphics performance
- Long-term availability



the PC architecture. The modular design of B&R's PC and panel systems allows any Automation Panel to be equipped with an SDL3 interface.

Continuity over many years

This modularity, which can be traced back to the very first Automation Panels introduced to the market ten years ago, even makes it easy to upgrade existing machines and systems to SDL3, for example during retrofitting. PCs without an SDL3 interface of their own can be upgraded from SDL to SDL3 with a converter.

An optional SDL3 Converter is also available on the PC side so that the SDL interface on the Automation PC 810 or Panel PCs can be upgraded to SDL3.

100 m

Flexible topologies with Smart Display Link 3

Smart Display Link 3 (SDL3) offers even more advantages when used together with an external converter. For example, SDL3 can be used to connect Automation Panels to all Automation PC 910, Automation PC 620 and Automation PC 810 systems as well as to all Panel PCs.

Upgrading systems to SDL3 in the course of retrofitting or modifications is extremely easy. SDL3 can be implemented on existing swing arm systems and customized devices. The integrated SDL3 interface makes it possible to connect two Automation Panels to an Automation PC 910 in dual independent display mode.

USB and service data

In addition to the display content, SDL3 also transmits other data, such as service data, key actuations and display brightness. A USB 2.0 connection is also integrated. Touch screen data is also transmitted, regardless of whether its an analog resistive single-touch or projected capacitive multi-touch screen. This kind of flexibility is unique on the market.

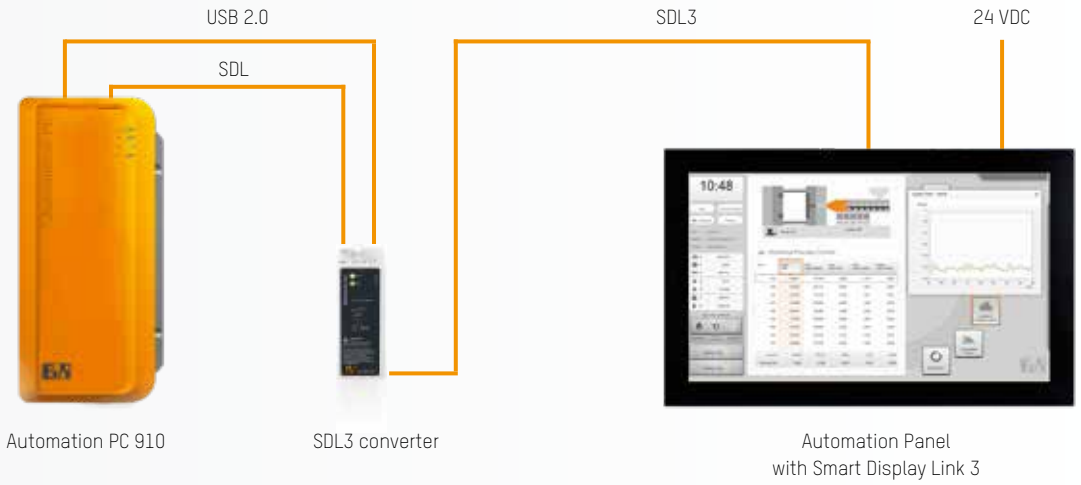
Automation PC 910 with optionally integrated SDL3

Automation PC 910
with Smart Display Link 3

Automation Panel
with Smart Display Link 3

→ Connected via SDL3 to an Automation Panel

Automation PC 910 with external SDL3 Converter



→ Connected via SDL3 to an Automation Panel

Automation PC 910 with integrated SDL3 and external SDL3 Converter

→ Connected via SDL3 to two Automation Panels

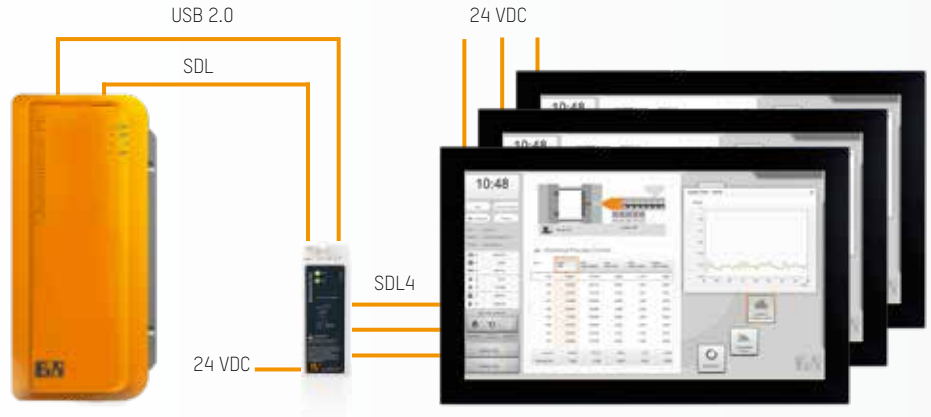
Multiple panels on one PC – Smart Display Link 4

Smart Display Link 4 (SDL4) is continues the advances made with SDL3. SDL4 is compatible with standard HDBaseT 2.0 and makes it possible to connect multiple panels to a single industrial PC.

The other specifications correspond with SDL3: CAT 6/7 cables are used, and the maximum distance between PC and panel is 100 meters. Of course, in addition to screen content, SDL4 also transmits data for touch screen operation, keys, LEDs and USB devices.

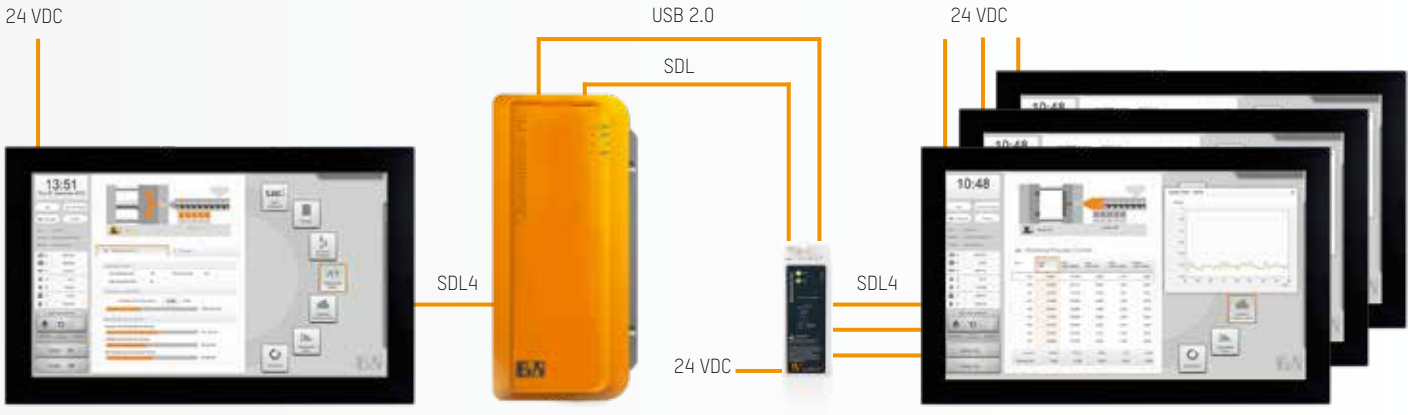
The new standard for operator panel communication
With HDBaseT 2.0, SDL4 transmits all the signals needed to operate the Automation Panel uncompressed over large distances. The modular design of B&R's industrial PCs and operator panels make it easy to upgrade existing installations with SDL4.

Automation PC 910 with external SDL4 Converter/Splitter



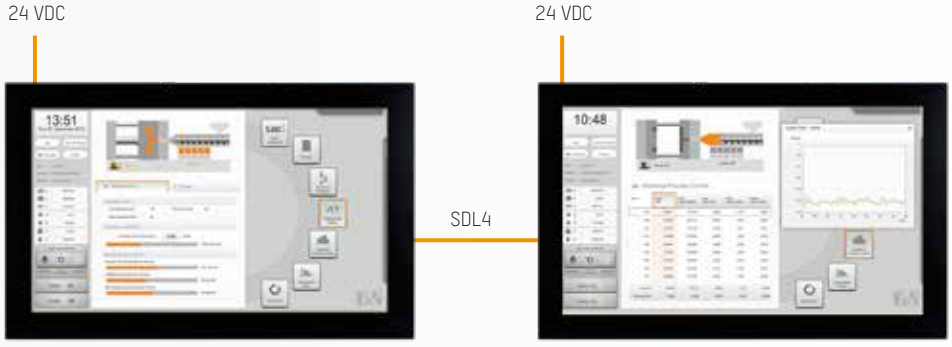
→ Connected via SDL4 to up to three Automation Panels showing same content

Automation PC 910 with integrated SDL4 interface and external SDL4 Converter/Splitter



→ Connected via SDL4 to up to three Automation Panels showing the same content and an additional Automation Panel, optionally with different content (dual independent display)

Panel PC 3100 with integrated SDL4 interface



→ Connected via SDL4 to one Automation Panel, optionally with different content (dual independent display)

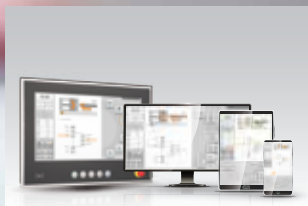
Multi-panel operation

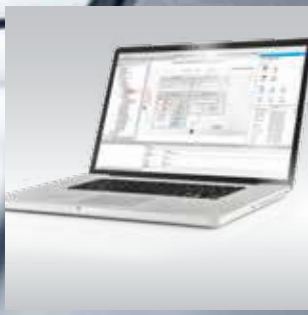
A primary difference between SDL3 and SDL4 is the ability to operate up to three Automation Panels on an Automation PC via an SDL/SDL4 Splitter. If the PC system has an additional display interface (e.g. Automation PC 910 + Panel PC 3100), then it is also possible to operate an additional panel either with the same or different content.

Software –
Added value for every PC

mapp VIEW

mapp TECHNOLOGY





Open for all platforms

OPC® Unified Architecture

VxWorks

The Automation PCs and Panel PCs provide a powerful and open system platform. Whether running an HMI system or performing complex automation tasks – B&R industrial PCs are always the first choice. Even for demanding tasks like process control, the outstanding performance of Automation PCs provide an ideal platform.

Integrated automation

Automation PCs are designed to serve as the core of complex automation solutions. They combine scalable PC performance with the absolute reliability of an industrial controller. Many OEMs and system integrators rely on Automation PCs from B&R. Integrating the full range of automation tasks into a single device brings significant cost advantages.

- **» Machine vision**
- **» Process control**
- **» HMI**
- **» SCADA**
- **» Operation & monitoring**
- **» Database**
- **» APROL**
- **» OPC UA**
- **» SQL**
- **» ERP | MES**

Windows 10

Linux POWERED

- Communication
- Control
- Monitoring & observation
- Safety
- Project management
- Programming
- Diagnostics & remote maintenance
- Motion control

PC-based control with Automation Studio

Modular software engineering reduces development costs and accelerates time to market. With Automation Studio, B&R offers a software development tool that gives programming efficiency top priority. A philosophy of continuous development and a focus on the user have helped make Automation Studio the top choice for developers, commissioning engineers and service personnel who require a tool that supports them throughout every phase of the product lifecycle. Despite the comprehensive functionality it offers, Automation Studio is exceptionally intuitive and easy to use. The software is also compatible with all standards used in the field of industrial automation.

Communication
Seamless communication is a decisive feature of advanced automation solutions. The real-time POWERLINK protocol connects every component in a machine or line into a cohesive, tightly synchronized system. Connecting to higher-level solutions or other lines is easy using OPC UA.

controller
Machine control, HMI, motion control and safety technology are all programmed, commissioned and maintained with a single tool. The software is seamlessly compatible across every hardware platform in the B&R catalog.

Operation and monitoring
HMI solutions can be scaled from the smallest terminal up to a full-fledged SCADA application. The HMI application is independent of the hardware used and can run centrally or decentrally as needed.

Safety
B&R's programmable safety technology is completely integrated in Automation Studio. Certified PLCopen function blocks reduce the time and cost of developing safety applications to a minimum.

Project management
Features such as unit testing and version control facilitate concurrent, distributed engineering of application software and make even the most extensive, complex development projects easy and efficient to manage.

Programming
Automation Studio allows users to work with any IEC 61131-3 programming language as well as C or C++. With mapp Technology, B&R also offers ready-made software blocks that handle basic machine functionality and provide easy access to highly technical functions.

Diagnostics & remote maintenance
B&R's web-based System Diagnostics Manager tool provides instant, easy access to detailed information about a machine's status.

Drives & motion control
Standardized PLCopen blocks and ready-made mapp components make motion control programming in Automation Studio exceptionally easy. Whether you're working with an single axis or complex robot kinematics, the tools and approach are always the same.

Web-based HMI made easy

The smartphone is the poster child for high-performance electronics with ultimate interface usability. Unsurprisingly, operators of industrial machinery and equipment desire nothing less for the interfaces they use every day. With mapp View, B&R offers direct access to the wide world of web technology right from the engineering environment. Automation engineers have all the tools they need to create powerful and intuitive HMI solutions. There is no need to deal with the underlying technologies.

Modern websites and smartphone operating systems are designed by large teams of usability, design and ergonomics specialists. An OEM doesn't typically have those kinds of resources at their disposal. To bridge the gap, what they need are easy-to-use tools integrated in their familiar programming environment.

The right info at the right time

Operators aren't impressed by fancy graphics

mapp VIEW

and multi-touch navigation alone. The HMI needs to directly facilitate the primary goals of industrial production: maximum productivity and minimum downtime.

The key to both of these goals is having the right information at the right time. Important notifications need to reach their intended audience every time, whether that happens on the main operator terminal, a small info screen, a smartphone or tablet. At the same time, the design must be able to prevent human error.

100% web technology

With mapp View, B&R solves these challenges by relying 100% on web standards. These technologies allow content to be displayed optimally on any output device or even customized for specific users or user groups.

mapp View HMI applications allow optimal display on all types of devices, including tablets and smartphones.

Conventional approaches require considerable resources and expertise to develop screens for all the different output media.

Working in a familiar environment
What makes mapp View unique is the way it integrates web technology right into the software development environment. While mapp View is built on HTML5, CSS3 and JavaScript, automation programmers never need to deal with these languages. Instead, they can continue to focus on their own areas of expertise. HMI pages are built in the familiar Automation Studio environment. Advanced HMI functionality is encapsulated in modular control widgets. These widgets are conveniently dragged and dropped into place on the desired page and then configured.

One of the main advantages of web technology is the way it separates content and layout. Even after the content of the HMI application has been finalized, developers can fine-tune the layout and style to optimize usability after initial field testing. Widgets are available in a number of standard themes, or they can be customized with the user's corporate design.

Thanks to the use of web technology, content can easily be adapted to different output media – whether it's a widescreen operator panel or a small smartphone screen.

Ideal for modular architectures
It's not just the content and layout that are separate from one another. The machine control and HMI applications are also completely decoupled. The HMI software or individual GUI components can be reused and modified at any time, making mapp View ideal for flexible, modular machine architectures. This also reduces maintenance costs and improves overall quality.

The web is subject to continuous change and progress, yet web technology itself has remained remarkably constant over time. HTML pages created 20 years ago are still displayed correctly in any of today's browsers. mapp View is built on the globally accepted web standards HTML5, CSS3 and JavaScript. Unlike proprietary platforms like Flash or Silverlight, these standards are updated continually and remain usable for decades.

mapp VIEW

Real-time widgets allow time-critical input – such as commands for manual robot control – to be handled safely via the HMI application.

Open with OPC UA

mapp View is fully integrated in B&R's Automation Studio engineering environment. Controllers from other vendors can easily be incorporated in the HMI via OPC UA. mapp View is the first web-based HMI solution in the world that doesn't require knowledge of web programming languages.

Modular software blocks

mapp View is part of the mapp Technology software framework, which is comprised of modular blocks that handle many machine functions. Rather than write lines and lines of code to create a user management system, alarm system or even motion control function, developers simply configure a ready-made mapp component with just a few clicks. Benchmark testing has shown that the development process is completed three times faster. This frees up developers to focus their energy on implementing and optimizing the machine's core value-adding processes. mapp components are fully networked and exchange data automatically. The audit trail and user management components, for example, work together to log the who, what and when of any changes to the system – without the developer having to write a single line of code. There are also ready-made widgets for mapp View HMI applications, which do things like automatically generate audit trail graphs.

Highlights

- All the advantages of web technology
- Fully integrated in the engineering environment
- Highly reusable
- Optimal display on all devices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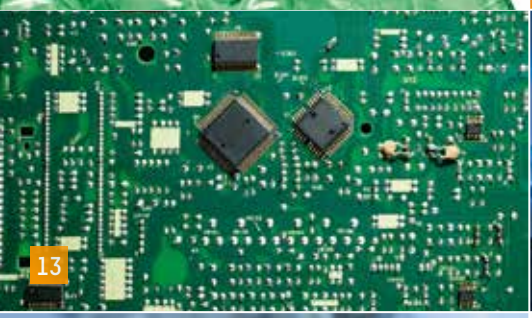
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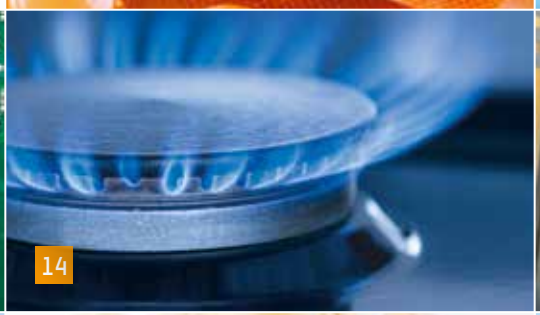
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For every industry

PC and panel systems "Made by B&R" represent the epitome of premium quality, robust strength and long-term availability. These virtues shine brightest when put to the hardest test – a decisive advantage for all industries and applications.

Automation PCs are unfazed by even the most adverse environmental conditions. They serve reliably on ships in stormy seas, in offshore wind turbines and, of course, in the most demanding machines and systems.

Automation PCs can be found in successful applications far beneath the earth's surface and above ground in traffic monitoring stations. B&R's robust and powerful industrial PCs are also perfectly suited for applications in any other industry, including packaging, printing and textile machinery. Automation PCs have had plenty of opportunities to demonstrate their exceptional versatility in the semiconductor and plastics industries as well.

Even the metal and wood processing industries have come to rely on their extraordinary all-round performance. Decision-makers in the automotive industry have also discovered the benefits of the Automation PC – especially its long-term availability and outstanding performance.

With their ability to adapt to applications of any size, they are just as valued in the process industry as they are in building automation systems.

Special hygiene-oriented designs satisfy the most stringent requirements of the foodstuffs industry.

The long list of potential applications would not be complete without mentioning the fields of robotics and handling. Automation PCs are the ultimate all-rounders – whatever test you put them to, they pass with flying colors.

PC technology for all industries:

01 Packaging **02** Infrastructure **03** Metal **04** Handling & Robotics **05** Print **06** Wind power **07** Maritime & Offshore **08** Tobacco **09** Commercial vehicles **10** Environment & Recycling **11** Chemicals & Pharmaceuticals **12** Food & Beverages **13** Semiconductors **14** Oil & Gas **15** Measurement and testing technology **16** Energy **17** Wood **18** Biomedical engineering **19** Plastics **20** Textiles **21** Automotive

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