





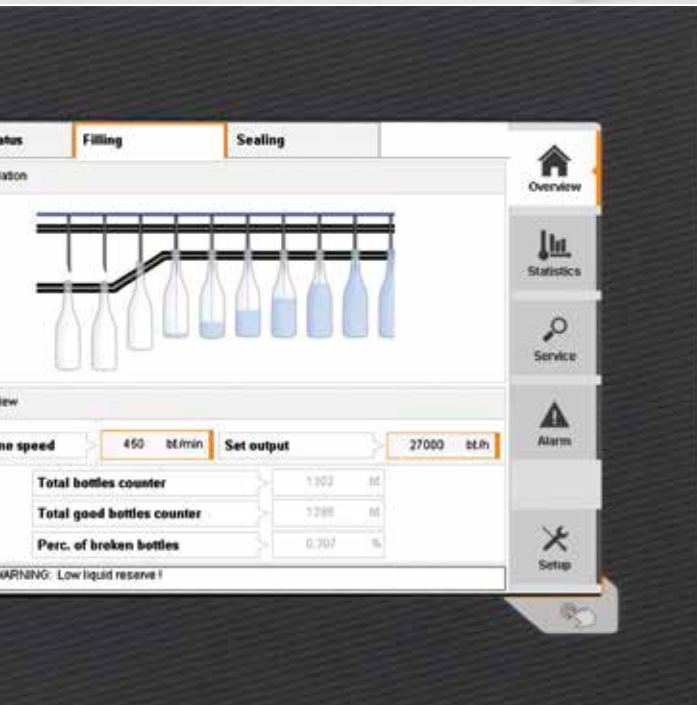
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## Versatile.

Terminal or controller  
Portrait or landscape  
Aluminum white or anthracite gray



## Compact.

Web terminal or VNC client  
Plug and Play  
4.3" to 10"



## Powerful.

Panel with integrated controller  
1 ms cycle time and POWERLINK  
5.7" to 10"



**Your choice: Portrait/landscape, light/dark**

T-Series and C-Series Power Panels are available in portrait and landscape format in anthracite gray with pinstripes and aluminum white with pinstripes. These options are available in all sizes.





# Your bonus package



The new Power Panels have been designed and built to meet industrial customers' demands for flexible, reliable, user-friendly and cost-effective HMI and control.

As always, one of B&R's main priorities was ensuring that the various Power Panel models are fully interchangeable. Each machine you develop can be adapted to a wide range of requirements without any new programming. This saves both time and development costs. Power Panels are designed and built entirely in-house – from the circuit board to the finished product.

## Highlights

- Scalable
- Integrated connection options
- More space in the control cabinet
- Easy operation
- Maintenance-free
- Rugged
- Made by B&R



### Scalability

Power Panel T30 and C70 devices are available in a range of sizes and are interchangeable. Replacing one with the other requires no additional programming, so you only need to design one machine and can then easily adapt it to different market requirements at minimal cost. Draw from B&R's full range of controllers, industrial PCs, software, motion control and HMI solutions to enjoy this same perfect scalability across the board.

### Integrated connectivity

In spite of its compact dimensions, the Power Panel makes no compromises in terms of functionality. Motion axes, I/O and safety components can all be hooked up directly. How they are connected is entirely a matter of what best suits the user's needs. The following interfaces are available: Ethernet, USB, POWERLINK, X2X, CAN, RS232 and RS485.

### More space in the control cabinet

There's a Power Panel to fit every application. The shallow installation depth and fusion of control and HMI functionality save valuable space in the control cabinet. All connections have been laid out so that the cables don't protrude past the edge of the housing and take up extra space.

### Easy operation

The Power Panel's touch screen provides easy and intuitive operation. The touch button can be used to integrate Home or Help functions into the HMI application. Illuminated ring key modules can be added as needed.

### Maintenance-free

Although the Power Panel C-series devices feature an integrated controller with a powerful processor, none of the variants require the use of hard drives, fans or batteries. With no moving parts, the Power Panels are exceptionally reliable and completely maintenance-free.

### Rugged

Power Panels are designed for deployment in harsh industrial environments. Behind the robust IP65 housing, B&R also places rigorous demands on the interior itself. Even in relentless 24/7 operation, Power Panels perform with absolute reliability.

### Made by B&R

Power Panels are manufactured exclusively by B&R. Each and every panel must pass strict quality testing before we let it out the door. Our "Made by B&R" seal of quality is not earned easily.

# Power Panel T-/C-Series

The T-/C-Series Power Panels are available as either a terminal (T30) or controller (C70). Both versions feature an analog resistive touch screen.

## Compact terminal

Power Panel T30 terminals can be used either with the integrated web browser or as a VNC-client. The mode is set easily using the device's internal configuration. Users can choose between four display sizes, with diagonals ranging from 4.3" to 10.1".

## Powerful controller

Power Panel C70 controllers feature a powerful Intel® ATOM™ processor, 256 MB RAM and a 2 GB flash drive. This controller with a built-in touch screen is available in three sizes, with diagonals ranging from 5.7" to 10.1".

### Variable

- Various sizes
- Various resolutions
- Portrait or landscape





**Compact**

- Shallow installation depth
- Minimal cabinet space
- Conveniently situated connections

**Maintenance-free**

- No batteries
- No fans
- Flash memory

**Color**

- Aluminum white pinstripe
- Anthracite gray pinstripe
- Custom

**Display**

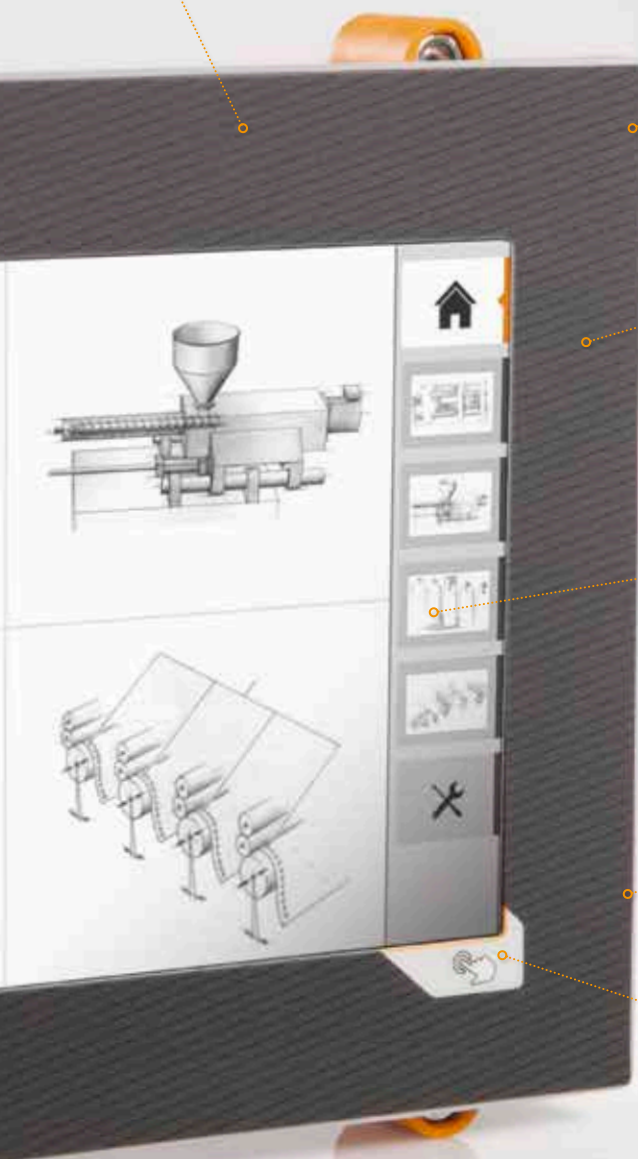
- Touch screen
- LED backlight
- Perfect readability

**Optimized border width**

- Compact
- Simple installation
- Perfect seal

**Touch button**

- Easy access
- Freely configurable
- e.g. Home button



# Power Panel T30

## Compact HMI

The Power Panel T30 provides pure HMI functionality and can be operated either by running the integrated web browser in frameless full screen mode or as a VNC-Client.

The mode can be easily configured on the device. Since the Power Panel communicates via standard Ethernet, cabling is simple and inexpensive. Four different display sizes are available.

### Highlights

- Easy to select the operating mode: VNC client or web terminal
- Extremely compact design
- Optimized border width
- Cost-effective cabling
- Easy to install

Power Panel T30 →	4.3"		5.7"		7"		10.1"	
Resolution	WQVGA		VGA		WVGA		WSVGA	
Resolution in pixels	480 x 272		640 x 480		800 x 480		1024 x 600	
Aspect ratio	16:9		4:3		15:9		15:9	
Outer dimensions (W x H x D, landscape)	140 x 96 x 38.3 mm		172 x 140 x 47.8 mm		197 x 140 x 47.8 mm		276 x 172 x 47.8 mm	
Installation dimensions (W x H, landscape)	130.8 x 86.8 mm		161.8 x 129.9 mm		186.8 x 129.8 mm		265.9 x 161.9 mm	
Brightness	550 cd/m <sup>2</sup>		450 cd/m <sup>2</sup>		500 cd/m <sup>2</sup>		400 cd/m <sup>2</sup>	
Panel overlay	Anthracite gray pinstripe	Aluminum white pinstripe	Anthracite gray pinstripe	Aluminum white pinstripe	Anthracite gray pinstripe	Aluminum white pinstripe	Anthracite gray pinstripe	Aluminum white pinstripe
Orientation	Portrait/Landscape		Portrait/Landscape		Portrait/Landscape		Portrait/Landscape	



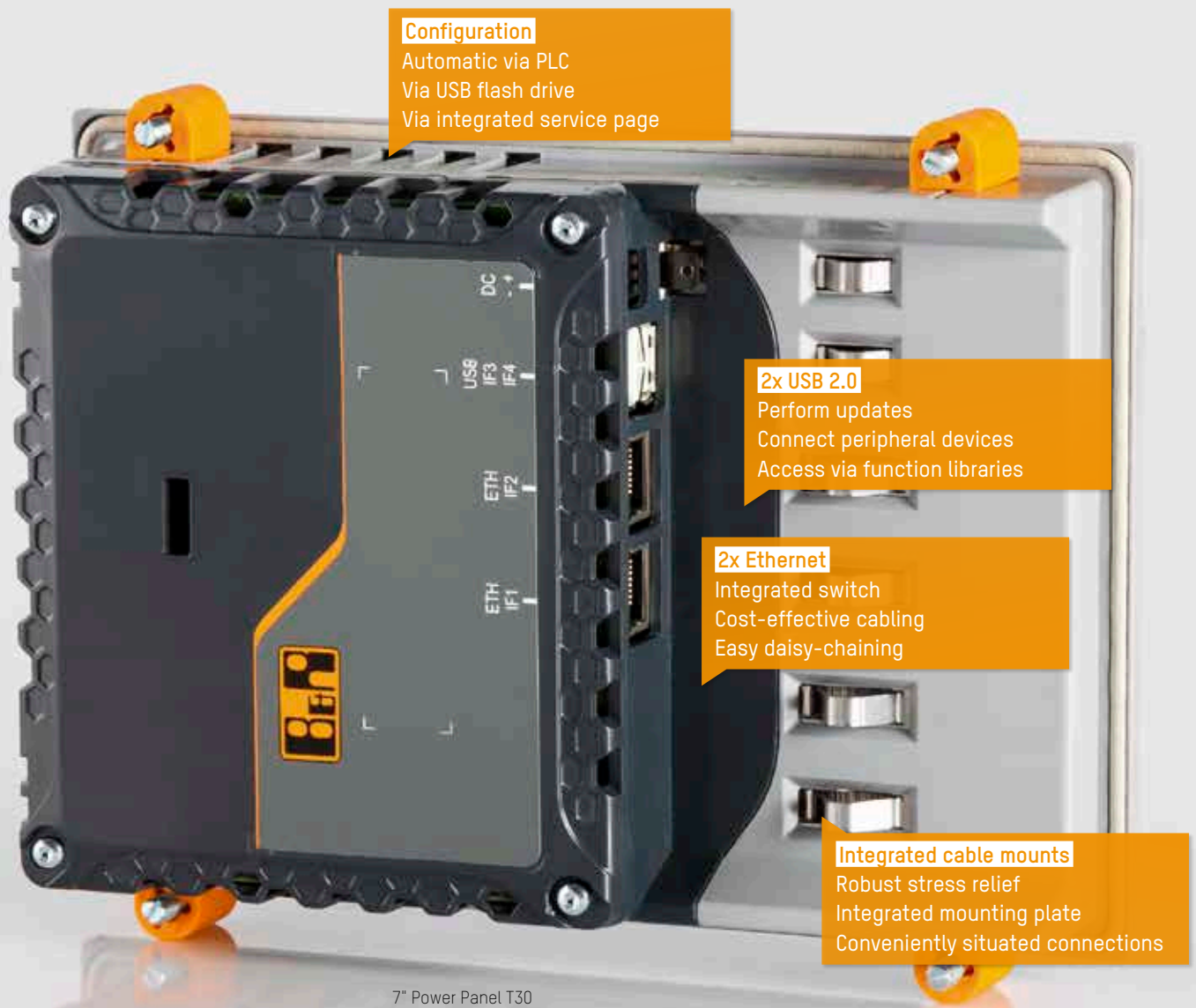
4.3" Power Panel T30



5.7" Power Panel T30



10.1" Power Panel T30



# Power Panel C70

## Controller with integrated HMI

On the outside, the Power Panel C70 looks no different than the T30, yet on the inside it houses a full-fledged controller. With the performance of its Intel® Atom™ processor, the Power Panel C70 can run typical applications with cycle times as low as 1 ms.

The basis for this is the Automation Runtime operating system, which provides up to eight task classes. To allow optimal use of this performance, the Power Panel C70 has full selection of integrated interfaces that can be expanded as needed.

### Highlights

- Terminal and controller in a single device
- Fastest cycle time: 1 ms
- Maintenance-free Flash memory, fanless, no battery
- Extremely compact design
- Optimized border width
- Cost-effective cabling

### Power Panel C70 →

	5.7"		7"		10.1"	
Resolution	VGA		WVGA		WSVGA	
Resolution in pixels	640 x 480		800 x 480		1024 x 600	
Aspect ratio	4:3		15:9		15:9	
Outer dimensions (W x H x D, landscape)	172 x 140 x 50.9 mm		197 x 140 x 50.9 mm		276 x 172 x 50.9 mm	
Installation dimensions (W x H, landscape)	161.8 x 129.9 mm		186.8 x 129.8 mm		265.9 x 161.9 mm	
Brightness	450 cd/m <sup>2</sup>		500 cd/m <sup>2</sup>		400 cd/m <sup>2</sup>	
Panel overlay	Anthracite gray pinstripe	Aluminum white pinstripe	Anthracite gray pinstripe	Aluminum white pinstripe	Anthracite gray pinstripe	Aluminum white pinstripe
Orientation	Portrait/Landscape		Portrait/Landscape		Portrait/Landscape	



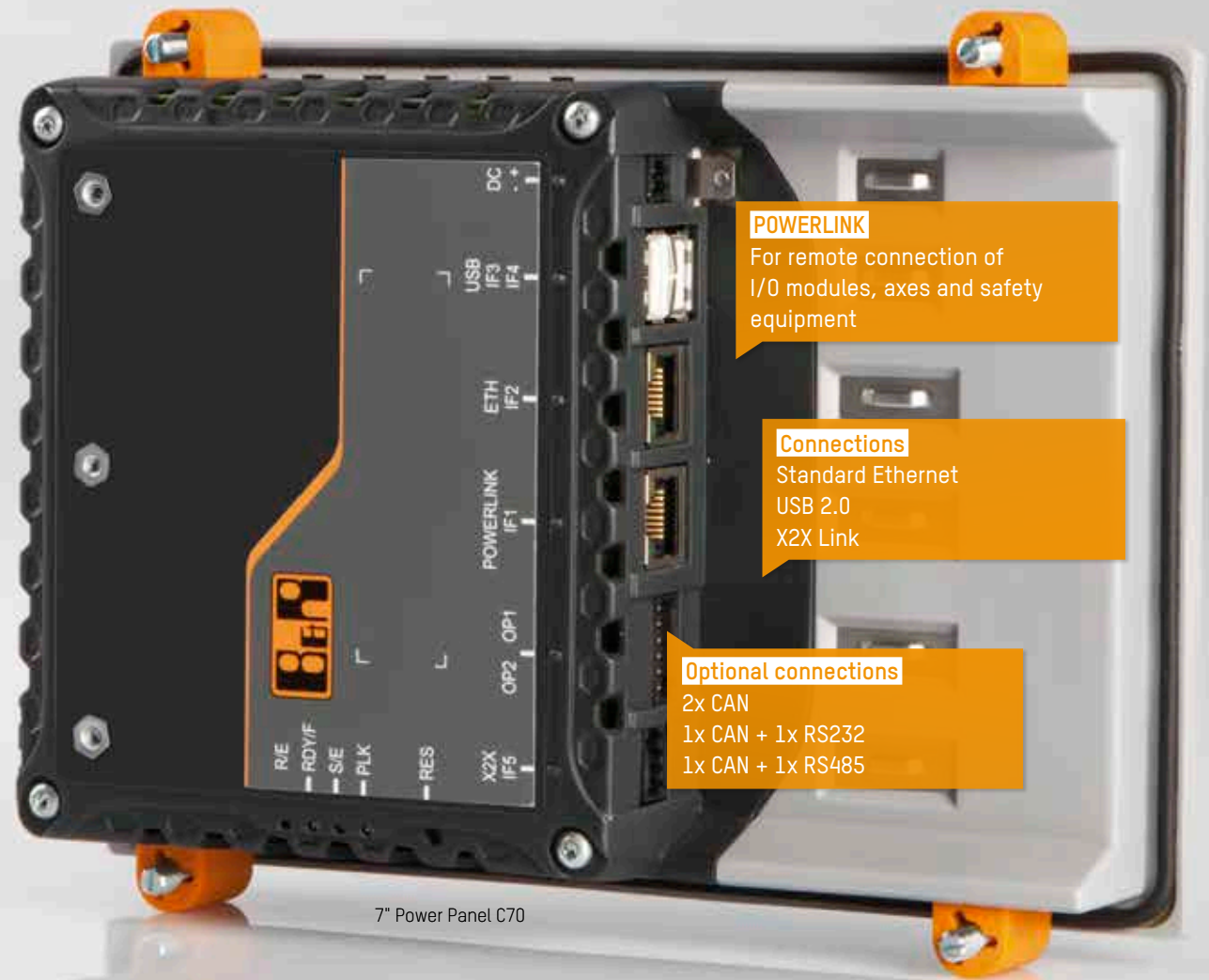
5.7" Power Panel C70



10.1" Power Panel C70

**Full performance**  
 Intel® Atom™ processor  
 333 MHz  
 Fastest typical cycle time: 1 ms

**Plenty of memory**  
 256 MB DDRAM  
 32 kB NV RAM  
 2 GB flash drive



7" Power Panel C70

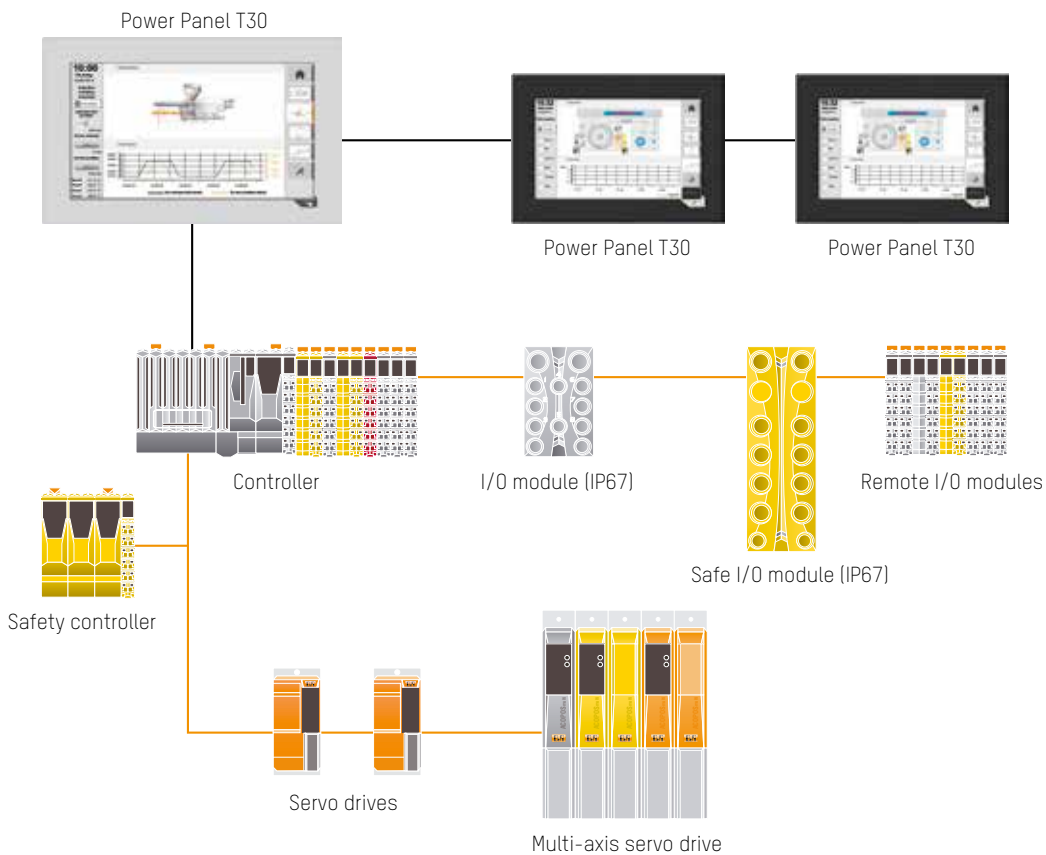
**POWERLINK**  
 For remote connection of I/O modules, axes and safety equipment

**Connections**  
 Standard Ethernet  
 USB 2.0  
 X2X Link

**Optional connections**  
 2x CAN  
 1x CAN + 1x RS232  
 1x CAN + 1x RS485



# Versatile terminal

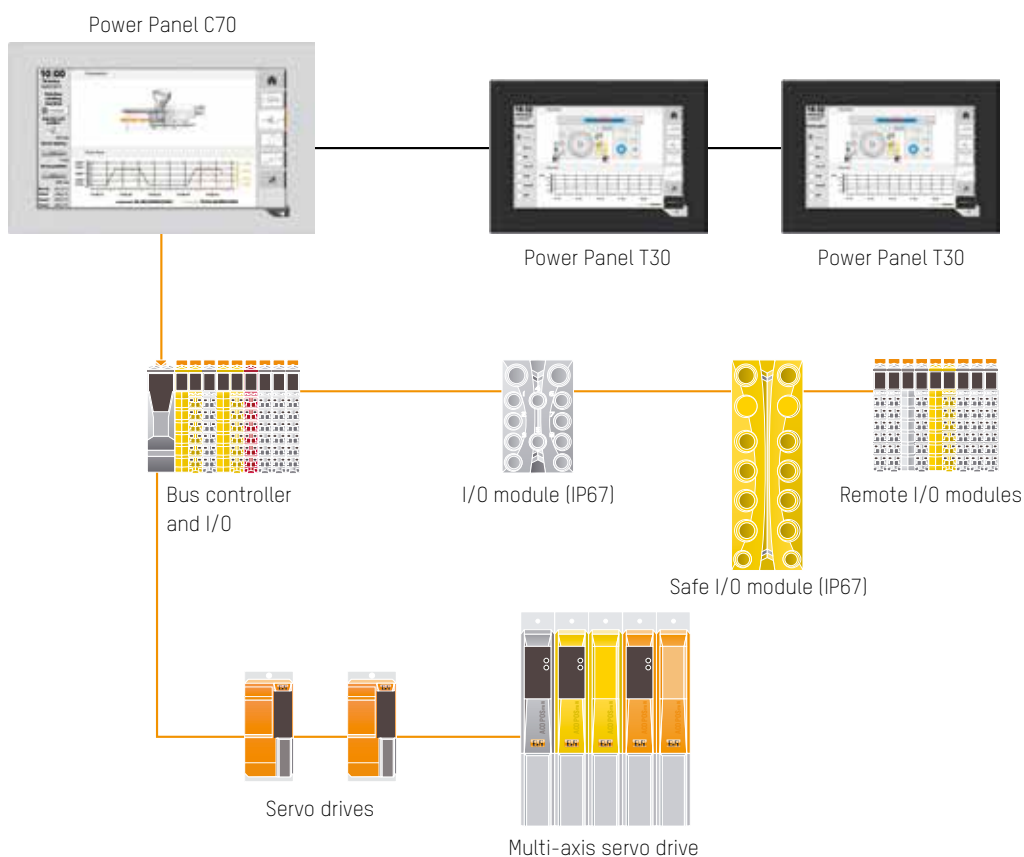


When a separate controller is used, any number of Power Panel T30 devices can be operated as remote terminals. Power Panels of different sizes, even displaying different content, can easily and inexpensively be daisy-chained in any topology using Fast Ethernet. Safety functions are simple to integrate via a separate safety controller.

## Automation

- PLC-based system
- Remote terminals connected via standard Ethernet
- Standard Fast Ethernet cabling
- Powerful safety controller

## Powerful controller



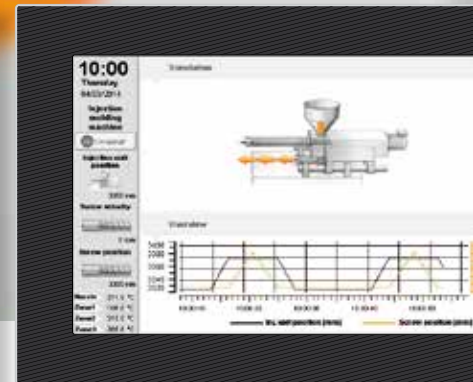
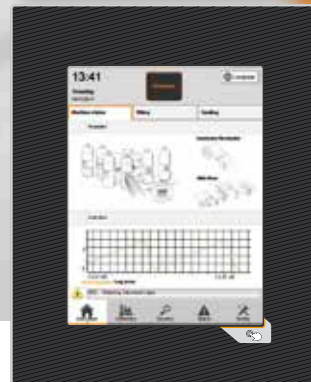
When a Power Panel C70 is used as the controller, components such as I/O modules and drives can all be connected directly to the panel via POWERLINK or other fieldbus systems. No other controllers are needed. If you use safe I/O modules with SafeLOGIC-X, the Power Panel C70 even assumes the role of a safety controller. If needed, additional Power Panel T30s can be connected via Ethernet as remote terminals.

### Automation

- Power Panel-based system
- Additional remote terminals connected via standard Ethernet
- 100 m from point to point
- Cost-optimized safety technology

# Illuminated ring keys

## Clear. Intuitive. Elegant.



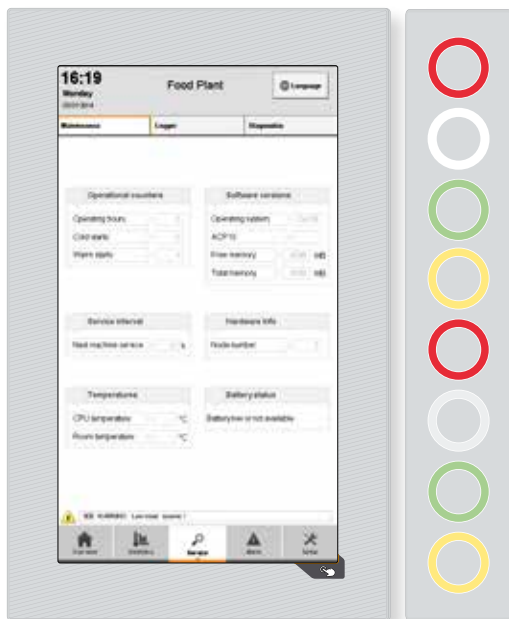
BSR's patented illuminated ring keys are the perfect addition to the T-/C-Series Power Panels, providing quick access to important functions.

Highly visible colors that can be controlled individually ensure safe and intuitive operation. The keypad modules are designed to complement the Power Panels in size, shape and color. Depending on the module they can be mounted on the long or short side of the panel. No hardwiring is necessary; the key functions and color control all run over X2X Link.



### Mounting

Flexible mounting positions



**Design**  
Colors and dimensions perfectly matched to the new Power Panels

**Colors**  
4-color illuminated ring keys  
Colors controlled individually



**Operation**  
Safe and intuitive operation

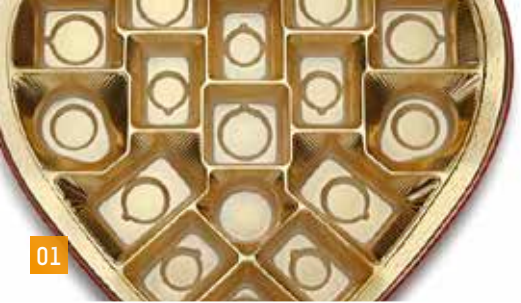


Keypad modules →

- Connection
- Key designs
- Variants
- Panel overlay

Illuminated ring key	
Connection	X2X Link
Key designs	4-color illuminated ring keys Red, green, yellow, white Colors controlled individually
Variants	3 illuminated ring keys 5 illuminated ring keys 8 illuminated ring keys
Panel overlay	Anthracite gray / Aluminum white





01



02



03



04



05



06



07



08



09



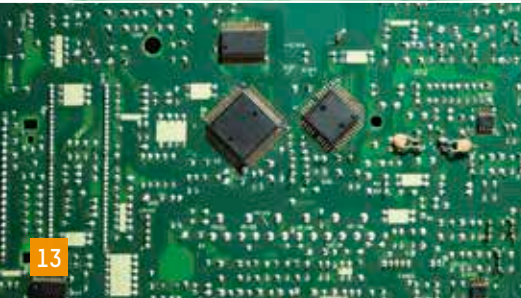
10



11



12



13



14



15



16



17



18



19



20



21



## For every industry

**The Power Panel T-/C-Series are flexible enough to be used in virtually any industry. Reliable and scalable, they are used wherever automation solutions need to be cost-optimized and fit for the future.**

Machine builders around the world face a challenging trend. As machines are more frequently adapted to new products and markets – and are expected to mass produce highly customized products at high quality – the level of flexibility that must be incorporated into each machine's design is increasing rapidly. B&R's new Power Panels are the perfect way for machine builders to respond to this trend with cost-optimized automation solutions.

Once developed, a solution can be scaled up or down by adding or removing individual components. The complete scalability of B&R's products allows this to be done without any new engineering.

Power Panels are just as suited for the large machines found in the print, textile and wood industries as they are for the smaller laboratory systems of the pharmaceutical industry. Thanks to their excellent seal quality, they are also utilized in harsh environments such as offshore equipment and in the chemical and plastics industries. From packaging to metal to automotive: B&R Power Panels bring compact, scalable performance to every industry.

### Integrated automation software for every industry:

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

# Software Engineering with Automation Studio

## 01 Communication

- All devices networked to form a complete, synchronous system via POWERLINK
- Simple, controlled access to machine data with OPC
- Seamless integration of fieldbus devices
- External databases linked directly to the machine

## 02 Project management

- Investment protection through software reusability
- Complete integration of all BSR products yet also open to those from other manufacturers
- Source control system for assured access to defined development versions

## 03 Programming

- Compatibility: IEC 61131-3, CFC and ANSI C
- Object-oriented programming in C++
- Extensive technology libraries
- Integration of code from third-party applications
- Access to all PLCopen function blocks

## 04 Diagnostics & Remote maintenance

- Comprehensive and integrated diagnostic functions
- Graphical analysis of machine states
- Web-based diagnostics with System Diagnostics Manager

## 05 Motion control

- Uniform programming – from stepper motors to servo drives
- Easy access with standardized PLCopen integration
- Comprehensive support from configuration to commissioning
- One homogeneous system from single-axis to CNC and robotics applications

## 06 Safety

- Uniform view of safe I/O data in the standard and safe application
- No impact of functional changes on the safe application
- Safety during programming through the use of certified PLCopen function blocks
- Fieldbus-independent safety technology with openSAFETY

## 07 Operation & Monitoring

- Integrated machine visualization – from small displays to entire SCADA packages
- Machine visualization on a controller – local, remote or virtual
- Multilingual applications using Unicode

## 08 Control

- Complete integration of control, HMI, motion and safety technology
- Software compatibility across all hardware platforms
- Dynamic updating of plant components
- Decentralized hardware, local data management

ETHERNET  
**POWERLINK**

open  
**SAFETY**

Modular software engineering optimizes software costs and accelerates time to market. This is exactly what you can expect from B&R's Automation Studio, the software development tool that puts programming efficiency first. 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 life cycle. Automation Studio is perfect for engineers who want intuitive operation, extensive functionality and compatibility with standards used across the field of industrial automation. With Automation Studio 4, B&R has taken smart engineering to new heights.



# Optimize your system

B&R offers an extensive range of products for integrated automation solutions based on the Power Panel T-/C-Series. For a complete overview of all B&R system components, visit [www.br-automation.com](http://www.br-automation.com)



## Box PCs / Panel PCs

- **Automation PC 910 / Panel PC 900**
- Powerful Intel Core i3/i5/i7 processors
- Fanless operation
- Windows 7, Windows 8, Windows Embedded, Linux, real-time
- Uncompromising quality for operation over many years
- Direct fieldbus connection



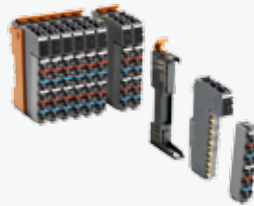
## Automation Panels

- **Automation Panel 900**
- Widescreen from 7" to 24" Full HD
- 4:3 from 12.1" XGA to 19" SXGA
- Projected capacitive multi-touch and analog resistive single-touch
- Hygienic design (IP69K)
- Swing arm or cabinet mounting
- Remote operation up to 100 m with SDL3



## Ultrafast automation

- **reACTION TECHNOLOGY**
- 1  $\mu$ s response time
- Cost-effective due to standard hardware
- IEC 61131 programming
- Significant reduction of CPU load
- Digital and analog signal preprocessing
- Comprehensive diagnostics and simulation
- Extensive function library



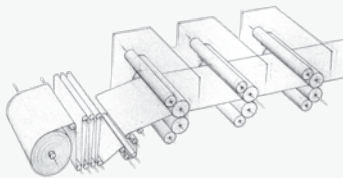
## Modular I/O system

- **X20 I/O**
- Open for all fieldbus systems
- Removable terminal blocks
- Hot-pluggable
- Unequaled component density: 16 channels in just 12.5 mm
- No-risk hardware replacement due to centralized management of firmware/configurations



## IP67 I/O system

- **X67 I/O**
- Open for all fieldbus systems
- Seamless integration
- Excellent EMC properties
- Diagnostics via PLC program and web interface
- Simple cabling



## Technology Solutions

- Integrated closed-loop control
- Hydraulics, temperature, winders, printing
- Profile generators, controllers, system identification, autotuning
- Virtual sensors
- Simulation models
- Model Predictive Control (MPC), Advanced Process Control (APC)



## IP20 motion control

- **ACOPoS/ACOPoSmulti/ACOPoSmicro**
- Power range from 500 W to 120 kW
- Regeneration-capable and energy-saving
- Integrated drive sizing
- Easy programming with standardized PLCopen function blocks
- Maximum dynamics and precision with a perfectly orchestrated complete system



## IP65 motion control

- **ACOPoSmotor/ACOPoSremote**
- Seamless integration in the ACOPoSmulti drive system
- Integrated safety technology and SafeMOTION
- High continuous power up to 4 kW
- Integrated drive sizing
- Easy programming with standardized PLCopen function blocks



### HMI terminals

- Power Panel T-series
- Portrait and landscape
- 4.3" to 10.1"
- Widescreen and 4:3
- Integrated VNC terminal and web client
- Compact, fanless and maintenance-free
- IP65 protection
- Daisy chain connections



### Power Panels

- Power Panel C-series
- Control and HMI in a single device
- Easy programming in IEC 61131-3, CFC, ANSI C, C++, PLCopen
- 5.7" to 10.1"
- Widescreen and 4:3
- Open communication (FTP, VNC, OPC, web server, POWERLINK)



### Scalable PLC platform

- X20 controller
- Easy programming in IEC 61131-3, CFC, ANSI C, C++, PLCopen
- Open fieldbus options (POWERLINK, CANopen, DeviceNet, PROFIBUS, PROFINET, etc.)
- Intel Atom performance
- Fanless and maintenance-free
- Integrated CNC and robotics



### Safe control platform

- SafeLOGIC
- Safety in accordance with CAT 4 / PL e / SIL 3
- PLCopen-certified function blocks
- Virtual wiring
- Management of machine options
- Easy IEC 61131 programming
- Openness through openSAFETY
- Integrated diagnostics



### Safe I/O system

- X20 SafeI/O / X67 SafeI/O
- Digital inputs/outputs
- Relay outputs
- Analog inputs
- Temperature inputs
- Use of I/O data in both standard and safe applications
- Safety in accordance with CAT 4 / PL e / SIL 3



### Safe motion control

- SafeMOTION
- Fastest reaction times
- STO, ST01, SBC, SOS, SS1, SS2, SLS, SDI, SLI, SMS, SLP, SMP, Safe Homing, SBT, SafeROBOTICS
- Safety in accordance with CAT 4 / PL e / SIL 3
- Network-based safety technology
- Safe parameter transfer with SafeLOGIC



### CNC / Robotics

- Generic Motion Control
- CNC functions for all technologies
- Ready-to-use robotics solutions
- Any kinematic transformations
- Motion profiles optimized for power consumption and timing
- Support for servos, steppers and hydraulics
- Interpretation of NC dialects



### Motors / Gears

- Power range up to 140 kW
- Synchronous motors, stepper motors, direct drives
- Direct gearbox mounting
- Integrated diagnostics down to the motor
- Integrated sizing with speed-torque chart
- Embedded parameter chip



### Mobile automation

- MA170 system
- Modular control and I/O system
- Extremely robust housing and hardware
- -40 to +85°C temperature range (housing surface)
- 8 to 32 VDC power supply
- Extreme shock and vibration resistance
- POWERLINK & CANopen



Integrated automation  
Global presence  
Solid partnership



ETHERNET   
**POWERLINK**

open   
**SAFETY**

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