BLOCK
POWER SUPPLIES
Switched mode power supplies / Electronic circuit breakers / Uninterruptible power supplies / Redundancy modules / Accessories

Switched mode power supplies

Electronic circuit breakers

Uninterruptible power supplies

Redundancy modules
POWER SUPPLIES  
Page 6

CIRCUIT BREAKERS  
Page 36

UPS  
Page 64

REDUNDANCY MODULES  
Page 78
TECHNOLOGICALLY CONVINCING

BLOCK products are especially tailored to specific requirements of an application and provide superior system reliability for your machines and equipment.
SWITCHED MODE POWER SUPPLIES WITH POWERFUL BOOST TECHNOLOGY

Up to 100 A for 50 ms available for the reliable tripping of conventional circuit breakers in faulty circuits. Additionally, 100 % power reserve for 4 seconds allows the connection of loads with high inrush current without overdimensioning the power supply.

[Details from page 6]

ELECTRONIC CIRCUIT BREAKERS WITH A COST-EFFECTIVE CONNECTION TO A HIGHER-LEVEL CONTROL SYSTEM

Up to 8 protected circuits can be specifically switched on or off via digital output of the PLC. A digital input reads the operating and error status of each circuit.

[Details from page 36]

DC - UPS SYSTEMS WITH BATTERY CONTROL

Reliable battery management can only be realised through a constant data exchange between charge and control unit and the battery module. This enables the optimal and gentle charging of the batteries and provides a reliable signal to the superior machine control system as soon as the battery needs to be replaced due to a deterioration.

[Details from page 64]

REDUNDANCY MODULES ON INSTALLATION OF A FAIL-SAFE POWER SUPPLY SYSTEM

To avoid putting the operational reliability of machines and systems at risk in the event of a power supply failure, availability is safeguarded by two power supplies with the same rating.

[Details from page 78]
POWER SUPPLIES

SMALL YET EFFICIENT MODULE FOR COMPACT CONTROLLERS

EFFICIENT POWER SUPPLY IN COMPACT PLASTIC CASING FOR VERSATILE USE

reddot design award
winner 2013
OPTIMISED FOR THE CORE TASK OF POWER AND VOLTAGE SUPPLY

THE HIGH PERFORMER FOR DEMANDING TASKS
POWER VISION POWER SUPPLIES

For the highest system reliability

Leading the power supply industry, Power Vision offers a technically and economically superior product line featuring slim-design modules, great communication capabilities and maximum power reserves for optimum system reliability while being highly cost-effective.

- **Top Boost**
  Enables the use of conventional circuit breakers for selective branch protection of DC 24 V power supply circuits

- **Power Boost**
  Large power reserves secure the start up of loads with high inrush currents

- **Mains input fuse**
  Integrated fuses permit device protection without the use of required preliminary fuses

- **Monitoring**
  Interfaces and configurable signal outputs ensure extensive input and output supply monitoring possibilities
SPECIAL FEATURES

Input fuses
The devices feature built-in input fuses and can be connected directly to industrial standard sockets. This saves space and costs for additional circuit breakers and their wiring.

Software
Free parameter diagnostic software is available for devices with integrated interfaces. The recording of measurement values and messages for analysing the grid voltage or output voltage and current is possible.

Large current reserves
Top and Power Boost

Digital Boost control
Boost is available directly after device start up.

Two Power Boost levels
100% Power Boost for 4 secs.
50% Power Boost for 16 secs.

Top Boost
Temporary increased power for a reliable start of loads with very high inrush current peaks. Enables the tripping of circuit breakers up to C characteristic.

Dynamic Power Boost
Enables cyclic use of Power Boost.

Active inrush current limiting
After connecting the grid voltage the internal capacitors cause an inrush current peak at the power supply, which is limited by passive components. When multiple power supplies are switched in parallel the inrush currents accumulate.

Options are available which limit these inrush currents to a minimum. An unwanted tripping of the upstream fuse can be avoided.
ECONOMY – THE COST-EFFICIENT SOLUTION

The Power Vision Economy (PVSE) is an optimised switched mode power supply with a high-precision output voltage for all automation technology requirements. “Economy” concentrates on the core task of supplying voltage and current.

FEATURES

- Power range: 72 to 960 W
- Universal output
- Stabilised and adjustable output voltage

VERSIONS

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<thead>
<tr>
<th>Single-Phase</th>
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<tr>
<td></td>
<td>3 A</td>
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<td>10 A</td>
</tr>
<tr>
<td></td>
<td>30 Vdc</td>
<td>3 A (AS-i)</td>
<td>30 Vdc</td>
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<tr>
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<td>5 A</td>
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<td></td>
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<td>48 Vdc</td>
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HIGHLIGHTS

- TOP BOOST – 60 A ABOVE RATED CURRENT FOR TRIPPING CIRCUIT BREAKERS
- PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY
- ROBUST SUPPORT RAIL MOUNTING
- UP TO 200% POWER BOOST FOR 4 SECONDS
- STAND-BY-INPUT
- POTENTIAL-FREE “DC OK” SIGNAL CONTACT
OVERLOAD BEHAVIOUR

LEDs

The Economy option is equipped with two LEDs to indicate the operating status. When the device is running error-free, the green LED lights up. The red LED indicates undervoltage at the output of the power supply.

SETTING THE OUTPUT VOLTAGE

SIGNAL CONTACT “DC OK”

The power supply is equipped with an isolated “DC OK” signal output. In the event of undervoltage at the output, the internal relay becomes inactive. The changeover contact can be used for error query.

STAND-BY INPUT

The stand-by input allows a controlled shutdown of the power supply. When applying an external DC voltage at the stand-by input, the device’s output is switched off and the switched mode power supply remains in stand-by mode.
BASIC – FEATURING LOAD MONITORING

The Power Vision Basic (PVSB) is suitable for requirements in automation technology, offering numerous parameter-settings and indicator functions including output current and voltage monitoring. In addition to PVSE power reserves, a serial interface and four active signal outputs ensure uninterrupted communication with the system environment.

FEATURES

Power range: 240 to 960 W
Universal input: 340 to 550 Vac
Stabilised and variable output voltage

VERSIONS

<table>
<thead>
<tr>
<th>THREE-PHASE</th>
<th>24 Vdc</th>
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<th>24 Vdc</th>
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<tbody>
<tr>
<td>10 A</td>
<td>20 A</td>
<td>40 A</td>
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</tbody>
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OUTPUT MONITORING FOR A MORE PREVENTIVE APPROACH

The current and voltage of the PVSB power supply output are monitored continuously. Key information is indicated directly on the display. The integrated control unit is able to detect and signal potential faults affecting equipment at an early stage and to save relevant data.

THE PVSB IS ABLE TO DETECT THE FOLLOWING POTENTIAL FAULTS:

- Overcurrent
  When the output current exceeds the rated output current.

- Undervoltage
  When the output voltage falls below the configurable DC OK limit value.

- Hardware failure
  When the device’s internal self-testing function fails.

DISPLAY AND INTERFACE PROVIDE THE FOLLOWING KEY INFORMATION:

- Output current
- Output voltage
- Max. output current
- Min./max. output voltage
- Visualisation of all faults
- Type of fault
- Operating hour counter

HIGHLIGHTS

TOP BOOST – 60 A ABOVE RATED CURRENT FOR TRIPPING CIRCUIT BREAKERS

INTEGRATED OUTPUT CURRENT AND VOLTAGE MONITORING

ROBUST SUPPORT RAIL MOUNTING

PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

UP TO 200 % POWER BOOST FOR 4 SECONDS

DISPLAY AND RS-232 INTERFACE

FOUR ACTIVE DC 24 V SIGNAL CONTACTS FOR OPERATION MONITORING
SETTING THE OUTPUT VOLTAGE

The output voltage can be set to a value between 22.0 and 28.8 V DC either digitally using the buttons on the device itself or automatically via interface. When the device is switched on again, it will automatically restore the final voltage value stored in its memory.

COMMUNICATION WITH THE USER

Via LEDs: Non-critical faults are signalled by the yellow LED, while critical faults are indicated by the red LED.

Via display: The device features an integrated fault memory for self-diagnostics. The precise nature of any potential faults can be easily identified thanks to the display’s system of flashing segments.

Via active signal outputs: There are four active signal outputs on the front panel of the PVSB for function monitoring. The corresponding status can be transmitted to a control system. The signal outputs switch on the output voltage and can be processed as a digital signal. Two of the four signal outputs can be configured individually using a free parameterisation software, e.g. generate a summary signal for all critical states.

Via interface: The device can communicate with a PC or a control system via serial interface. The switched mode power supply’s key data is transmitted cyclically enabling the user to view relevant data and respond to critical operational states.

This interface can also be used for parameterisation of the PVSB. The Power Vision software packages required for communication can be downloaded from block.eu at no charge.
LINE – FEATURING LOAD AND MAINS SUPPLY MONITORING

The PVSL 400 is a top-of-the-range switched mode power supply designed to meet all automation technology requirements. It features a wide range of parameterisation and display functions, including output current and voltage monitoring as well as integrated line voltage analysis.

FEATURES

Power range: 240 to 960 W
Universal input: 340 to 550 Vac
Stabilised and adjustable output voltage

VERSIONS

<table>
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<tr>
<th>THREE-PHASE</th>
<th>24 Vdc 10 A</th>
<th>24 Vdc 20 A</th>
<th>24 Vdc 40 A</th>
</tr>
</thead>
</table>

HIGHLIGHTS

TOP BOOST – 60 A ABOVE RATED CURRENT FOR TRIPPING CIRCUIT BREAKERS

INTEGRATED OUTPUT CURRENT AND VOLTAGE MONITORING

ROBUST SUPPORT RAIL MOUNTING

PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

ADDITIONAL INPUT VOLTAGE MONITORING INCLUDING FREQUENCY AND ROTARY FIELD MEASUREMENT

UP TO 200 % POWER BOOST FOR 4 SECONDS

DISPLAY AND RS-232 INTERFACE

FOUR ACTIVE DC 24 V SIGNAL CONTACTS FOR OPERATION MONITORING
INPUT AND OUTPUT MONITORING FOR A MORE PREVENTIVE APPROACH

In addition to the features supported by the PVSB, the PVSL switched mode power supply is equipped with an integrated supply input monitoring function.

The PVSL module is able to detect the following potential faults:

- **Mains undervoltage**
  When the input voltage of at least one input phase falls below a configurable threshold value.

- **Mains overvoltage**
  When the input voltage of at least one input phase exceeds a configurable threshold value.

- **Phase error**
  When a supply input phase fails.

- **Phase sequence error**
  When the connected phase sequence direction is counterclockwise.

- **Frequency error**
  When the power frequency is outside the frequency range of 44 to 66 Hz.

- **Power failure**
  When at least two power input phases fail (typical response time 4 ms).

- **Communication error**
  When the internal communication test fails.

- **Overcurrent**
  When the output current exceeds the rated output current.

- **Undervoltage**
  When the output voltage falls below the configurable DC OK limit value.

- **Hardware failure**
  When the device’s internal self-testing function fails.

Display and interface provide the following key information:

- Mains input voltage
- Mains frequency
- Phase sequence direction
- Output current
- Output voltage
- Max. output current
- Visualisation of all faults
- Type of fault
- Operating hour counter

PVSL for well-arranged wiring cabinets

With the PVSL the use of additional modules in the wiring cabinet becomes redundant. The line option monitors the phase sequence direction and checks the quality of the supply network for input phases.

In the event of power failure, faster response times provide enough time for data storage which is important for the restart of a device.

Information that can only be obtained via interface:

- Power input voltage of the different phases
PVSA – FOR
AS-I BUS SYSTEME

Power Vision (PVSA) are primary switched mode power supplies with integrated output filter for AS-i bus systems.

FEATURES
Input rated voltage: 100 to 240 Vac
Stabilised and adjustable output voltage

VERSIONS

SINGLE-PHASE
30.5 Vdc
3 A

HIGHLIGHTS

TOP BOOST – 12 A ABOVE RATED CURRENT FOR TRIPPING CIRCUIT BREAKERS

PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

ROBUST SUPPORT RAIL MOUNTING

COMPATIBLE TO AS-I

UP TO 200 % POWER BOOST FOR 4 SECONDS

STAND-BY INPUT

POTENTIAL-FREE “DC OK” SIGNAL CONTACT
LEDs

The PVSA series is equipped with two LEDs to indicate the operating status. When the device is running error-free, the green LED lights up. The red LED indicates undervoltage at the output of the power supply.

Signal Contact “DC OK”

The power supply is equipped with an isolated “DC OK” signal output. In the event of undervoltage at the output, the internal relay becomes inactive. The changeover contact can be used for error query.

Stand-by Input

The stand-by input allows a controlled shutdown of the power supply. When applying an external DC voltage at the stand-by input, the device’s output is switched off and the switched mode power supply remains in stand-by mode.
POWER COMPACT POWER SUPPLIES

Basic power supply for your application

The Power Compact product line combines basic functionality of economical switched mode power supplies and additional features for maximum system reliability.

- Resistant to transient overvoltages up to 4 kV
- “DC OK” signal contact
- Parallel operation
- Fast tripping of conventional circuit breakers
- Robust DIN rail mounting
These all-round power supply units can be utilised for various applications in the area of solar, measurement and control technology, especially plant and mechanical engineering.

They are robust and adaptable in a range of applications, yet feature a light and compact design, which provides an outstanding protection against transients and high-energy interference pulses at the power input.

**RAIL MOUNTING**

Robust rail mounts and push-in connecting terminals allow for quick and safe installation.

**INPUT VOLTAGE RANGE**

- Single-phase: 85 - 264 Vac
- Two-phase: 180 - 550 Vac
- Three-phase: 320 - 575 Vac

**OUTPUT VOLTAGE OPTIONS**

- 12 V
- 24 V
- 48 V
- 60 V

**OPTIONAL POWER BOOST**

For the 2- and 3-phase devices, versions are available with 50% power reserves for starting up loads with high starting currents.

These devices meet average power requirements ranging between 120 and 360 W. Different options with 12, 24, 48 or 60 V allow versatile application.

The output voltage can be set by using the rotary potentiometer on the front panel of the device.
BASIC POWER SUPPLY FOR YOUR APPLICATION

The single-phase switched mode power supply impresses with robust design and flexibility. A compact design and high temperature range allows for versatile application.

FEATURES

Power range: 120 to 480 W
Universal input range: 85 to 264 Vac
Stabilised and adjustable output voltage

VERSIONS

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<tr>
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<th>48 Vdc</th>
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<tbody>
<tr>
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<td>15 A</td>
<td>5 A</td>
<td>5 A</td>
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<td>10 A</td>
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<td></td>
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<td>20 A</td>
<td>10 A</td>
</tr>
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</table>

HIGHLIGHTS

ROBUST SUPPORT RAIL MOUNTING
POTENTIAL-FREE “DC OK” SIGNAL CONTACT
PUSH-IN CONNECTION TECHNOLOGY
CONSTANT CURRENT IN OVERLOAD CONDITIONS
COMPLIES WITH HOUSEHOLD APPLIANCE EN 60335-1 (ONLY 24 V/5 A)
FAST TRIPPING OF STANDARD BI-METAL CIRCUIT BREAKERS
BASIC POWER SUPPLY FOR YOUR APPLICATION

Equipped with a single- or two-phase supply range of 180 to 550 Vac, these all-round devices are ideal for maximum system reliability worldwide. In addition, these power supply units feature a compact design and easy to service push-in connection terminals.

FEATURES

- Power range: 120 to 240W
- Universal input range: 180 to 550 Vac
- Stabilised and adjustable output voltage

VERSIONS

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HIGHLIGHTS

- FAST TRIPPING OF STANDARD BI-METAL CIRCUIT BREAKERS
- ROBUST SUPPORT RAIL MOUNTING
- OPTIONAL: 50% POWER BOOST
- POTENTIAL-FREE “DC OK” SIGNAL CONTACT
- PUSH-IN CONNECTION TECHNOLOGY
- CONSTANT CURRENT IN OVERLOAD CONDITIONS

SUBJECT TO CHANGE.
BASIC POWER SUPPLY FOR YOUR APPLICATION

The high overvoltage resistance and the required energy reserves for actuating traditional circuit breakers make the 3-phase Power Compact switched mode power supplies the ideal power supply for controlling larger machines and systems.

FEATURES

Power range: 240 to 960 W
Universal input range: 320 to 575 Vac
Stabilised and adjustable output voltage

VERSIONS

<table>
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<th>THREE-PHASE</th>
<th>24 Vdc</th>
<th>24 Vdc</th>
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<tr>
<td>60 Vdc</td>
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HIGHLIGHTS

FAST TRIPPING OF STANDARD BI-METAL CIRCUIT BREAKERS

ROBUST SUPPORT RAIL MOUNTING

OPTIONAL: 50% POWER BOOST

POTENTIAL-FREE “DC OK” SIGNAL CONTACT

PUSH-IN CONNECTION TECHNOLOGY

CONSTANT CURRENT IN OVERLOAD CONDITIONS

OPTIONAL WITH PRIMARY INPUT FUSE

GL approval pending
SLIM AND EFFICIENT

These efficient switched mode power supply units feature a slim plastic casing, covering a range of lower power requirements up to 100W, and comply with household appliance standard EN 60335-1. For a configuration of NEC Class 2 circuits different series are available.

FEATURES

Power range: 25 to 100W
Universal input range: 85 to 264 Vac
Stabilised and adjustable output voltage

HIGHLIGHTS

ACTIVE “DC OK” SIGNAL CONTACT
CONSTANT CURRENT IN OVERLOAD CONDITIONS
NEC CLASS 2 FOR 12V DEVICES TO 2A, 4A AND 24V DEVICES TO 1A, 2A AND 3.8A
PUSH-IN CONNECTION TECHNOLOGY
LOW STAND-BY LOADS <1W
COMPLIES WITH HOUSEHOLD APPLIANCE EN 60335-1

VERSIONS

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<td>48 Vdc</td>
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block.eu 23
SWITCHED MODE POWER SUPPLIES IN FLAT PLASTIC CASING

These devices cover a power range from 20 to 100W. Specifically designed for use in distribution boards or flat control panels.

FEATURES
Power range: 20 to 100W
Universal input range: 85 to 264 Vac

HIGHLIGHTS
STABILISED AND ADJUSTABLE OUTPUT VOLTAGE
VIBRATION-RESISTANT SPRING-LOADED TERMINALS
CONSTANT CURRENT IN OVERLOAD CONDITIONS

VERSIONS

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SINGLE-PHASE
SWITCHED MODE
POWER SUPPLIES IN
FLAT PLASTIC CASING

The PEL Neo series is derived from the PEL power supply units. The devices cover power requirements ranging from 30 to 100 W. New pluggable spring-clamp terminals with push-in technology simplify installation.

FEATURES
Power range: 30 to 100W
Universal input range: 85 to 264 Vac

HIGHLIGHTS
STABILISED AND ADJUSTABLE OUTPUT VOLTAGE
PLUG-IN SPRING-LOADED TERMINALS WITH PUSH-IN CONNECTION TECHNOLOGY
CONSTANT CURRENT IN OVERLOAD CONDITIONS

VERSIONS

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<td>24Vdc 4A</td>
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SINGLE-PHASE
DC 24 V FUSE PROTECTION WITH BLOCK POWER SUPPLIES

For a rapid, magnetic tripping of conventional circuit breakers, an overrated current is required for a short period of time. The power supplies of the Power Vision and Power Compact series enable a reliable shut off of faulty current paths in the event of a short circuit.

NOTE
Cable length calculation
The cable length calculator helps with the layout of your device and is available to download from block.eu at no cost. The maximum cable length for all Power Vision power supplies is calculated with regards to the cable cross section and utilised circuit breaker.
Devices from the Power Vision series provide temporary up to 100 A thanks to its Top Boost technology. This power supply enables reliable tripping of circuit breakers up to B10 or C6 characteristic.

Due to its high current reserve capacity, the Power Compact power supply is suitable for cable lengths of up to 40 metres.

For high cable resistances or use of power supplies without power reserves, the electronic circuit breakers offer a technical alternative to the classic circuit breaker. Learn more about these module in the chapter for electronic circuit breakers.

Please note

To guarantee the quick triggering of the circuit breaker within the electromagnetic tripping range of the tripping curve, the resistance of the entire conductor loop has to be observed. The ohmic resistances for the incoming/returning cables limit the possible maximum current (cable cross-section and length as well as the contact resistance).
<table>
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<td>Can be used worldwide through wide-range input</td>
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<tr>
<td>Status LED</td>
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</tr>
<tr>
<td>Top Boost for reliable start-up of loads with high inrush currents and quick tripping of circuit breakers up to C characteristic</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
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</tr>
<tr>
<td>Power Boost for the reliable start-up of loads with high inrush current and current peaks for the quick tripping of circuit breakers up to B characteristic</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>DC OK message via potential-free contact</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>DC OK message via active signal contacts</td>
<td>✗</td>
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<tr>
<td>Stand-by input</td>
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<tr>
<td>Display for easy start-up</td>
<td>✗</td>
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<td>RS-232 interface</td>
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<td>DC current and voltage monitoring</td>
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<td>AC power input monitoring</td>
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<tr>
<td>Push-in direct plug-in technology</td>
<td>✗</td>
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<tr>
<td>Plug-in spring-loaded connection technology</td>
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<tr>
<td>Protective coating for harsh environmental conditions</td>
<td>✗</td>
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<td>UL certification</td>
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<tr>
<td>Complies with household appliance standard EN 60335-1</td>
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<tr>
<td>NEC Class 2 power supply (max. 100W)</td>
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</tr>
</tbody>
</table>

* Only for specific power supplies
It is recommended to use a protective coating on the circuit board in harsh environments where dust, dirt, occasional high humidity, vibrations or sudden temperature changes are expected. The protective coating will increase operational safety and prevent short circuits caused by deposits of dirt and dust as well as corrosion of PCB traces and soldering joints.

The conformal coating provides protection and does not alter the electrical features of the power supply.
### TYPES ACCORDING TO SERIES

#### POWER VISION | SINGLE-PHASE

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Dimensions: A: 127 mm</th>
<th>B: 40 mm</th>
<th>C: 163.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Vdc/6 A</td>
<td>PVSE 230/12-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/3 A</td>
<td>PVSE 230/24-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/3 A</td>
<td>PVSE 230/24-3B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Dimensions: A: 127 mm</th>
<th>B: 57 mm</th>
<th>C: 163.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Vdc/10 A</td>
<td>PVSE 230/12-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/5 A</td>
<td>PVSE 230/24-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/5 A</td>
<td>PVSE 230/24-5B</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Dimensions: A: 127 mm</th>
<th>B: 57 mm</th>
<th>C: 179.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Vdc/15 A</td>
<td>PVSE 230/12-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/10 A</td>
<td>PVSE 230/24-10</td>
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<td></td>
</tr>
<tr>
<td>24 Vdc/20 A</td>
<td>PVSE 230/24-20</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Dimensions: A: 127 mm</th>
<th>B: 128 mm</th>
<th>C: 205.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 Vdc/15 A</td>
<td>PVSE 230/30-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 Vdc/5 A</td>
<td>PVSE 230/48-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 Vdc/10 A</td>
<td>PVSE 230/48-10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### POWER VISION | ECONOMY | THREE-PHASE

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Dimensions: A: 127 mm</th>
<th>B: 57 mm</th>
<th>C: 179.5 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc/10 A</td>
<td>PVSE 400/24-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/20 A</td>
<td>PVSE 400/24-20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc/40 A</td>
<td>PVSE 400/24-40</td>
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</table>

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Dimensions: A: 127 mm</th>
<th>B: 77 mm</th>
<th>C: 179.5 mm</th>
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</thead>
<tbody>
<tr>
<td>30 Vdc/15 A</td>
<td>PVSE 400/30-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 Vdc/10 A</td>
<td>PVSE 400/48-10</td>
<td></td>
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<tr>
<td>48 Vdc/20 A</td>
<td>PVSE 400/48-20</td>
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</tbody>
</table>

- **Active inrush current limit**
TYPES ACCORDING TO SERIES

POWER VISION BASIC THREE-PHASE

Dimensions: A: 127 mm
B: 57 mm
C: 179.5 mm

Order no. 24 Vdc/10 A PVSB 400/24-10

Order no. 24 Vdc/20 A PVSB 400/24-20

Order no. 24 Vdc/40 A PVSB 400/24-40

POWER VISION LINE THREE-PHASE

Dimensions: A: 127 mm
B: 57 mm
C: 179.5 mm

Order no. 24 Vdc/10 A PVSL 400/24-10

Order no. 24 Vdc/20 A PVSL 400/24-20

Order no. 24 Vdc/40 A PVSL 400/24-40

POWER VISION AS-I SINGLE-PHASE

Dimensions: A: 127 mm
B: 57 mm
C: 183 mm

Order no. 30.5 Vdc/3 A PVSA 230/30-3

NEW

POWER SUPPLIES

SUBJECT TO CHANGE.
### TYPES ACCORDING TO SERIES

#### POWER COMPACT SINGLE-PHASE

<table>
<thead>
<tr>
<th>Power Source</th>
<th>Order No.</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc/5 A</td>
<td>PC-0124-050-0</td>
<td>A: 127 mm, B: 42 mm, C: 1185 mm</td>
</tr>
<tr>
<td>24 Vdc/10 A</td>
<td>PC-0124-100-0</td>
<td>A: 127 mm, B: 55 mm, C: 153.5 mm</td>
</tr>
<tr>
<td>24 Vdc/20 A</td>
<td>PC-0124-200-0</td>
<td>A: 127 mm, B: 95 mm, C: 151.5 mm</td>
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</tbody>
</table>

#### POWER COMPACT TWO-PHASE

<table>
<thead>
<tr>
<th>Power Source</th>
<th>Order No.</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc/5 A</td>
<td>PC-0224-050-0</td>
<td>A: 127 mm, B: 42 mm, C: 1185 mm</td>
</tr>
<tr>
<td>24 Vdc/10 A</td>
<td>PC-0224-100-0</td>
<td>A: 127 mm, B: 55 mm, C: 125 mm</td>
</tr>
<tr>
<td>NEW 24 Vdc/10 A</td>
<td>PC-0224-100-2</td>
<td>A: 127 mm, B: 55 mm, C: 125 mm</td>
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</tbody>
</table>

#### POWER COMPACT THREE-PHASE

<table>
<thead>
<tr>
<th>Power Source</th>
<th>Order No.</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc/10 A</td>
<td>PC-0324-100-0</td>
<td>A: 127 mm, B: 80 mm, C: 152.5 mm</td>
</tr>
<tr>
<td>24 Vdc/20 A</td>
<td>PC-0324-200-0</td>
<td>A: 127 mm, B: 80 mm, C: 152.5 mm</td>
</tr>
<tr>
<td>NEW 24 Vdc/20 A</td>
<td>PC-0324-200-2</td>
<td>A: 127 mm, B: 80 mm, C: 152.5 mm</td>
</tr>
<tr>
<td>NEW 24 Vdc/20 A</td>
<td>PC-0324-200-4</td>
<td>A: 127 mm, B: 80 mm, C: 152.5 mm</td>
</tr>
<tr>
<td>NEW 24 Vdc/20 A</td>
<td>PC-0324-200-6</td>
<td>A: 127 mm, B: 80 mm, C: 152.5 mm</td>
</tr>
</tbody>
</table>

For medical use: [Icon]
Active inrush current limit: [Icon]
Power Boost: [Icon]
TYPES ACCORDING TO SERIES

POWER MIN SINGLE-PHASE

Dimensions: A: 90 mm
B: 22.5 mm
C: 90.5 mm

Dimensions: A: 90 mm
B: 45 mm
C: 90.5 mm

Dimensions: A: 90 mm
B: 52 mm
C: 103.5 mm

Order no. 12 Vdc/2 A PM-0112-020-0
Order no. 12 Vdc/4 A PM-0112-040-0
Order no. 12 Vdc/7 A PM-0112-070-0

Order no. 24 Vdc/1 A PM-0124-010-0
Order no. 24 Vdc/2 A PM-0124-020-0
Order no. 24 Vdc/3.8 A PM-0124-038-0

Order no. 24 Vdc/2 A PM-0124-020-4
Order no. 24 Vdc/4 A PM-0124-040-0
Order no. 48 Vdc/2 A PM-0148-020-0

For medical use
NEC Class 2

POWER ECO LINE SINGLE-PHASE

Dimensions: A: 89 mm
B: 54 mm
C: 59 mm

Dimensions: A: 89 mm
B: 72 mm
C: 59 mm

Dimensions: A: 89 mm
B: 90 mm
C: 59 mm

Order no. 5 Vdc/5.5 A PEL 230/5-5.5

Order no. 12 Vdc/2 A PEL 230/12-2
Order no. 12 Vdc/4 A PEL 230/12-4
Order no. 12 Vdc/6.5 A PEL 230/12-6.5

Order no. 18 Vdc/1.1 A PEL 230/18-1.1
Order no. 18 Vdc/2.5 A PEL 230/18-2.5

Order no. 24 Vdc/1.3 A PEL 230/24-1.3
Order no. 24 Vdc/2.5 A PEL 230/24-2.5
Order no. 24 Vdc/4 A PEL 230/24-4

POWER ECO IN Neo SINGLE-PHASE

Dimensions: A: 89 mm
B: 54 mm
C: 59 mm

Dimensions: A: 89 mm
B: 72 mm
C: 59 mm

Dimensions: A: 89 mm
B: 90 mm
C: 59 mm

Order no. NEW 24 Vdc/1.3 A PEL-0124-013-0
Order no. NEW 24 Vdc/2.5 A PEL-0124-025-0
Order no. NEW 24 Vdc/4 A PEL-0124-040-0

NEW
POWER SUPPLIES

SUBJECT TO CHANGE.
<table>
<thead>
<tr>
<th>ACCESSOIRES</th>
<th>ACCESSOIRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication cable</td>
<td>Wall fastening</td>
</tr>
<tr>
<td>Order no.</td>
<td>Order no.</td>
</tr>
<tr>
<td>PV-KOK2</td>
<td>PV-WB2</td>
</tr>
<tr>
<td>Wall fastening</td>
<td>TH35 sideway mounting</td>
</tr>
<tr>
<td>Order no.</td>
<td>Order no.</td>
</tr>
<tr>
<td>PV-TS35M</td>
<td>PV-CON</td>
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<tr>
<td>USB converter</td>
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<tr>
<td>Order no.</td>
<td></td>
</tr>
<tr>
<td>PV-USB/SERIELL</td>
<td></td>
</tr>
</tbody>
</table>

**POWER COMPACT ACCESSOIRES**

| Wall fastening |
| Order no. |
| PV-WB2 |
POWER COMPACT  POWER MINI

ECONOMY SMART
ECONOMY REMOTE
BASIC SMART
BASIC FIX

red dot design award
winner 2013

CIRCUIT BREAKERS
1-CHANNEL CIRCUIT BREAKERS
AREAS OF APPLICATION

Electronic circuit breakers are used for selective protection of DC circuits. They protect circuits against overcurrents and short circuits with a much higher degree of precision than classic circuit breakers.

PHYSICAL LIMITS FOR CIRCUIT BREAKER USE

If the switched mode power supply does not deliver adequate current for high-speed magnetic tripping

With inconvenient overload conditions:
- small wire cross-section
- long cable lengths

GENERAL ADVANTAGES OF BLOCK ELECTRONIC CIRCUIT BREAKERS

- Reliable tripping also for high cable impedances
- Universally suitable due to individually adjustable current per channel
- Remote restart of tripped channels possible
- Inrush current of system is distributed through sequential power-up of the channels

FUNCTION

Electronic circuit breakers are designed for the special behaviour of switched mode power supplies and the DC 24 V loads they supply. They distribute the load current to several circuits and protect loads and wiring even for long cable lengths and small cross-sections.
TRIPPING FUNCTION

The BLOCK electronic circuit breakers are designed for a variety of requirements in machines and devices. Available are two different tripping options.

THE ECONOMICAL OVERCURRENT AND POWER PROTECTION

Electronic circuit breakers with thermomagnetic characteristics provide an economical alternative to conventional circuit breakers. The shutdown function ensures safe tripping even with high line impedance.

ACTIVE CURRENT LIMITING FOR SENSIBLE LOADS

This module actively limits the overcurrent of each circuit to a maximum of 1.7 times the adjusted current. In case of an overcurrent, a selective shutdown occurs for affected circuits only. For non-affected circuits a drop in voltage is reliably avoided.

COMPARISON OF THE TRIPPING CURVES

6 A
Economy Smart
(Thermomagnetic characteristic)

6 A
Basic Smart
(Active current limiting)

Please note

For classic circuit breakers as well as electronic circuit breakers with thermomagnetic characteristics, a short circuit can cause the DC supply voltage to drop for a few milliseconds until the faulty path shuts down. The severity of the voltage drop is dependent on the line resistance and the overcurrent capability of the feeding power supply. A drop in voltage can be reliably avoided only through active current limiting.
ELECTRONIC 1-CHANNEL CIRCUIT BREAKERS

1-CHANNEL CIRCUIT BREAKER MODULES

Circuit breakers
A range of versions with thermomagnetic or current limiting characteristics. Optionally available with data transfer to other modules for external evaluation and control.

ADDITIONAL MODULES

Communication module
Modbus RTU interface for left-sided arrangement on circuit breakers incl. potential-free signal contacts.

Output distribution module
For right-sided arrangement on circuit breakers. Provides eight further outlets for the channel to be contacted.

Potential collective terminal
Potential collective terminal to feed back the 0 V signal to the power supply as a replacement for the series terminal.
GENERAL ADVANTAGES OF 1-CHANNEL CIRCUIT BREAKERS

- 24Vdc 1-Channel circuit breaker system
- Optional bus connection via communication module
- Optionally with current limiting or thermomagnetic characteristic
- Up to 40 circuit breakers mountable side by side
- Automatic feedthrough of all signal levels
- Optional undervoltage shutdown in combined network
- Additional load outlets through output distribution modules mountable side by side

COMMUNICATION WITH THE CENTRAL CONTROL SYSTEM USING THE COMMUNICATION MODULE

Intelligent overcurrent protection
Integrated in the complete management and monitoring process.

The individual channels can exchange important information and forward this to a connected communication module. The communication module provides this information to a higher-level controller. Information such as the current channel status, including the current presently flowing and the input voltage applied, is therefore easy and quick to access.

SELECTIVE LOAD-DEPENDENT SWITCH-ON

The output channels of the communicating circuit breaker are time-delayed and have a load-dependent connection. As soon as the variable disconnection current of the output channel falls below the required level, the next channel is connected within the shortest possible time. The starting current of the whole device is levelled off, as the power supply must never be overdimensioned.
SETTING THE TRIPPING CURRENT

As the first 1-channel circuit breaker, EasyB also offers the option of setting the tripping current via the communication bus. Warehousing facilities can be greatly simplified and a potential error source eliminated during system start-up. For series production of machines in particular, the automatic setting of the tripping current also enables a high level of potential savings during system start-up. The digital setting of the tripping current is nonetheless not a necessity. Versions with preset tripping currents or rotary switch are also available.

AUTOMATIC ADDRESSING

The channels are automatically addressed during switch-on by a process developed by BLOCK. An additional and time-consuming working step to manually assign addresses is now a thing of the past – this is particularly an advantage in the event of system standstills and when components need to be replaced quickly.
The modules operate in a wide temperature range and are suitable for exceptional loads in harsh industrial environments.

- Wide temperature range from -25 to +70°C

**COMBINATION OF VARIOUS CIRCUIT BREAKER VERSIONS:**

The circuit breakers can be arranged as desired. When mixing channels with and without communication interfaces, the function of the group status signal is retained.
**ELECTRONIC 1-CHANNEL CIRCUIT BREAKER EB-27**

Electronic circuit breaker with thermomagnetic characteristic with alarm signal forwarded for triggered and disabled channels to the connected channels. Starter version for protection of 24V circuits.

**FEATURES**

- Preset tripping currents: 1 - 10 A
- Thermomagnetic characteristic
- Up to 40 fuse channels mountable side by side

**VERSIONS**

<table>
<thead>
<tr>
<th>Single-channel</th>
<th>24 Vdc 1 A</th>
<th>24 Vdc 2 A</th>
<th>24 Vdc 3 A</th>
<th>24 Vdc 4 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc 6 A</td>
<td>24 Vdc 8 A</td>
<td>24 Vdc 10 A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**HIGHLIGHTS**

- **COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS**
- **RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>40,000 µF)**
- **AUTOMATIC FEEDTHROUGH OF ALL SIGNAL LEVELS**
- **FLEXIBLE ADJUSTMENT TO RESPECTIVE CIRCUMSTANCES**
- **STATUS LED**
- **SECOND LOAD OUTPUT**

**TRIPPING CHARACTERISTIC**

![Graph showing tripping characteristic]

Output current (A) vs. Tripping time (ms) for different versions of EB-274-010-0, EB-274-020-0, EB-274-030-0, EB-274-040-0, EB-274-060-0, EB-274-080-0, EB-274-100-0.
ELECTRONIC 1-CHANNEL CIRCUIT BREAKER EB-28

Electronic circuit breaker with current limiting characteristic with alarm signal forwarded for triggered and disabled channels to the connected channels. Starter version for protection of 24 V circuits if active current limiting is required.

FEATURES
Preset tripping currents: 1 - 10 A
Active current limiting
Up to 40 fuse channels mountable side by side

VERSIONS

<table>
<thead>
<tr>
<th>Single-Channel</th>
<th>24 Vdc</th>
<th>24 Vdc</th>
<th>24 Vdc</th>
<th>24 Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 A</td>
<td>2 A</td>
<td>3 A</td>
<td>4 A</td>
<td></td>
</tr>
<tr>
<td>6 A</td>
<td>8 A</td>
<td>10 A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HIGHLIGHTS

COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS

RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>70,000 µF)

FLEXIBLE ADJUSTMENT TO RESPECTIVE CIRCUMSTANCES

STATUS LED

SECOND LOAD OUTPUT

TRIPPING CHARACTERISTIC

OUTPUT CURRENT (A)

TRIPPING TIME (s)

- EB-2B24-010-0
- EB-2B24-020-0
- EB-2B24-030-0
- EB-2B24-040-0
- EB-2B24-060-0
- EB-2B24-080-0
- EB-2B24-100-0

GL/UL approval pending

SUBJECT TO CHANGE.
ELECTRONIC 1-CHANNEL CIRCUIT BREAKER EB-08, EB-18, EB-38

Electronic circuit breaker with current limiting characteristic and comprehensive communication with the connected modules. Suitable as advanced circuit breaker for 24 V loads with option of reading more detailed current supply parameters and actively controlling the channels.

FEATURES
EB-08: Tripping currents adjustable via rotary switch or interface: 0.5 - 10 A
EB-18: Preset tripping currents: 1 - 10 A
EB-38: Tripping currents adjustable via interface: 0.5 - 10 A

VERSIONS

<table>
<thead>
<tr>
<th>Output current (A)</th>
<th>Tripping time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 A</td>
<td>EB-x824-005-0</td>
</tr>
<tr>
<td>1 A</td>
<td>EB-x824-010-0</td>
</tr>
<tr>
<td>2 A</td>
<td>EB-x824-020-0</td>
</tr>
<tr>
<td>3 A</td>
<td>EB-x824-030-0</td>
</tr>
<tr>
<td>4 A</td>
<td>EB-x824-040-0</td>
</tr>
<tr>
<td>5 A</td>
<td>EB-x824-050-0</td>
</tr>
<tr>
<td>6 A</td>
<td>EB-x824-060-0</td>
</tr>
<tr>
<td>8 A</td>
<td>EB-x824-080-0</td>
</tr>
<tr>
<td>10 A</td>
<td>EB-x824-100-0</td>
</tr>
</tbody>
</table>

SINGLE CHANNEL

<table>
<thead>
<tr>
<th>Output voltage (V)</th>
<th>Current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc</td>
<td>0.5</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>1</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>2</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>3</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>4</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>5</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>6</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>8</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>10</td>
</tr>
</tbody>
</table>

HIGHLIGHTS

COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS
COLLECTIVE RESET INPUT
RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>70,000 µF)
AUTOMATIC FEEDTHROUGH OF ALL SIGNAL LEVELS
FLEXIBLE ADJUSTMENT TO RESPECTIVE CIRCUMSTANCES
TRANSMISSION OF ACTUAL OUTPUT CURRENTS
STATUS LED
COLLECTIVE RESET INPUT
COMMUNICATION MODULE FOR COMMUNICATION CONNECTION

Communication module as interface for connecting a higher-level controller. The communication module is compatible with circuit breakers EB-08, EB-18 und EB-38.

FEATURES

- Interface standard: MODBUS RTU
- Information gathering and forwarding from up to 40 circuit breaker channels

VERSIONS

<table>
<thead>
<tr>
<th>MODBUS RTU</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODBUS RTU</td>
</tr>
</tbody>
</table>

HIGHLIGHTS

- TRANSMISSION STANDARD RS 485 AND RS 422
- INTERNAL TERMINATING RESISTORS CAN BE CONNECTED
- MODBUS RTU CONFIGURATION VIA DIP SWITCH
- ISOLATED SIGNAL CONTACT: CHANNEL CURRENT >90%
- ISOLATED SIGNAL CONTACT: CHANNEL TRIPPED OR SWITCHED OFF

GL/UL approval pending
OUTPUT DISTRIBUTION MODULE

- Labeling field
- 8 further load outputs
- Lever for removing from DIN rail
- Contact is established automatically with the left circuit breaker

Up to 3 output distribution modules can be attached to each other.

POTENTIAL COLLECTIVE TERMINAL

- 4 contacts (2.5 mm²), current carrying capacity max. 10 A per contact
- 10 mm² contact for current feedback to the power supply
- 8 contacts (2.5 mm²), current carrying capacity max. 10 A per contact
- Contacting the cross connection link, max. 40 A per module
To laterally close the opening of the cross connection link

To close the opening of the current selector

Cross connection link EB-BARx

Lateral cover for the left module EB-COV

LABELING

Labeling strips 11 mm x 50 m EB-MARK21

Labeling brackets EB-MARK20

Labeling plate 5 mm EB-MARK1
FEATURES

- Thermomagnetic characteristic
- Current limiting 1.25 x tripping current
- Communication interface
- Automatic addressing of channels
- Common reset
- Selective switch-on at Uin > 18 V, load-dependent
- Current detection and display > 90% of tripping current
- Inrush capacity > 40,000 µF
- Inrush capacity > 70,000 µF
- Preset tripping currents
- Tripping currents adjustable via rotary switch or interface
- Tripping currents adjustable via interface
- Second load output
- Undervoltage switch-off as group
- Undervoltage switch-off on individual basis
- ON/OFF button
- Labeling option
- Coloured status indicator on button
- Common message for tripped/switched off channels
- Lever orange
- Lever red
- Lever blue
Communication with the central control system using only two lines

Intelligent overcurrent protection
Integrated in the complete management and monitoring process.

In conjunction with a higher-level control system, the circuit breakers enable any output channel to be actively switched on/off via a digital input and output, tripped circuits to be reset and, at the same time, the reading of current operating and fault states.

Diagnostics options:

- **PLC output**
  - 0 0 0 1 0 0 0 0 1 0 1 0 1 0 0 0 1

- **PLC input**
  - 0 0 0 1 0 0 0 0 1 0 1 0 1 0 0 0 1

**Short protocol:**
17 bit data – minimum transmission time 1.2 seconds
- Operating states = on or off per channel
- Error states = overcurrent or tripped per channel

**Extended protocol:**
89 bit data – minimum transmission time 6.3 seconds
- Actual input voltage
- Set rated currents per channel
- Actual current per channel (only applies to the BASIC SMART version)

**SEQUENTIAL SWITCHING**
The power on of integrated output channels is time-delayed and load-dependent. As soon as the adjusted trip current of the output channel falls below, the next channel will be switched on. The inrush current of the whole device is levelled off, as the overdimensioning of the power supply is not necessary.
SLIM DESIGN FREES UP AMPLE CABINET SPACE

The comparison of 8 protected circuits clearly demonstrates the reduced space requirement – a width of only 5.25mm per channel for the Power Compact electronic circuit breaker.

COMPARISON OF 8 PROTECTED CIRCUITS

In addition to a range of technical benefits, in many applications, switching to an electronic circuit breaker solution also has economical advantages.

Conventional circuit breakers

Conventional circuit breakers

- Efficient power supply
- Boost necessary
- Only 2 inputs and less wiring
- 8 inputs and more wiring

BLOCK circuit breakers

- * Performance-reduced power supply
- ** No Boost necessary
- Only 2 inputs and less wiring
- Advanced diagnostics

* Due to optimised distribution of the inrush
** Without current spikes for tripping of circuit breakers
OPERATING AND CONNECTING ELEMENTS

CIRCUIT PRINCIPLE

PLUG-IN CONNECTION TECHNOLOGY

TEMPERATURE RANGE

The modules operate in a wide temperature range and are suitable for exceptional loads in harsh industrial environments.

- Device starts at -40°C without any problems
- Wide temperature range from -25 to +70°C
- For currents of up to 6A per channel no temperature derating necessary

Some applications require plug-in connection technology. The Smart electronic circuit breakers are also available with plug-in spring-loaded terminals.

Advantages:
- Pre-wiring of connection cables possible
- Easy galvanic isolation of circuits
- Maintenance-friendly
ECONOMY SMART

ELECTRONIC CIRCUIT BREAKER WITH THERMOMAGNETIC CHARACTERISTIC

Economy Smart circuit breakers with thermomagnetic characteristic provide an economical alternative to conventional circuit breakers. They also ensure reliable tripping even in the event of a high line resistance. This makes the circuit breakers ideal for use in standard machine production.

FEATURES

Adjustable current: 1-6 A and 2-10 A
Number of output channels: 8/4/2 per circuit breaker

VERSIONS

<table>
<thead>
<tr>
<th>CHANNEL</th>
<th>12 Vdc</th>
<th>24 Vdc</th>
<th>48 Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 2-10 A</td>
<td>2 x 1-6 A</td>
<td>2 x 2-10 A</td>
<td></td>
</tr>
<tr>
<td>4 x 2-10 A</td>
<td>4 x 1-6 A</td>
<td>4 x 2-10 A</td>
<td></td>
</tr>
<tr>
<td>8 x 2-10 A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TRIPPING CURVE

The tripping time depends on the level of overcurrent. In the event of a short circuit, the defective circuit will shut down within a few milliseconds. The level of the short circuit current depends on the current limiting of the feeding power supply as well as the line resistance.

HIGHLIGHTS

RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>50,000 µF)
DIAGNOSTIC AND REMOTE SWITCHING OF CHANNELS VIA 2 LINES
ADJUSTABLE RATED CURRENT PER CHANNEL
REMOTE RESET CONTACT
COMMON SIGNAL CONTACT FOR SIMPLE REMOTE DIAGNOSTICS
SEQUENTIAL AND LOAD-DEPENDENT SWITCHING-ON OF CHANNELS
LOW CHANNEL WIDTH

block.eu 55
The Economy Remote electronic circuit breaker is especially suitable for standard machine production. The start-up time of a production machine is shortened by transmitting adjustable tripping currents directly through the PLC. Thus, the circuit breaker prevents non-defined changes of current value in the equipment.

**FEATURES**
- Adjustable rated current: 2-10 A
- Number of output channels: 8/4/2 per circuit breaker

**VERSIONS**

<table>
<thead>
<tr>
<th>CHANNEL</th>
<th>24 Vdc</th>
<th>2x2-10 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 CHANNEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 CHANNEL</td>
<td>24 Vdc</td>
<td>4x2-10 A</td>
</tr>
<tr>
<td>4 CHANNEL</td>
<td>24 Vdc</td>
<td>8x2-10 A</td>
</tr>
</tbody>
</table>

**HIGHLIGHTS**
- Reliable switch-on of high-capacity loads (>50.000 µF)
- Comprehensive individual channel diagnostic
- Stepped setting of tripping currents via 2-wire interface
- Remote switch-on/off of any channel
**BASIC SMART**

** ELECTRONIC CIRCUIT BREAKER WITH ACTIVE CURRENT LIMITING**

The Basic Smart circuit breakers guarantee maximum system availability. In the event of circuit overload, only the faulty current paths are reliably switched off without affecting the remaining circuits due to an active current limiting of 1.7 times the rated current.

**FEATURES**

- Adjustable rated current: 0.5-6 A and 2-12 A
- Number of output channels: 8/4/2 per circuit breaker

**HIGHLIGHTS**

**ACTIVE CURRENT LIMITING TYP. 1.7 X IRATED**

**SHUTDOWN OF FAULTY CIRCUITS IN THE EVENT OF CRITICAL SUPPLY VOLTAGE**

**COMMON SIGNAL CONTACT FOR SIMPLE REMOTE DIAGNOSTIC**

**RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (> 50,000 µF)**

**DIAGNOSTICS AND REMOTE SWITCHING OF CHANNELS VIA 2 LINES**

**REMOTE RESET CONTACT**

**TRANSMISSION OF ACTUAL OUTPUT CURRENTS**

**ADJUSTABLE RATED CURRENT PER CHANNEL**

**VERSIONS**

<table>
<thead>
<tr>
<th>CHANNEL</th>
<th>2 CHANNEL</th>
<th>4 CHANNEL</th>
<th>8 CHANNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc</td>
<td>2x0.5-6 A</td>
<td>2x0.5-6 A</td>
<td>8x0.5-6 A</td>
</tr>
<tr>
<td>24 Vdc</td>
<td>2x2-12 A</td>
<td>4x2-12 A</td>
<td></td>
</tr>
</tbody>
</table>

**TRIPPING CURVE**

The constant current limiting of 1.7 times the rated current enables especially high-capacity loads to be switched on reliably. Two switch-off points within the tripping characteristic allow a temporary increase in current flow caused by start-ups, breaking, speed and direction changes of DC motors, etc.
EXTENSIVE DIAGNOSTICS

The actual current per channel is transmitted in addition to the adjusted rated currents and the input voltage. The general operating status (switched on or off) and the error status (tripped or overcurrent) are also available. Through the visualisation of this data, the system alerts you before any critical system failures occur.

SELECTIVE SHUT-DOWN DURING UNDERVOLTAGE

To protect sensitive loads from a temporary overload of the power supply the input voltage is constantly monitored. In the event of a critical undervoltage of below 20 V, all circuits with more than 100% of the adjusted rated current are selectively shut off immediately.
**BASIC FIX**

**ELECTRONIC CIRCUIT BREAKER WITH ACTIVE CURRENT LIMITING**

If circuits are designed with the same current values for the circuit breaker in a number of applications, the Basic Fix circuit breakers represent the most economical basis. Various combinations of rated currents enable use in a wide range of applications. Each channel features the active current limiting of 1.3 times the fixed preset rated current.

**VERSIONS**

<table>
<thead>
<tr>
<th>2 CHANNEL</th>
<th>4 CHANNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc 2x30A NEC Class2</td>
<td>24 Vdc 4x30A NEC Class2</td>
</tr>
<tr>
<td>24 Vdc 2x6A</td>
<td>24 Vdc 4x6A</td>
</tr>
</tbody>
</table>

**FEATURES**

- Fix preset rated current
- Number of output channels: 4/2 per circuit breaker

**HIGHLIGHTS**

- **ACTIVE CURRENT LIMITING TYP. 1,3 X IRATED**
- **SHUTDOWN OF DEFECTIVE CIRCUITS IN THE EVENT OF CRITICAL SUPPLY VOLTAGE**
- **COMMON SIGNAL CONTACT OF SIMPLE REMOTE DIAGNOSTIC**
- **NEC CLASS 2 OPTION**
- **DIAGNOSTIC AND REMOTE SWITCHING OF CHANNELS VIA 2 LINES**
- **REMOTE RESET CONTACT**
- **RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (> 50,000 µF)**

**TRIPPING CURVE**

The NEC Class 2 circuit breaker has a selfadjusting current limiting that prevents the output power from exceeding the 100W limit.

The circuit breakers limiting overcurrents to typically 1.3 times the selected rated current and are ideal for sensitive loads.
### FEATURES

<table>
<thead>
<tr>
<th>ECONOMY SMART</th>
<th>ECONOMY REMOTE</th>
<th>BASIC SMART</th>
<th>BASIC FIX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Setting of tripping currents per channel via current selector switch
- Setting of tripping currents per channel via 2-wire interface
- Remote switch-on/off of any channels
- “On”/“off”/“tripped” status transmission per channel
- “Overcurrent” status transmission per channel
- “Actual input voltage”/“set tripping current” data transmission per channel
- “Actual output currents” data transmission per channel
- Remote reset of tripped channels
- Group alarm signal for tripped channels
- Active current limit typ. 1.7 × I\text{rated}
- Active current limit typ. 1.3 × I\text{rated}
- Active current limit according to NEC Class 2 (100 W)
## Types According to Series

### Single-Channel

<table>
<thead>
<tr>
<th>Dimensions: A: 99 mm</th>
<th>B: 12 mm</th>
<th>C: 60 mm</th>
</tr>
</thead>
</table>

### New

<table>
<thead>
<tr>
<th>24 Vdc / 1 A</th>
<th>EB-2724-010-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc / 2 A</td>
<td>EB-2724-020-0</td>
</tr>
<tr>
<td>24 Vdc / 3 A</td>
<td>EB-2724-030-0</td>
</tr>
<tr>
<td>24 Vdc / 4 A</td>
<td>EB-2724-040-0</td>
</tr>
<tr>
<td>24 Vdc / 6 A</td>
<td>EB-2724-060-0</td>
</tr>
<tr>
<td>24 Vdc / 8 A</td>
<td>EB-2724-080-0</td>
</tr>
<tr>
<td>24 Vdc / 10 A</td>
<td>EB-2724-100-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>24 Vdc / 1 A</th>
<th>EB-2B24-010-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc / 2 A</td>
<td>EB-2B24-020-0</td>
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<tr>
<td>24 Vdc / 3 A</td>
<td>EB-2B24-030-0</td>
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<tr>
<td>24 Vdc / 4 A</td>
<td>EB-2B24-040-0</td>
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<tr>
<td>24 Vdc / 6 A</td>
<td>EB-2B24-060-0</td>
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<tr>
<td>24 Vdc / 8 A</td>
<td>EB-2B24-080-0</td>
</tr>
<tr>
<td>24 Vdc / 10 A</td>
<td>EB-2B24-100-0</td>
</tr>
</tbody>
</table>

### Preset tripping currents
- Tripping currents adjustable via interface
- Tripping currents adjustable via rotary switch or interface

## Accessories

### Communication Module
- New
- Order no.: EB-MODBUS-RTU

### Output Distribution Module
- New
- Order no.: EB-PMM

### Potential Collective Terminal
- New
- Order no.: EB-GND4

### Lateral Cover
- New
- Order no.: EB-COV

### Cross Connection Link
- New
- Order no.: EB-BAR 2…41

### Labeling Field
- New
- Order no.: EB-MARK1

### Labeling Bracket
- New
- Order no.: EB-MARK20

### Labeling Strip
- New
- Order no.: EB-MARK21
ECONOMY SMART

Adjustable tripping currents via current selector switch:

- 1-6 A = 1/2/3/4/5/6 A
- 2-10 A = 2/3/4/6/8/10 A

### Types According to Series

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current</th>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc / 8 x 1-6 A</td>
<td></td>
<td>PC-0724-480-0</td>
<td></td>
</tr>
<tr>
<td>24 Vdc / 8 x 2-10 A</td>
<td></td>
<td>PC-0724-800-0</td>
<td></td>
</tr>
<tr>
<td>24 Vdc / 8 x 2-10 A</td>
<td></td>
<td>PC-0724-800-1</td>
<td></td>
</tr>
<tr>
<td>24 Vdc / 8 x 2-10 A</td>
<td></td>
<td>PC-0724-800-2</td>
<td></td>
</tr>
<tr>
<td>48 Vdc / 8 x 2-10 A</td>
<td></td>
<td>PC-0748-800-0</td>
<td></td>
</tr>
<tr>
<td>48 Vdc / 8 x 2-10 A</td>
<td></td>
<td>PC-0748-800-2</td>
<td></td>
</tr>
</tbody>
</table>

Potential free signal output. With plug-in spring-loaded terminal (depth increased by 25.5 mm)

ECONOMY REMOTE

Adjustable tripping currents via 2-wire interface:

- 2-10 A = 2/3/4/6/8/10 A

Factory setting: Tripping currents: 10 A

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current</th>
<th>Order No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc / 8 x 2-10 A</td>
<td></td>
<td>PC-3724-800-0</td>
<td></td>
</tr>
<tr>
<td>24 Vdc / 4 x 2-10 A</td>
<td></td>
<td>PC-3724-400-0</td>
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<tr>
<td>24 Vdc / 2 x 2-10 A</td>
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<td>PC-3724-200-0</td>
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</table>
### BASIC SMART

Adjustable tripping currents via current selector switch:

- 0.5-6 A = 0.5/1/2/3/4/6 A
- 2-12 A = 2/4/6/8/10/12 A

<table>
<thead>
<tr>
<th>Dimensions: A: 127 mm</th>
<th>Dimensions: A: 90 mm</th>
<th>Dimensions: A: 90 mm</th>
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<td>C: 116.5 mm</td>
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<td>24 Vdc / 8 x 0.5-6 A</td>
<td>PM-0824-480-0</td>
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<td>PC-0824-480-1</td>
<td>PM-0824-240-1</td>
<td>PM-0824-120-0</td>
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<td>24 Vdc / 4 x 0.5-6 A</td>
<td>PM-0824-480-0</td>
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<td>PM-0824-480-1</td>
<td>PM-0824-240-1</td>
<td>PM-0824-120-1</td>
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<tr>
<td>24 Vdc / 4 x 2-12 A</td>
<td>PM-0824-480-0</td>
<td>PM-0824-240-0</td>
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<td>PM-0824-480-1</td>
<td>PM-0824-240-1</td>
<td>PM-0824-120-2</td>
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With plug-in spring-loaded terminal (depth increased by 25.5 mm)

### BASIC FIX

Preset tripping currents

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<td>PC-0824-480-1</td>
<td>PM-0824-240-1</td>
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<tr>
<td>24 Vdc / 4 x 0.5-6 A</td>
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<tr>
<td>PM-0824-480-1</td>
<td>PM-0824-240-1</td>
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<tr>
<td>24 Vdc / 4 x 2-12 A</td>
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<tr>
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NEC Class 2

### ACCESSORIES

Output distribution module

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</table>
UNINTERRUPTIBLE POWER SUPPLIES
To provide supply voltage over a long period of time and high buffer currents, the use of a battery supported UPS system is necessary. Generally, such a system consists of a power supply, an electronic charge and control unit as well as a battery module with integrated rechargeable batteries for energy saving.

**BUFFER MODULARITY**

Buffer modules can store a lot of energy due to their double-layer capacitors and are maintenance free. They bypass power failures up to the range of seconds while supporting the 24 V supply voltage against unwanted voltage dips, which are often caused by high-energy switching operations of a device.

**RELIABLE 24 VDC SUPPLY VOLTAGE - ALSO IN THE EVENT OF POWER FAILURE**

BLOCK offers UPS components tailored to your applications. From maintenance free capacitor based modules for short power interruptions to intelligent UPS systems with external battery modules for long buffer times - minimise the risk of time and cost-intensive system standstills.

**LAYOUT OF AN INTERRUPTIBLE POWER SUPPLY**

**With capacitors**

- Power supply
- Buffer module

**With battery modules**

- Power supply
- Charge and control unit
- Battery module

To provide supply voltage over a long period of time and high buffer currents, the use of a battery supported UPS system is necessary. Generally, such a system consists of a power supply, an electronic charge and control unit as well as a battery module with integrated rechargeable batteries for energy saving.

**COMBI UPS**

The BLOCK Combi UPS can be used alternatively. It combines a power supply and a charge and control unit in a compact casing to reduce space and wiring requirements.
In order to ensure the proper supply of an industrial PC, the controlled shut-down must be just as possible as the reliable restart. After the IPC shutdown a targeted interruption of the UPS module’s output voltage is necessary to send a required restart impulse to the IPC when the power supply has been reinstated.

All BLOCK UPS modules support this function.

“BATTERY CONTROL” TECHNOLOGY ENSURES BETTER SAFETY

Reliable battery management can only be realised through a permanent data exchange between the charge- and control unit and the battery module. This enables an optimal and safe charging of the batteries and additionally the control system receives a reliable signal as soon as the battery needs to be replaced due to a deterioration.

ADVANTAGES

■ Automatic recognition of connected battery modules for individual charging characteristic

■ Reliable early warning signal when capacity of batteries is low

■ Maximum durability through temperature-controlled battery management

“UPS CONTROL” SOFTWARE

The efficient visualisation and control software allows an easy connection to an industrial PC. You can download the software for free from block.eu.

ADVANTAGES

■ Visualising and recording of relevant data

■ Individual configuration of devices

■ Sending e-mails and starting of any program without user login
CHARGE AND CONTROL UNITS

The uninterruptible power supply PVUA for DC 24 V loads of the Power Vision series impresses with its optimal battery management. The charge and control unit manages and monitors the battery module and provides an early warning signal for a low remaining battery life. It indicates the charging status and the remaining time while being in buffer mode. All relevant data is retrievable at any time via integrated display or interface.

FEATURES

- Power range: 240 to 480W
- Input voltage: 24 Vdc

VERSIONS

<table>
<thead>
<tr>
<th>PVUA</th>
<th>24 Vdc</th>
<th>24 Vdc</th>
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</thead>
<tbody>
<tr>
<td>10 A</td>
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<td>20 A</td>
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</table>

INTEGRATED CONTROL UNIT FOR MAXIMUM SAFETY

The PVUA module monitors current and voltage continuously. Key information can be read directly from the display. The integrated control unit is able to detect and signal potential faults affecting the equipment to which power is being supplied at an early stage and to save the relevant data for analysis.

DISPLAY PROVIDES THE FOLLOWING KEY INFORMATION:

- Input voltage
- Output voltage
- Output current
- Status indicator
- Battery charging and discharging
- Charging voltage
- Charging current
- Min. output voltage
- Max. output current
- Accumulator operating hours
- Type of fault

HIGHLIGHTS

- SPRING-LOADED PLUG-IN CONNECTION TECHNOLOGY
- EXTENSIVE FUNCTION MONITORING
- RELIABLE EARLY WARNING SIGNAL FOR BATTERY EXCHANGE
- LONG CAPACITY OF BATTERIES THROUGH OPTIMAL CHARGE MANAGEMENT
- STATUS INDICATOR BATTERY CHARGING AND DISCHARGING
- DISPLAY FOR CURRENT AND VOLTAGE INDICATION
- RELIABLE SUPPLY OF INDUSTRIAL PCS
THE PVUA MODULE – MUCH MORE THAN AN ORDINARY UPS:

A key feature of the PVUA module is its optimal battery management. It also supports complete current and voltage monitoring with numerous signal options. The module features a display, function keys, several signal outputs and an RS-232 interface. The charging voltage for the connected battery module is temperature-controlled, significantly extending the durability of the battery and thereby minimising maintenance overheads.

COMMUNICATION WITH THE USER

1 Via LEDs: When the device is running error-free, the green LED is illuminated. Non-critical faults are signalled by the yellow LED, while critical faults are indicated by the red LED.

2 Via display: Current and voltage values are visible on the display at all times. Important parameter settings can be adjusted using the keys on the device. The device features an integrated fault manager for self-diagnostics.

3 Via signal outputs: The PVUA module has three active signal outputs and one isolated signal contact for monitoring functions. The active 24 V signal outputs can be directly processed as a digital signal.

4 Via interface: The module can communicate with a PC or control system due to the serial interface. Cyclic transfer means that the user can both view relevant data and respond to faults. Parameter settings can also be made via this interface.

THE PVUA MODULE IS ABLE TO DETECT THE FOLLOWING POTENTIAL FAULTS:

- Undervoltage at input
- Undervoltage at output
- Overcurrent
- Buffer mode
- No temperature control possible
- No battery mode possible
- Output shut down
- Batteries charged less than 95%
- Device error
- Low battery voltage
- Change of battery recommended

The Power Vision software packages required for communication can be downloaded from block.eu at no cost.
SWITCHED MODE POWER SUPPLY + CHARGE AND CONTROL UNIT

The uninterruptible power supply Power Compact Combi features an economic DC 24V/5A switched mode power supply with basic requirements, tailored for the supply of industrial PCs and a charge and control unit for optimal battery management. The Combi UPS manages and monitors the battery module and provides an early warning signal for low remaining battery life.

FEATURES
Power: 120 W
Universal input: 85 to 264 Vac
Stabilised and adjustable output voltage

VERSIONS

HIGHLIGHTS
RELIABLE EARLY WARNING SIGNAL FOR BATTERY EXCHANGE
QUICK TRIPPING OF STANDARD CIRCUIT BREAKERS
EXTENSIVE FUNCTION MONITORING
EXTENDED BATTERY LIFE THROUGH OPTIMAL CHARGE MANAGEMENT
PUSH-IN CONNECTION TECHNOLOGY
RELIABLE SUPPLY OF INDUSTRIAL PCS
BUFFER MODULES

A buffer module is able to compensate brief power supply interruptions safely. Mains buffering times of the power supplies are extended for increasing the operational reliability of machines and systems. Buffer modules combine an electronic switching unit and an energy storage which is based on maintenance free capacitors in one casing.

FEATURES

Power range: 240 to 480 W
Input voltage: 24 Vdc

VERSIONS

<table>
<thead>
<tr>
<th>Version</th>
<th>24Vdc</th>
<th>24Vdc</th>
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HIGHLIGHTS

SPRING-LOADED PLUG-IN CONNECTION TECHNOLOGY
ISOLATED SIGNAL CONTACT
DECOUPLED OUTPUT
ADJUSTABLE BUFFER THRESHOLDS
LONG BUFFER TIMES
PARALLEL CONNECTABLE
BATTERY MODULES

The maintenance-free lead AGM batteries guarantee a long product life, high quality and reliability. They are suitable for long buffer times in the range of minutes and hours.

FEATURES

Capacities: 0.8 to 12 Ah
2 series: PVA: optimised for two mounting directions
PVAF: optimised for low height

VERSIONS

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<tr>
<th>PVA / PVAF</th>
<th>24 Vdc 0.8 Ah</th>
<th>24 Vdc 1.2 Ah</th>
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<td>24 Vdc 12 Ah</td>
<td>24 Vdc 12 Ah</td>
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HIGHLIGHTS

NO DISCONNECTION OF DIN RAIL
REQUIRED FOR ATTACHMENT IN SWITCH CABINET
PLUG-IN FUSES
SPRING-LOADED PLUG-IN CONNECTION TECHNOLOGY
TEMPERATURE MEASUREMENT OCCURS IN BATTERY MODULE
MAXIMUM RELIABILITY DUE TO „BATTERY CONTROL” TECHNOLOGY
BATTERY MODULES
The maintenance-free lead AGM batteries (PBAT) with thin plate pure lead ensure a long service life of up to 15 years. Furthermore, they are ideal for operation at high ambient temperature and possess low internal resistance for high output currents. They can be used for long buffer times on a scale of minutes and hours.

FEATURES
Capacities: 2.5 and 13 Ah
Buffer voltage: 24 Vdc

VERSIONS
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<th>V/UC</th>
<th>24 Vdc</th>
<th>24 Vdc</th>
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<tr>
<td>2.5 Ah</td>
<td>13 Ah</td>
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HIGHLIGHTS
OPERATION AT UP TO 60 ºC AMBIENT TEMPERATURE

PLUG-IN FUSES

SPRING-LOADED PLUG-IN CONNECTION TECHNOLOGY

TEMPERATURE MEASUREMENT OCCURS IN BATTERY MODULE

SERVICE LIFE UP TO 15 YEARS

MAXIMUM RELIABILITY DUE TO “BATTERY CONTROL” TECHNOLOGY
BATTERY MODULE WITH INTEGRATED TEMPERATURE MEASUREMENT

The environmental temperature is monitored in the battery module and used in the computation of the optimal charging end voltage and the remaining product life span. The fact that battery modules are detected automatically enables the optimisation of the control unit’s charging characteristics without further setting requirements. Gentle charging and an extended battery life are guaranteed, minimising service costs.

BUFFER TIMES DEPENDENT ON OUTPUT CURRENT

![Graph showing buffer times dependent on output current]

THE APPROPRIATE BATTERY MODULE

The battery modules have been adapted for both vertical and horizontal wall mounting. For an installation of the battery modules, the DIN rail can remain in its form.

If a specific application requires the use of an energy storage between the horizontal cable ducts in the switch cabinet, the PVAF model is ideal as its height and depth are virtually identical to those of the charge and control modules.

If high ambient temperatures or a very long service life are required, the PBAT series is particularly suitable.
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TYPES ACCORDING TO SERIES

POWER MINI PRINT eco LINE Neo BATTERY SWITCHED MODE POWER SUPPLY + INTEGRATED CHARGE AND CONTROL UNIT

Suitable for all Power Vision battery modules

24 Vdc/5A PC-1024-050-0

POWER VISION CHARGE AND CONTROL UNITS

Dimensions:
- A: 127 mm
- B: 40 mm
- C: 163.5 mm

Order no.
- 24 Vdc/10A PVUA 24/24-10
- 24 Vdc/20A PVUA 24/24-20

POWER VISION BUFFER MODULES

Dimensions:
- A: 127 mm
- B: 57 mm
- C: 178.5 mm

Order no.
- 24 Vdc/10A PVUC 24/24-10
- 24 Vdc/20A PVUC 24/24-20

POWER VISION BATTERY MODULES

NEW
- 24 Vdc/0.8 Ah PVAF 24/0.8 Ah
- 24 Vdc/1.2 Ah PVAF 24/1.2 Ah
- 24 Vdc/3.2 Ah PVAF 24/3.2 Ah
- 24 Vdc/7 Ah PVAF 24/7 Ah

Order no.
- 24 Vdc/0.8 Ah
- 24 Vdc/1.2 Ah
- 24 Vdc/3.2 Ah
- 24 Vdc/7 Ah
TYPES ACCORDING TO SERIES

Communication cable
- Order no.: PC-KOK1
- Dimensions: A: 180.7 mm, B: 86 mm, C: 160 mm

Wall fastening
- Order no.: PV-WB2
- Dimensions: A: 186.5 mm, B: 196.5 mm, C: 225 mm

TH35 sideways mounting
- Order no.: PV-TS35M

Female plug
- Order no.: PC-CON1

Communication cable
- Order no.: PV-KOK2
- Dimensions: A: 180.7 mm, B: 86 mm, C: 160 mm

USB converter
- Order no.: PV-USB/SERIELL

Female plug
- Order no.: PV-CON

POWER BATTERY BATTERY MODULES

NEW 24 Vdc/2.5 Ah PBAT-1224-025-0
Dimensions: A: 180.7 mm, B: 86 mm, C: 160 mm

NEW 24 Vdc/13 Ah PBAT-1224-130-0
Dimensions: A: 196.5 mm, B: 230 mm, C: 173.5 mm

POWER VISION BATTERY MODULES

24 Vdc/12 Ah PVA 24/12 Ah
Dimensions: PVAF:
A: 145 mm, B: 230 mm, C: 173.5 mm

24 Vdc/12 Ah PVA 24/12 Ah
Dimensions: PVA:
A: 236.5 mm, B: 320.5 mm, C: 217.5 mm

SUBJECT TO CHANGE.
REDUNDANCY MODULE FOR SMALL POWER REQUIREMENTS
REDUNDANCY MODULE FOR THE HIGHEST SYSTEM RELIABILITY
REDUNDANCY MODULE IN FLAT PLASTIC CASING

Redundancy module for decoupling of two power supplies on installation of a fail-safe power supply system.

FEATURES
Input voltage: 12 to 24 Vdc
Input current: 2 x 5 A or 1 x 10 A

VERSIONS

<table>
<thead>
<tr>
<th>Version</th>
<th>Input Voltage</th>
<th>Input Current</th>
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<td>2 x 5 A or 1 x 10 A</td>
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</table>

HIGHLIGHTS
LED-SIGNALLING
SPRING-LOADED CONNECTION TECHNOLOGY
COMPACT PLASTIC CASING

BASIC STRUCTURE
To avoid putting the operational reliability of machines and systems at risk in the event of a power supply failure, availability is safeguarded by two power supplies with the same rating which are decoupled via diodes.
REDUNDANCY MODULE FOR THE HIGHEST SYSTEM RELIABILITY

Redundancy modules are used for the decoupling of two power supplies in order to set up a fail-safe power supply system. Redundant circuits are found in machines and systems, which have to meet high requirements in terms of operational reliability.

FEATURES

- Input voltage: 12 to 48 Vdc
- Output current: up to 40 A

VERSIONS

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Output Current</th>
</tr>
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<td>2 x 20 A, 1 x 40 A</td>
</tr>
<tr>
<td>48 Vdc</td>
<td>2 x 20 A</td>
</tr>
</tbody>
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HIGHLIGHTS

- ERROR MESSAGE VIA RELAY CONTACT AND LEDS
- HIGH EFFICIENCY
- ACTIVE OPERATION FOR MINIMAL POWER LOSS EVEN IN THE EVENT OF A SHORT CIRCUIT ON THE SECONDARY SIDE
- SAFE PARALLEL OPERATION TO INCREASE POWER
- FULLY COMPATIBLE WITH TOP AND POWER BOOST
- BASED ON MOSFET TECHNOLOGY

BASIC STRUCTURE

To avoid putting the operational reliability of machines and systems at risk in the event of a power supply failure, availability is safeguarded by two power supplies with the same rating which are decoupled via Mosfets.

HIGHLIGHTS ERROR MESSAGE VIA RELAY CONTACT AND LEDS
HIGH EFFICIENCY
ACTIVE OPERATION FOR MINIMAL POWER LOSS EVEN IN THE EVENT OF A SHORT CIRCUIT ON THE SECONDARY SIDE
SAFE PARALLEL OPERATION TO INCREASE POWER
FULLY COMPATIBLE WITH TOP AND POWER BOOST
BASED ON MOSFET TECHNOLOGY

 FEATURES

- Input voltage: 12 to 48 Vdc
- Output current: up to 40 A

VERSIONS

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</table>

GL/UL approval pending

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**COMPACT MINI PRINT**

Dimensions:
A: 89 mm
B: 72 mm
C: 59 mm

Order no.

**12-24Vdc/2x5A/1x10A** PELR 24/24-5

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**POWER COMPACT**

Dimensions:
A: 127 mm
B: 42 mm
C: 112.5 mm

Order no.

**NEW**

**12-24Vdc/2x20A/1x40A** PC-0624-400-0

**NEW**

**48Vdc/2x20A** PC-0648-400-0

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**POWER COMPACT ACCESSOIRES**

Wall fastening

Order no.

**PV-W82**