

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
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CIRCUIT BREAKERS
Page 36



UPS
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REDUNDANCY MODULES
Page 78

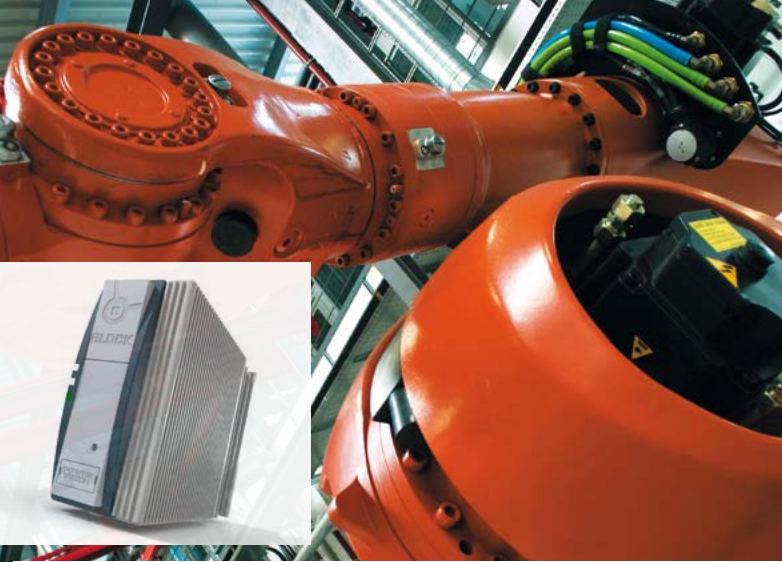


TECHNOLOGICALLY CONVINCING

BLOCK products are especially tailored to specific requirements of an application and provide superior system reliability for your machines and equipment.

block.eu

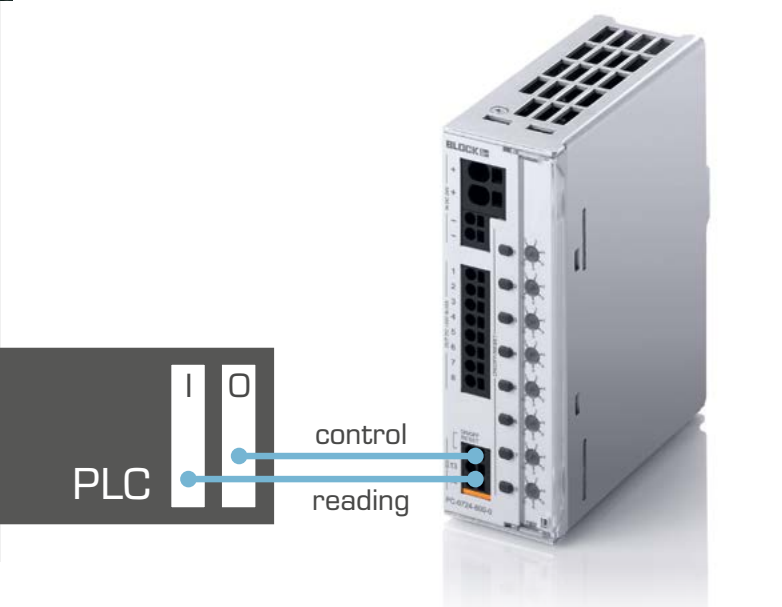
KNOW-HOW



SWITCHED MODE POWER SUPPLIES WITH POWERFUL BOOST TECHNOLOGY

Up to 100A for 50ms 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 **ECO**LINE

SMALL YET EFFICIENT MODULE
FOR COMPACT CONTROLLERS

POWER **MINI**

EFFICIENT POWER SUPPLY IN
COMPACT PLASTIC CASING FOR
VERSATILE USE



reddot design award
winner 2013



POWER SUPPLIES

POWER COMPACT

OPTIMIZED FOR
THE CORE TASK OF
POWER AND VOLTAGE SUPPLY

POWER VISION

THE HIGH PERFORMER FOR
DEMANDING TASKS



SUBJECT TO CHANGE.

POWER SUPPLIES

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.



i Top Boost

Enables the use of conventional circuit breakers for selective protection of DC 24 V power supply circuits

i Power Boost

Large power reserves secure the start up of loads with high inrush currents

i Mains input fuse

Integrated fuses permit device protection without the use of required preliminary fuses

i 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.



Large current reserves Top Boost and Power Boost

Digital Boost control

Boost is available directly after device start up.

Two Power Boost levels

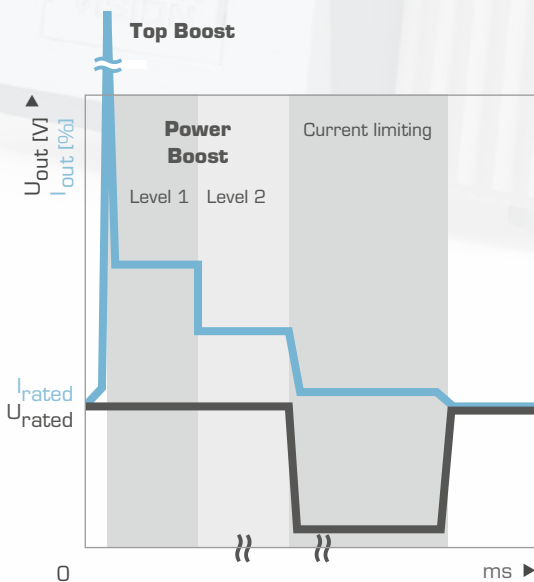
100 % Power Boost for 4 secs.
50% Power Boost for 16 secs.

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.



Software

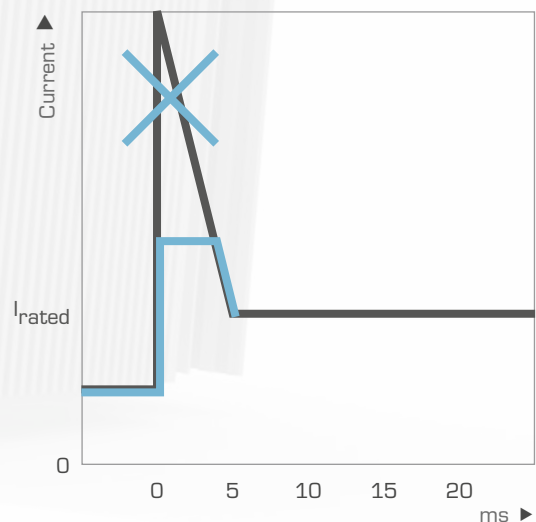
Free parameter diagnostic software is available for devices with integrated interfaces. The recording of measurement values and messages for analysing the grid voltage or output voltage and current is possible.



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 optimized 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 960W

Universal input range

Stabilized and adjustable output voltage

VERSIONS

PVSE 230 – SINGLE-PHASE

12Vdc 6 A	12Vdc 10 A	12Vdc 15 A	
24Vdc 3 A	24Vdc 5 A	24Vdc 10 A	24Vdc 20 A
			30Vdc 15 A
		48Vdc 5 A	48Vdc 10 A

PVSE 400 – THREE-PHASE

24Vdc 10 A	24Vdc 20 A	24Vdc 40 A	
			30Vdc 25 A
	48Vdc 10 A	48Vdc 20 A	

HIGHLIGHTS

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

PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

ROBUST DIN RAIL MOUNTING

UP TO 200% POWER BOOST FOR 4 SECONDS

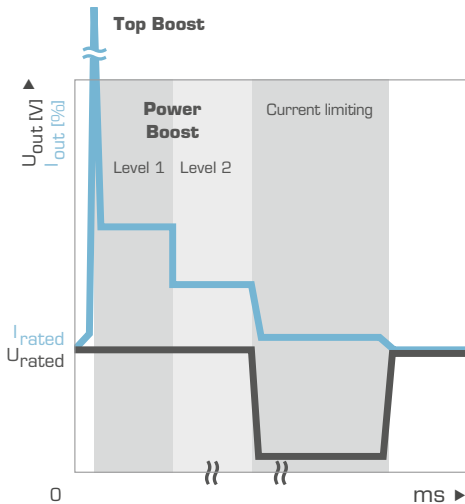
STAND-BY-INPUT

POTENTIAL-FREE "DC OK" SIGNAL CONTACT

ECONOMY



OVERLOAD BEHAVIOR



LED INDICATION

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.

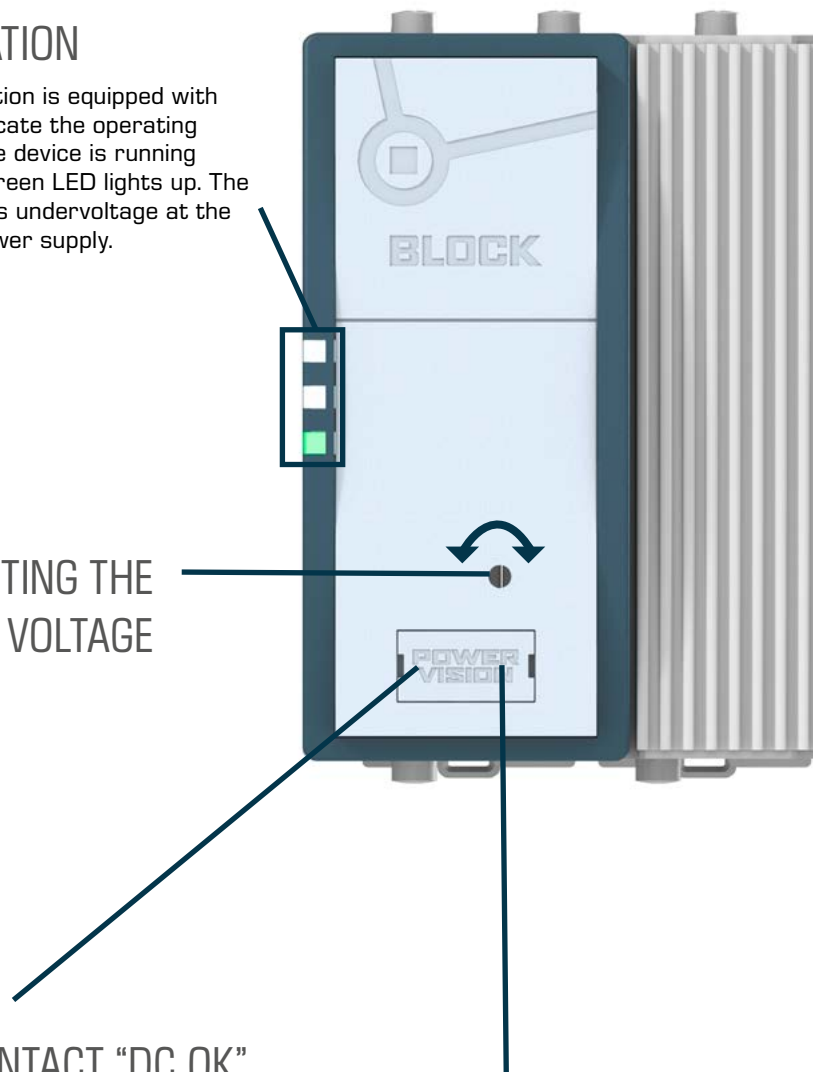
SETTING THE OUTPUT VOLTAGE

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.



BASIC

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.

FEATURES

Power range: 240 to 960W

Universal input range: 340 to 550Vac

Stabilized and variable output voltage

VERSIONS

PVSb 400 – THREE-PHASE

24Vdc 10A	24Vdc 20A	24Vdc 40A
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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.

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 DIN RAIL MOUNTING

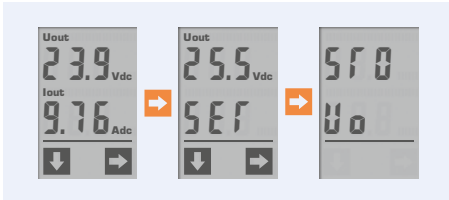
PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

UP TO 200% POWER BOOST FOR 4 SECONDS

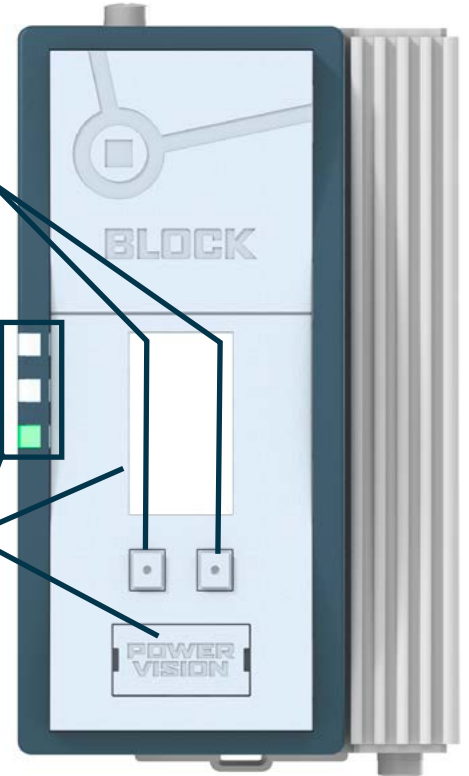
DISPLAY AND RS-232 INTERFACE

FOUR ACTIVE DC 24V SIGNAL CONTACTS FOR OPERATION MONITORING

SETTING THE OUTPUT VOLTAGE



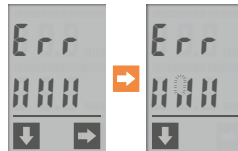
The output voltage can be set to a value between 22.0 and 28.8 Vdc either digitally using the buttons on the device itself or automatically via interface. When the device is switched on again, it will automatically restore the final voltage value stored in its memory.



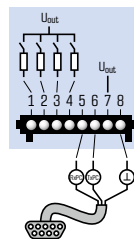
COMMUNICATION WITH THE USER

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 960W
- Universal input range: 340 to 550Vac
- Stabilized and adjustable output voltage

VERSIONS

PVSL 400 – THREE-PHASE

24Vdc 10A	24Vdc 20A	24Vdc 40A
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HIGHLIGHTS

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

INTEGRATED OUTPUT CURRENT AND VOLTAGE MONITORING

ROBUST DIN 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

LINE



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



Information that can only be obtained via interface:

- › Power input voltage of the different phases

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.



PVSA – FOR AS-I BUSSYSTEME

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

FEATURES

Input rated voltage: 100 to 240Vac
Stabilized and adjustable output voltage

VERSIONS

PVSA 230 – 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 DIN RAIL MOUNTING

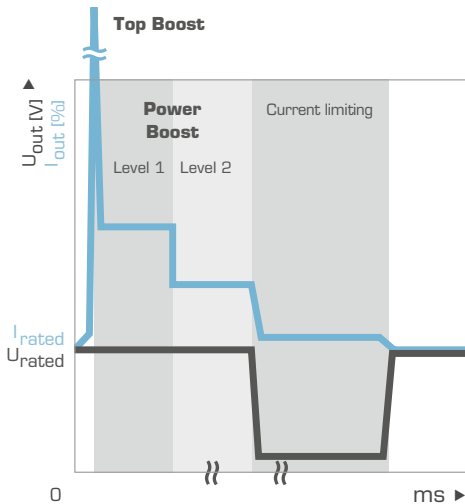
COMPATIBLE TO AS-I

UP TO 200% POWER BOOST FOR 4 SECONDS

STAND-BY INPUT

POTENTIAL-FREE “DC OK” SIGNAL CONTACT

OVERLOAD BEHAVIOR



LED INDICATION

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.

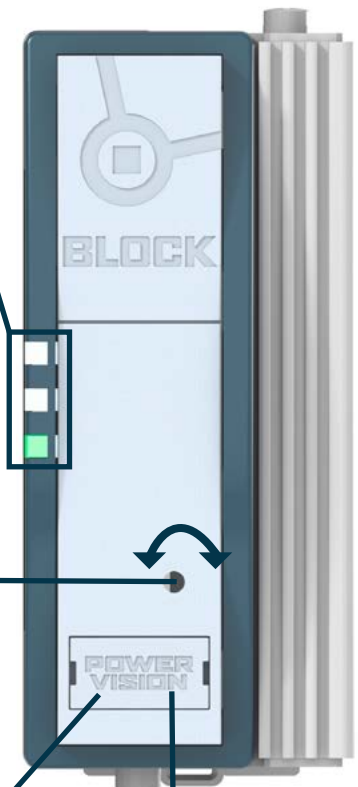
SETTING THE OUTPUT VOLTAGE

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.



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.



i Resistant to transient overvoltages up to 4 kV

i Fast tripping of conventional circuit breakers

i Parallel operation

i "DC OK" signal contact

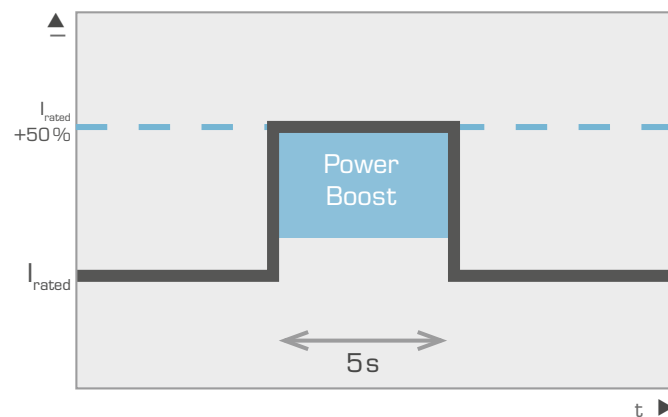
i Robust DIN rail mounting

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.

DIN RAIL MOUNTING

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



These devices meet average power requirements ranging between 120 to 960W. Different options with 12, 24, 48 or 60V allow versatile application.

The output voltage can be set by using the rotary potentiometer on the front panel of the device.

INPUT VOLTAGE RANGE

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

OUTPUT VOLTAGE OPTIONS

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

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.

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 480W
- Universal input range: 85 to 264 Vac
- Stabilized and adjustable output voltage

VERSIONS

PC 1AC – SINGLE-PHASE

	12Vdc 15 A	
24Vdc 5 A	24Vdc 10 A	24Vdc 20 A
48Vdc 5 A	48Vdc 10 A	



HIGHLIGHTS

ROBUST DIN 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 24V/5A)

FAST TRIPPING OF STANDARD 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 550Vac
- Stabilized and adjustable output voltage

VERSIONS

PC 2AC – TWO-PHASE

24Vdc 5 A	24Vdc 10 A
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HIGHLIGHTS

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



SUBJECT TO CHANGE.

POWER SUPPLIES



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 960W
- Universal input range: 320 to 575Vac
- Stabilized and adjustable output voltage

VERSIONS

PC 3AC - THREE-PHASE		
24 Vdc 10 A	24 Vdc 20 A	24 Vdc 40 A
		48 Vdc 20 A
		60 Vdc 16 A

HIGHLIGHTS

FAST TRIPPING OF STANDARD CIRCUIT BREAKERS

ROBUST DIN 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



SLIM AND EFFICIENT

The efficient control power supplies in slim plastic housing with their wide input voltage range are suitable for worldwide use. The single-phase power supplies are also compliant with the household appliance standard EN 60335-1.

For 2-phase power supplies, the 2-phase supply enables operation in neutral-conductor supply networks, with reduced wiring and installation effort.

For a configuration of NEC Class 2 circuits different versions are available.

FEATURES

Power range: 25 to 100W

Universal input range: 85 to 264 Vac (Single-phase), 180 to 575 Vac (Two-phase)

Stabilized and adjustable output voltage

VERSIONS

PM 1AC - SINGLE-PHASE

12 Vdc 2 A NEC Class 2	12 Vdc 4 A NEC Class 2	12 Vdc 7 A	
24 Vdc 1 A NEC Class 2	24 Vdc 2 A NEC Class 2	24 Vdc 3.8 A NEC Class 2	24 Vdc 4 A
	30,5 Vdc 3 A AS-i	48 Vdc 2 A	

PM 2AC - 2-PHASE

24 Vdc 3.8 A NEC Class 2

HIGHLIGHTS

ACTIVE "DC OK" SIGNAL CONTACT

CONSTANT CURRENT IN OVERLOAD CONDITIONS

NEC CLASS 2 FOR 12V DEVICES TO 4 A AND 24V DEVICES TO 3.8 A

PUSH-IN CONNECTION TECHNOLOGY

LOW STAND-BY LOADS <1W

COMPLIES WITH HOUSEHOLD APPLIANCE EN 60335-1



SUBJECT TO CHANGE.

POWER SUPPLIES



SWITCHED MODE POWER SUPPLIES IN FLAT PLASTIC CASING

These devices cover a power range from 20 to 80W. Specifically designed for use in distribution boards or flat control panels.

FEATURES

Power range: 20 to 80W

Universal input range: 85 to 264 Vac

VERSIONS

PEL 230 – SINGLE-PHASE		
5 Vdc 5.5A		
12Vdc 2 A	12Vdc 4 A	12Vdc 6.5 A
18Vdc 1,1 A	18Vdc 2,5 A	

HIGHLIGHTS

STABILIZED AND ADJUSTABLE
OUTPUT VOLTAGE

VIBRATION-RESISTANT
SPRING-LOADED TERMINALS

CONSTANT CURRENT IN
OVERLOAD CONDITIONS



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

VERSIONS

PEL NEO – SINGLE-PHASE

24Vdc 1,3A	24Vdc 2,5A	24Vdc 4A
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HIGHLIGHTS

STABILIZED AND ADJUSTABLE
OUTPUT VOLTAGE

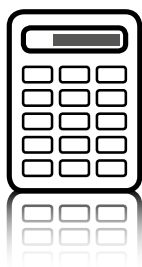
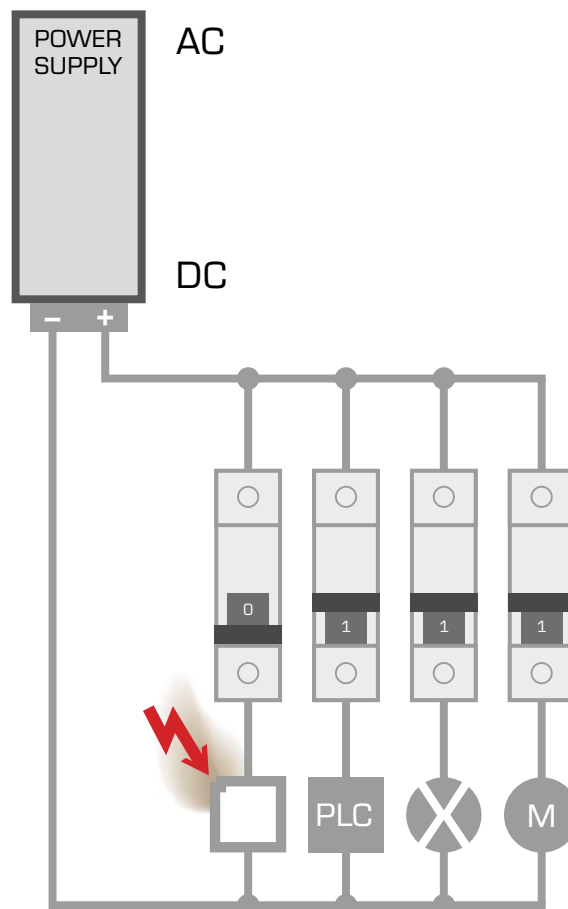
PLUG-IN SPRING-LOADED
TERMINALS WITH PUSH-IN
CONNECTION TECHNOLOGY

CONSTANT CURRENT IN
OVERLOAD CONDITIONS



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.



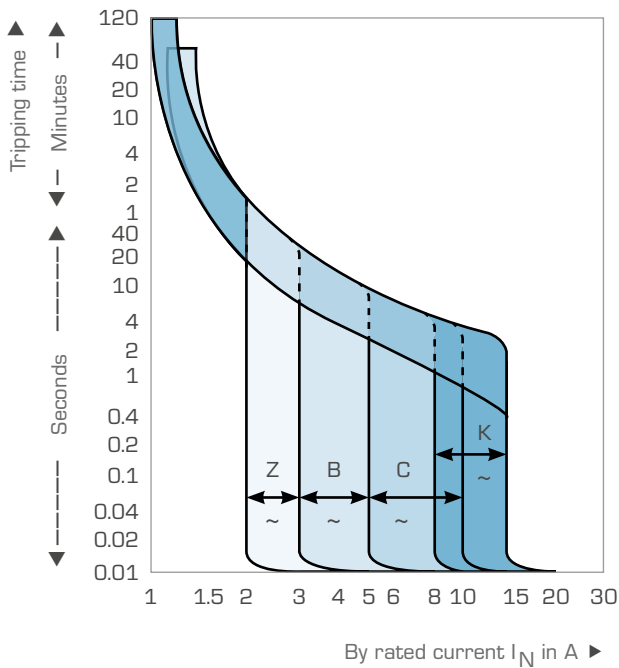
NOTE

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.

TYPICAL TRIPPING CURVE OF A CONVENTIONAL CIRCUIT BREAKER

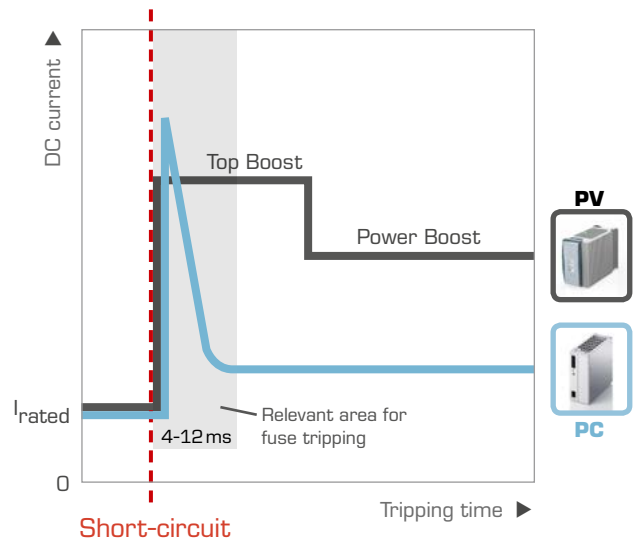


i Please note

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).

Devices from the Power Vision series provide temporary up to 100A 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 modules in the chapter for electronic circuit breakers.

Type	Power Vision Economy 1ph	Power Vision Economy 3ph	Power Vision Basic	Power Vision Line	Power Vision AS-i	Power Compact 1ph	Power Compact 2ph	Power Compact 3ph	Power Mini	Power Eco Line (Neo)	
	■	■	■	■	■	■	■	■	■	■	Can be used worldwide through wide-range input
	■	■	■	■	■	■	■	■	■	■	Parallel operation for increased power
	■	■	■	■	■	■	■	*	■	■	Internal line fuses
	■	■	■	■	■	■	■	■	■	■	Stabilized output voltage
	■	■	■	■	■	■	■	■	■	■	Adjustable output voltage
	■	■	■	■	■	■	■	■	■	■	Status LED
	■	■	■	■	■						Top Boost for reliable start-up of loads with high inrush currents and quick tripping of circuit breakers up to C characteristic
	■	■	■	■	■		*	*			Power Boost for the reliable start-up of loads with high inrush current
						■	■	■			Current peaks for the quick tripping of circuit breakers up to B characteristic
		■	■	■			■	■	*		Permanent 2-phase operation
	■	■			■	■	■	■			DC OK message via potential-free contact
			■	■					■		DC OK message via active signal contacts
	■	■									Stand-by input
			■	■							Display for easy start-up
			■	■							RS-232 interface
			■	■							DC current and voltage monitoring
				■							AC power input monitoring
					■	■	■	■			Push-in direct plug-in technology
	■	■	■	■	■					■	Plug-in spring-loaded connection technology
	■	■	■	■		■	■	■	■	■	UL certification
						■	■	■	■	■	GL certification
						*			*		Complies with household appliance standard EN 60335-1
									*		NEC Class 2 power supply (max. 100W)
Page	10	10	12	14	16	20	21	22	23	24	

* Only for specific power supplies

	Output rated voltage	Output voltage range	Type	Input voltage range	0 - 20W	20 - 30W	40 - 60W	70 - 100W	120W	180 - 240W	450 - 480W	750 - 960W	Page	
Single-phase	5 V	4.5 - 8.5 Vdc	Power Eco Line	85 - 264 Vac		5.5A							24	
	12V	11 - 18 Vdc	Power Vision Economy	85 - 264 Vac				6A	10A	15A				10
		11.5 - 15 Vdc	Power Compact	85 - 264 Vac						15A				20
		11.5 - 14.5 Vdc	Power Mini	85 - 264 Vac		2A	4A	7A						23
		10.5 - 15.5 Vdc	Power Eco Line	85 - 264 Vac		2A	4A	6.5A						24
	18V	15.5 - 19 Vdc	Power Eco Line	85 - 264 Vac	1.1A		2.5A							24
	24V	22 - 29.5 Vdc	Power Vision Economy	85 - 264 Vac				3A	5A	10A	20A			10
		23 - 28.5 Vdc	Power Compact	85 - 264 Vac					5A	10A	20A			20
		23 - 28.5 Vdc	Power Mini	85 - 264 Vac		1A	2A	3.8/4A						23
		22.8 - 26.4 Vdc	Power Eco Line / Neo	85 - 264 Vac		1.3A	2.5A	4A						25
	30V	27 - 43 Vdc	Power Vision Economy	85 - 264 Vac							15A			10
	30.5V	29 - 32 Vdc	Power Vision AS-i	85 - 264 Vac				3A						16
		29 - 32 Vdc	Power Mini AS-i	85 - 264 Vac				3A						23
	48 V	33 - 52 Vdc	Power Vision Economy	85 - 264 Vac						5A	10A			10
		40 - 56 Vdc	Power Compact	85 - 264 Vac						5A	10A			20
		40 - 56 Vdc	Power Mini	85 - 264 Vac				2A						23
2-phase	24 V	23 - 28.5 Vdc	Power Compact	180 - 550 Vac					5A	10A			21	
		23 - 28.5 Vdc	Power Mini	180 - 575 Vac				3.8A					23	
Three-phase	24V	22.8 - 28.8 Vdc	Power Vision Economy	340 - 550 Vac						10A	20A	40A	10	
		23 - 28.5 Vdc	Power Compact	320 - 575 Vac						10A	20A	40A	22	
		22.8 - 28.8 Vdc	Power Vision Basic	340 - 550 Vac						10A	20A	40A	12	
		22.8 - 28.8 Vdc	Power Vision Line	340 - 550 Vac						10A	20A	40A	14	
	30V	27 - 43 Vdc	Power Vision Economy	340 - 550 Vac								25A	10	
	48V	37 - 51 Vdc	Power Vision Economy	340 - 550 Vac							10A	20A		10
		40 - 56 Vdc	Power Compact	320 - 575 Vac								20A		22
60V	40 - 61 Vdc	Power Compact	320 - 575 Vac								16A		22	

TYPES ACCORDING TO SERIES

POWER VISION ECONOMY SINGLE-PHASE

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



Order no.

12 Vdc/6 A PVSE 230/12-6

Dimensions:
A: 127 mm
B: 57 mm
C: 163.5 mm



Order no.

12 Vdc/10 A PVSE 230/12-10

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



Order no.

12 Vdc/15 A PVSE 230/12-15

Dimensions:
A: 127 mm
B: 97 mm
C: 187.5 mm



Order no.

24 Vdc/3 A PVSE 230/24-3

24 Vdc/5 A PVSE 230/24-5

24 Vdc/10 A PVSE 230/24-10

24 Vdc/20 A PVSE 230/24-20

30 Vdc/15 A PVSE 230/30-15

48 Vdc/5 A PVSE 230/48-5

48 Vdc/10 A PVSE 230/48-10

Active inrush current limit

POWER VISION ECONOMY THREE-PHASE

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



Order no.

24 Vdc/10 A PVSE 400/24-10

Dimensions:
A: 127 mm
B: 77 mm
C: 179.5 mm



Order no.

24 Vdc/20 A PVSE 400/24-20

Dimensions:
A: 127 mm
B: 128 mm
C: 205.5 mm



Order no.

24 Vdc/40 A PVSE 400/24-40

30 Vdc/25 A PVSE 400/30-25

48 Vdc/10 A PVSE 400/48-10

48 Vdc/20 A PVSE 400/48-20

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

Dimensions:
A: 127 mm
B: 77 mm
C: 179.5 mm



Order no.

24 Vdc/20 A PVSB 400/24-20

Dimensions:
A: 127 mm
B: 128 mm
C: 205.5 mm



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

Dimensions:
A: 127 mm
B: 77 mm
C: 179.5 mm



Order no.

24 Vdc/20 A PVSL 400/24-20

Dimensions:
A: 127 mm
B: 128 mm
C: 205.5 mm



Order no.

24 Vdc/40 A PVSL 400/24-40

POWER VISION AS-I SINGLE-PHASE

Dimensions:
A: 127 mm
B: 57 mm
C: 163 mm



Order no.

30,5 Vdc/3 A PVSA 230/30-3

TYPES ACCORDING TO SERIES

POWER COMPACT SINGLE-PHASE

Dimensions:
A: 127 mm
B: 42 mm
C: 118.5 mm



Order no.

Dimensions:
A: 127 mm
B: 55 mm
C: 153.5 mm



Order no.

Dimensions:
A: 127 mm
B: 95 mm
C: 151.5 mm



Order no.

12 Vdc/15 A	PC-0112-150-0	24 Vdc/5 A	PC-0124-050-0	24 Vdc/10 A	PC-0124-100-0	24 Vdc/20 A	PC-0124-200-0
24 Vdc/5 A	PC-0124-050-4	24 Vdc/10 A	PC-0124-100-4	24 Vdc/20 A	PC-0124-200-4		
48 Vdc/5 A	PC-0148-050-0	48 Vdc/10 A	PC-0148-100-0				

For medical use

Active inrush current limit

POWER COMPACT TWO-PHASE

Dimensions:
A: 127 mm
B: 42 mm
C: 118.5 mm



Order no.

Dimensions:
A: 127 mm
B: 55 mm
C: 118.5 mm



Order no.

24 Vdc/5 A	PC-0224-050-0	24 Vdc/10 A	PC-0224-100-0
24 Vdc/5 A	PC-0224-050-2	24 Vdc/10 A	PC-0224-100-2

Power Boost

POWER COMPACT THREE-PHASE

Dimensions:
A: 127 mm
B: 55 mm
C: 152.5 mm



Order no.

Dimensions:
A: 127 mm
B: 80 mm
C: 152.5 mm



Order no.

Dimensions:
A: 127 mm
B: 126 mm
C: 170.5 mm



Order no.

24 Vdc/10 A	PC-0324-100-0	24 Vdc/20 A	PC-0324-200-0	24 Vdc/40 A	PC-0324-400-0
24 Vdc/10 A	PC-0324-100-2	24 Vdc/20 A	PC-0324-200-2	24 Vdc/40 A	PC-0324-400-2
		48 Vdc/20 A	PC-0348-200-0		
		48 Vdc/20 A	PC-0348-200-2		
		60 Vdc/16 A	PC-0360-160-2		

Power Boost

TYPES ACCORDING TO SERIES

POWER MINI SINGLE-PHASE



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



Order no.

12 Vdc/2 A PM-0112-020-0

24 Vdc/1 A PM-0124-010-0



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



Order no.

12 Vdc/4 A PM-0112-040-0

24 Vdc/2 A PM-0124-020-0

24 Vdc/2 A PM-0124-020-4



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



Order no.

12 Vdc/7 A PM-0112-070-0

24 Vdc/3.8 A PM-0124-038-0

24 Vdc/4 A PM-0124-040-0

NEW
30.5 Vdc/3 A PM-0130-030-0

48 Vdc/2 A PM-0148-020-0



For medical use



AS-i compatible



NEC Class 2

POWER MINI TWO-PHASE



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



Order no.

24 Vdc/3.8 A PM-0224-038-0



NEC Class 2

TYPES ACCORDING TO SERIES

POWER **eco**LINE SINGLE-PHASE



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



Order no.



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



Order no.



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



Order no.

12 Vdc/2 A PEL 230/12-2

5 Vdc/5.5 A PEL 230/5-5,5

12 Vdc/4 A PEL 230/12-4

12 Vdc/6.5 A PEL 230/12-6,5

18 Vdc/1.1 A PEL 230/18-1,1

18 Vdc/2.5 A PEL 230/18-2,5

POWER **eco**LINE Neo SINGLE-PHASE



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



Order no.



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



Order no.



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



Order no.

24 Vdc/1.3 A PEL-0124-013-0

24 Vdc/2.5 A PEL-0124-025-0

24 Vdc/4 A PEL-0124-040-0

TYPES ACCORDING TO SERIES

POWER VISION ACCESSOIRES

Communication cable



Order no.

PV-KOK2

Wall fastening



Order no.

PV-WB2

DIN rail mounting



Order no.

PV-TS35M

Female plug



Order no.

PV-CON

USB converter



Order no.

PV-USB/SERIELL

POWER COMPACT ACCESSOIRES

Wall fastening



Order no.

PV-WB2

TH35 sideways mounting



Order no.

PC-TS35Z

POWER COMPACT POWER MINI

ECONOMY SMART
ECONOMY REMOTE
BASIC SMART
BASIC FIX



reddot design award
winner 2013



CIRCUIT BREAKERS

EASYB

THE MODULAR 24V CIRCUIT BREAKER SYSTEM



HERMES
A W A R D
2 0 1 6
NOMINATED



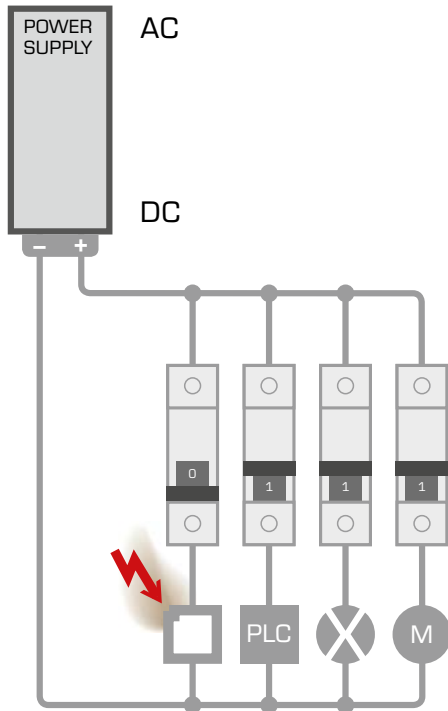
SUBJECT TO CHANGE.

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



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

2 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

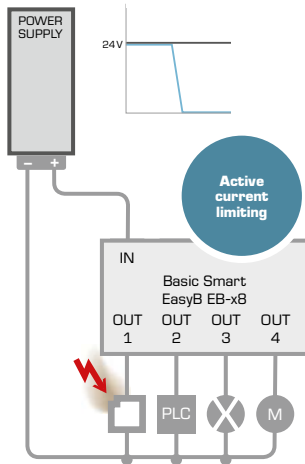
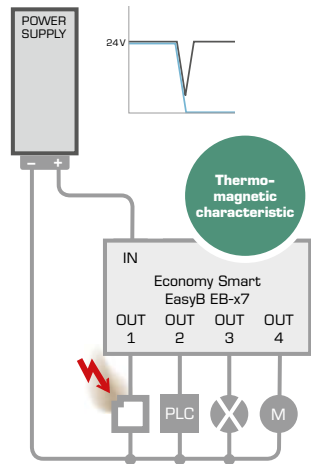
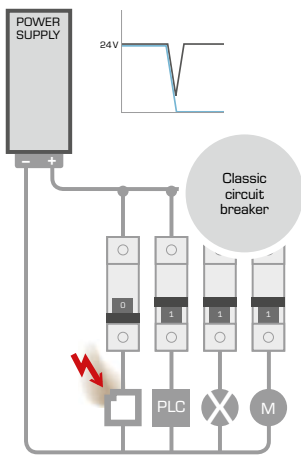
Electronic circuit breakers are designed for the special behaviour of switched mode power supplies and the 24Vdc loads they supply. They distribute the load current to several circuits and protect loads and wiring even for long cable lengths and small cross-sections.

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.



i 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.

ACTIVE CURRENT LIMITING FOR SENSIBLE LOADS

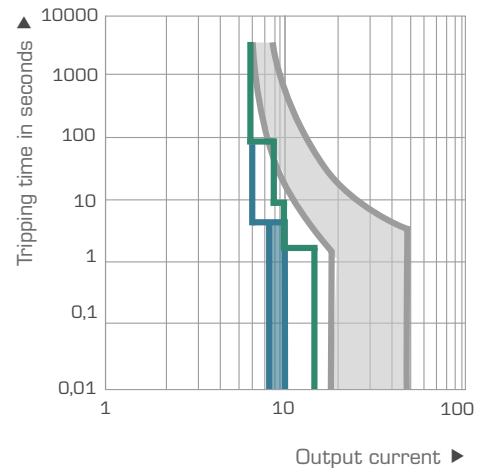
This module actively limits the overcurrent of each circuit to a maximum of 1.7 times the adjusted current. In case of an overcurrent, a selective shutdown occurs for affected circuits only. For non-affected circuits a drop in voltage is reliably avoided.

COMPARISON OF THE TRIPPING CURVES

6 A
Economy Smart
(Thermomagnetic
characteristic)

6 A
Circuit breaker (B-characteristic) to 24 V DC

6 A
Basic Smart
(Active current limiting)



EASYB – THE MODULAR 24V CIRCUIT BREAKER SYSTEM

CIRCUIT BREAKER MODULES



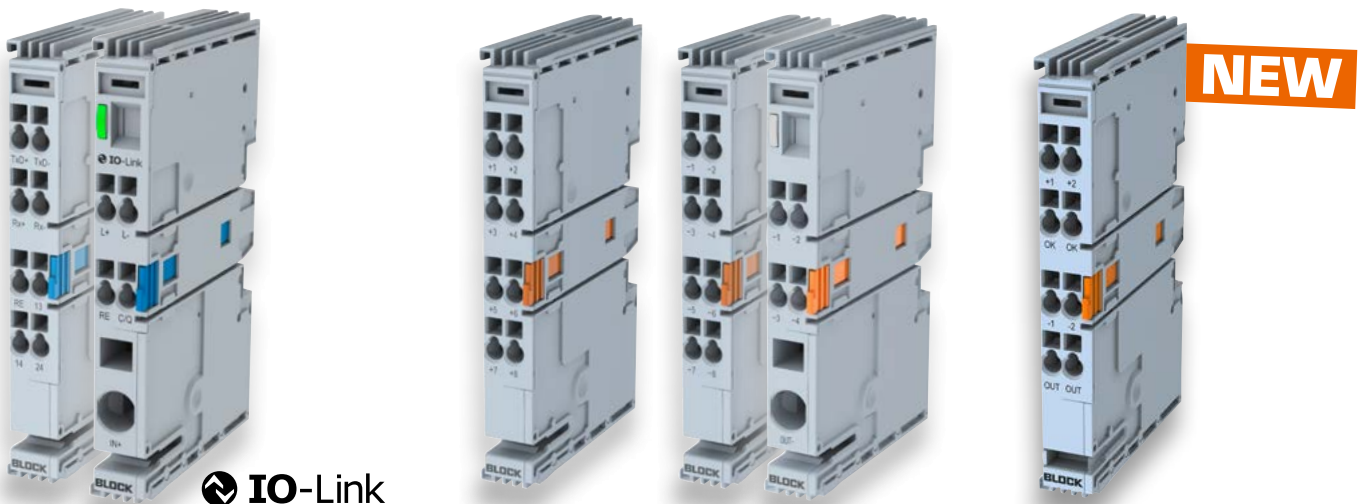
Single channels

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

Dual channels

Two independent secure channels for the EB-27 thermomagnetic version.

ADDITIONAL MODULES



Communication modules

Communication modules for left-sided arrangement on circuit breakers incl. potential-free signal contacts.



Potential modules

Output expander for right-sided arrangement on circuit breakers. Provides eight further outlets for the channel to be contacted.
Ground module to feed back the 0 V signal to the power supply as a replacement for the series terminal.

2-pole physical isolation

Two-pole physical isolation with galvanic isolation, to be added to the right side of circuit breaker channels with single alarm signal.

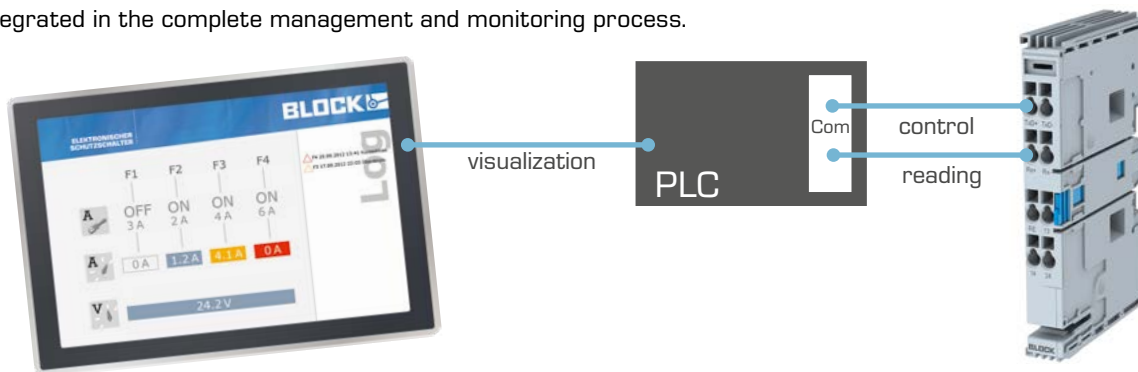
GENERAL ADVANTAGES OF EASYB CIRCUIT BREAKER SYSTEM

- Modular protection of 24 Vdc circuits
- 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

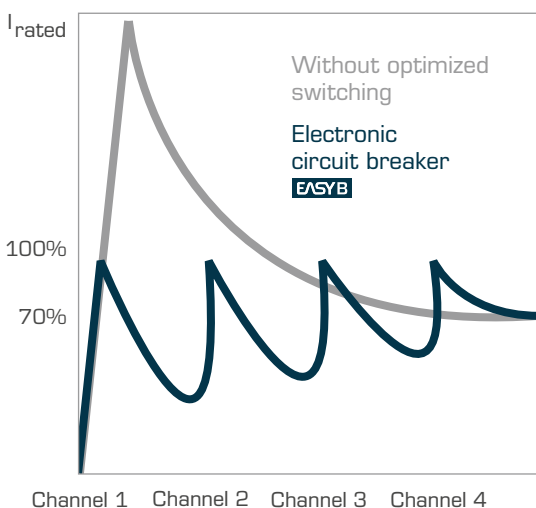
COMMUNICATION WITH THE CENTRAL CONTROL SYSTEM USING THE COMMUNICATION MODULE

Intelligent overcurrent protection

Integrated in the complete management and monitoring process.



The individual channels can exchange important information with one another and, when required, pass it on to a higher-level control via an optionally extendable communication module. Reports on operating and error statuses are easily and quickly available. Moreover, any output channels can be parameterized, actively turned on or turned off and reset. Information such as the current channel status, including the currently flowing current and the adjoining input and output voltage, are easily and quickly available.



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.

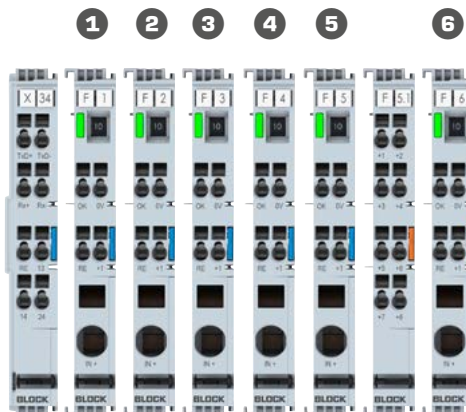
SETTING THE TRIPPING CURRENT

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 current selector 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.



Addressing is performed automatically during switch-on

Counting starts to the left at 1

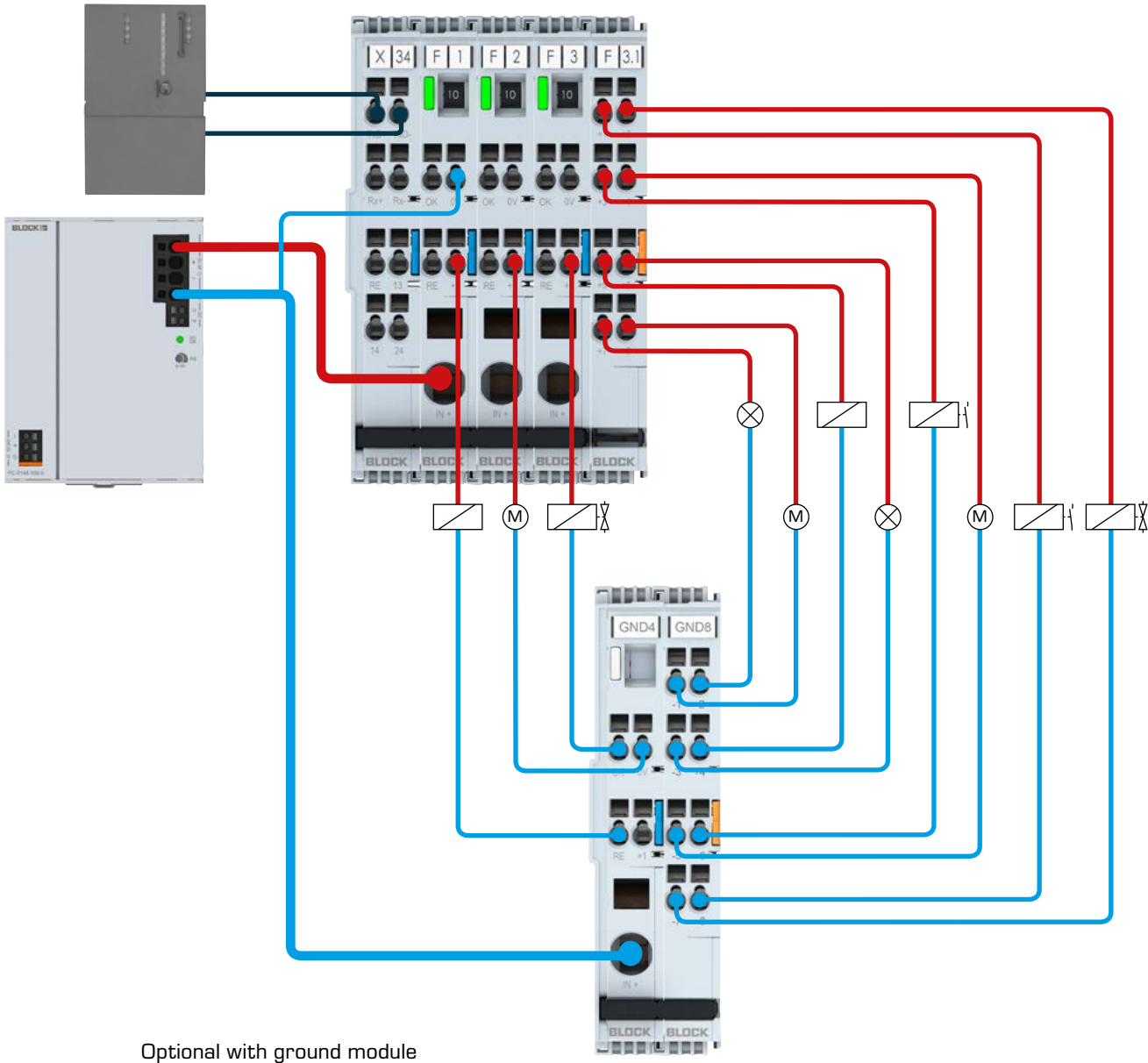
Simplified extension and replacement in comparison to existing solutions

Addressing possible for up to three output expanders per channel

INSTALLATION

EB-COMMUNICATION
EB-XXX
EB-XXX
EB-XXX
EB-PMM

Suitable circuit breakers: EB-08, EB-18, EB-38
Up to 40 circuit breakers mountable side by side



Optional with ground module

EB-GND 4
EB-GND 8

TEMPERATURE RANGE

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 24 V circuits.

FEATURES

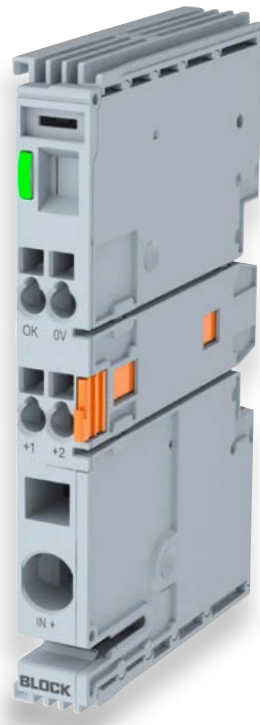
Preset tripping currents: 1 - 10 A

Thermomagnetic characteristic

Up to 40 fuse channels mountable side by side

VERSIONS

SINGLE-CHANNEL			
24 Vdc 1 A	24 Vdc 2 A	24 Vdc 3 A	24 Vdc 4 A
24 Vdc 6 A	24 Vdc 8 A	24 Vdc 10 A	



HIGHLIGHTS

COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS

RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>40.000 µF)

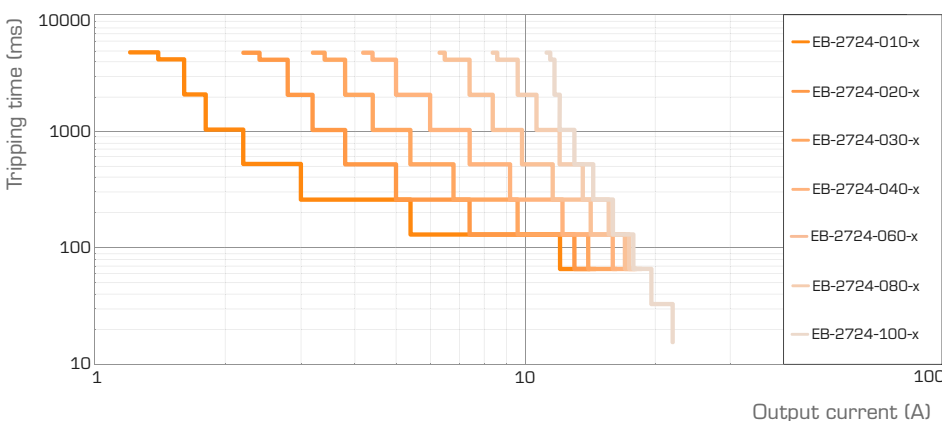
AUTOMATIC FEEDTHROUGH OF ALL SIGNAL LEVELS

FLEXIBLE ADJUSTMENT TO RESPECTIVE CIRCUMSTANCES

STATUS LED

SECOND LOAD OUTPUT

TRIPPING CHARACTERISTIC



ELECTRONIC 2-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 24 V circuits.

FEATURES

Preset tripping currents: 2 x 1–8 A

Thermomagnetic characteristic

Up to 40 fuse channels mountable side by side

VERSIONS

2-CHANNEL			
24 Vdc 2x1 A	24 Vdc 2x2 A	24 Vdc 2x3 A	24 Vdc 2x4 A
24 Vdc 2x6 A	24 Vdc 2x8 A		



HIGHLIGHTS

COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS

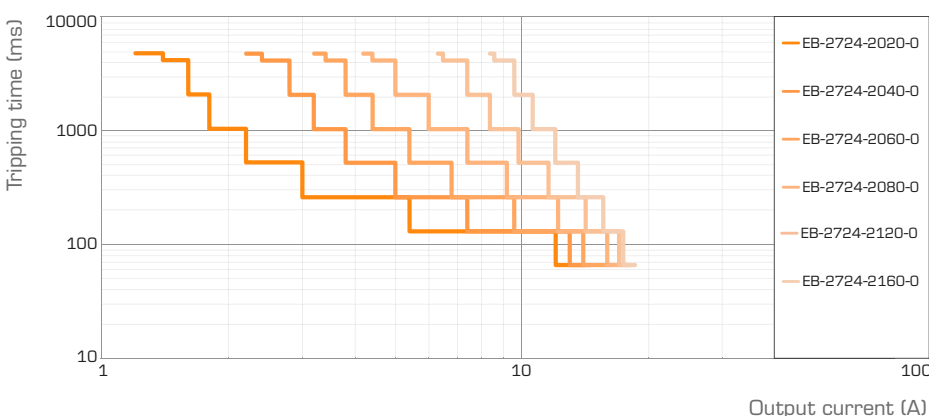
RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>40.000 µF)

AUTOMATIC FEEDTHROUGH OF ALL SIGNAL LEVELS

FLEXIBLE ADJUSTMENT TO RESPECTIVE CIRCUMSTANCES

STATUS LED

TRIPPING CHARACTERISTIC



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

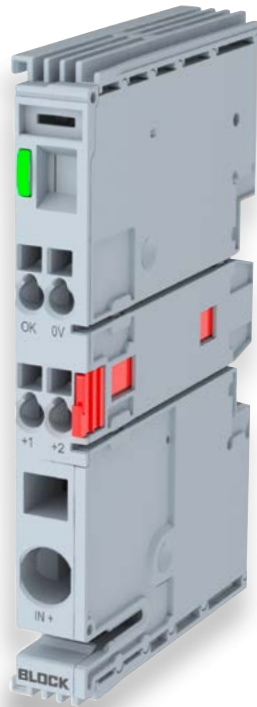
Preset tripping currents: 1 - 10 A

Active current limiting

Up to 40 fuse channels mountable side by side

VERSIONS

SINGLE-CHANNEL			
24 Vdc 1 A NEC Class 2	24 Vdc 2 A NEC Class 2	24 Vdc 3 A NEC Class 2	24 Vdc 4 A NEC Class 2
24 Vdc 6 A	24 Vdc 8 A	24 Vdc 10 A	



HIGHLIGHTS

COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS

RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>70.000 µF)

AUTOMATIC FEEDTHROUGH OF ALL SIGNAL LEVELS

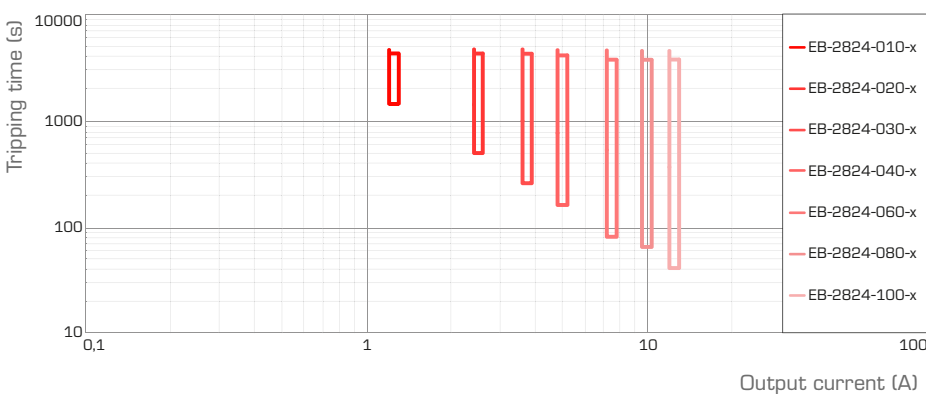
FLEXIBLE ADJUSTMENT TO RESPECTIVE CIRCUMSTANCES

STATUS LED

SECOND LOAD OUTPUT

NEC CLASS 2 FOR DEVICES UP TO 4 A

TRIPPING CHARACTERISTIC



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 24V loads with option of reading more detailed current supply parameters and actively controlling the channels.

FEATURES

EB-08: Tripping currents adjustable via current selector switch or interface: 0.5 - 10A

EB-18: Preset tripping currents: 1 - 10A

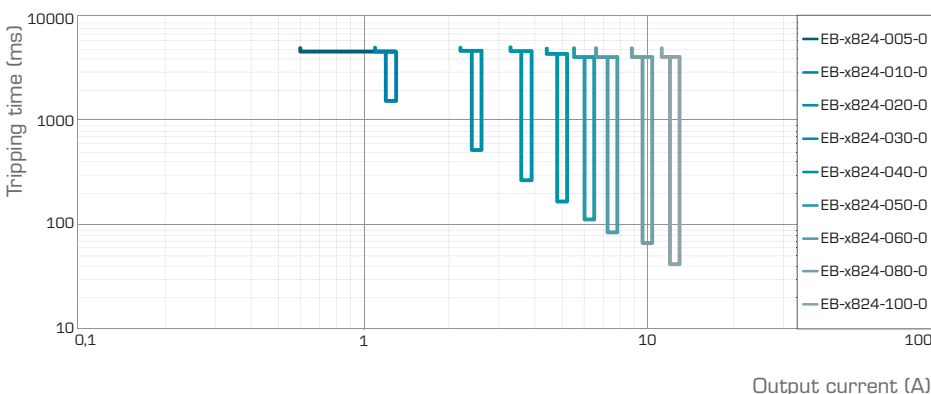
EB-38: Tripping currents adjustable via interface: 0.5 - 10A

VERSIONS

SINGLE-CHANNEL			
24Vdc 0.5A	24Vdc 1A	24Vdc 2A	24Vdc 3A
24Vdc 4A	24Vdc 6A	24Vdc 8A	24Vdc 10A



TRIPPING CHARACTERISTIC



HIGHLIGHTS

COMMON MESSAGE FOR TRIPPED/SWITCHED OFF CHANNELS

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

SUBJECT TO CHANGE.

CIRCUIT BREAKERS



COMMUNICATION MODULE FOR COMMUNICATION CONNECTION

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

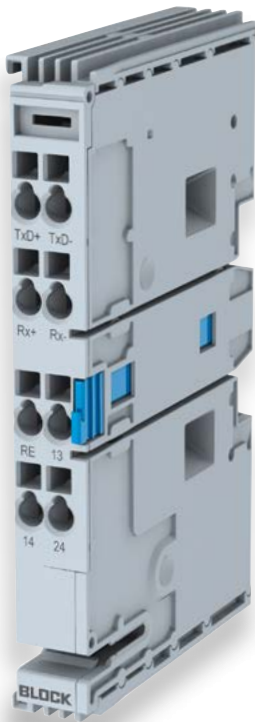
FEATURES

Interface standard: MODBUS RTU
IO-LINK

Collecting and transmitting information on the individual operating and error statuses, as well as parameterization and remote switching of up to 40 circuit breaker channels.

VERSIONS

COMMUNICATION MODULES		
MODBUS RTU	IO-LINK	IO-LINK-1



HIGHLIGHTS

MONITORING OF OPERATING AND ERROR STATES

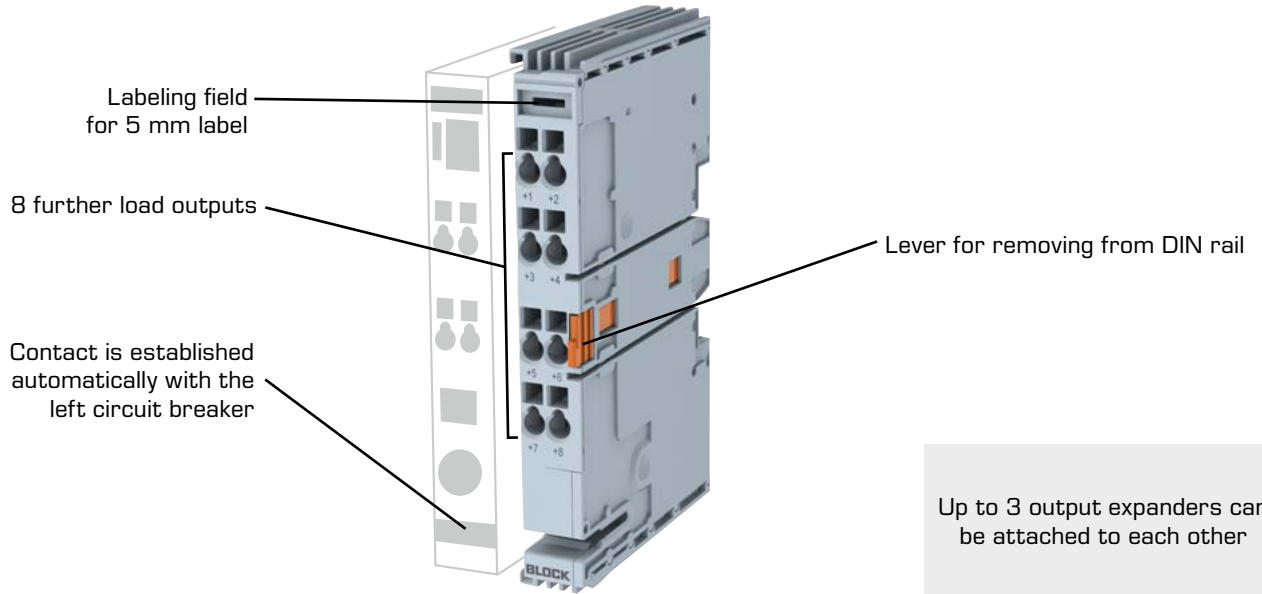
READING OF INPUT VOLTAGE AND OUTPUT CURRENTS

ADJUSTABLE TRIPPING CURRENTS

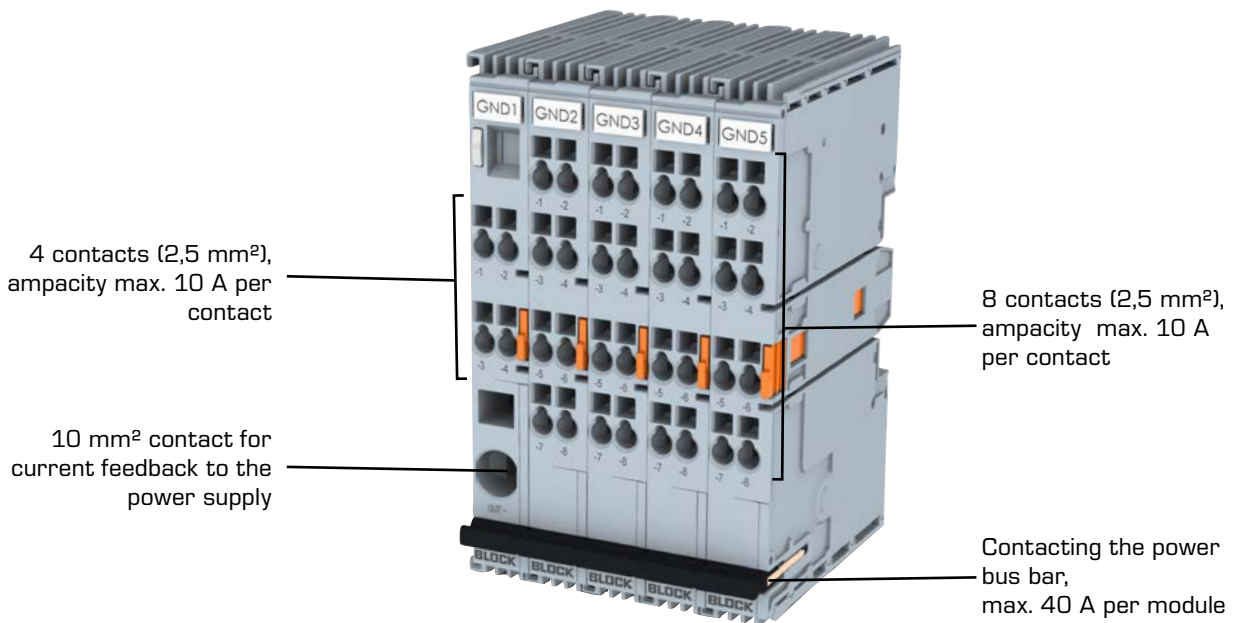
SWITCHING AND RESETING OF CIRCUIT BREAKER CHANNELS

TWO POTENTIAL FREE SIGNAL CONTACTS (ONLY EB-MODBUS-RTU)

OUTPUT EXPANDER EB-PMM

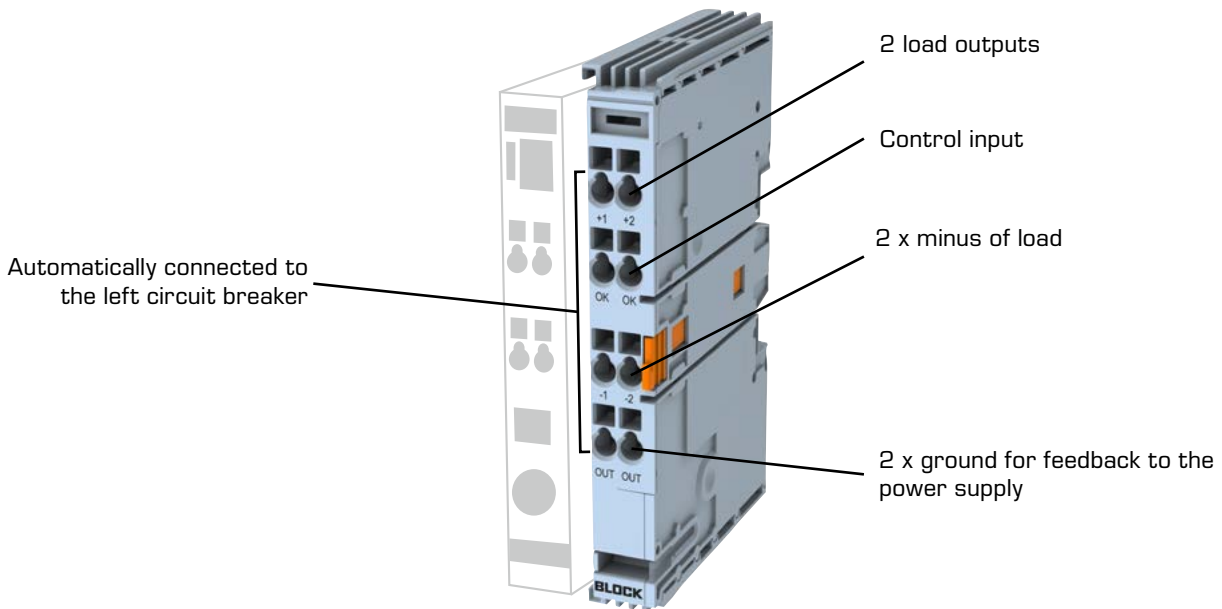


GROUND MODULE EB-GND

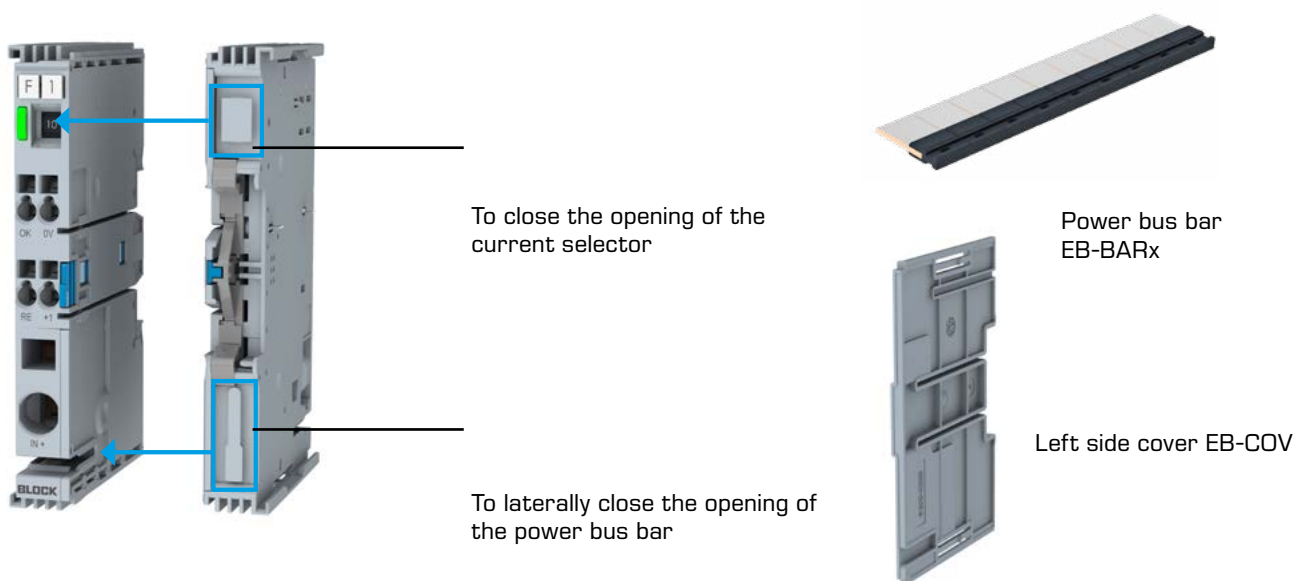


2-POLE PHYSICAL ISOLATION EB-PT2-0

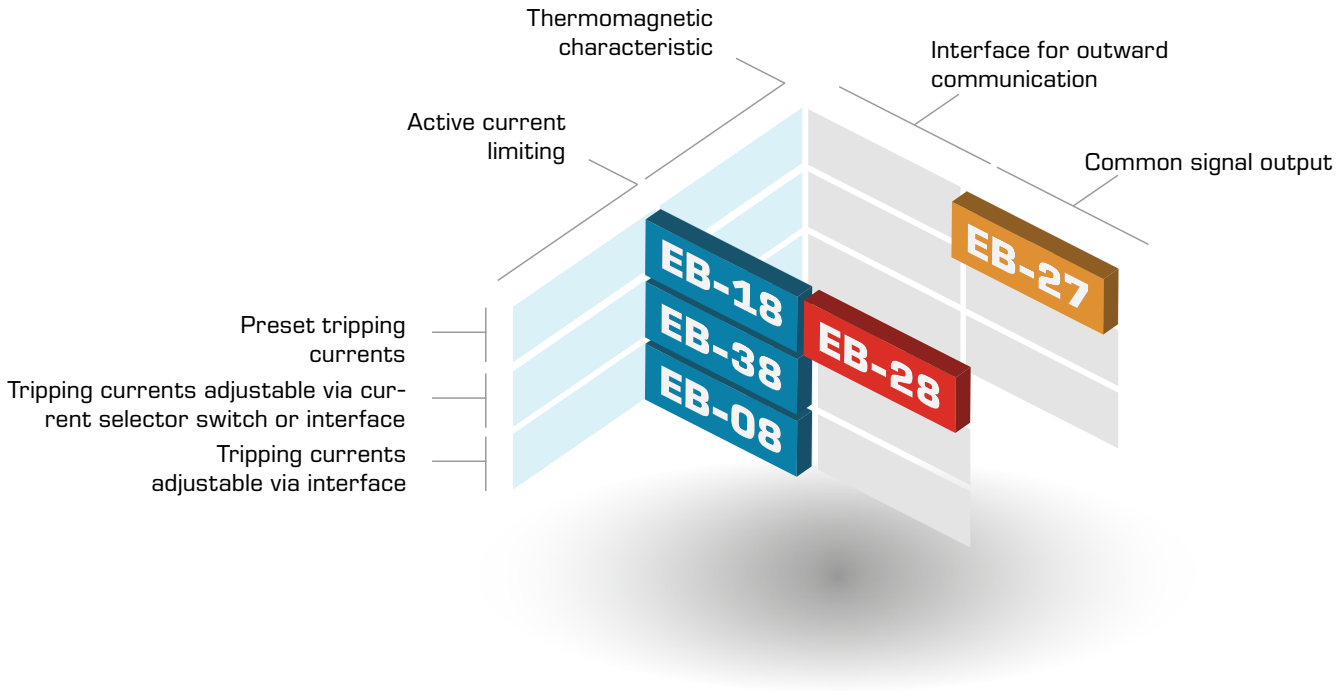
NEW



ACCESSOIRES



DECISION SUPPORT 1-CHANNEL CIRCUIT BREAKER EASYB



FEATURES

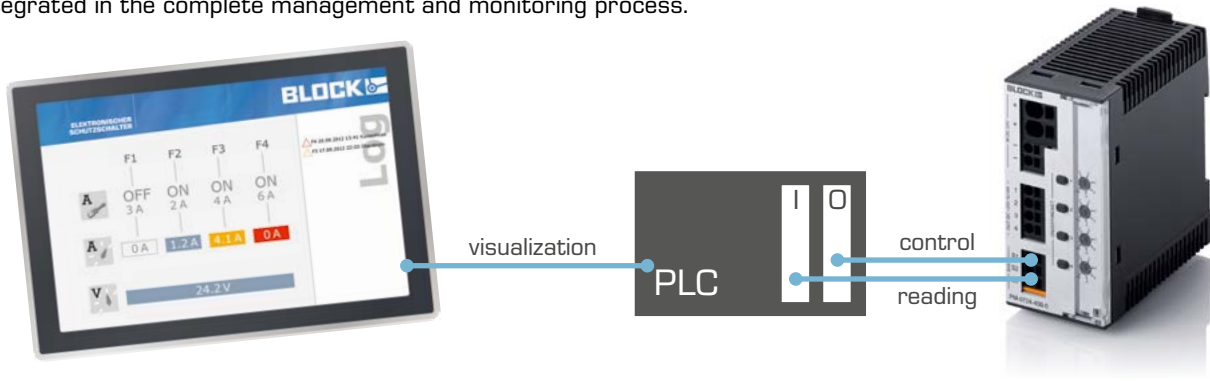
EB-2724-XX0-0	EB-2724-2XX0-0	EB-2824-XX0-0	EB-0824-100-0	EB-1824-XX0-0	EB-3824-100-0	
■	■					Thermomagnetic characteristic
		■	■	■	■	Current limiting 1,25 x rated current
			■	■	■	Communication interface
			■	■	■	Automatic channel assignment
			■	■	■	Common reset
			■	■	■	Selective switch-on at $U_{in} > 18V$, load-dependent
■	■		■	■	■	Current detection and signaling $> 90\%$ of rated current
■	■					Inrush capacity $> 40\,000\ \mu F$
		■	■	■	■	Inrush capacity $> 70\,000\ \mu F$
■	■	■		■		Preset tripping currents
			■			Tripping currents adjustable via current selector 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
■	■	■	■	■	■	Colored status indicator on button
■	■	■	■	■	■	Common feedback contact for tripped/switched off channels
■	■					Orange lever
		■				Red lever
			■	■	■	Blue lever
		■				NEC Class 2

MULTICHANNEL CIRCUIT BREAKERS

Communication with the central control system using only two lines

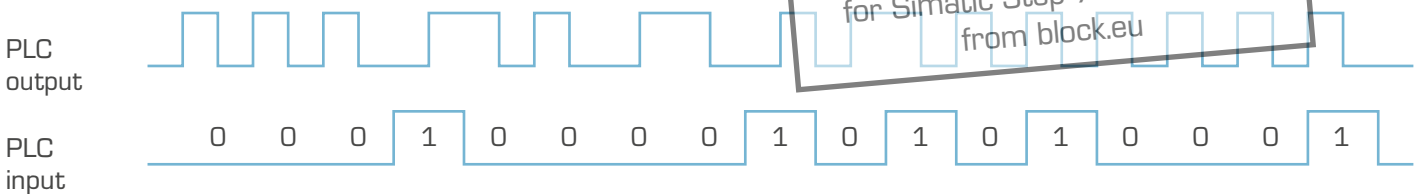
Intelligent overcurrent protection

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:



Free functional modules for Simatic Step 7 + CoDeSys from block.eu

Short protocol:

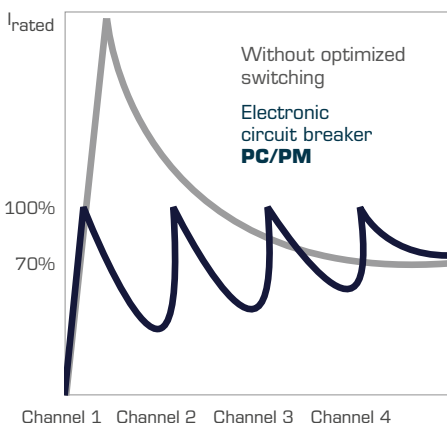
17 bit data –
minimum transmission time 1.2 seconds

- 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

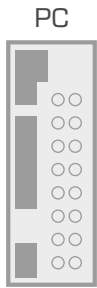
The power on of integrated output channels is time-delayed and load-dependent. As soon as the adjusted tripping current of the output channel falls below, the next channel will be switched on. The inrush current of the whole device is levelled off, as the overdimensioning of the power supply is not necessary.

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.

Space requirement
8 channels

42 mm

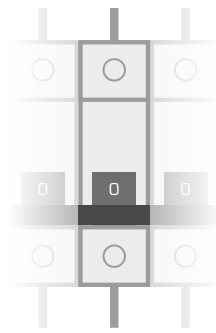


Circuit breaker
Power Compact

Width: 5.25mm / channel

Space requirement
8 channels

Factor 3.4 **144 mm**

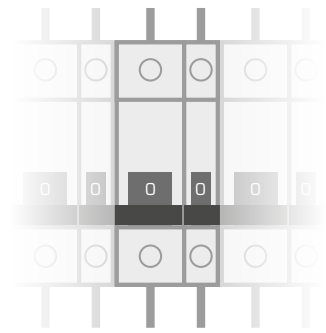


Circuit breaker

Width: 18mm / channel

Space requirement
8 channels

Factor 5.1 **216 mm**



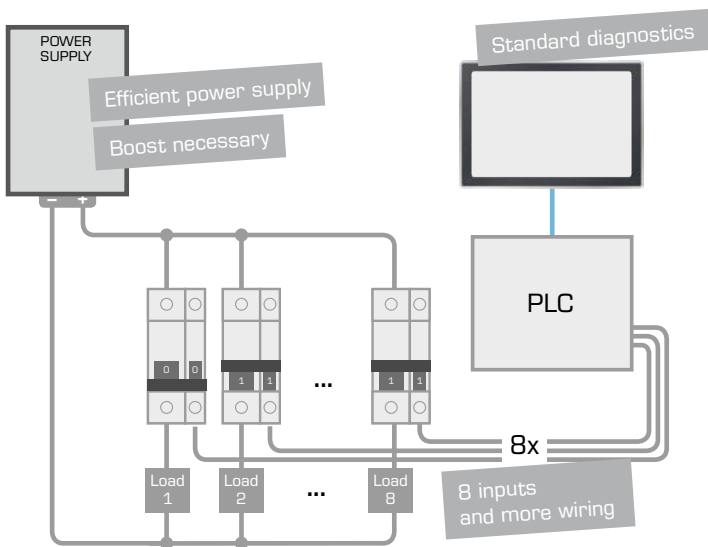
Circuit breaker
with auxiliary switch

Width: 18 + 9mm / channel

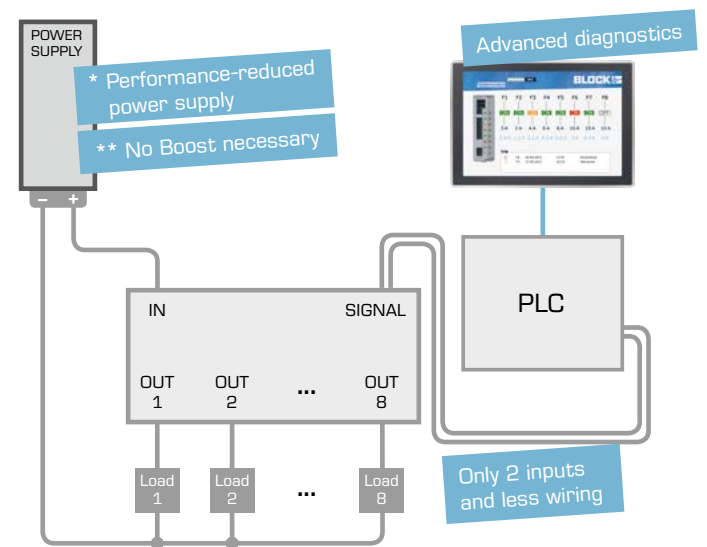
COMPARISON OF 8 PROTECTED CIRCUITS

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



BLOCK
circuit breakers

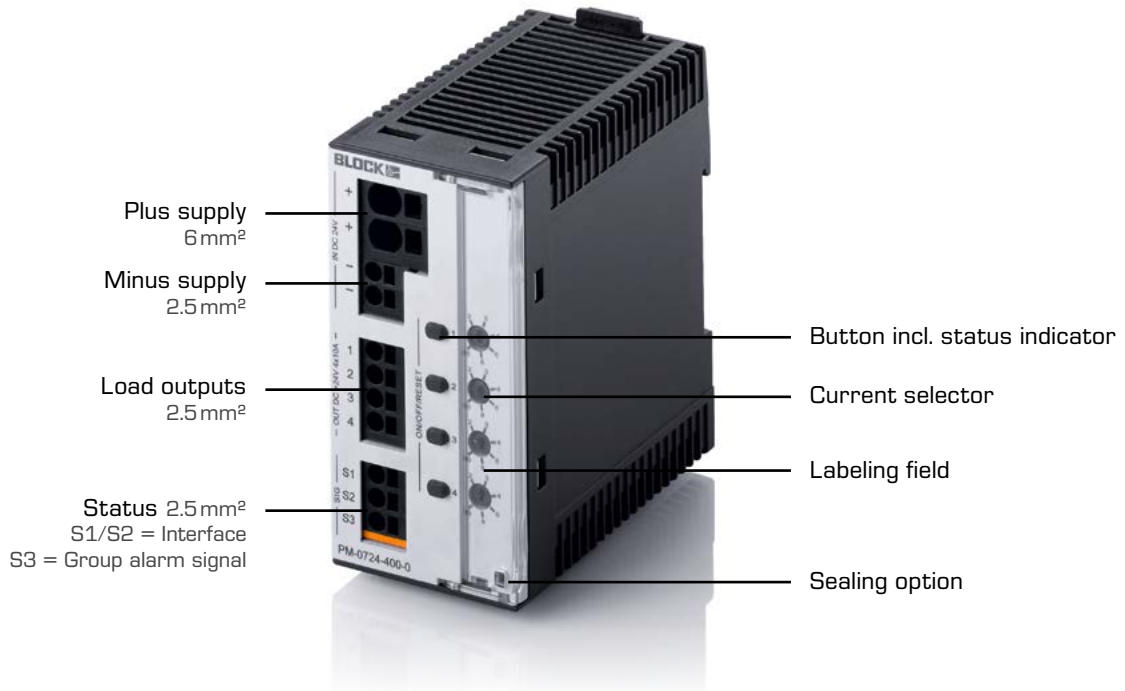


* Due to optimized distribution of the inrush
** Without current spikes for tripping of circuit breakers

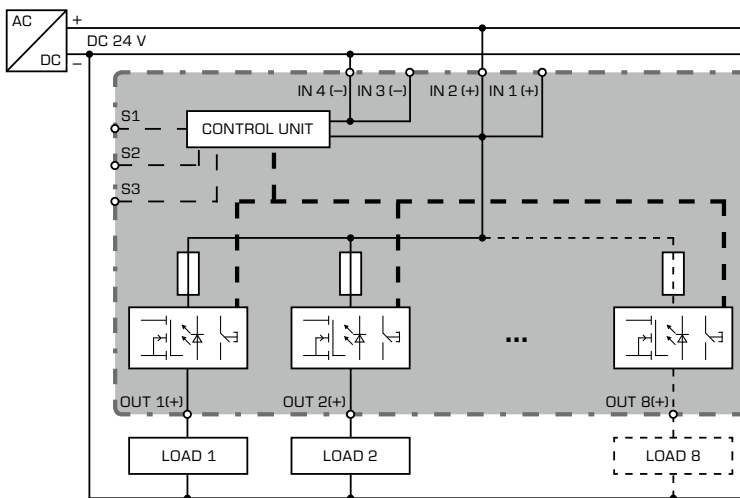
SUBJECT TO CHANGE.

CIRCUIT BREAKERS

OPERATING AND CONNECTING ELEMENTS



CIRCUIT PRINCIPLE



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

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

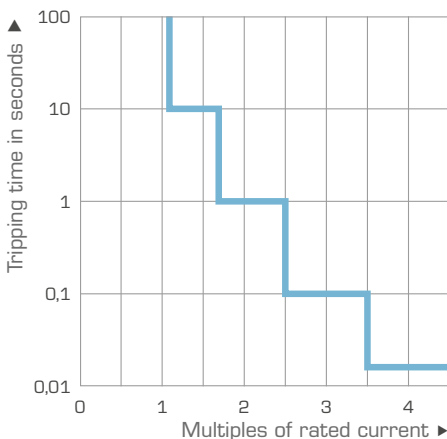
Adjustable current: 1–6 A and 2–10 A
 Number of output channels: 8/4/2 per circuit breaker

VERSIONS

2-CHANNEL			
12 Vdc 2x2-10 A	24 Vdc 2x1-6 A	24 Vdc 2x2-10 A	48 Vdc 2x2-10 A
4-CHANNEL			
12 Vdc 4x2-10 A	24 Vdc 4x1-6 A	24 Vdc 4x2-10 A	48 Vdc 4x2-10 A
	24 Vdc 4x1-10 A IO-Link		
8-CHANNEL			
	24 Vdc 8x1-6 A	24 Vdc 8x2-10 A	48 Vdc 8x2-10 A
	24 Vdc 8x1-10 A IO-Link		



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

VARIANTS WITH IO-LINK INTERFACE IO-Link

SUBJECT TO CHANGE.

CIRCUIT BREAKERS



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

VERSIONS

2 CHANNEL

24 Vdc 2x0.5-6A	24 Vdc 2x2-12A
--------------------	-------------------

4 CHANNEL

24 Vdc 4x0.5-6A	24 Vdc 4x2-12A
--------------------	-------------------

8 CHANNEL

24 Vdc 8x0.5-6A

HIGHLIGHTS

ACTIVE CURRENT LIMITING
TYP. 1.7 X I_{RATED}

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

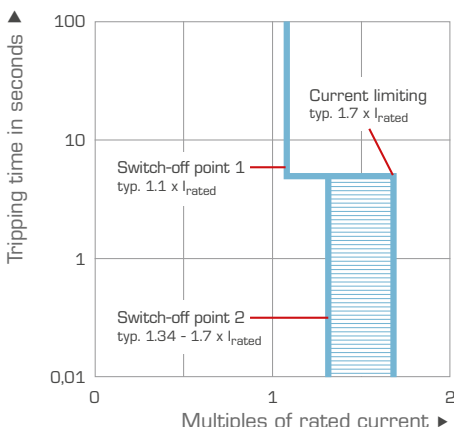
REMOTE RESET CONTACT

TRANSMISSION OF ACTUAL
OUTPUT CURRENTS

ADJUSTABLE RATED CURRENT
PER CHANNEL



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 processes, speed and direction changes of DC motors.

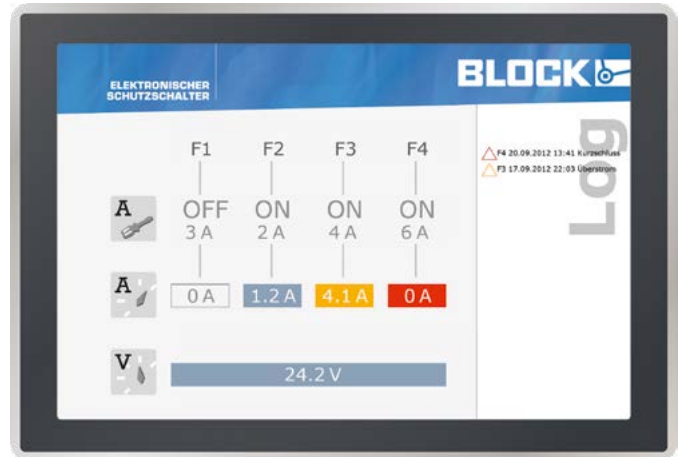


DESCRIPTION

BASIC SMART

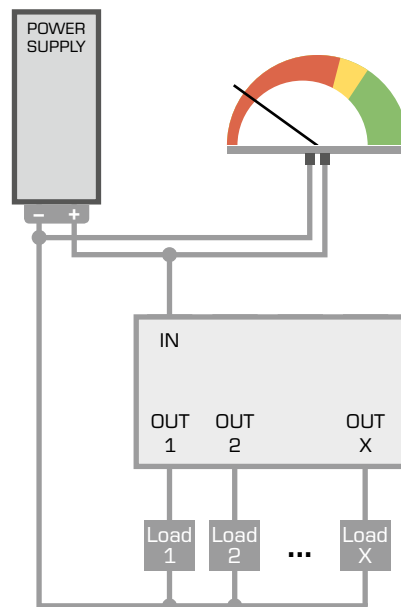
EXTENSIVE DIAGNOSTICS

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 visualization 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 20V, all circuits with more than 100% of the adjusted rated current are selectively shut off immediately.



SUBJECT TO CHANGE.

CIRCUIT BREAKERS

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.

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



FEATURES

NEC Class 2

Preset tripping currents

Number of output channels: 4/2 per circuit breaker

VERSIONS

2 CHANNEL

24 Vdc
2x3,8A
NEC
Class 2

4 CHANNEL

24 Vdc
4x3,8A
NEC
Class 2

HIGHLIGHTS

ACTIVE CURRENT LIMITING

SHUTDOWN OF DEFECTIVE CIRCUITS IN THE EVENT OF CRITICAL SUPPLY VOLTAGE

COMMON SIGNAL CONTACT OF SIMPLE REMOTE DIAGNOSTIC

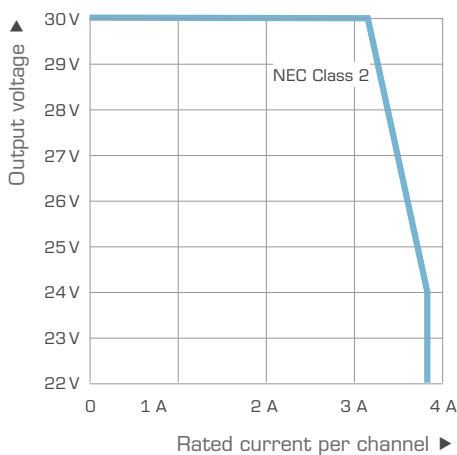
NEC CLASS 2

DIAGNOSTIC AND REMOTE SWITCHING OF CHANNELS VIA 2 LINES

REMOTE RESET CONTACT

RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (> 50,000 μ F)

TRIPPING CURVE



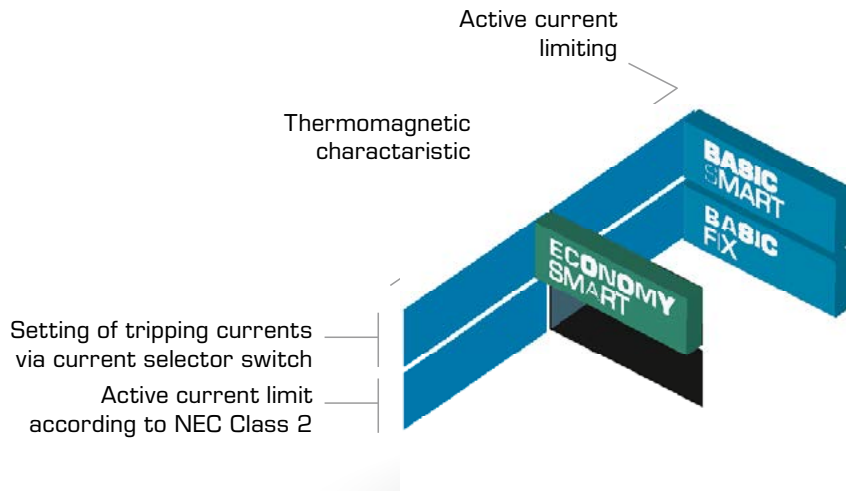
ePLAN

RU

UL
LISTED

EAC

DECISION SUPPORT MULTICHANNEL CIRCUIT BREAKERS



FEATURES

ECONOMY SMART	BASIC SMART	BASIC FIX	
■	■		Setting of tripping currents per channel via current selector switch
■	■	■	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
■	■	■	Group alarm signal for tripped channels
■	■	■	Remote reset of tripped channels
	■		Active current limit typ. $1.7 \times I_{rated}$
		■	Active current limit according to NEC Class 2 (100W)
■			Reading and parameterizing via IO-Link

TYPES ACCORDING TO SERIES

EASYB SINGLE-CHANNEL

THERMOMAGNETIC CHARACTERISTIC

WITH CURRENT LIMITING

WITH CURRENT LIMITING



Dimensions:
A: 99 mm
B: 12 mm
C: 60 mm



Order no.



Dimensions:
A: 99 mm
B: 12 mm
C: 60 mm



Order no.



Dimensions:
A: 99 mm
B: 12 mm
C: 60 mm



Order no.

Adjustable tripping currents:
0.5–10 A = 0.5/1/2/3/4/5/6/8/10 A

24 Vdc / 1 A	EB-2724-010-X	24 Vdc / 1 A	EB-2824-010-X	24 Vdc / 1 A	EB-1824-010-0
24 Vdc / 2 A	EB-2724-020-X	24 Vdc / 2 A	EB-2824-020-X	24 Vdc / 2 A	EB-1824-020-0
24 Vdc / 3 A	EB-2724-030-X	24 Vdc / 3 A	EB-2824-030-X	24 Vdc / 3 A	EB-1824-030-0
24 Vdc / 4 A	EB-2724-040-X	24 Vdc / 4 A	EB-2824-040-X	24 Vdc / 4 A	EB-1824-040-0
24 Vdc / 6 A	EB-2724-060-X	24 Vdc / 6 A	EB-2824-060-X	24 Vdc / 6 A	EB-1824-060-0
24 Vdc / 8 A	EB-2724-080-X	24 Vdc / 8 A	EB-2824-080-X	24 Vdc / 8 A	EB-1824-080-0
24 Vdc / 10 A	EB-2724-100-X	24 Vdc / 10 A	EB-2824-100-X	24 Vdc / 10 A	EB-1824-100-0
				24 Vdc 1 x 0.5-10 A	EB-3824-100-0
				24 Vdc 1 x 0.5-10 A	EB-0824-100-0

X = -0: Common alarm signal
-4: Single status signal

with communication interface

Preset tripping currents

Tripping currents adjustable via interface

Tripping currents adjustable via rotary switch or interface

EASYB TWO-CHANNEL

THERMOMAGNETIC CHARACTERISTIC



Dimensions:
A: 99 mm
B: 12 mm
C: 60 mm



Order no.

24 Vdc / 2x1 A	EB-2724-2020-0
24 Vdc / 2x2 A	EB-2724-2040-0
24 Vdc / 2x3 A	EB-2724-2060-0
24 Vdc / 2x4 A	EB-2724-2080-0
24 Vdc / 2x6 A	EB-2724-2120-0
24 Vdc / 2x8 A	EB-2724-2160-0

Two independent secure channels for the EB-27 thermomagnetic version.

Preset tripping currents

TYPES ACCORDING TO SERIES

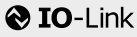
EASYB ACCESSOIRES

Communication module



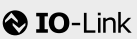
Order no.

EB-MODBUS-RTU



IO-Link

EB-IO-LINK



IO-Link

EB-IO-LINK1

Output expander



Order no.

EB-PMM

2-pole physical isolation



Order no.

EB-PT2-0

NEW

Ground module



Order no.

EB-GND4

EB-GND8

Left side cover



Order no.

PU 4

EB-COV

Power bus bar



Order no.

EB-BAR 2..41

ECONOMY SMART 8/4/2 CHANNEL

THERMOMAGNETIC CHARACTERISTIC



Dimensions:
A: 127 mm
B: 42 mm
C: 116.5 mm



Order no.

24 Vdc / 8 x 1-6 A PC-0724-480-0

NEW 24 Vdc / 8 x 1-10 A PC-0724-800-011

24 Vdc / 8 x 2-10 A PC-0724-800-0

24 Vdc / 8 x 2-10 A PC-0724-800-2

48 Vdc / 8 x 2-10 A PC-0748-800-0

48 Vdc / 8 x 2-10 A PC-0748-800-2



Dimensions:
A: 90 mm
B: 45 mm
C: 91.5 mm



Order no.

12 Vdc / 4 x 2-10 A PM-0712-400-0

24 Vdc / 4 x 1-6 A PM-0724-240-0

NEW 24 Vdc / 4 x 1-10 A PM-0724-400-011

24 Vdc / 4 x 2-10 A PM-0724-400-0

24 Vdc / 4 x 2-10 A PM-0724-400-2

48 Vdc / 4 x 2-10 A PM-0748-400-0

48 Vdc / 4 x 2-10 A PM-0748-400-2



Dimensions:
A: 90 mm
B: 45 mm
C: 91.5 mm



Order no.

12 Vdc / 2 x 2-10 A PM-0712-200-0

24 Vdc / 2 x 1-6 A PM-0724-120-0

24 Vdc / 2 x 2-10 A PM-0724-200-0

48 Vdc / 2 x 2-10 A PM-0748-200-0

48 Vdc / 2 x 2-10 A PM-0748-200-2

Adjustable tripping currents via current selector switch:

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

with IO-Link interface



Potential free signal output

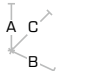
SUBJECT TO CHANGE.

CIRCUIT BREAKERS

TYPES ACCORDING TO SERIES

BASIC SMART 8/4/2 CHANNEL

WITH CURRENT LIMITING




Dimensions:
A: 127 mm
B: 42 mm
C: 116.5 mm



Order no.

**24 Vdc / 8 x
0.5-6 A** PC-0824-480-0




Dimensions:
A: 90 mm
B: 45 mm
C: 91.5 mm



Order no.

**24 Vdc / 4 x
0.5-6 A** PM-0824-240-0



Dimensions:
A: 90 mm
B: 45 mm
C: 91.5 mm



Order no.

**24 Vdc / 2 x
0.5-6 A** PM-0824-120-0

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

**24 Vdc / 4 x
2-12 A** PM-0824-480-0

**24 Vdc / 2 x
2-12 A** PM-0824-240-2

BASIC FIX 4/2 CHANNEL

WITH CURRENT LIMITING




Dimensions:
A: 90 mm
B: 45 mm
C: 91.5 mm



Order no.

**24 Vdc / 4 x
3.8 A** PM-9824-152-0



Dimensions:
A: 90 mm
B: 45 mm
C: 91.5 mm



Order no.

**24 Vdc / 2 x
3.8 A** PM-9824-076-0

Preset tripping currents according to NEC Class 2

3,8 A



SUBJECT TO CHANGE.

CIRCUIT BREAKERS

POWER **COMPACT**



UNINTERRUPTIBLE POWER SUPPLIES

POWER VISION



SUBJECT TO CHANGE.

UPS

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 - minimize the risk of time and cost-intensive system standstills.

LAYOUT OF AN INTERRUPTIBLE POWER SUPPLY

With capacitors

Power supply + Buffer module

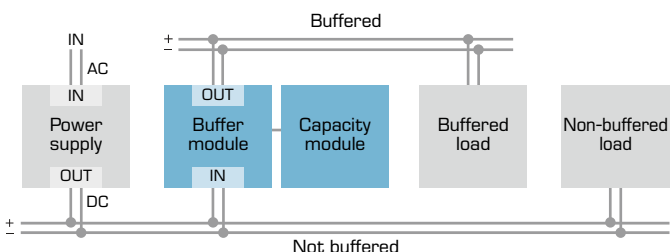
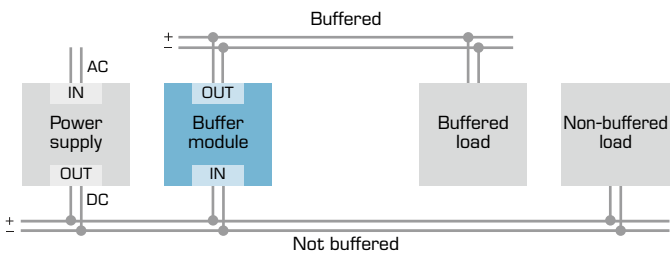


Power supply + Capacitive UPS + Capacity module



Buffer modules and capacitive UPS-solutions can store a lot of energy due to their double-layer capacitors and offer a long lifetime even at higher ambient temperatures.

They bypass power failures up to the range of minutes while supporting the 24V supply voltage against unwanted voltage dips, which are often caused by high-energy switching operations of a device.

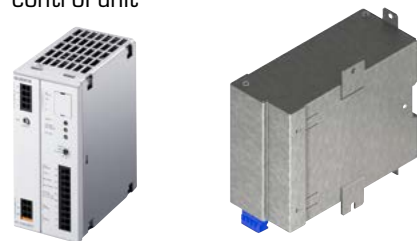


With battery modules

Power supply + Charge and control unit + Battery module



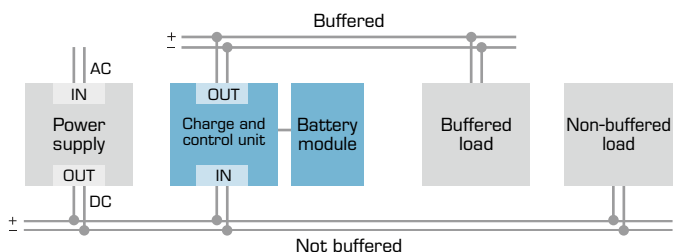
Power supply + charge and control unit + Battery module



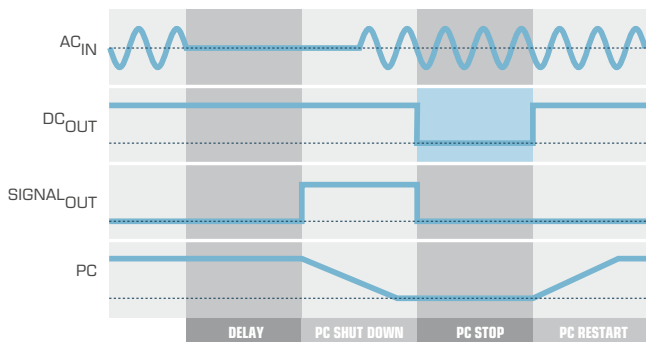
To provide supply voltage over a long period of time and high buffer currents, the use of a battery supported UPS system is necessary.

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.

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.



RELIABLE STARTUP OF INDUSTRIAL PCS



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.

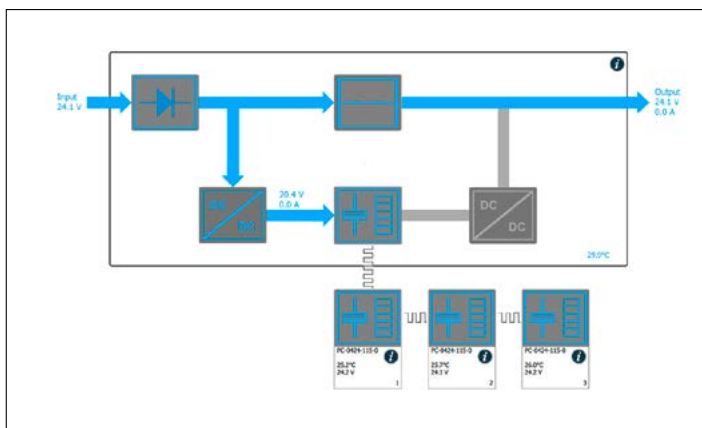
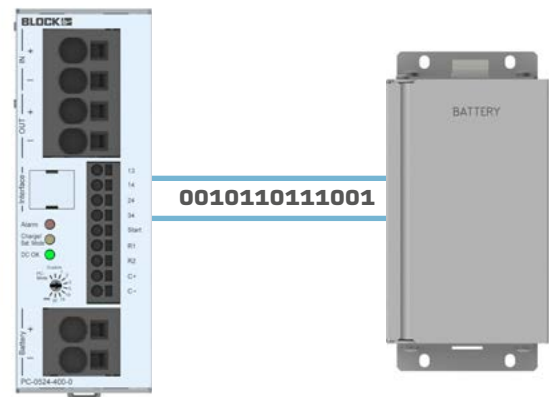
All BLOCK UPS modules support this function.

"BATTERY CONTROL" TECHNOLOGY ENSURES BETTER SAFETY

Reliable battery management can only be realized 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 visualization and control software allows an easy connection to an industrial PC. You can download the software for free from **block.eu**.

ADVANTAGES

- Visualizing and recording of relevant data
- Individual configuration of devices
- Sending e-mails and starting of any program without user login
- Software and Firmware updates

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
- Stabilized and adjustable output voltage

VERSIONS

COMBI UPS

24Vdc
5 A



HIGHLIGHTS

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

CAPACITIVE UPS

The new capacitive UPS is based on ultra-capacitors and provides a long service life, even at high ambient temperatures. It also therefore offers higher safety levels in 24V mains. During a power failure, the basic module provides uninterrupted currents of up to 20 A. Thanks to flexible expansion options, the output current can be increased to 40A by connecting additional capacity modules and the buffer time can be scaled as required. All relevant data can be retrieved at any time from a potential-separated USB interface.

FEATURES

Input voltage: 24Vdc

VERSIONS

PC-0424-017-0

24Vdc
20 A



HIGHLIGHTS

UP TO 40 A OUTPUT CURRENT WITH CAPACITY MODULE

EXPANDABLE WITH UP TO THREE CAPACITY MODULES

LONG SERVICE LIFE OF THE CAPACITORS

3 A CHARGE CURRENT FOR SHORT CHARGING TIMES

HIGH POWER DENSITY

LONG BUFFER TIMES

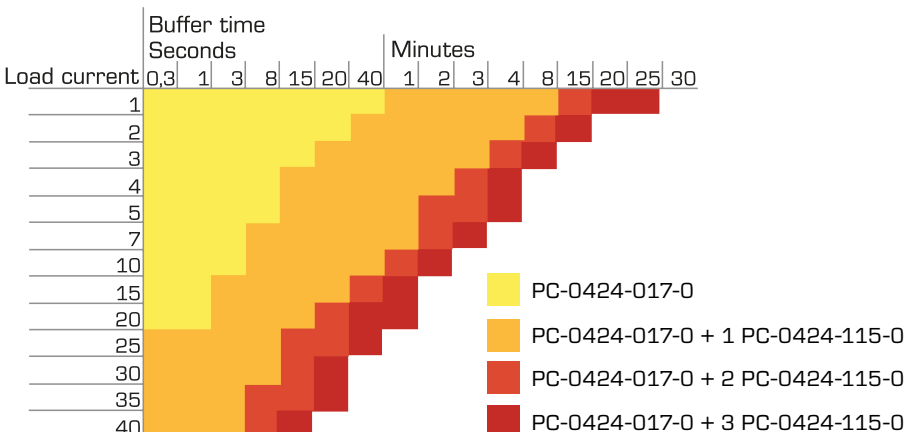
TWO ISOLATED SIGNAL CONTACTS

ISOLATED USB INTERFACE

DECOUPLED OUTPUT

CONSTANT OUTPUT VOLTAGE IN BUFFER MODE

BUFFER TIME DEPENDING ON THE OUTPUT CURRENT



CAPACITY MODULE

The new capacity module from the Power Compact series serves as an extension module for the basic module PC-0424-017-0. By using the capacity module, the output current of the basic module can be increased to 40 A. Furthermore, significantly longer buffer times can be achieved. The system bus cable enables communication with the basic module.

FEATURES

Input voltage: 24 Vdc

VERSIONS

PC-0424-115-0

24 Vdc
40 A

HIGHLIGHTS

EXTENSION OF THE BUFFER
TIME OF PC-0424-017-0

COMMUNICATION THROUGH
SYSTEM BUS CABLE

AUTOMATIC ADDRESSING

3 A CHARGING CURRENT



CHARGE AND CONTROL UNIT

The new charge and control unit offers the highest system availability through intelligent battery management and short charging times, even with large battery capacities. In the event of a power failure, they can be used in 12V, 24V and 48V mains up to 40A without power interruption. As the connected batteries are permanently monitored, an early warning is issued in the event of low remaining service life. In addition to parameterization, the powerful configuration software UPS control also ensures an overview of the operating conditions of the UPS at all times.

FEATURES

Input voltage: 12 – 24Vdc

VERSIONS

PC-0524-400-0

12 Vdc/
24Vdc
40 A



ADJUSTMENT VIA ROTARY SWITCH



Fixed buffer times

"Custom": Individually configurable via software „UPS control"

∞ Buffers until battery is completely discharged

"PC-Mode": Configuration of an IPC

HIGHLIGHTS

UP TO 40 A OUTPUT CURRENT

5 A CHARGING CURRENT FOR SHORT CHARGING TIMES

START FROM BATTERY

THREE ISOLATED SIGNAL CONTACTS

ISOLATED USB INTERFACE

DECOUPLED OUTPUT

RELIABLE EARLY WARNING SIGNAL FOR BATTERY EXCHANGE

MAXIMUM RELIABILITY DUE TO "BATTERY CONTROL" TECHNOLOGY

RELIABLE SUPPLY OF INDUSTRIAL PCS

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

PVUA	
24Vdc 10A	24Vdc 20A



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

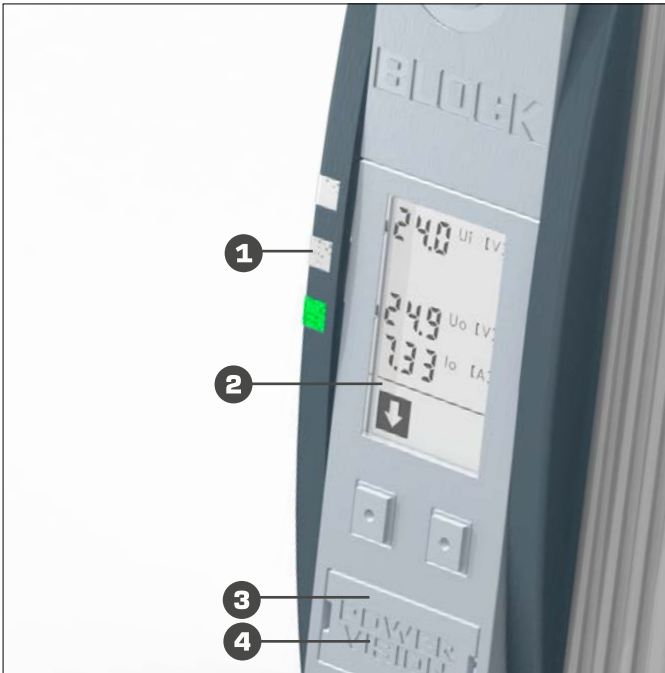
STATUS INDICATOR BATTERY CHARGING AND DISCHARGING

DISPLAY FOR CURRENT AND VOLTAGE INDICATION

RELIABLE SUPPLY OF INDUSTRIAL PCS

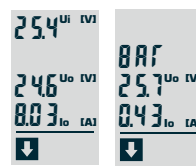
THE PVUA MODULE – MUCH MORE THAN AN ORDINARY UPS:

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

❶ 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.

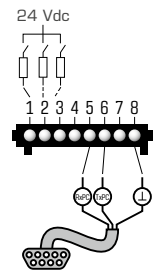
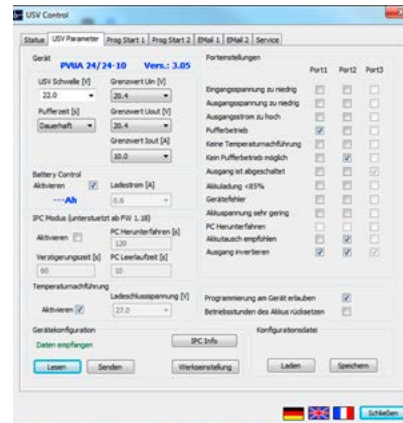


❷ Via display: Current and voltage values are visible on the display at all times. Important parameter settings can be adjusted using the keys on the device. The device features an integrated fault manager for self-diagnostics.

❸ 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.

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 85%
- › Device error
- › Low battery voltage
- › Change of battery recommended



❹ 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 Power Vision software packages required for communication can be downloaded from **block.eu** at no cost.

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 a capacitive energy storage.

FEATURES

Power range: 240 to 480 W

Input voltage: 24 Vdc

VERSIONS

PVUC

24 Vdc
10A

24 Vdc
20A

HIGHLIGHTS

SPRING-LOADED PLUG-IN
CONNECTION TECHNOLOGY

ISOLATED SIGNAL CONTACT

DECOUPLED OUTPUT

ADJUSTABLE BUFFER
THRESHOLDS

PARALLEL CONNECTABLE



BATTERY MODULES

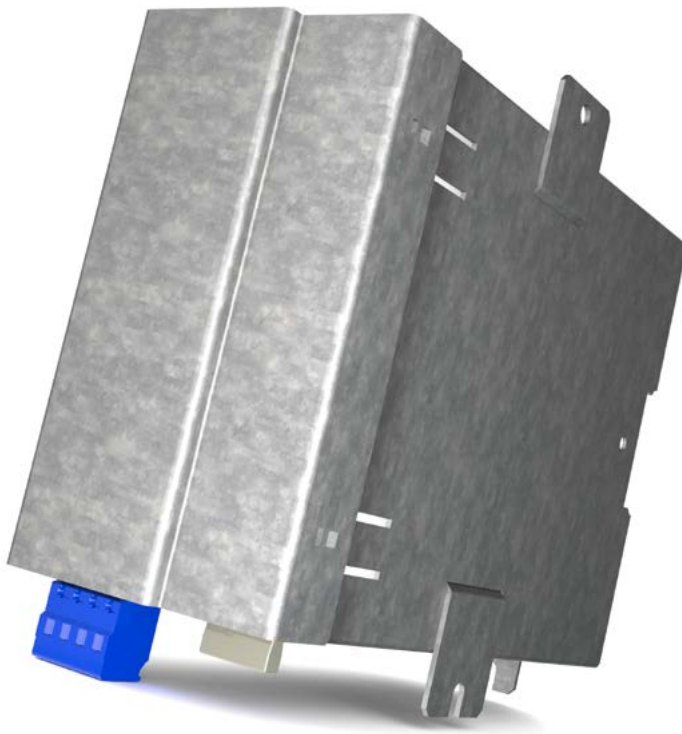
The maintenance-free lead AGM batteries guarantee a long product life, high quality and reliability. They are suitable for long buffer times in the range of minutes and hours.

FEATURES

Capacities: 0.8 to 12 Ah
Optimized for low height

VERSIONS

PVAF / PVA		
24 Vdc 0.8 Ah	24 Vdc 1.2 Ah	24 Vdc 3.2 Ah
24 Vdc 7 Ah	24 Vdc 12 Ah	



HIGHLIGHTS

NO DISCONNECTION OF DIN RAIL REQUIRED FOR ATTACHMENT IN SWITCH CABINET

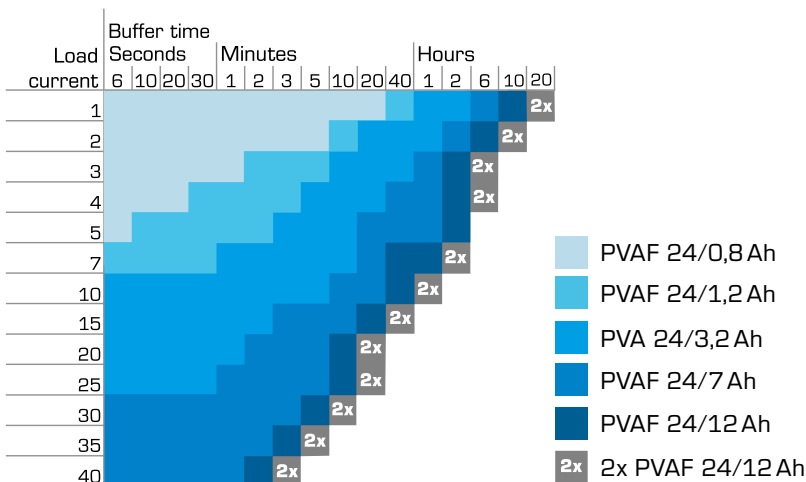
PLUG-IN FUSES

SPRING-LOADED PLUG-IN CONNECTION TECHNOLOGY

TEMPERATURE MEASUREMENT OCCURS IN BATTERY MODULE

MAXIMUM RELIABILITY DUE TO „BATTERY CONTROL” TECHNOLOGY

BUFFER TIME IN RELATION TO THE OUTPUT CURRENT



SUBJECT TO CHANGE.

UPS



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.

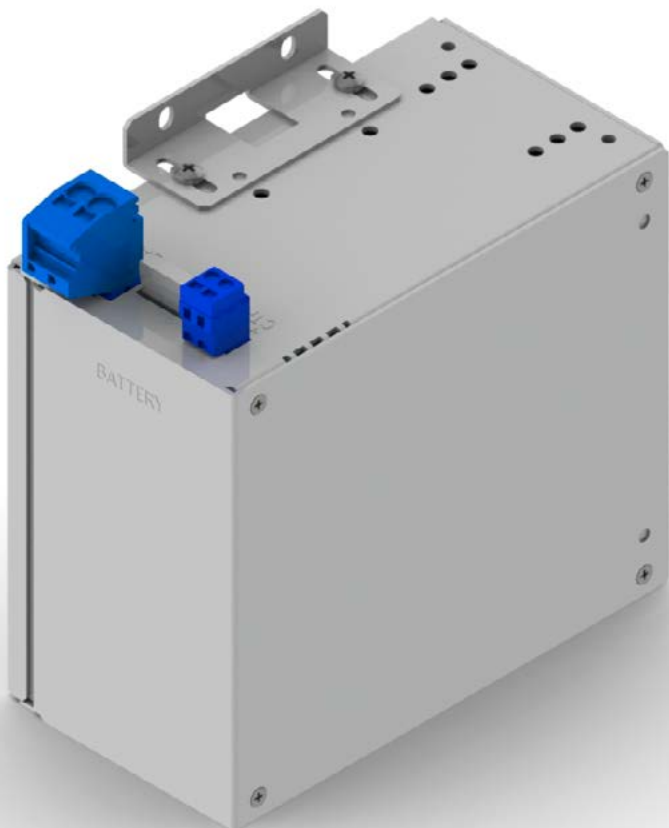
FEATURES

Capacities: 2.5 and 13 Ah

Buffer voltage: 24 Vdc

VERSIONS

PBAT	
24 Vdc 2.5 Ah	24 Vdc 13 Ah



HIGHLIGHTS

OPERATION AT UP TO 60 °C
AMBIENT TEMPERATURE

PLUG-IN FUSES

SPRING-LOADED PLUG-IN
CONNECTION TECHNOLOGY

TEMPERATURE MEASURE-
MENT OCCURS IN BATTERY
MODULE

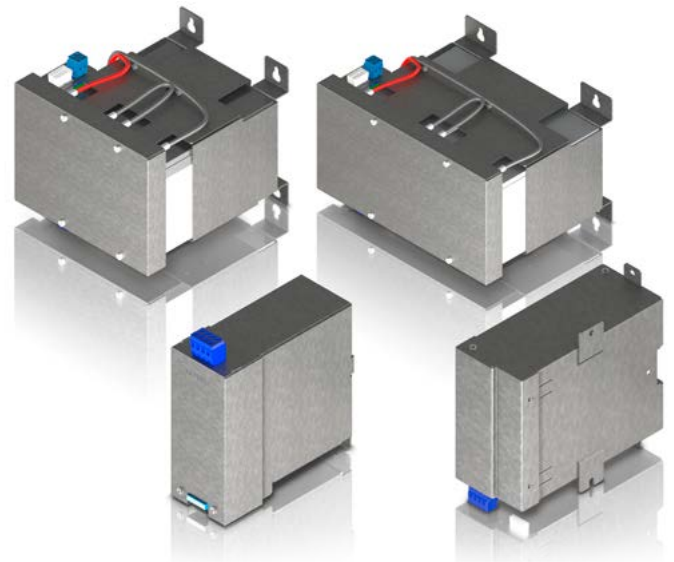
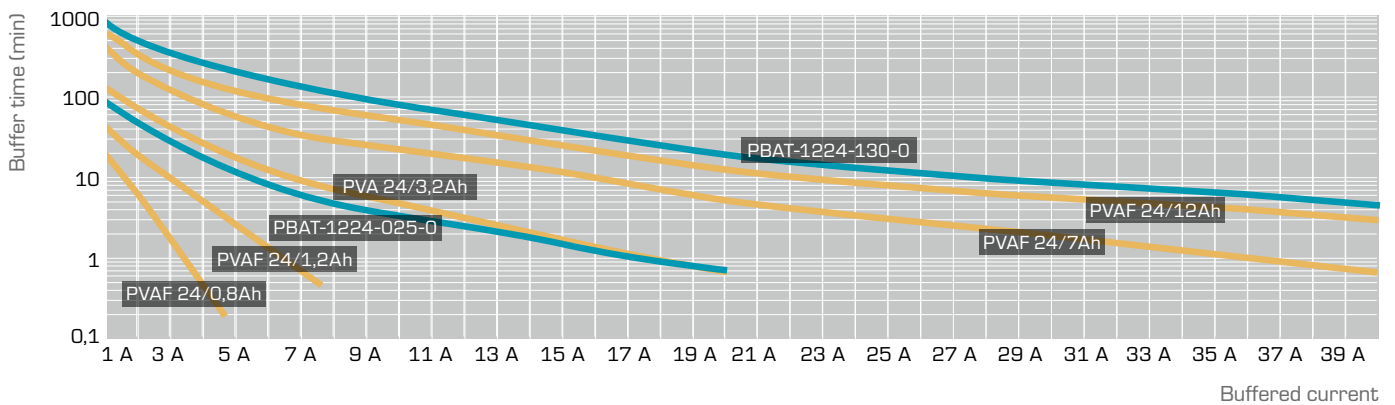
SERVICE LIFE UP TO 15 YEARS

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



THE APPROPRIATE BATTERY MODULE

The battery modules have been adapted for both vertical and horizontal wall mounting.

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.

SUBJECT TO CHANGE.

UPS

Type	PC-0424-017-0 Capacitive UPS	PC-0424-115-0 Capacity module	PC-0524-500-0 Charge and control unit	Power Vision Charge and control unit	Power Compact Switched mode power supply + charge and control unit	Power Vision Buffer modules	Power Vision Battery modules	Power Battery Battery modules	
							■	■	Exchangeable fuses
			■			■			Decoupled 24V output
						■			Parallel-switching for increased power
	■		■	■	■	■			Function monitoring through isolated contacts
			■						Function monitoring through 24V signal contacts
			■						Display for current and voltage indicator
			■	■					RS-232 interface
	■		■						USB interface
	■		■	■	■	■			Multi-colored status LEDs
	■		■	■					Push-in direct plug-in technology
		■	■	■	■	■	■	■	Spring-loaded plug-in connection technology
			■	■	■				UL approval
				■					GL approval
Page	69	70	71	72	68	74	75	76	

Input voltage	Type	24 Vdc 5 A	24 Vdc 10 A	24 Vdc 20 A	24 Vdc 40 A	24 Vdc 0.8 Ah	24 Vdc 1.2 Ah	24 Vdc 2.5 Ah	24 Vdc 3.2 Ah	24 Vdc 7 Ah	24 Vdc 12 Ah	24 Vdc 13 Ah	Page
24Vdc	Power Vision Charge and control unit		■	■									72
100-240Vac	Power Compact Switched mode power supply + charge and control unit	■											68
24Vdc	Power Vision Buffer modules		■	■									74
24Vdc	Power Vision PVA / PVA Battery modules					■	■		■	■	■		75
24Vdc	Power Battery PBAT Battery modules							■				■	76
24Vdc	PC-0424-017-0 Capacitive UPS			■									69
24Vdc	PC-0424-115-0 Capacity module				■								70
24Vdc	PC-0524-400-0 Charge and control unit				■								71

TYPES ACCORDING TO SERIES

POWER COMPACT SWITCHED MODE POWER SUPPLY + INTEGRATED CHARGE AND CONTROL UNIT



Dimensions:
A: 127 mm
B: 60 mm
C: 118,5 mm



Suitable for all
Power Vision battery modules

Order no.

24Vdc/5A

PC-1024-050-0

POWER COMPACT CHARGE AND CONTROL UNIT



Dimensions:
A: 127 mm
B: 45 mm
C: 128,5 mm



NEW

Order no.

24Vdc/20A

PC-0524-400-0

POWER COMPACT CAPACITIVE UPS



Dimensions:
A: 127 mm
B: 55 mm
C: 131,5 mm



NEW

Order no.

24Vdc/40A

PC-0424-017-0

POWER COMPACT CAPACITY MODULE



Dimensions:
A: 127 mm
B: 77 mm
C: 131,5 mm



NEW

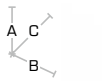
Order no.

24Vdc/40A

PC-0424-115-0

TYPES ACCORDING TO SERIES

POWER VISION CHARGE AND CONTROL UNITS



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



Order no.

24 Vdc/10 A PVUA 24/24-10



Dimensions:
A: 127 mm
B: 57 mm
C: 163.5 mm



Order no.

24 Vdc/20 A PVUA 24/24-20

POWER VISION BUFFER MODULES



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



Order no.

24 Vdc/10 A PVUC 24/24-10



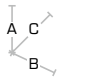
Dimensions:
A: 127 mm
B: 57 mm
C: 179.5 mm



Order no.

24 Vdc/20 A PVUC 24/24-20

POWER VISION BATTERY MODULES



Dimensions:
A: 90 mm
B: 72 mm
C: 103.5 mm

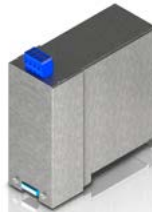


Order no.

24 Vdc/0.8 Ah PVA 24/0,8Ah



Dimensions:
A: 126.6 mm
B: 55 mm
C: 136 mm

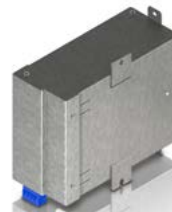


Order no.

24 Vdc/1.2 Ah PVAF 24/1,2Ah



Dimensions:
A: 145 mm
B: 80 mm
C: 170.5 mm



Order no.

24 Vdc/3.2 Ah PVA 24/3,2Ah

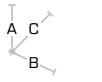


Dimensions:
A: 145 mm
B: 163 mm
C: 173.5 mm



Order no.

24 Vdc/7 Ah PVAF 24/7Ah



Dimensions:
A: 145 mm
B: 230 mm
C: 173.5 mm



Order no.

24 Vdc/12 Ah PVAF 24/12Ah

TYPES ACCORDING TO SERIES

POWER BATTERY BATTERY MODULES



Dimensions:
A: 180.7 mm
B: 86 mm
C: 166 mm

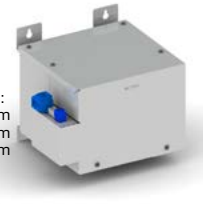


Order no.

24 Vdc/2.5 Ah PBAT-1224-025-0



Dimensions:
A: 186.5 mm
B: 199.5 mm
C: 226.5 mm



Order no.

24 Vdc/13 Ah PBAT-1224-130-0

POWER COMPACT POWER VISION POWER BATTERY ACCESSORIES

Communication cable



Order no.

PC-KOK1

Wall fastening



Order no.

PV-WB2

DIN rail mounting



Order no.

PV-TS35M

Female plug



Order no.

PC-CON1

Communication cable



Order no.

PV-KOK2

USB converter



Order no.

PV-USB/SERIELL

TH35 sideways mounting



Order no.

PC-TS35Z

Female plug



Order no.

PV-CON

SUBJECT TO CHANGE.

UPS

POWER **ECO**LINE

REDUNDANCY MODULE FOR SMALL POWER REQUIREMENTS



REDUNDANCY MODULES

POWER **COMPACT**

REDUNDANCY MODULE FOR THE HIGHEST SYSTEM RELIABILITY



SUBJECT TO CHANGE.

REDUNDANCY MODULES

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 24Vdc
 Input current: 2x5A or 1x10A

VERSIONS

PELR
12-24Vdc
2x5A
1x10A

HIGHLIGHTS

LED-SIGNALLING

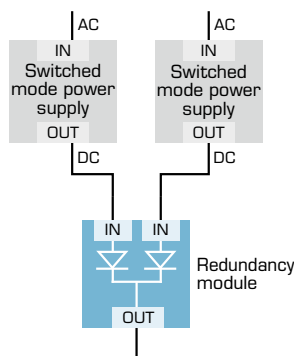
SPRING-LOADED CONNECTION TECHNOLOGY

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

PC RE	
12-24 Vdc	48 Vdc
2 x 20 A	2 x 20 A
1 x 40 A	



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

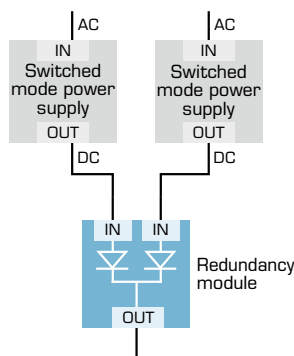
BASED ON MOSFET TECHNOLOGY

SAFE PARALLEL OPERATION TO INCREASE POWER

FULLY COMPATIBLE WITH TOP AND POWER BOOST

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.



SUBJECT TO CHANGE.

REDUNDANCY MODULES



TYPES ACCORDING TO SERIES

POWER **ECO LINE**



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



Order no. _____

12-24 Vdc/2x5 A/1x10 A PELR 24/24-5

POWER **COMPACT**



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



Order no. _____

12-24 Vdc/2x20 A/1x40 A PC-0624-400-0

48 Vdc/2 x 20 A PC-0648-400-0

POWER **COMPACT**

ACCESSOIRES

Wall fastening



Order no. _____

PV-WB2

TH35 sideway mounting



Order no. _____

PC-TS35Z

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