EN

2016/17
Edition 3

BLOCK
POWER SUPPLIES

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

Switched mode power supplies

Electronic circuit breakers

HERMES AWARD 2016 NOMINATED

Uninterruptible power supplies

Redundancy modules

BLOCK
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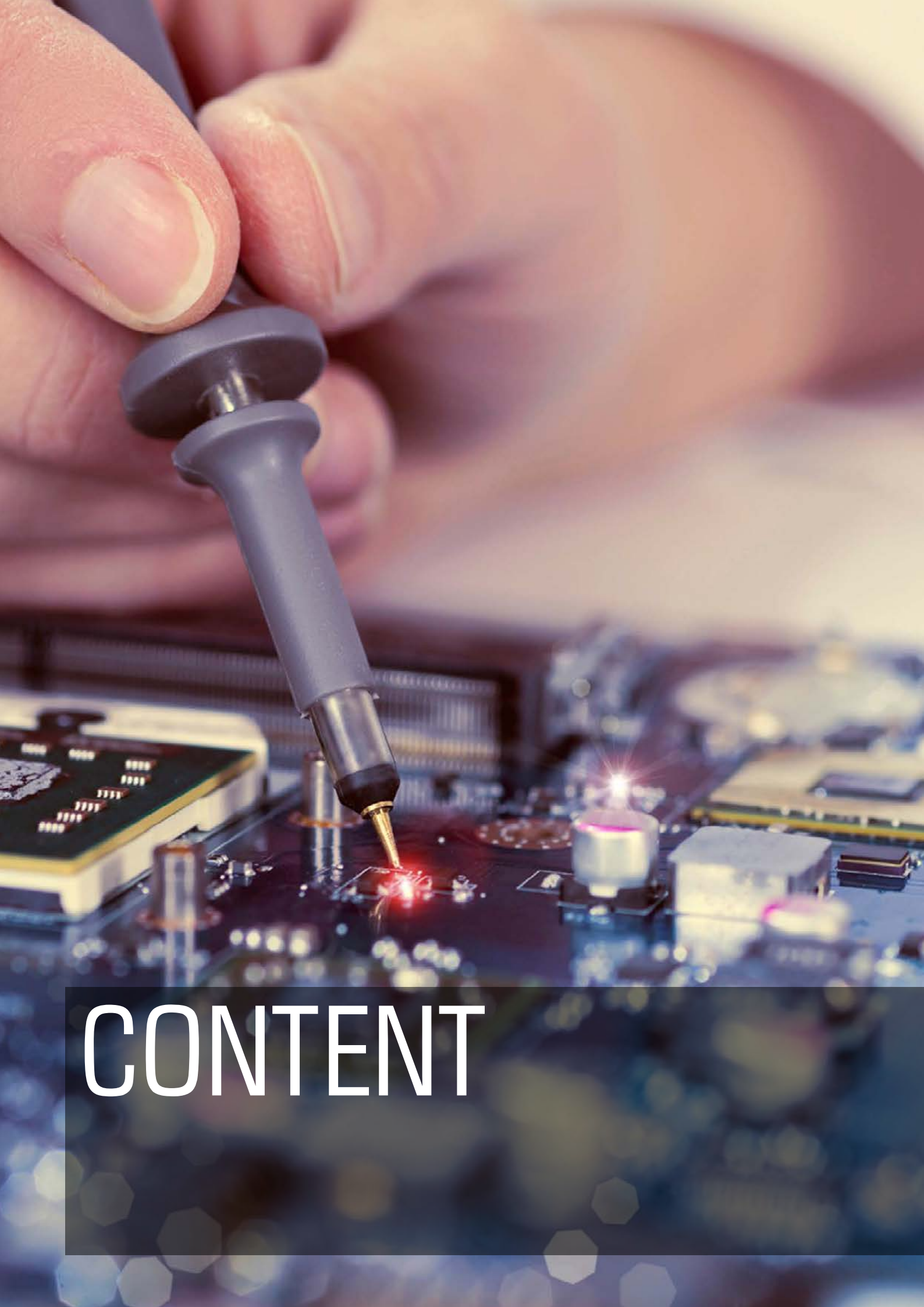


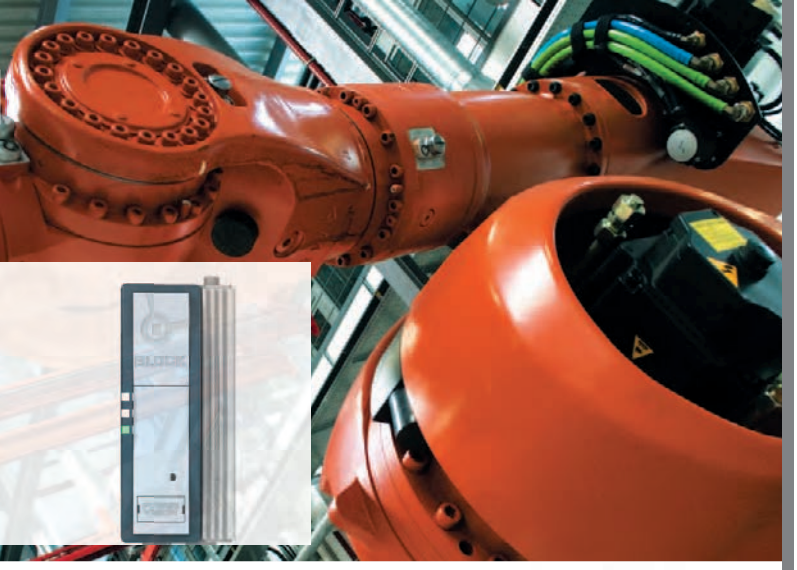
CONTENT

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 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 ecoLINE

SMALL YET EFFICIENT MODULE FOR COMPACT CONTROLLERS

POWER MINI

EFFICIENT POWER SUPPLY IN COMPACT PLASTIC CASING FOR VERSATILE USE

POWER SUPPLIES

POWER COMPACT

OPTIMISED FOR THE CORE TASK OF POWER AND VOLTAGE SUPPLY

POWER VISION

THE HIGH PERFORMER FOR DEMANDING TASKS

POWER VISION

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

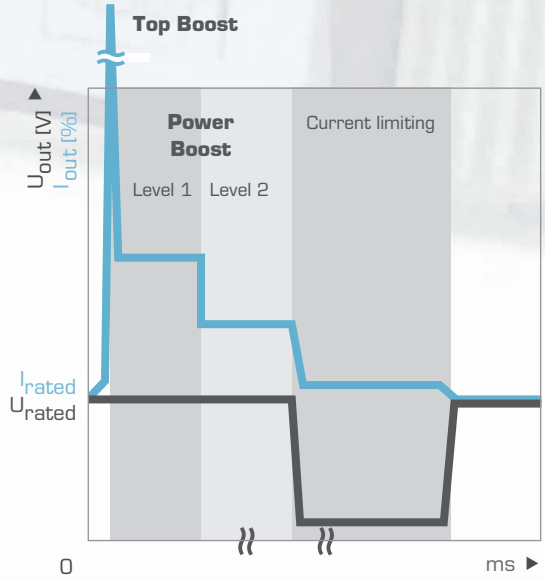
100 % Power Boost for 4 secs.
50 % Power Boost for 16 secs.

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

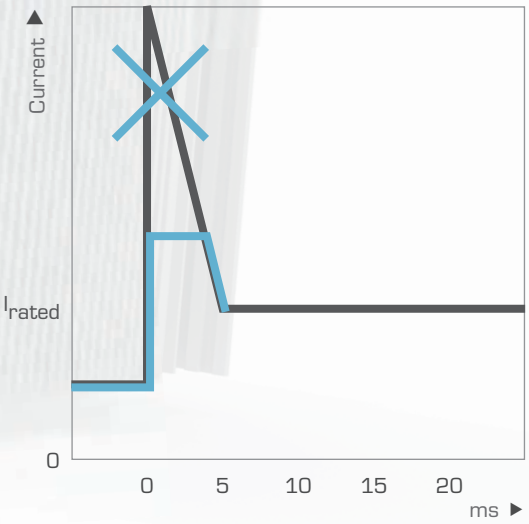
Enables cyclic use of Power Boost.



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 suppling voltage and current.

FEATURES

Power range: 72 to 960 W

Universal output

Stabilised and adjustable output voltage

VERSIONS

SINGLE-PHASE			
12 Vdc 6 A	12 Vdc 10 A	12 Vdc 10 A	
24 Vdc 3 A	24 Vdc 5 A	24 Vdc 10 A	24 Vdc 20 A
	30 Vdc 3 A (AS-i)		30 Vdc 15 A
		48 Vdc 5 A	48 Vdc 10 A
THREE-PHASE			
24 Vdc 10 A	24 Vdc 20 A	24 Vdc 40 A	
		30 Vdc 25 A	
	48 Vdc 10 A	48 Vdc 20 A	

ECONOMY

HIGHLIGHTS

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

PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

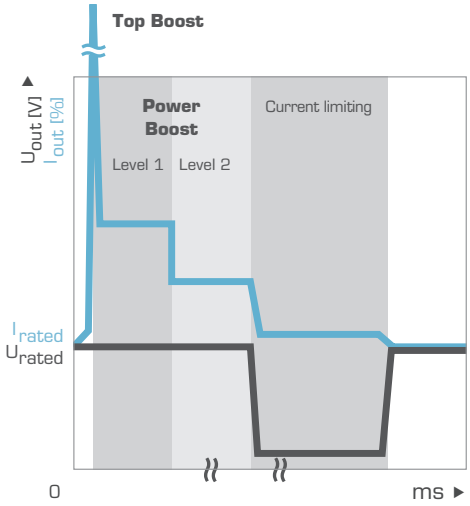
ROBUST SUPPORT RAIL MOUNTING

UP TO 200 % POWER BOOST FOR 4 SECONDS

STAND-BY-INPUT

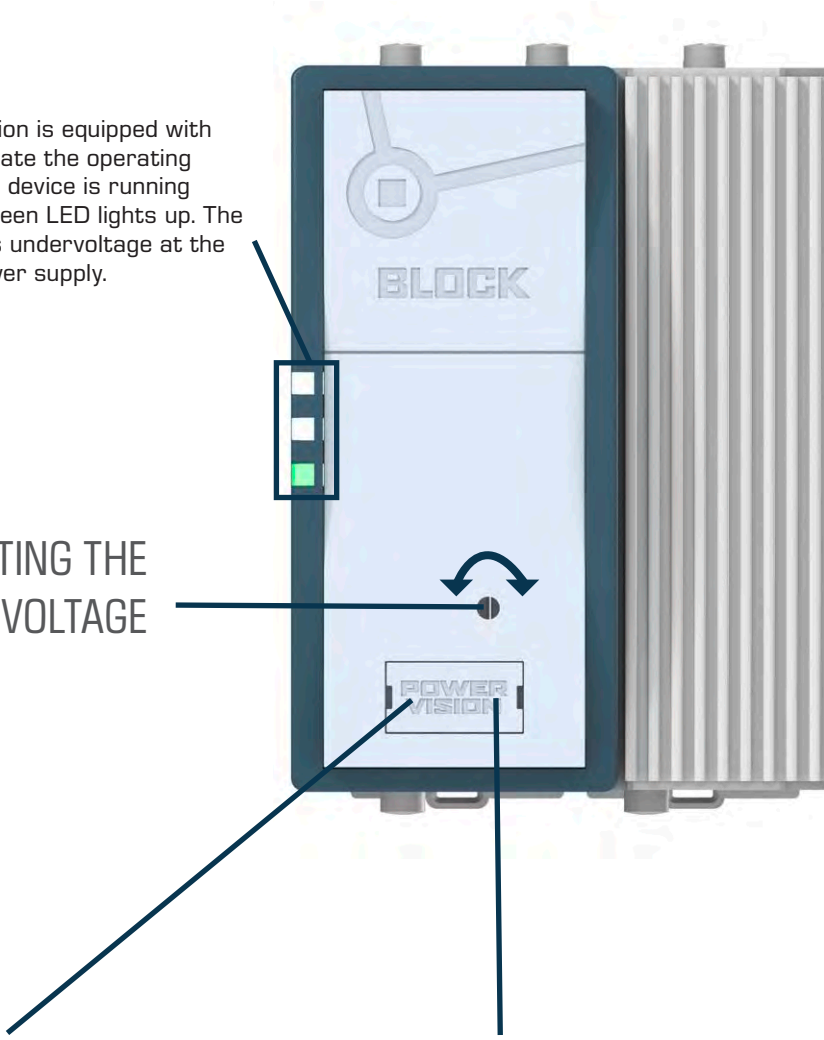
POTENTIAL-FREE “DC OK” SIGNAL CONTACT

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

THREE-PHASE		
24 Vdc 10 A	24 Vdc 20 A	24 Vdc 40 A

BASIC

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

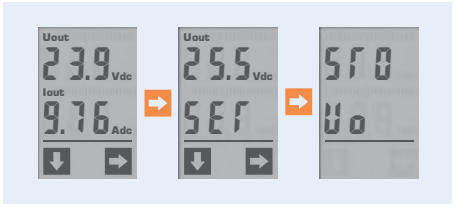
PLUG-IN SPRING-LOADED CONNECTION TECHNOLOGY

UP TO 200 % POWER BOOST FOR 4 SECONDS

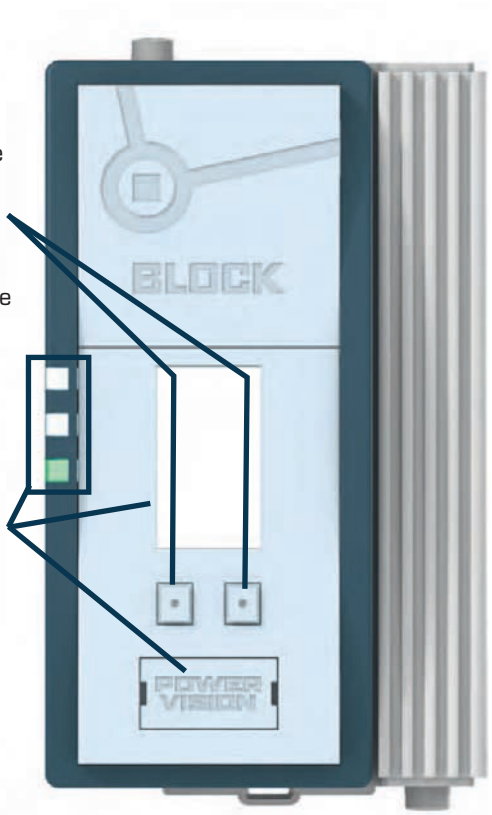
DISPLAY AND RS-232 INTERFACE

FOUR ACTIVE DC 24 V SIGNAL CONTACTS FOR OPERATION MONITORING

SETTING THE OUTPUT VOLTAGE



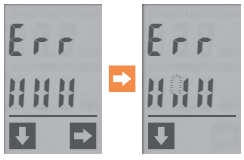
The output voltage can be set to a value between 22.0 and 28.8 V DC either digitally using the buttons on the device itself or automatically via interface. When the device is switched on again, it will automatically restore the final voltage value stored in its memory.



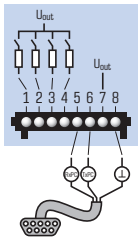
COMMUNICATION WITH THE USER

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

THREE-PHASE		
24 Vdc 10 A	24 Vdc 20 A	24 Vdc 40 A

LINE

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

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 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

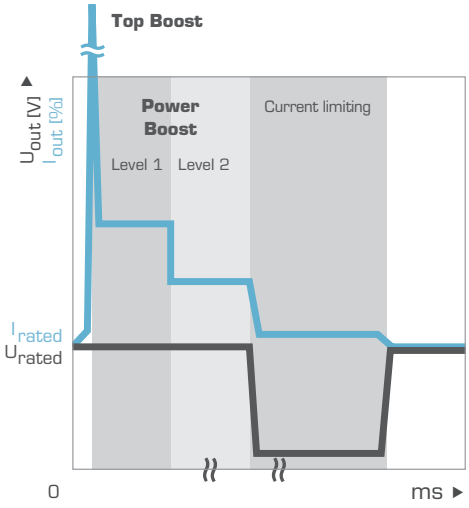
COMPATIBLE TO AS-I

UP TO 200 % POWER BOOST FOR 4 SECONDS

STAND-BY INPUT

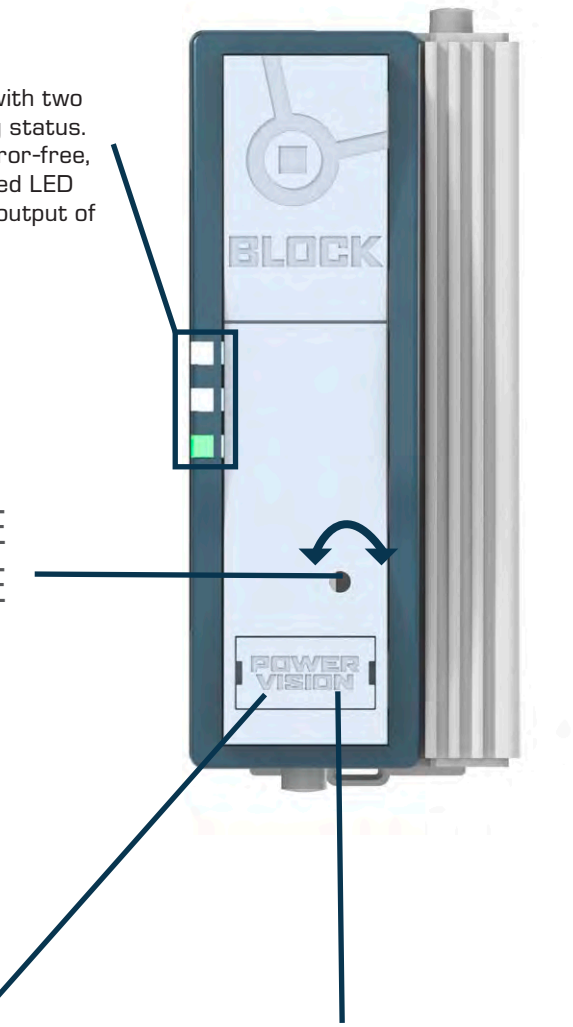
POTENTIAL-FREE “DC OK” SIGNAL CONTACT

OVERLOAD BEHAVIOUR



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.



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.

- 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.

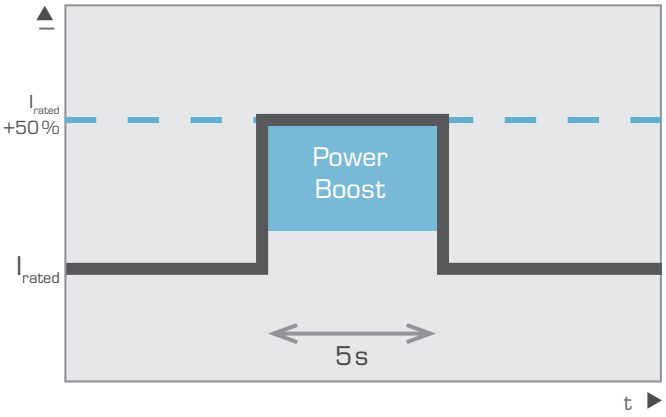
They are robust and adaptable in a range of applications, yet feature a light and compact design, which provides an outstanding protection against transients and high-energy interference pulses at the power input.

These devices meet average power requirements ranging between 120 and 960 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.

RAIL MOUNTING

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



INPUT VOLTAGE RANGE

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

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.

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

SINGLE-PHASE		
	12 Vdc 15 A	
24 Vdc 5 A	24 Vdc 10 A	24 Vdc 20 A
	48 Vdc 5 A	48 Vdc 10 A

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 240 W

Universal input range: 180 to 550 Vac

Stabilised and adjustable output voltage

VERSIONS

TWO-PHASE	
24 Vdc 5 A	24 Vdc 10 A

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

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

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 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 100 W, and comply with household appliance standard EN 60335-1. For a configuration of NEC Class 2 circuits differents series are available.

FEATURES

Power range: 25 to 100 W

Universal input range: 85 to 264 Vac

Stabilised and adjustable output voltage

VERSIONS

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 4 A	24 Vdc 3.8 A NEC Class 2
		48 Vdc 2 A	

HIGHLIGHTS

ACTIVE “DC OK” SIGNAL CONTACT

CONSTANT CURRENT IN OVERLOAD CONDITIONS

NEC CLASS 2 FOR 12 V DEVICES TO 2 A, 4 A AND 24 V DEVICES TO 1 A, 2 A AND 3.8 A

PUSH-IN CONNECTION TECHNOLOGY

LOW STAND-BY LOADS <1 W

COMPLIES WITH HOUSEHOLD APPLIANCE EN 60335-1

SWITCHED MODE POWER SUPPLIES IN FLAT PLASTIC CASING

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

FEATURES

Power range: 20 to 100 W

Universal input range: 85 to 264 Vac

VERSIONS

SINGLE-PHASE		
5 Vdc 5.5 A		
12 Vdc 2 A	12 Vdc 4 A	12 Vdc 6.5 A
18 Vdc 1.1 A	18 Vdc 2.5 A	
24 Vdc 1.3 A	24 Vdc 2.5 A	24 Vdc 4 A

HIGHLIGHTS

STABILISED 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 100 W

Universal input range: 85 to 264 Vac

VERSIONS

SINGLE-PHASE		
24 Vdc 1.3 A	24 Vdc 2.5 A	24 Vdc 4 A

HIGHLIGHTS

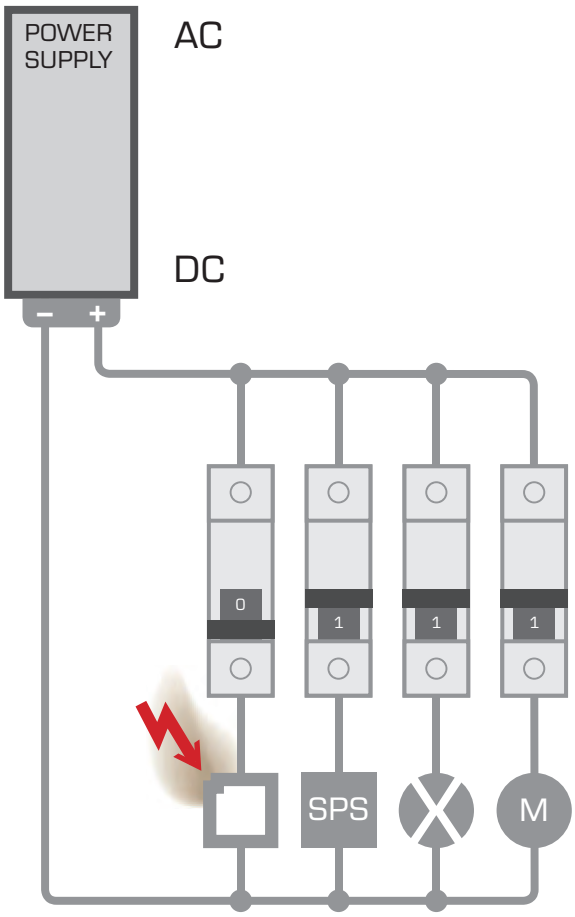
STABILISED AND ADJUSTABLE OUTPUT VOLTAGE

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.

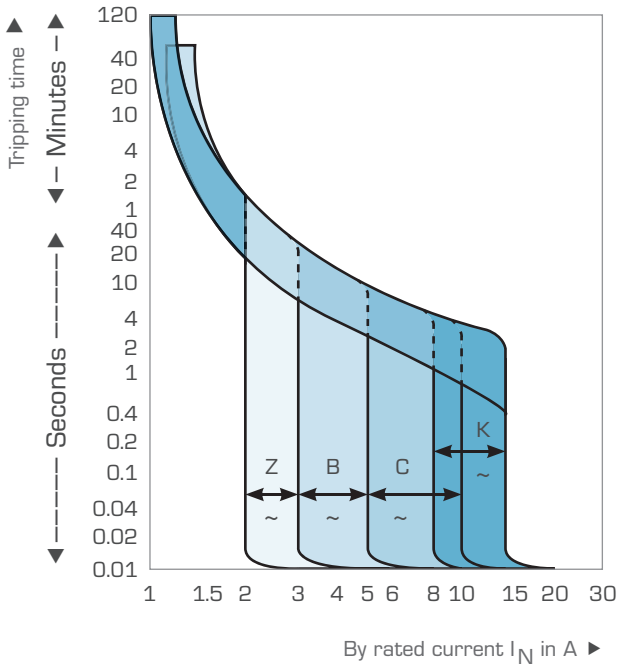


NOTE

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

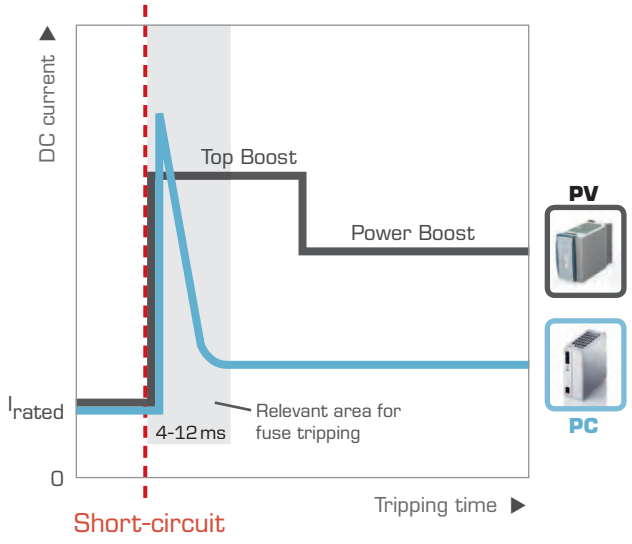


Please note

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 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.

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
	■	■	■	■	■	■	■	■	■	■	Stabilised 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
		■									Protective coating for harsh environmental conditions
	■	■	■	■		■	■	■	■	■	UL certification
						■	■	■	■	■	GL certification
						*			■		Complies with household appliance standard EN 60335-1
									*		NEC Class 2 power supply (max. 100 W)
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 – 20 W	20 – 30 W	40 – 60 W	70 – 100 W	120 W	180 – 240 W	450 – 480 W	750 – 960 W	Page
Single-phase	5 V	4.5 - 8.5 Vdc	Power Eco Line	85 - 264 Vac		5.5 A							24
	12 V	11 - 18 Vdc	Power Vision Economy	85 - 264 Vac				6 A	10 A	15 A			10
		11.5 - 15 Vdc	Power Compact	85 - 264 Vac						15 A			20
		11.5 - 14.5 Vdc	Power Mini	85 - 264 Vac		2 A	4 A	7 A					23
		10.5 - 15.5 Vdc	Power Eco Line	85 - 264 Vac		2 A	4 A	6.5 A					24
	18 V	15.5 - 19 Vdc	Power Eco Line	85 - 264 Vac	1.1 A		2.5 A						24
	24 V	22 - 29.5 Vdc	Power Vision Economy	85 - 264 Vac				3 A	5 A	10 A	20 A		10
		23 - 28.5 Vdc	Power Compact	85 - 264 Vac					5 A	10 A	20 A		10
		23 - 28.5 Vdc	Power Mini	85 - 264 Vac		1 A	2 A	3.8/4 A					23
		22.8 - 26.4 Vdc	Power Eco Line / Neo	85 - 264 Vac		1.3 A	2.5 A	4 A					24
	30 V	27 - 43 Vdc	Power Vision Economy	85 - 264 Vac							15 A		10
	30.5 V	29 - 32 Vdc	Power Vision AS-i	85 - 264 Vac				3 A					16
	48 V	33 - 52 Vdc	Power Vision Economy	85 - 264 Vac						5 A	10 A		10
		40 - 56 Vdc	Power Compact	85 - 264 Vac						5 A	10 A		10
		40 - 56 Vdc	Power Mini	85 - 264 Vac				2 A					23
2p	24 V	23 - 28.5 Vdc	Power Compact	180 - 550 Vac					5 A	10 A			21
Three-phase	24 V	22.8 - 28.8 Vdc	Power Vision Economy	340 - 550 Vac						10 A	20 A	40 A	10
		23 - 28.5 Vdc	Power Compact	320 - 575 Vac						10 A	20 A	40 A	21
		22.8 - 28.8 Vdc	Power Vision Basic	340 - 550 Vac						10 A	20 A	40 A	12
		22.8 - 28.8 Vdc	Power Vision Line	340 - 550 Vac						10 A	20 A	40 A	14
	30 V	27 - 43 Vdc	Power Vision Economy	340 - 550 Vac								25 A	10
	48 V	37 - 51 Vdc	Power Vision Economy	340 - 550 Vac							10 A	20 A	10
		40 - 56 Vdc	Power Compact	320 - 575 Vac								20 A	22
	60 V	40 - 61 Vdc	Power Compact	320 - 575 Vac								16 A	22

THREE-PHASE POWER VISION ECONOMY WITH PROTECTIVE COATING

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.

Special features

- Especially suitable for use in outdoor areas
- Smooth cold start even at -40 °C

CONFORMAL COATING

TYPES ACCORDING TO SERIES

POWER VISION SINGLE-PHASE

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

Order no.

12 Vdc/6 A	PVSE 230/12-6
24 Vdc/3 A	PVSE 230/24-3
24 Vdc/3 A	PVSE 230/24-3B

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

Order no.

12 Vdc/10 A	PVSE 230/12-10
24 Vdc/5 A	PVSE 230/24-5
24 Vdc/5 A	PVSE 230/24-5B

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

Order no.

12 Vdc/15 A	PVSE 230/12-15
24 Vdc/10 A	PVSE 230/24-10
48 Vdc/5 A	PVSE 230/48-5

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

Order no.

24 Vdc/20 A	PVSE 230/24-20
30 Vdc/15 A	PVSE 230/30-15
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.

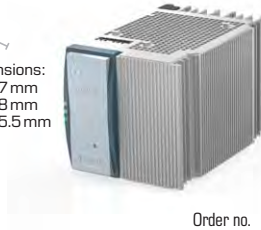
24 Vdc/10 A	PVSE 400/24-10

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

Order no.

24 Vdc/20 A	PVSE 400/24-20
48 Vdc/10 A	PVSE 400/48-10

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/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.

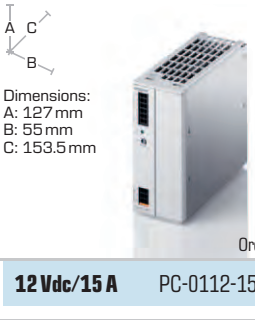
NEW
30,5 Vdc/3 A PVSA 230/30-3

TYPES ACCORDING TO SERIES

POWER COMPACT SINGLE-PHASE

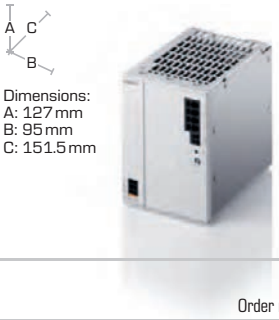
Dimensions:
A: 127 mm
B: 42 mm
C: 118.5 mm

Order no.	
24 Vdc/5 A	PC-0124-050-0
24 Vdc/5 A	PC-0124-050-4



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

Order no.	
12 Vdc/15 A	PC-0112-150-0
24 Vdc/10 A	PC-0124-100-0
24 Vdc/10 A	PC-0124-100-4
48 Vdc/5 A	PC-0148-050-0



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

Order no.	
24 Vdc/20 A	PC-0124-200-0
24 Vdc/20 A	PC-0124-200-4
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

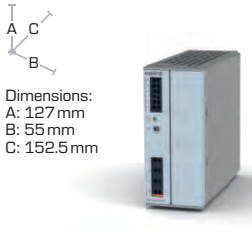
Order no.	
24 Vdc/5 A	PC-0224-050-0
NEW **24 Vdc/5 A**	PC-0224-050-2

Dimensions:
A: 127 mm
B: 55 mm
C: 125 mm

Order no.	
NEW **24 Vdc/10 A**	PC-0224-100-0
NEW **24 Vdc/10 A**	PC-0224-100-2

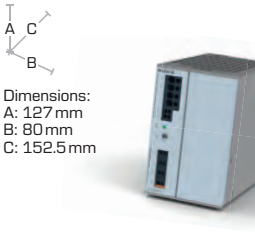
Power Boost

POWER COMPACT THREE-PHASE



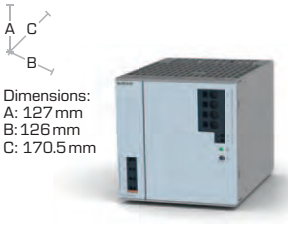
Dimensions:
A: 127 mm
B: 55 mm
C: 152.5 mm

Order no.	
24 Vdc/10 A	PC-0324-100-0
24 Vdc/10 A	PC-0324-100-2
NEW **24 Vdc/10 A**	PC-0324-100-4
NEW **24 Vdc/10 A**	PC-0324-100-6



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

Order no.	
24 Vdc/20 A	PC-0324-200-0
24 Vdc/20 A	PC-0324-200-2
NEW **24 Vdc/20 A**	PC-0324-200-4
NEW **24 Vdc/20 A**	PC-0324-200-6



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

Order no.	
24 Vdc/40 A	PC-0324-400-0
24 Vdc/40 A	PC-0324-400-2
NEW **24 Vdc/40 A**	PC-0324-400-4
NEW **24 Vdc/40 A**	PC-0324-400-6
NEW **48 Vdc/20 A**	PC-0348-200-0
NEW **48 Vdc/20 A**	PC-0348-200-2
NEW **60 Vdc/16 A**	PC-0360-160-0

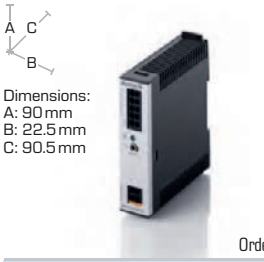
Power Boost

Power Boost / Primary input fuse

Primary input fuse

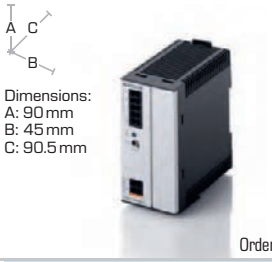
TYPES ACCORDING TO SERIES

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

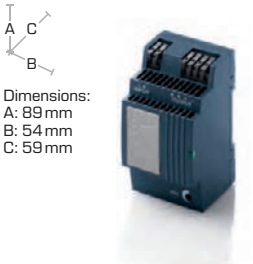
Dimensions:
A: 90 mm
B: 52 mm
C: 103.5 mm

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

For medical use

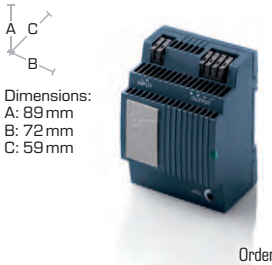
NEC Class 2

POWER ECOLINE SINGLE-PHASE



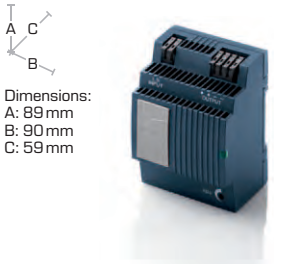
Dimensions:
A: 89 mm
B: 54 mm
C: 59 mm

Order no.	
12 Vdc/2 A	PEL 230/12-2
18 Vdc/1.1 A	PEL 230/18-1,1
24 Vdc/1.3 A	PEL 230/24-1,3



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

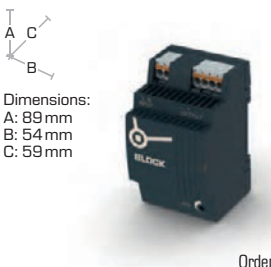
Order no.	
5 Vdc/5.5 A	PEL 230/5-5,5
12 Vdc/4 A	PEL 230/12-4
18 Vdc/2.5 A	PEL 230/18-2,5
24 Vdc/2.5 A	PEL 230/24-2,5



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

Order no.	
12 Vdc/6.5 A	PEL 230/12-6,5
24 Vdc/4 A	PEL 230/24-4

POWER ECOLINE Neo SINGLE-PHASE

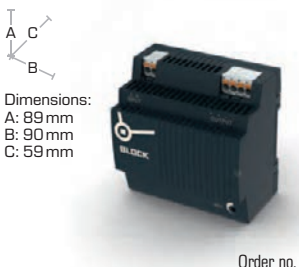


Dimensions:
A: 89 mm
B: 54 mm
C: 59 mm

Order no.	
NEW **24 Vdc/1.3 A**	PEL-0124-013-0

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

Order no.	
NEW **24 Vdc/2.5 A**	PEL-0124-025-0



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

Order no.	
NEW **24 Vdc/4 A**	PEL-0124-040-0

POWER VISION ACCESSOIRES

Communication cable

Order no.
PV-KOK2

Wall fastening

Order no.
PV-WB2

TH35 sideway mounting

Order no.
PV-TS35M

Female plug

Order no.
PV-CON

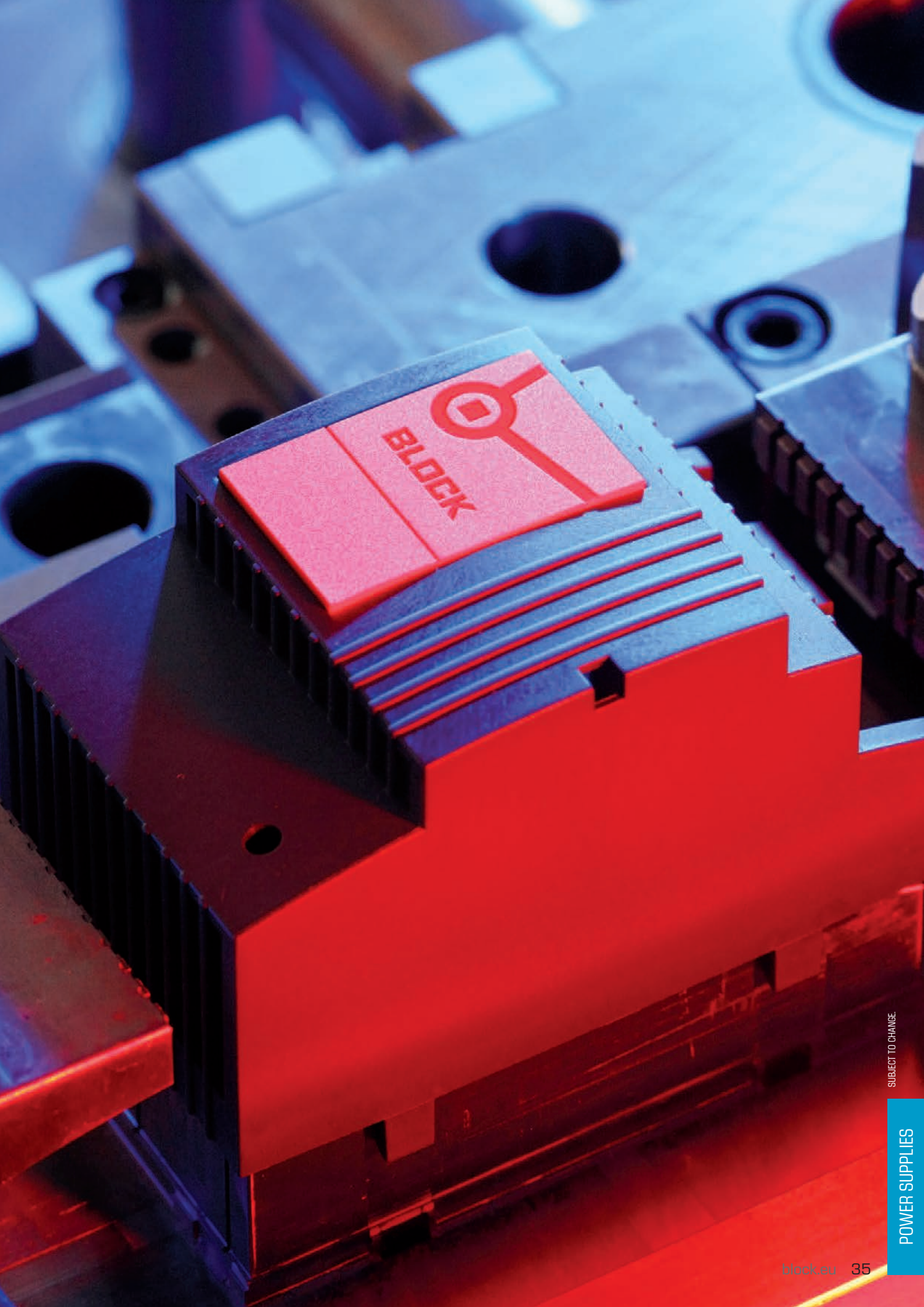
USB converter

Order no.
PV-USB/SERIELL

POWER COMPACT ACCESSOIRES

Wall fastening

Order no.
PV-WB2


BLOCK

POWER COMPACT POWER MINI

ECONOMY SMART
ECONOMY REMOTE
BASIC SMART
BASIC FIX

reddot design award
winner 2013

CIRCUIT BREAKERS

EASY B

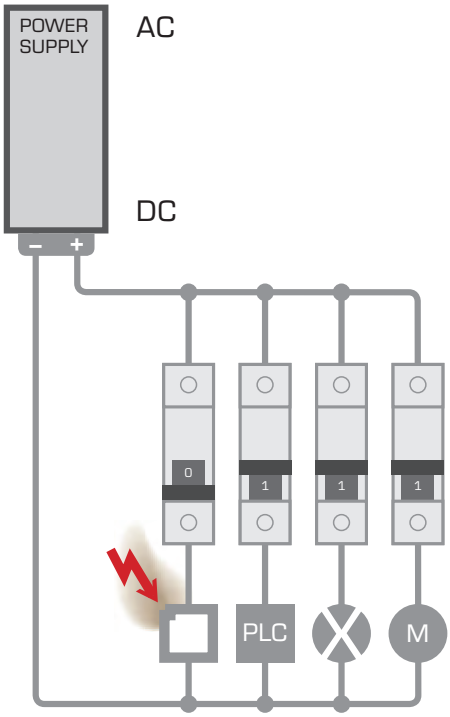
1-CHANNEL CIRCUIT BREAKERS

HERMES
AWARD
2016
NOMINATED

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

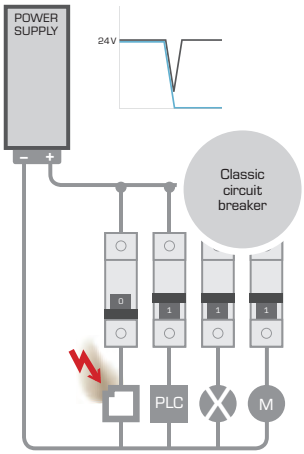
Electronic circuit breakers are designed for the special behaviour of switched mode power supplies and the DC 24 V loads they supply. They distribute the load current to several circuits and protect loads and wiring even for long cable lengths and small cross-sections.

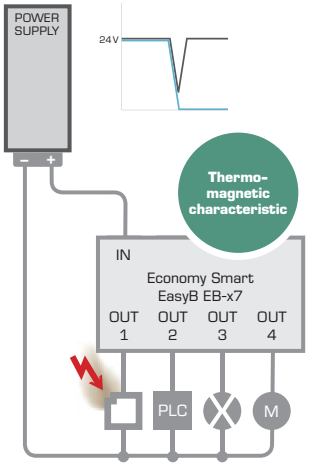
TRIPPING FUNCTION

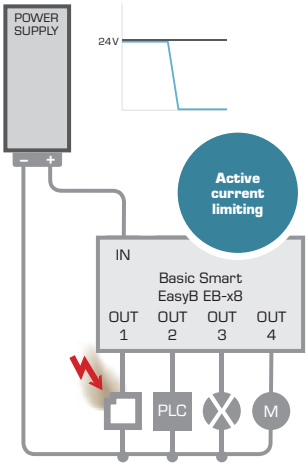
The BLOCK electronic circuit breakers are designed for a variety of requirements in machines and devices.
Available are two different tripping options.

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

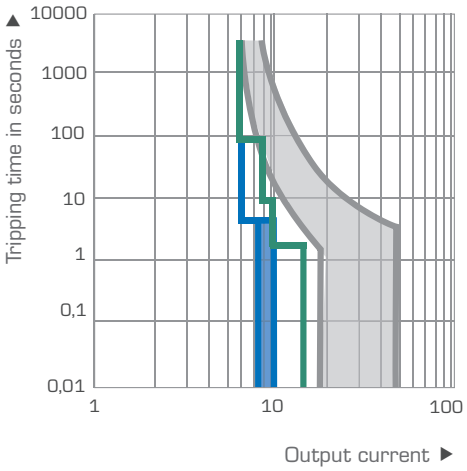
This module actively limits the overcurrent of each circuit to a maximum of 1.7 times the adjusted current. In case of an overcurrent, a selective shutdown occurs for affected circuits only. For non-affected circuits a drop in voltage is reliably avoided.

COMPARISON OF THE TRIPPING CURVES

6 A
Economy Smart
(Thermomagnetic characteristic)

6 A
Basic Smart
(Active current limiting)

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



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.

EASYB

ELECTRONIC 1-CHANNEL CIRCUIT BREAKERS

1-CHANNEL CIRCUIT BREAKER MODULES

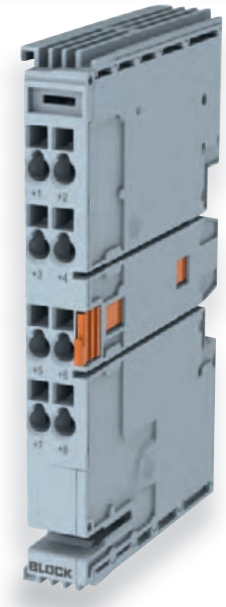
Circuit breakers

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.

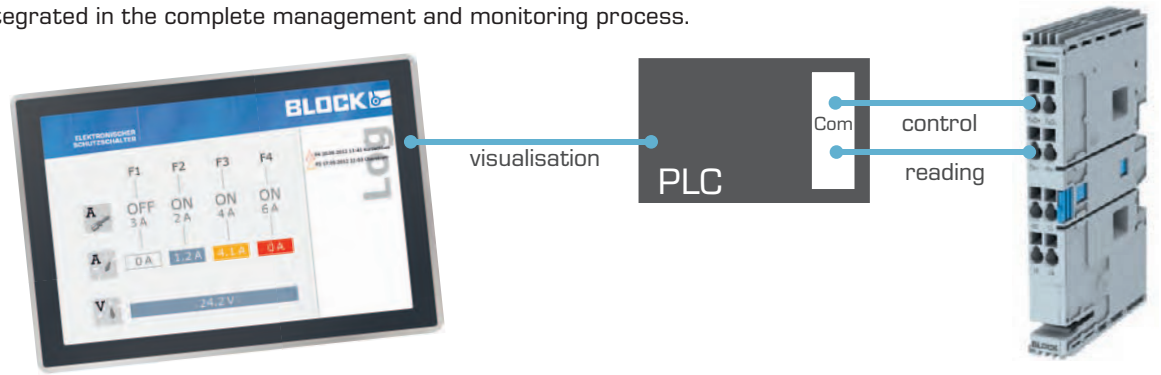
GENERAL ADVANTAGES OF 1-CHANNEL CIRCUIT BREAKERS

- 24 Vdc 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

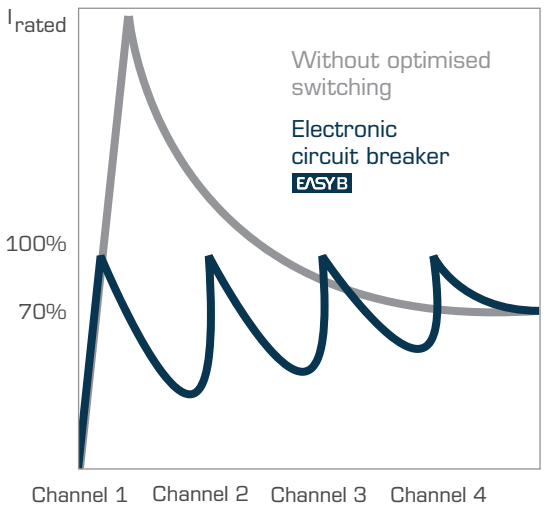
Integrated in the complete management and monitoring process.



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.

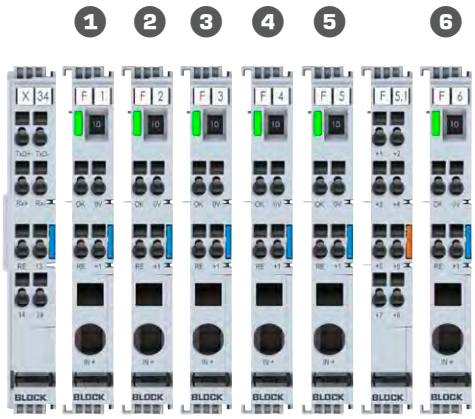


SETTING THE TRIPPING CURRENT

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.

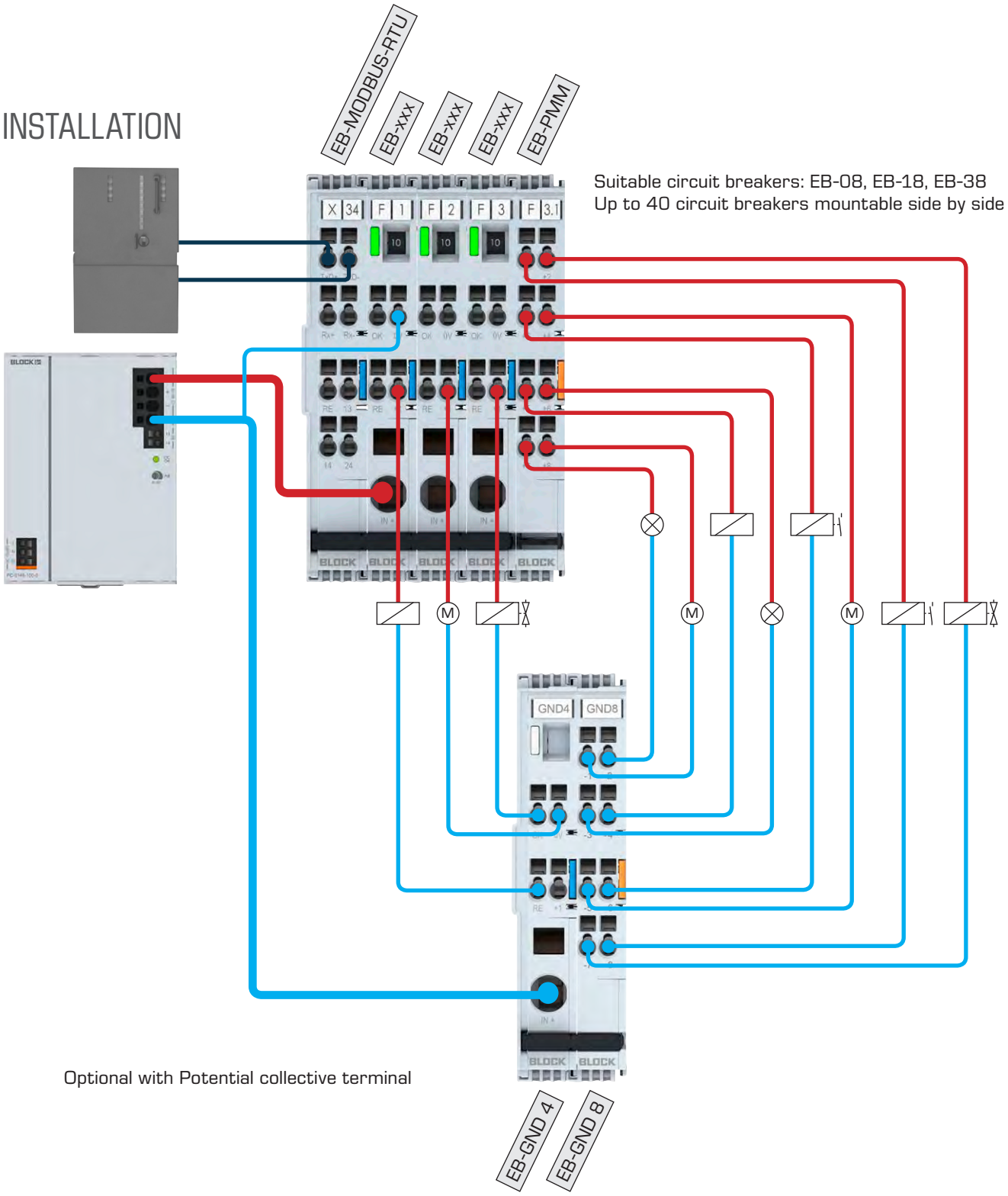
AUTOMATIC ADDRESSING

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.



- 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 distribution modules per channel

INSTALLATION



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

Optional with Potential collective terminal

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.

EASY B

ELECTRONIC 1-CHANNEL CIRCUIT BREAKER EB-27

Electronic circuit breaker with thermo-magnetic 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

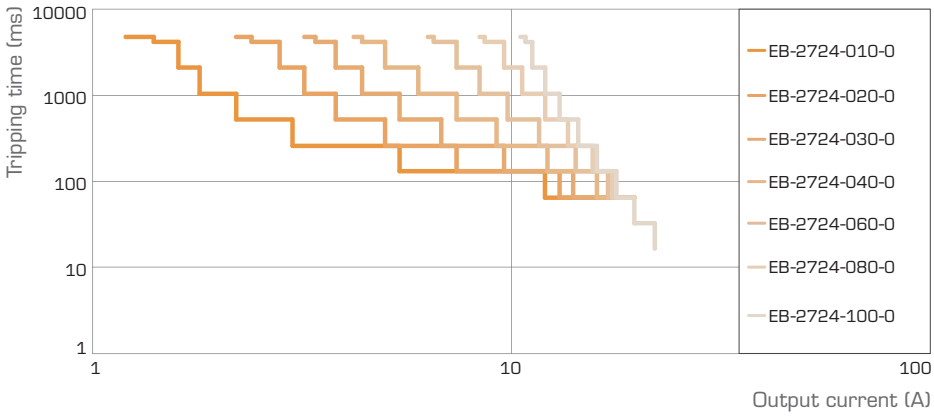
Thermomagnetic characteristic

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	

TRIPPING CHARACTERISTIC



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

GL/UL approval pending

EASY B

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

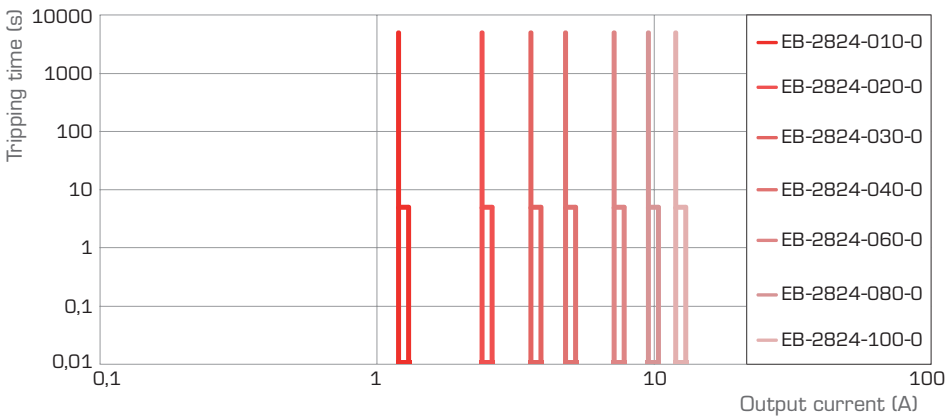
Active current limiting

Up to 40 fuse channels mountable side by side

VERSIONS

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

TRIPPING CHARACTERISTIC



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

GL/UL approval pending

EASY B

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

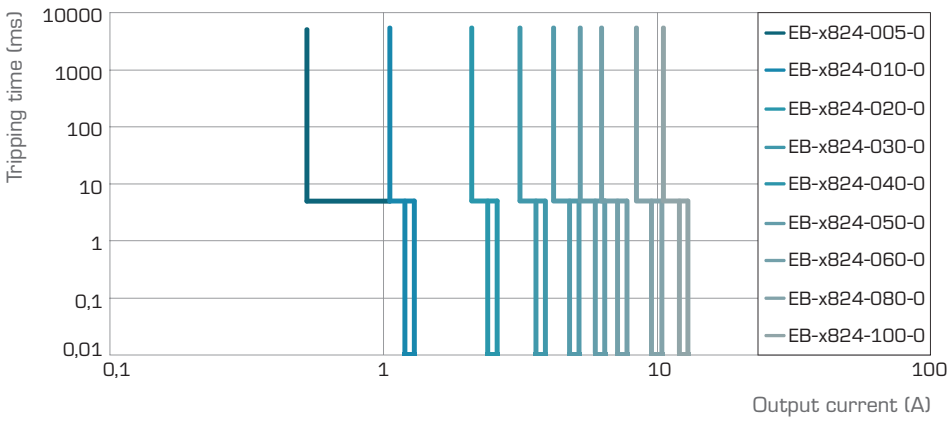
EB-18: Preset tripping currents: 1 - 10 A

EB-38: Tripping currents adjustable via interface: 0,5 - 10 A

VERSIONS

SINGLE-CHANNEL			
24 Vdc 0.5 A	24 Vdc 1 A	24 Vdc 2 A	24 Vdc 3 A
24 Vdc 4 A	24 Vdc 5 A	24 Vdc 6 A	24 Vdc 8 A
24 Vdc 10 A			

TRIPPING CHARACTERISTIC



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

GL/UL approval pending

EASY B

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

MODBUS RTU
MODBUS RTU

HIGHLIGHTS

TRANSMISSION STANDARD RS 485 AND RS 422

INTERNAL TERMINATING RESISTORS CAN BE CONNECTED

MODBUS RTU CONFIGURATION VIA DIP SWITCH

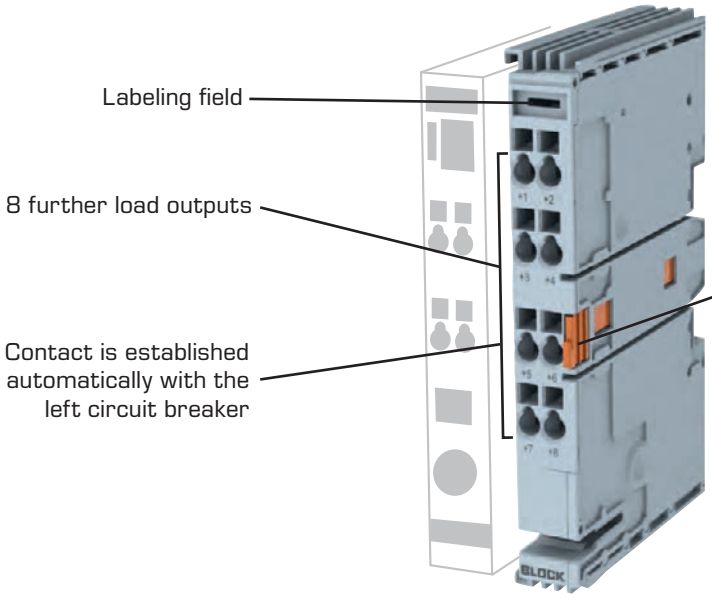
ISOLATED SIGNAL CONTACT: CHANNEL CURRENT >90 %

ISOLATED SIGNAL CONTACT: CHANNEL TRIPPED OR SWITCHED OFF

GL/UL approval pending

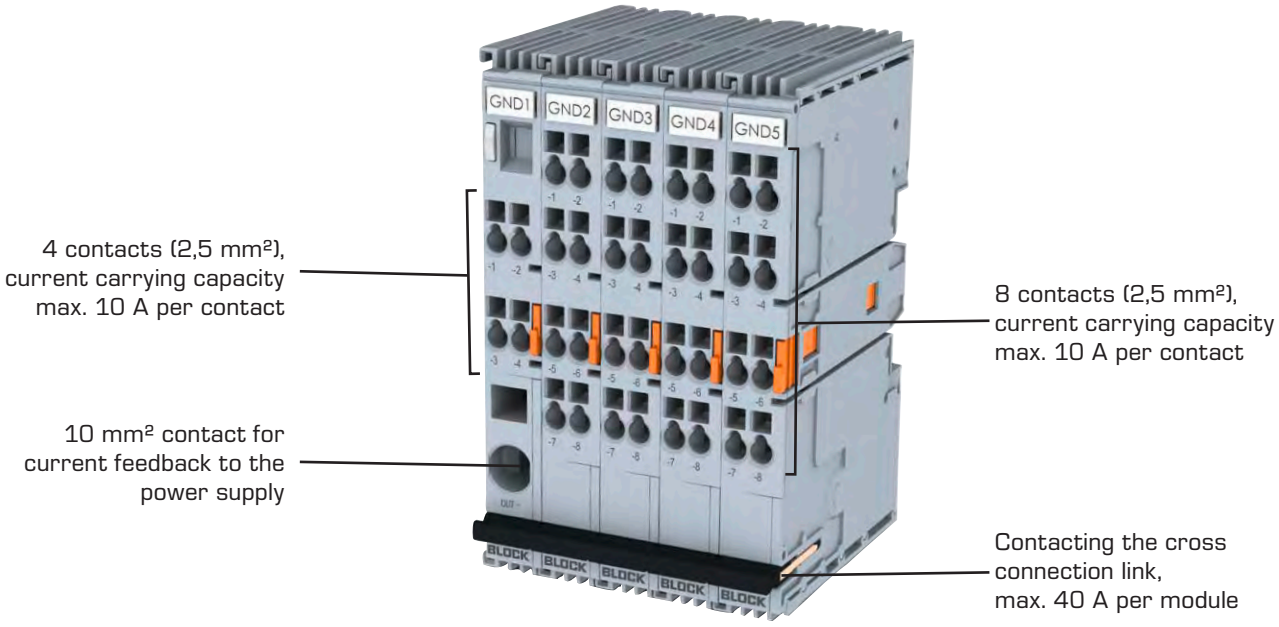
ACCESSOIRES

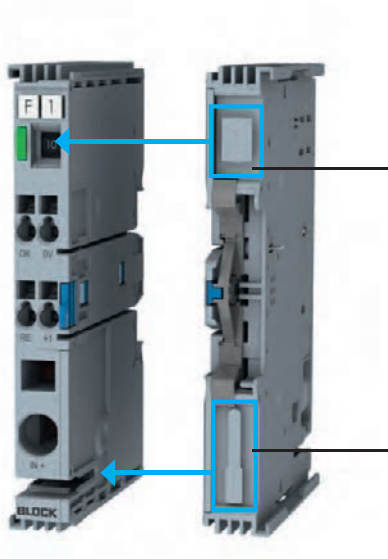
OUTPUT DISTRIBUTION MODULE



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

POTENTIAL COLLECTIVE TERMINAL





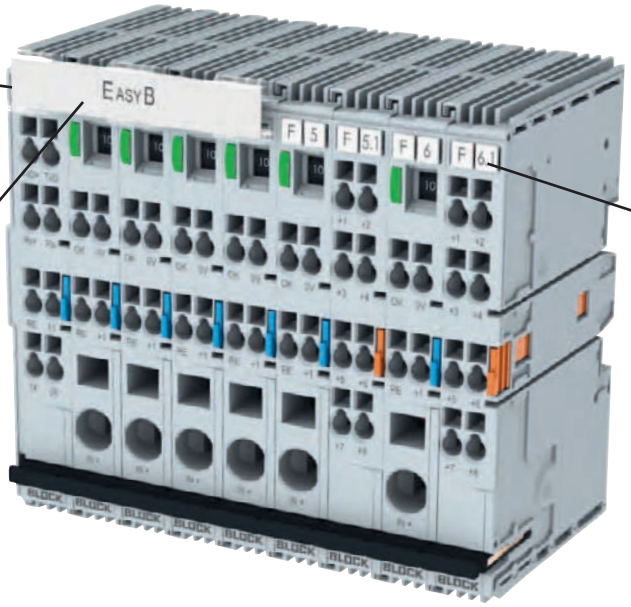
To close the opening of the current selector

To laterally close the opening of the cross connection link

Cross connection link
EB-BARx

Lateral cover for the left module EB-COV

LABELING

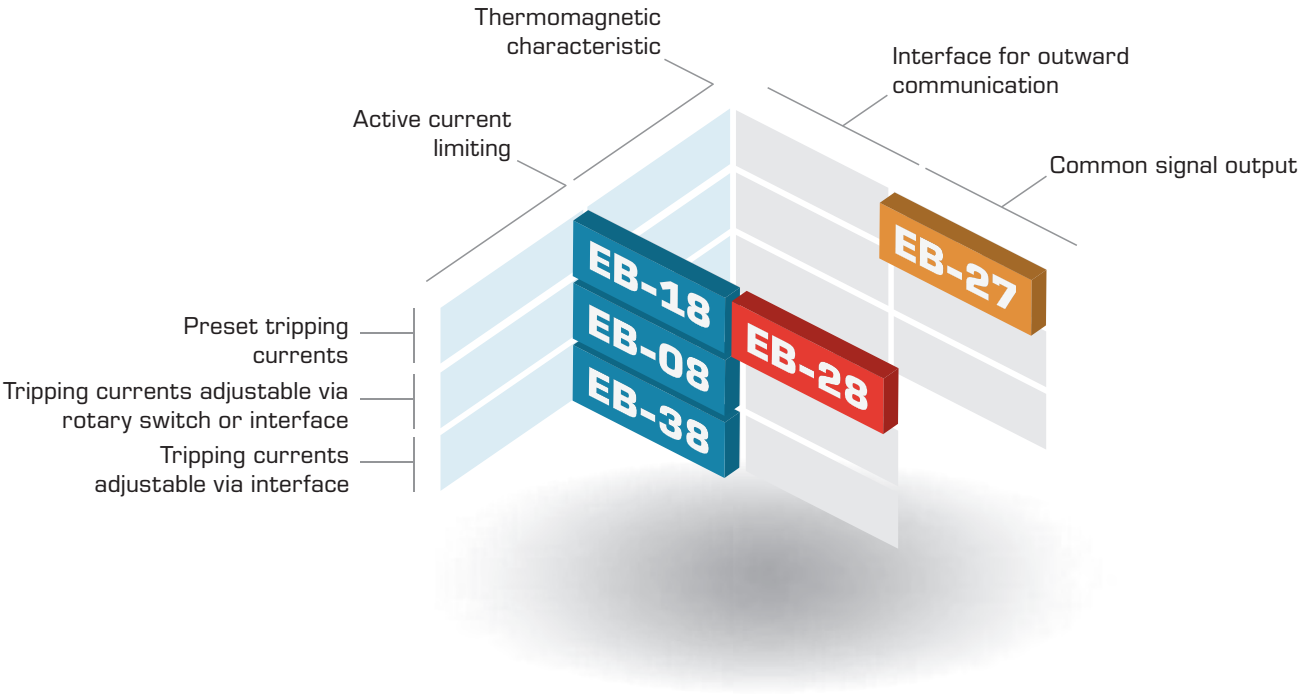


Labeling brackets
EB-MARK20

Labeling strips
11 mm x 50 m
EB-MARK21

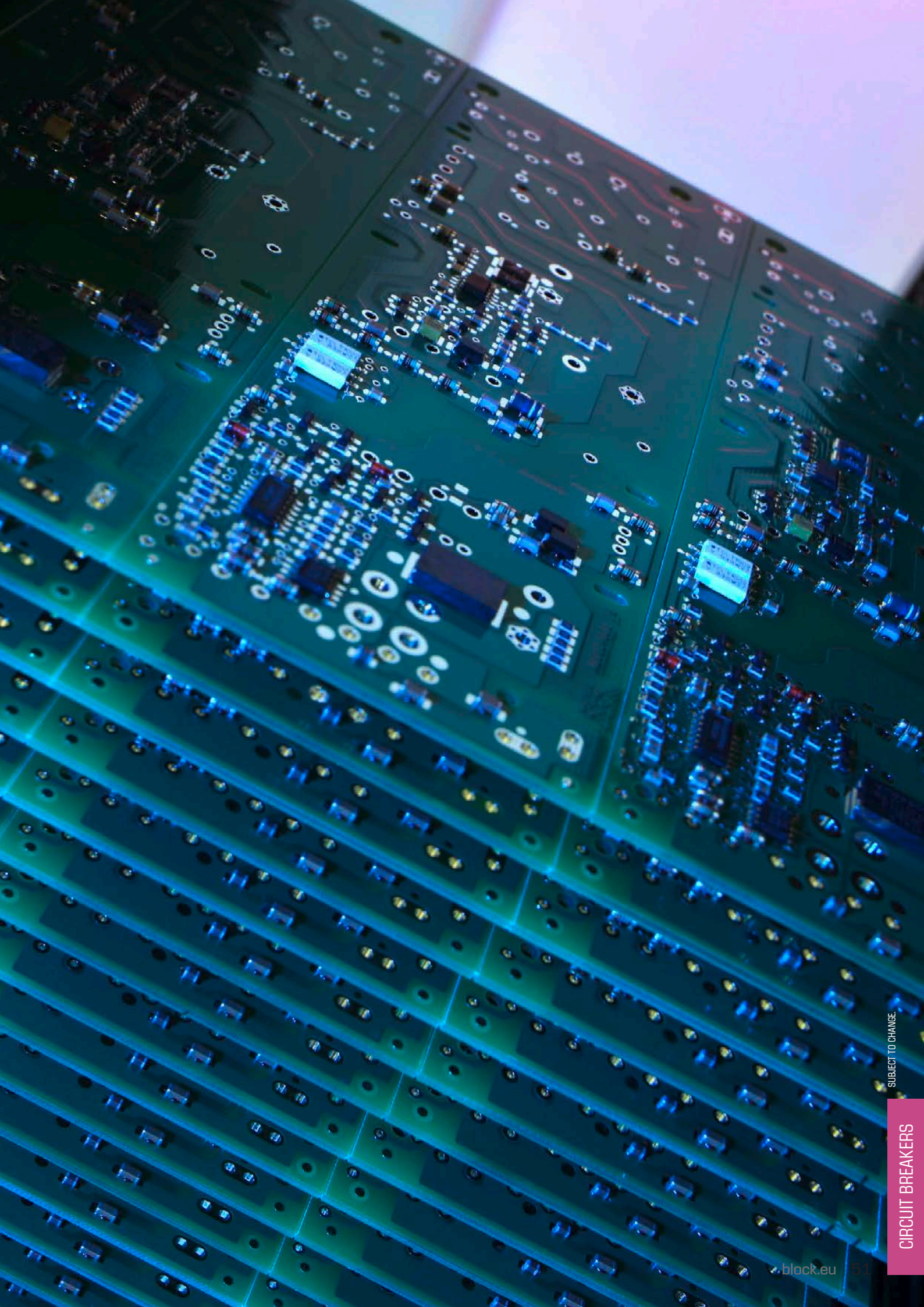
Labeling plate
5 mm
EB-MARK1

DECISION SUPPORT 1-CHANNEL CIRCUIT BREAKER EASYB



FEATURES

EB-2724-XX0-0	EB-2824-XX0-0	EB-0824-100-0	EB-1824-XX0-0	EB-3824-100-0	
■					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



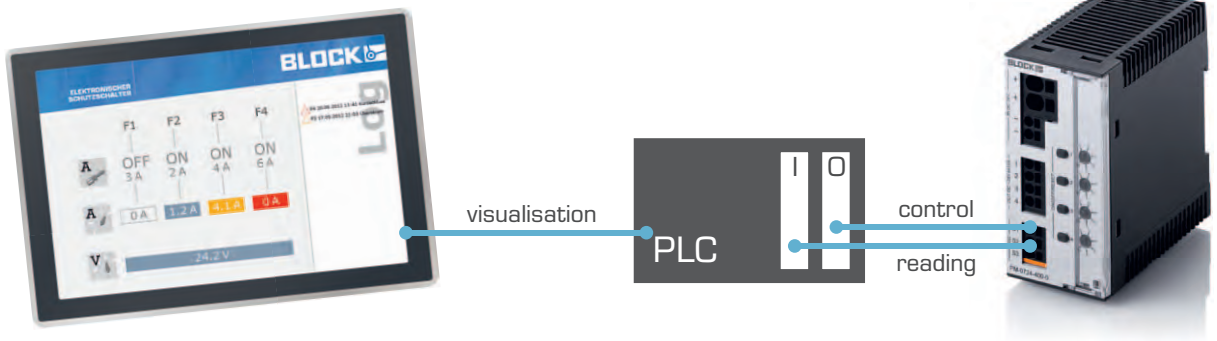
POWER COMPACT POWER MINI

MULTICHANNEL CIRCUIT BREAKERS

Communication with the central control system using only two lines

Intelligent overcurrent protection

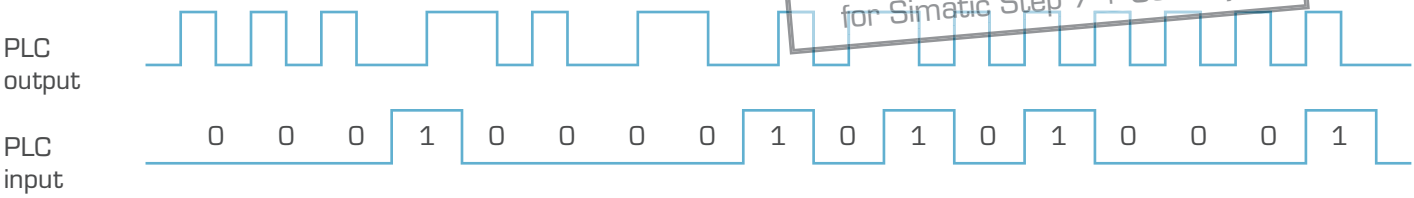
Integrated in the complete management and monitoring process.



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



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

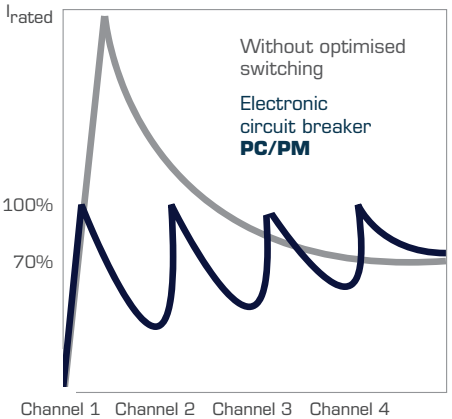
Extended protocol:

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

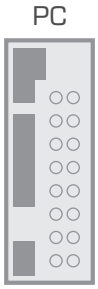
The power on of integrated output channels is time-delayed and load-dependent. As soon as the adjusted trip current of the output channel falls below, the next channel will be switched on. The inrush current of the whole device is levelled off, as the overdimensioning of the power supply is not necessary.



SLIM DESIGN FREES UP AMPLE CABINET SPACE

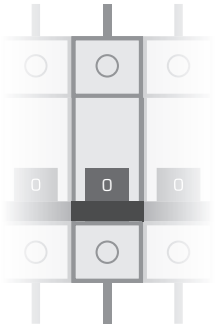
The comparison of 8 protected circuits clearly demonstrates the reduced space requirement – a width of only 5.25 mm per channel for the Power Compact electronic circuit breaker.

Space requirement
8 channels
42 mm



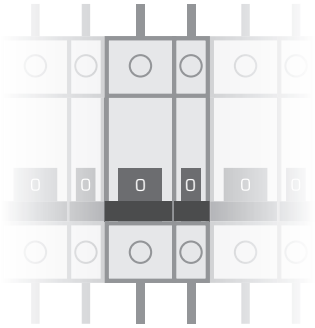
Circuit breaker
Power Compact
Width: 5.25 mm / channel

Space requirement
8 channels
Factor 3.4 **144 mm**



Circuit breaker
Width: 18 mm / channel

Space requirement
8 channels
Factor 5.1 **216 mm**

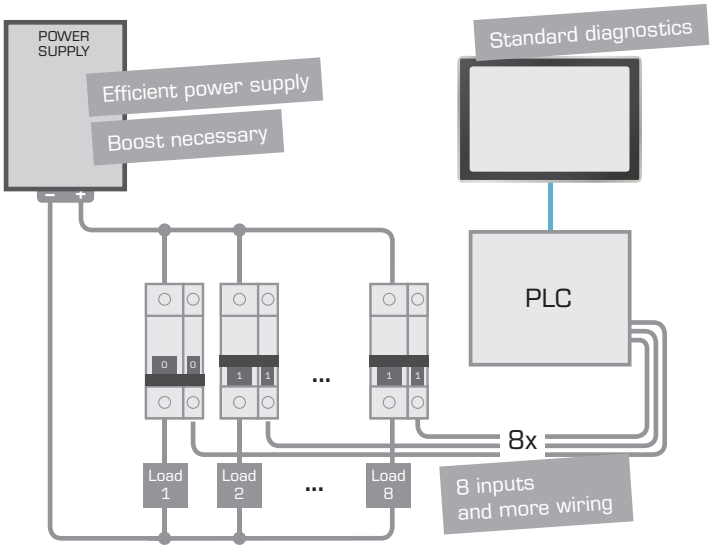


Circuit breaker
with auxiliary switch
Width: 18 + 9 mm / channel

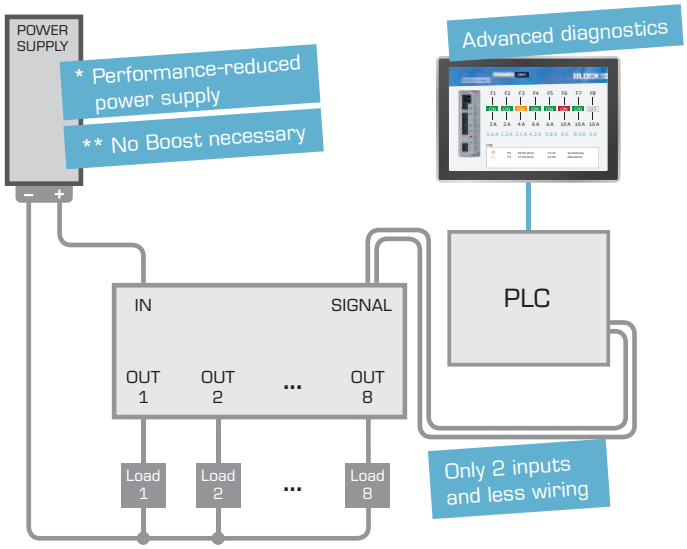
COMPARISON OF 8 PROTECTED CIRCUITS

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

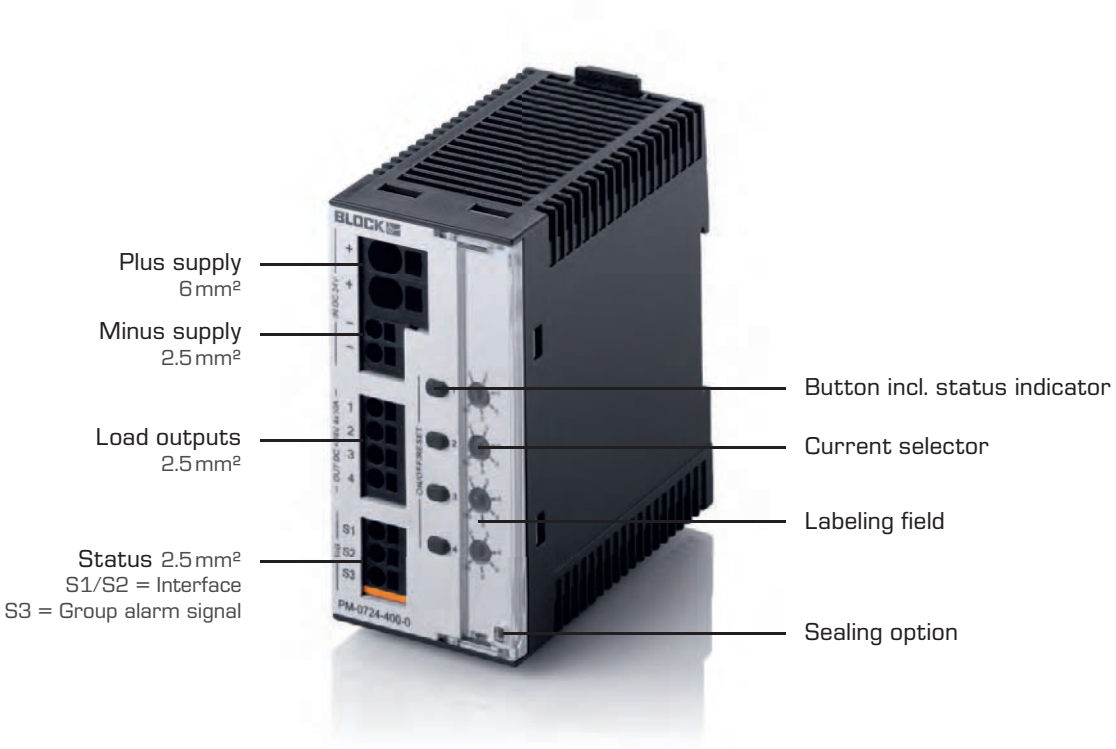


BLOCK circuit breakers

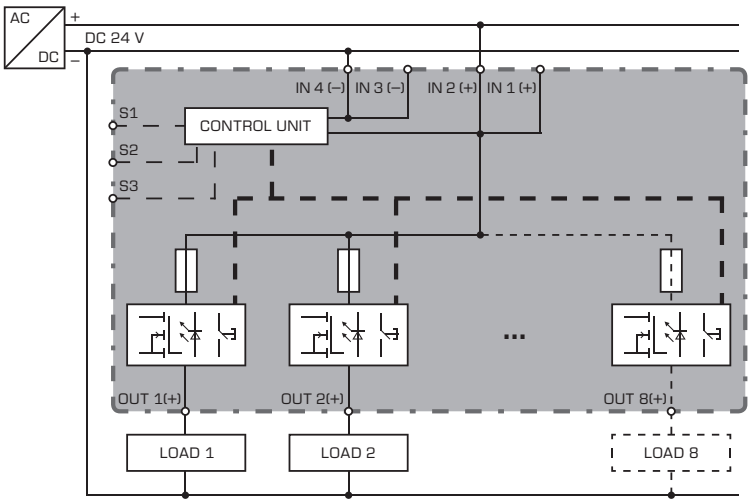


* Due to optimised distribution of the inrush
** Without current spikes for tripping of circuit breakers

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 6 A per channel no temperature derating necessary

PLUG-IN CONNECTION TECHNOLOGY

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

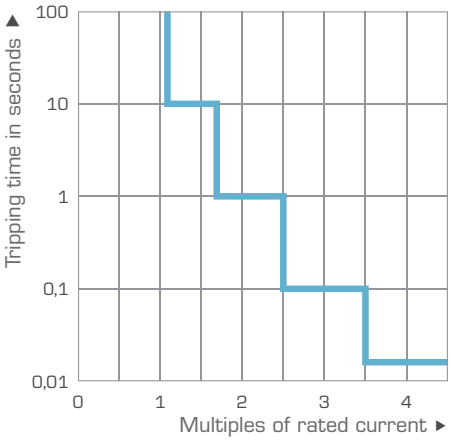
VERSIONS

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

8 CHANNEL			
	24 Vdc 8x1-6 A	24 Vdc 8x2-10 A	48 Vdc 8x2-10 A

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

ECONOMY REMOTE

ELECTRONIC CIRCUIT BREAKER WITH THERMOMAGNETIC CHARACTERISTIC

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

2 CHANNEL

24 Vdc
2 x 2-10 A

4 CHANNEL

24 Vdc
4 x 2-10 A

8 CHANNEL

24 Vdc
8 x 2-10 A

HIGHLIGHTS

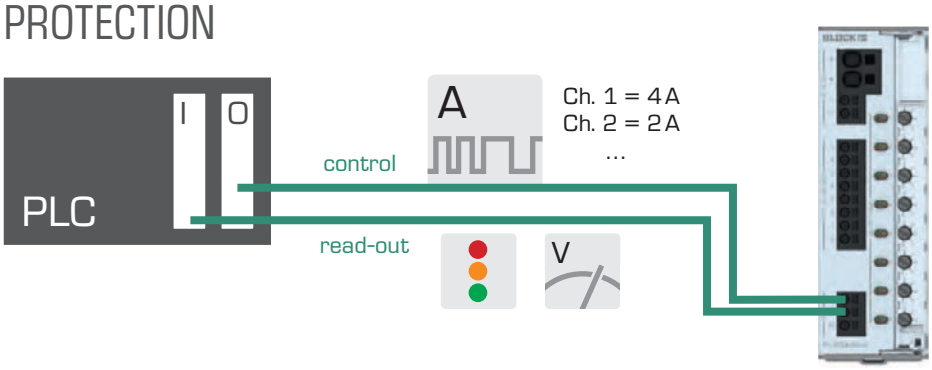
RELIABLE SWITCH-ON OF HIGH-CAPACITY LOADS (>50.000 µF)

COMPREHENSIVE INDIVIDUAL CHANNEL DIAGNOSTIC

STEPPED SETTING OF TRIPPING CURRENTS VIA 2-WIRE INTERFACE

REMOTE SWITCH-ON/OFF OF ANY CHANNEL

INTELLIGENT OVERCURRENT PROTECTION



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 2 x 0.5-6 A	24 Vdc 2 x 2-12 A

4 CHANNEL	
24 Vdc 4 x 0.5-6 A	24 Vdc 4 x 2-12 A

8 CHANNEL
24 Vdc 8 x 0.5-6 A

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)

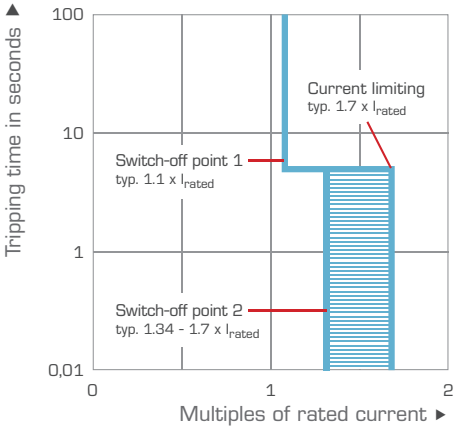
DIAGNOSTICS AND REMOTE SWITCHING OF CHANNELS VIA 2 LINES

REMOTE RESET CONTACT

TRANSMISSION OF ACTUAL OUTPUT CURRENTS

ADJUSTABLE RATED CURRENT PER CHANNEL

TRIPPING CURVE

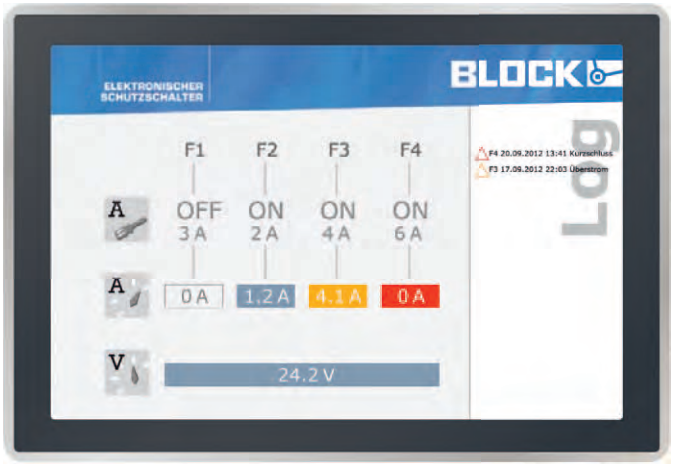


The constant current limiting of 1.7 times the rated current enables especially high-capacity loads to be switched on reliably. Two switch-off points within the tripping characteristic allow a temporary increase in current flow caused by start-ups, breaking, speed and direction changes of DC motors,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

DESCRIPTION **BASIC** SMART

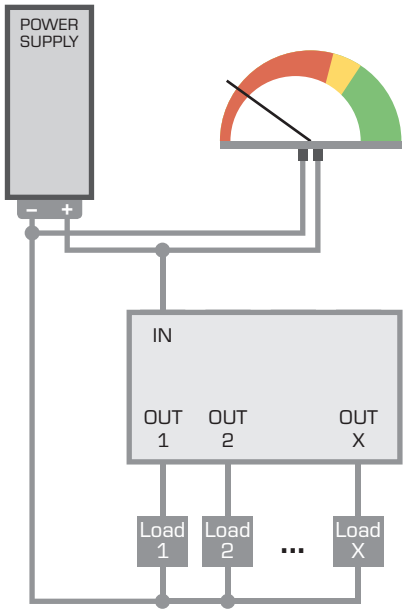
EXTENSIVE DIAGNOSTICS

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 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 (NEC CLASS 2)

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.

FEATURES

Fix preset rated current

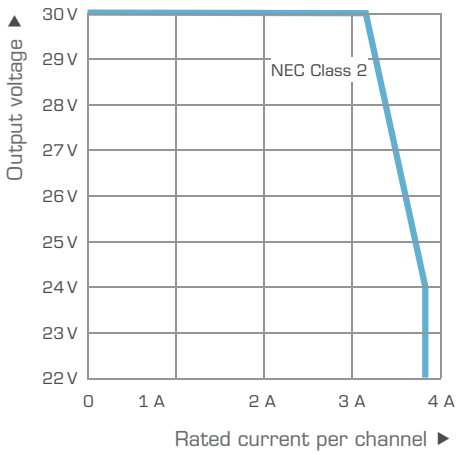
Number of output channels: 4/2 per circuit breaker

VERSIONS

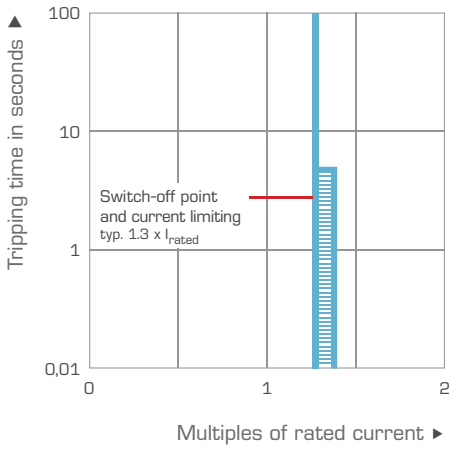
2 CHANNEL		
24 Vdc 2 x 3,8 A NEC Class 2	24 Vdc 2 x 6 A	

4 CHANNEL		
24 Vdc 4 x 3,8 A NEC Class 2	24 Vdc 4 x 6 A	24 Vdc 2 x 3 A 2 x 6 A

TRIPPING CURVE



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



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

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

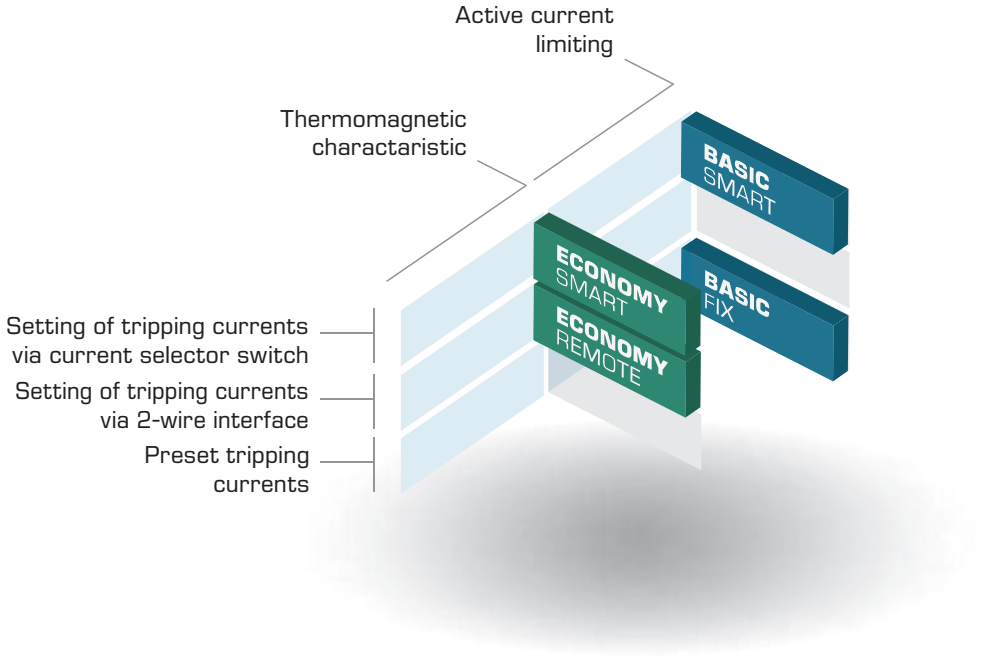
DIAGNOSTIC AND REMOTE SWITCHING OF CHANNELS VIA 2 LINES

REMOTE RESET CONTACT

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

GL approval pending

DECISION SUPPORT MULTICHANNEL CIRCUIT BREAKERS



FEATURES

ECONOMY SMART	ECONOMY REMOTE	BASIC SMART	BASIC FIX	
■		■		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
■	■	■	■	Group alarm signal for tripped channels
■	■	■	■	Remote reset of tripped channels
		■		Active current limit typ. 1.7 x I_{rated}
			■	Active current limit typ. 1.3 x I_{rated}
			■	Active current limit according to NEC Class 2 (100 W)

TYPES ACCORDING TO SERIES

EASY B SINGLE-CHANNEL

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

Order no.

NEW 24 Vdc / 1 A	EB-2724-010-0
NEW 24 Vdc / 2 A	EB-2724-020-0
NEW 24 Vdc / 3 A	EB-2724-030-0
NEW 24 Vdc / 4 A	EB-2724-040-0
NEW 24 Vdc / 6 A	EB-2724-060-0
NEW 24 Vdc / 8 A	EB-2724-080-0
NEW 24 Vdc / 10 A	EB-2724-100-0

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

Order no.

NEW 24 Vdc / 1 A	EB-2824-010-0
NEW 24 Vdc / 2 A	EB-2824-020-0
NEW 24 Vdc / 3 A	EB-2824-030-0
NEW 24 Vdc / 4 A	EB-2824-040-0
NEW 24 Vdc / 6 A	EB-2824-060-0
NEW 24 Vdc / 8 A	EB-2824-080-0
NEW 24 Vdc / 10 A	EB-2824-100-0

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

Order no.

NEW 24 Vdc / 1 A	EB-1824-010-0
NEW 24 Vdc / 2 A	EB-1824-020-0
NEW 24 Vdc / 3 A	EB-1824-030-0
NEW 24 Vdc / 4 A	EB-1824-040-0
NEW 24 Vdc / 6 A	EB-1824-060-0
NEW 24 Vdc / 8 A	EB-1824-080-0
NEW 24 Vdc / 10 A	EB-1824-100-0
NEW 24 Vdc 1 x 0,5-10 A	EB-3824-100-0
NEW 24 Vdc 1 x 0,5-10 A	EB-0824-100-0

0.5-10 A = 0.5/1/2/3/4/5/6/8/10 A

Preset tripping currents

Tripping currents adjustable via interface

Tripping currents adjustable via rotary switch or interface

EASY B ACCESSORIES

Communication module

Order no.

NEW EB-MODBUS-RTU

Output distribution module

Order no.

NEW EB-PMM

Potential collective terminal

Order no.

NEW EB-GND4
EB-GND8

Lateral cover

Order no.

NEW EB-COV

Cross connection link

Order no.

NEW EB-BAR 2...41

Labeling field

Order no.

NEW EB-MARK1

Labeling bracket

Order no.

NEW EB-MARK20

Labeling strip

Order no.

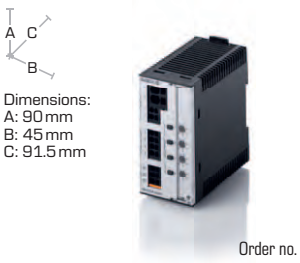
NEW EB-MARK21

TYPES ACCORDING TO SERIES

ECONOMY SMART

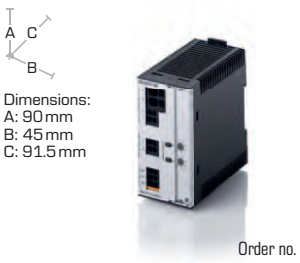
Dimensions:
A: 127 mm
B: 42 mm
C: 116.5 mm

	Order no.
24 Vdc / 8 x 1-6 A	PC-0724-480-0
24 Vdc / 8 x 2-10 A	PC-0724-800-0
24 Vdc / 8 x 2-10 A	PC-0724-800-1
NEW **24 Vdc / 8 x 2-10 A**	PC-0724-800-2
NEW **48 Vdc / 8 x 2-10 A**	PC-0748-800-0
NEW **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
24 Vdc / 4 x 2-10 A	PM-0724-400-0
24 Vdc / 4 x 2-10 A	PM-0724-400-1
NEW **24 Vdc / 4 x 2-10 A**	PM-0724-400-2
48 Vdc / 4 x 2-10 A	PM-0748-400-0
NEW **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
24 Vdc / 2 x 2-10 A	PM-0724-200-1
NEW **48 Vdc / 2 x 2-10 A**	PM-0748-200-0
NEW **48 Vdc / 2 x 2-10 A**	PM-0748-200-2

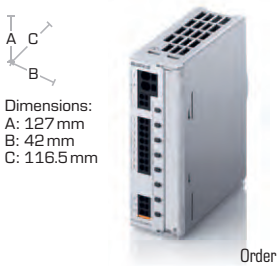
Adjustable tripping currents via current selector switch:

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

Potential free signal output

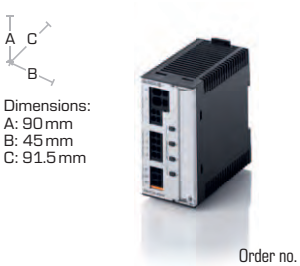
With plug-in spring-loaded terminal (depth increased by 25.5 mm)

ECONOMY REMOTE



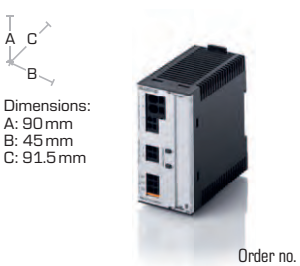
Dimensions:
A: 127 mm
B: 42 mm
C: 116.5 mm

	Order no.
24 Vdc / 8 x 2-10 A	PC-3724-800-0



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

	Order no.
24 Vdc / 4 x 2-10 A	PM-3724-400-0



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

	Order no.
24 Vdc / 2 x 2-10 A	PM-3724-200-0

Adjustable tripping currents via 2-wire interface:

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

Factory setting:
Tripping currents: 10 A

TYPES ACCORDING TO SERIES

BASIC SMART

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
24 Vdc / 8 x 0-5-6 A	PC-0824-480-1

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
24 Vdc / 4 x 0.5-6 A	PM-0824-240-1
24 Vdc / 4 x 2-12 A	PM-0824-480-0

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
24 Vdc / 2 x 0.5-6 A	PM-0824-120-1
24 Vdc / 2 x 2-12 A	PM-0824-240-2

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

With plug-in spring-loaded terminal
(depth increased by 25.5 mm)

BASIC FIX

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

Order no.

24 Vdc / 4 x 3.8 A	PM-9824-152-0
24 Vdc / 4 x 6 A	PM-2824-240-0
24 Vdc / 2 x 3 A + 2 x 6 A	PM-2824-180-0

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

Order no.

24 Vdc / 4 x 3.8 A	PM-9824-076-0
24 Vdc / 4 x 6 A	PM-2824-120-0

Preset tripping currents

NEC Class 2

ACCESSORIES

Output distribution module

Order no.

PMM-01/-02

POWER COMPACT

POWER **COMPACT**

UNINTERRUPTIBLE POWER SUPPLIES

POWER VISION

POWER **VISION**

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

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.

With battery modules

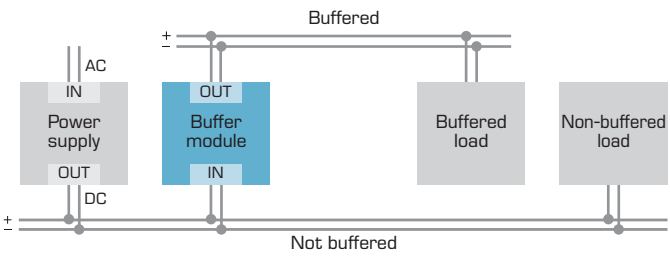
Power supply + Charge and control unit + Battery module

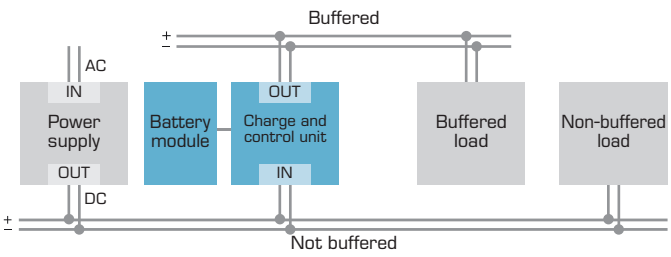
To provide supply voltage over a long period of time and high buffer currents, the use of a battery supported UPS system is necessary.

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.

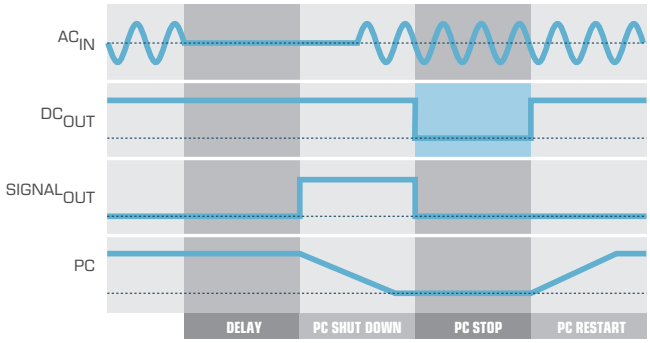
Switched mode power supply + charge and control unit

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.





RELIABLE STARTUP OF INDUSTRIAL PCS

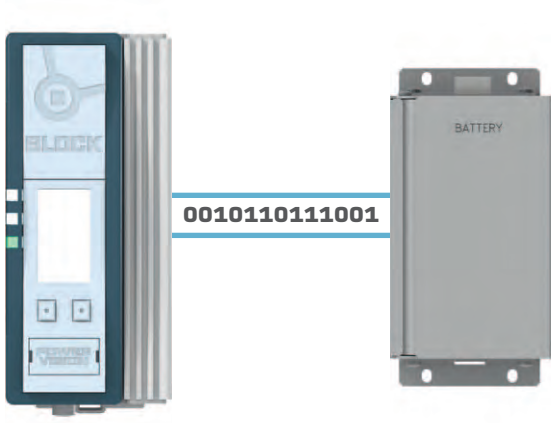


In order to ensure the proper supply of an industrial PC, the controlled shut-down must be just as possible as the reliable restart. After the IPC shutdown a targeted interruption of the UPS module's output voltage is necessary to send a required restart impulse to the IPC when the power supply has been reinstated.

All BLOCK UPS modules support this function.

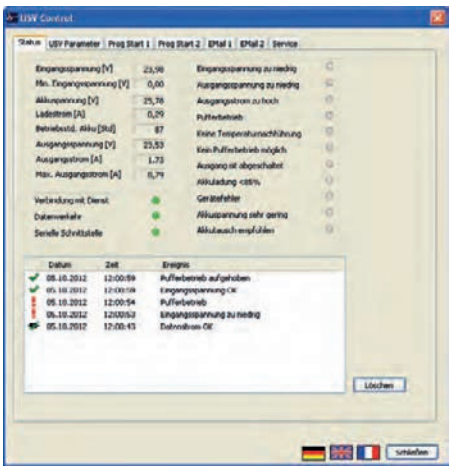
"BATTERY CONTROL" TECHNOLOGY ENSURES BETTER SAFETY

Reliable battery management can only be 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 480 W

Input voltage: 24 Vdc

VERSIONS

PVUA	
24 Vdc 10 A	24 Vdc 20 A

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

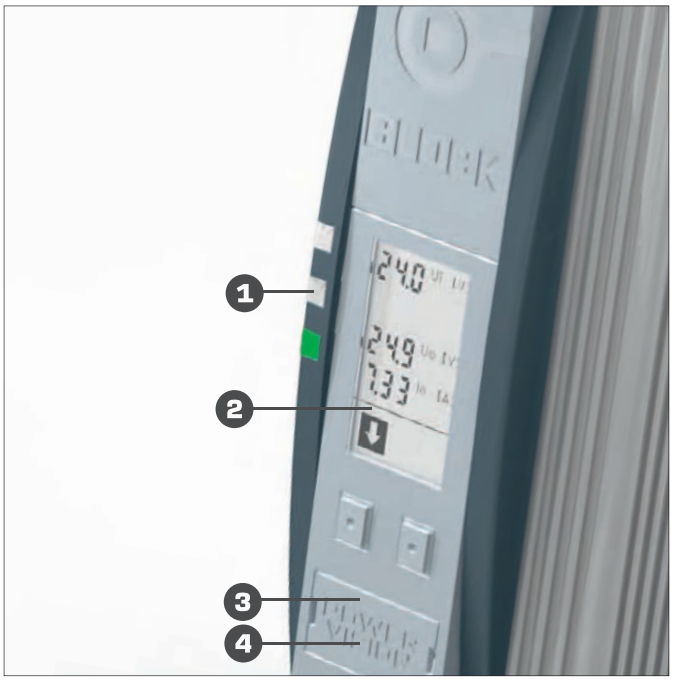
STATUS INDICATOR BATTERY CHARGING AND DISCHARGING

DISPLAY FOR CURRENT AND VOLTAGE INDICATION

RELIABLE SUPPLY OF INDUSTRIAL PCS

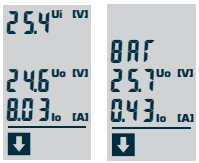
THE PVUA MODULE – MUCH MORE THAN AN ORDINARY UPS:

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.



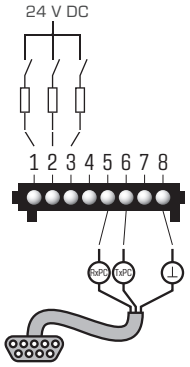
❷ Via display:
Current and voltage values are visible on the display at all times. Important parameter settings can be adjusted using the keys on the device. The device features an integrated fault manager for self-diagnostics.

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 POTENTIONAL 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.

SWITCHED MODE POWER SUPPLY + CHARGE AND CONTROL UNIT

The uninterruptible power supply Power Compact Combi features an economic DC 24 V/5 A 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

KOMBI-UPS
24 Vdc 5 A

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

PVUC	
24 Vdc 10 A	24 Vdc 20 A

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

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

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.

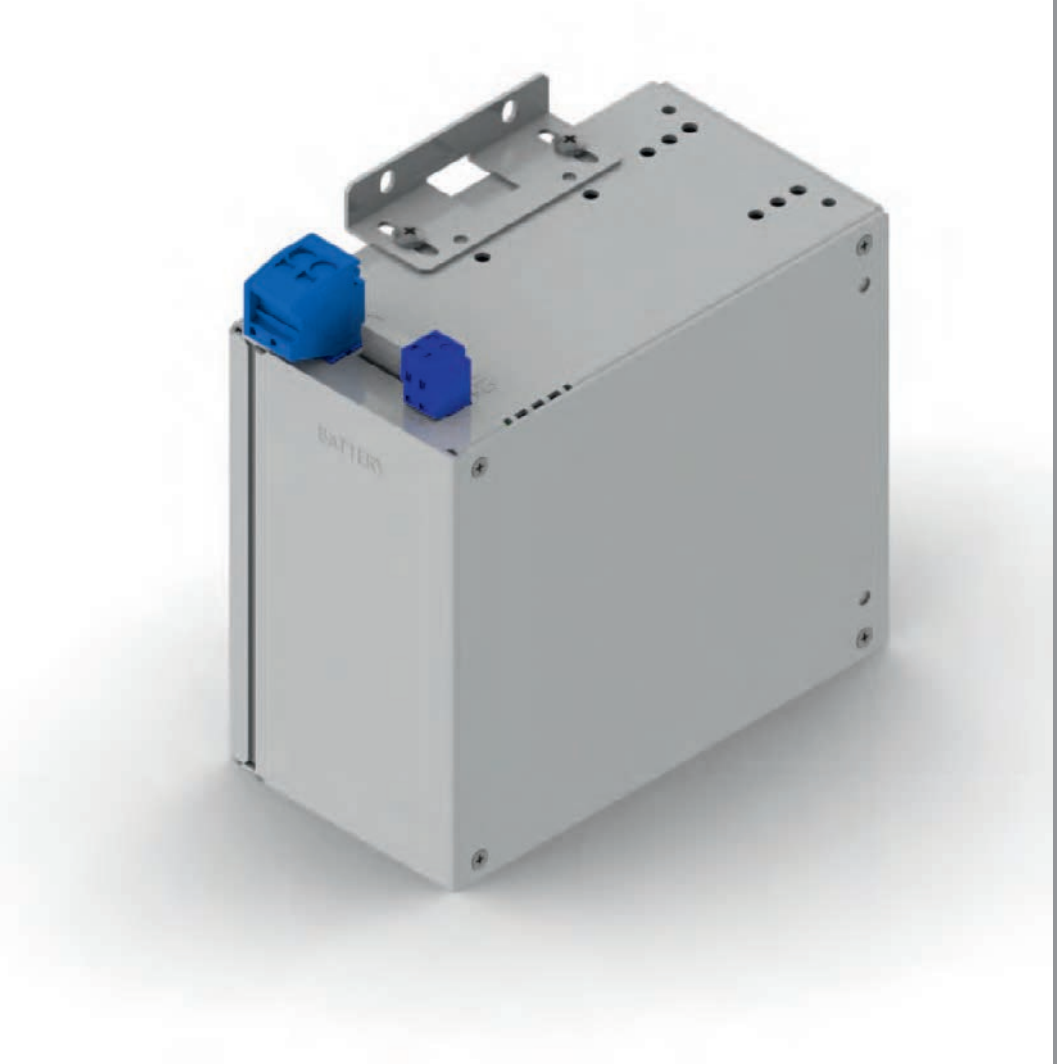
FEATURES

Capacities: 2.5 and 13 Ah

Buffer voltage: 24 Vdc

VERSIONS

PVUC	
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 MEASUREMENT OCCURS IN BATTERY MODULE

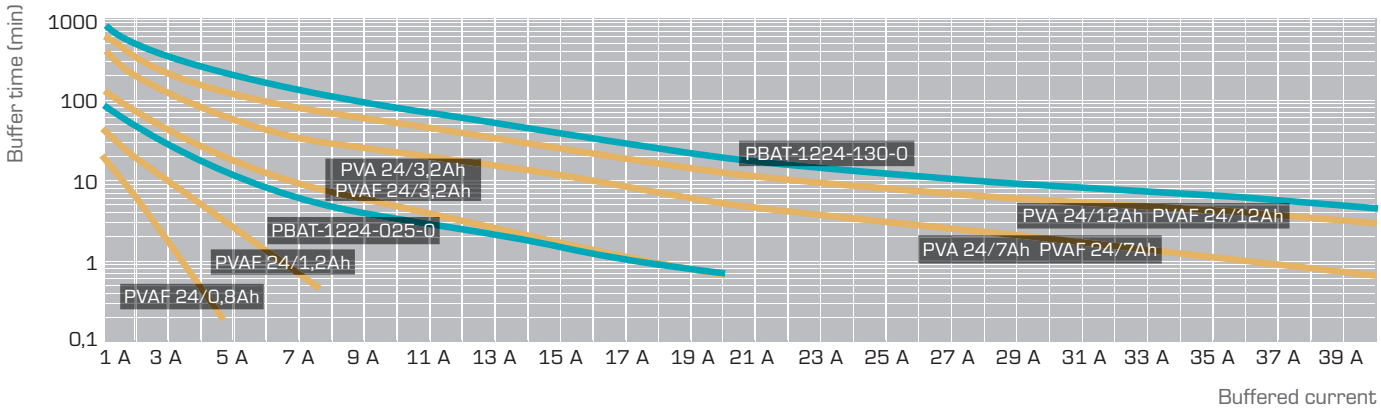
SERVICE LIFE UP TO 15 YEARS

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



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.

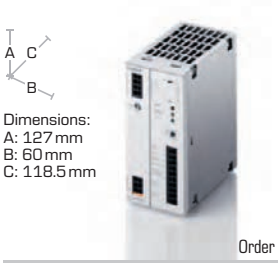
If high ambient temperatures or a very long service life are required, the PBAT series is particularly suitable.

Type	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 24 V output
			■			Parallel-switching for increased power
	■	■	■			Function monitoring through isolated contacts
	■					Function monitoring through 24 V signal contacts
	■					Display for current and voltage indicator
	■	■				RS-232 interface
	■	■	■			Multi-coloured status LEDs
		■				Push-in direct plug-in technology
	■		■	■	■	Spring-loaded plug-in connection technology
	■	■	■	■		UL approval
		■				GL approval
Page	68	70	71	72	73	

Input voltage	**Type**	**24 Vdc 5 A**	**24 Vdc 10 A**	**24 Vdc 20 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**
24 Vdc	Power Vision **charge and control unit**		■	■								68
100-240 Vac	Power Compact **switched mode power supply + charge and control unit**	■										70
24 Vdc	Power Vision **buffer modules**		■	■								71
24 Vdc	Power Vision PVA **battery modules**							■	■	■		72
24 Vdc	Power Vision PVAF **battery modules**				■	■		■	■	■		72
24 Vdc	Power Battery PBAT **battery modules**						■				■	73

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

POWER VISION CHARGE AND CONTROL UNITS

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

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

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

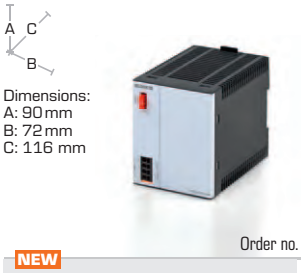
POWER VISION BUFFER MODULES

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

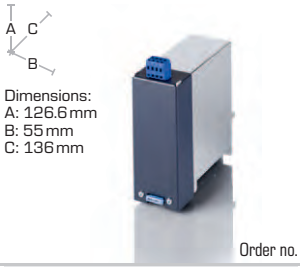
Dimensions:
A: 127 mm
B: 57 mm
C: 179.5 mm

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

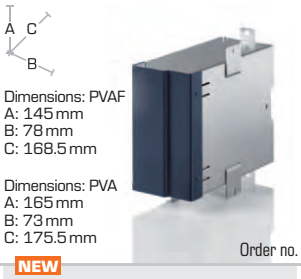
POWER VISION BATTERY MODULES



Dimensions:
A: 90 mm
B: 72 mm
C: 116 mm

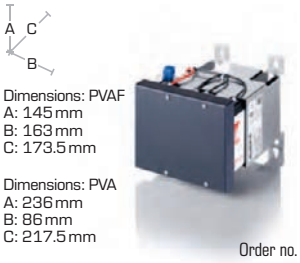


Dimensions:
A: 126.6 mm
B: 55 mm
C: 136 mm



Dimensions: PVAF
A: 145 mm
B: 78 mm
C: 168.5 mm

Dimensions: PVA
A: 165 mm
B: 73 mm
C: 175.5 mm



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

Dimensions: PVA
A: 236 mm
B: 86 mm
C: 217.5 mm

	Order no.		Order no.		Order no.		Order no.
NEW **24 Vdc/0.8 Ah**	PVAF 24/0,8 Ah	**24 Vdc/1.2 Ah**	PVAF 24/1,2 Ah	NEW **24 Vdc/3.2 Ah**	PVAF 24/3,2 Ah	**24 Vdc/7 Ah**	PVAF 24/7 Ah
				24 Vdc/3.2 Ah	PVA 24/7 Ah	**24 Vdc/7 Ah**	PVA 24/7 Ah

TYPES ACCORDING TO SERIES

POWER COMPACT POWER VISION POWER BATTERY ACCESSORIES

Communication cable

Order no.

PC-KOK1

Wall fastening

Order no.

PV-WB2

TH35 sideway mounting

Order no.

PV-TS35M

Female plug

Order no.

PC-CON1

Communication cable

Order no.

PV-KOK2

USB converter

Order no.

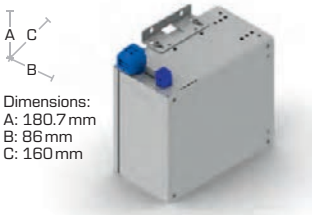
PV-USB/SERIELL

Female plug

Order no.

PV-CON

POWER BATTERY BATTERY MODULES

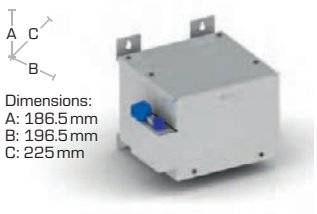


Dimensions:
A: 180.7 mm
B: 86 mm
C: 160 mm

Order no.

NEW

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



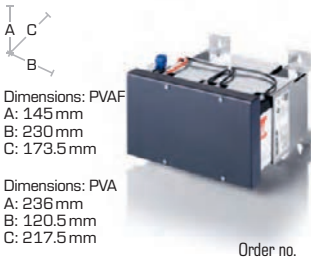
Dimensions:
A: 186.5 mm
B: 196.5 mm
C: 225 mm

Order no.

NEW

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

POWER VISION BATTERY MODULES



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

Dimensions: PVA
A: 236 mm
B: 120.5 mm
C: 217.5 mm

Order no.

24 Vdc/12 Ah PVAF 24/12 Ah

24 Vdc/12 Ah PVA 24/12 Ah

SUBJECT TO CHANGE.

UPS

POWER ECOLINE

REDUNDANCY MODULE
FOR SMALL POWER
REQUIREMENTS

REDUNDANCY MODULES

POWER COMPACT

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

PELR
12-24 Vdc
2 x 5 A
1 x 10 A

HIGHLIGHTS

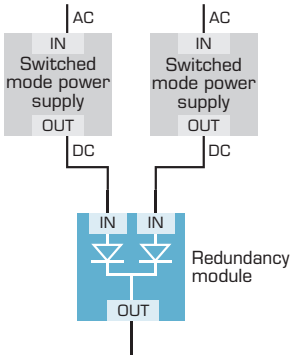
LED-SIGNALLING

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

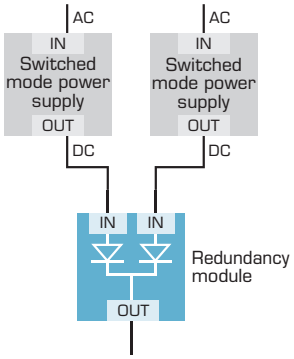
Output current: up to 40 A

VERSIONS

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

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

GL/UL approval pending

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

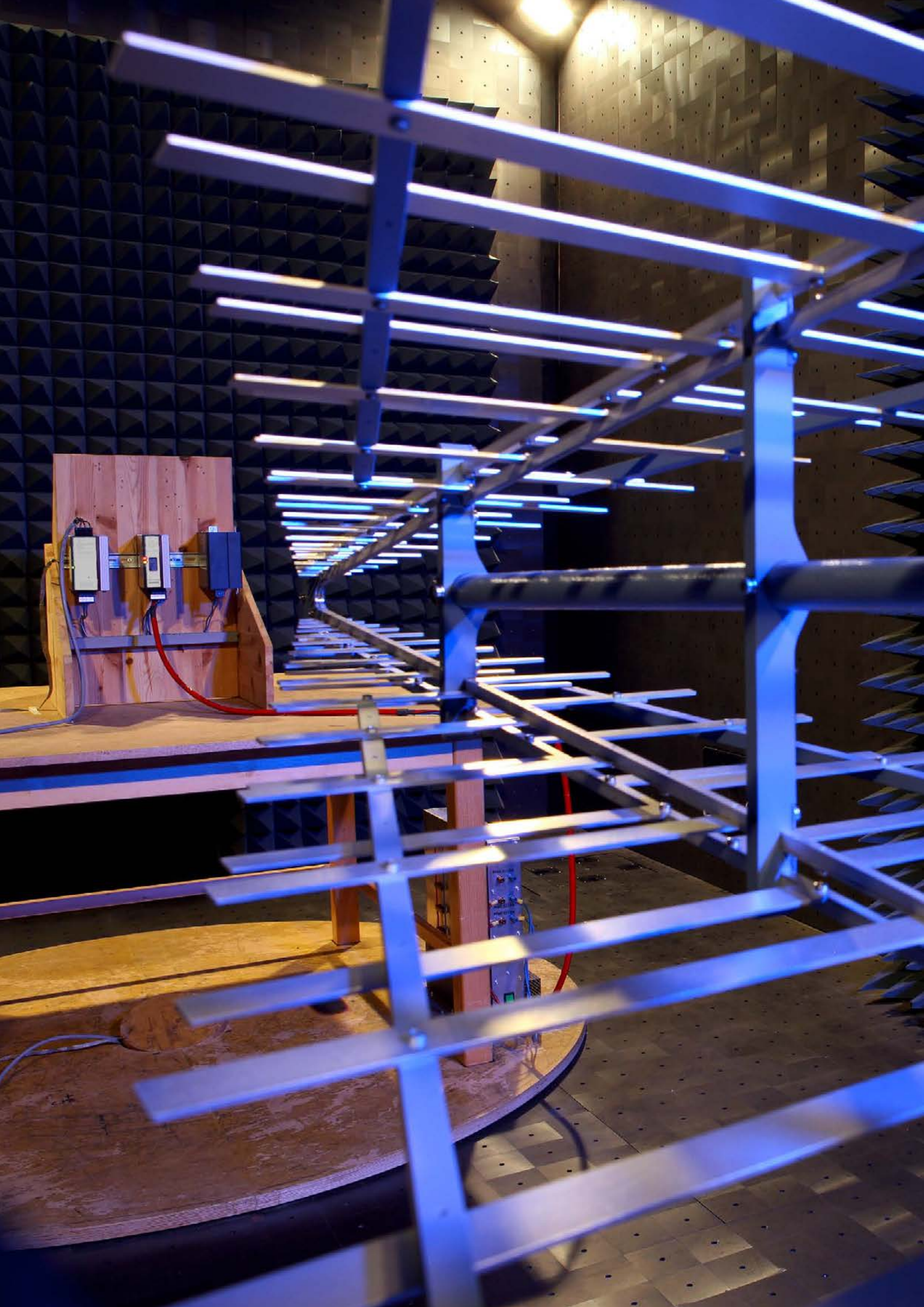
Dimensions:
A: 127 mm
B: 42 mm
C: 112.5 mm

	Order no.
NEW **12-24 Vdc/2x20 A/1x40 A**	PC-0624-400-0
NEW **48 Vdc/2 x 20 A**	PC-0648-400-0

POWER COMPACT ACCESSOIRES

Wall fastening

	Order no.
	PV-WB2



Subsidiaries

Belgium
BLOCK Belgium BVBA
Gijmelsesteenweg 278B
3201 Langdorp
Phone: +32 1669-6945
Fax: +32 1669-7972
block.eu
info.belgium@block.eu

China
博力科电气贸易（上海）有限公司
BLOCK Electronics Trading (Shanghai) Co., Ltd.
Room 224, Building 8,
No. 2-42, Lane 433,
Yuyuan Road, Jing'an District
Shanghai
Phone: +86 21 62372310
Fax: +86 21 52300176
www.block-china.cn
info@block-china.cn

Denmark
BLOCK Danmark ApS
Soolgaardsvej 3
2942 Skodsborg
Phone: +45 45809045
block.eu
info.denmark@block.eu

France
BLOCK France SARL
13 Avenue du Bataillon
Carmagnole Liberté
69120 Vaulx-en-Velin
Phone: +33 4 72 75 19 19
Fax: +33 4 78 52 71 09
www.block-trafo.fr
info@block-trafo.fr

United Kingdom
BLOCK U.K. LIMITED
24 Bentalls Centre
Colchester Road
Heybridge
Maldon, Essex CM9 4GD
Phone: +44 1621 85-0666
Fax: +44 1621 85-0711
www.blockuk.co.uk
info@blockuk.co.uk

USA
BLOCK USA, Inc.
10632 W. Grand Avenue
Franklin Park, Illinois 60131
Phone: +1 847 260 9050
Fax: +1 847 260 9079
www.blockusa.com
info@blockusa.com

BLOCKSMOY, Inc.
10632 W. Grand Avenue
Franklin Park, Illinois 60131
Phone: +1 847 260 9070
Fax: +1 847 260 9079
www.blocksmoy.com
info@blocksmoy.com

Agencies in Germany

Hamburg
Schleswig-Holstein
Northeastern Lower Saxony
Mecklenburg-Western Pomerania
BLOCK Transformatoren-Elektronik GmbH
Florian Hestermann
Nordkampen 124
29664 Walsrode
Phone: +49 5166 928 9990
Fax: +49 4231 678-177
florian.hestermann@block.eu
Zip Code
17000–19999
20000–21739
22000–25999

Hanover
East Westphalia
Kassel
Ingenieurbüro Dybus GmbH
Postfach 12 48
30928 Burgwedel
Schulze-Delitzsch-Str. 6a
30938 Burgwedel
Phone: +49 5139 9959-0
Fax: +49 5139 9959-29
www.dybus.com
info@dybus.com
Zip Code
29000–34480
37000–37199
37400–38999

Bremen
Oldenburg
Osnabrück
Industrie-Vertretungen Reinhold Nesemann
Neue Heimat 27 A
28307 Bremen
Phone: +49 421 403744
Fax: +49 421 400394
www.ivn-bremen.de
info@ivn-bremen.de
Zip Code
21740–21799
26000–28999
49000–49999

North Rhine-Westphalia
Ingenieurbüro Martin Schwert Elektrotechnik
Münsterstr. 47
59368 Werne
Phone: +49 2389 402995-0
Fax: +49 2389 402995-18
martin-schwert@t-online.de
Zip Code
40000–48999
50000–52999
58000–59999

Berlin
Brandenburg
Magdeburg
BLOCK Transformatoren-Elektronik GmbH
Christian Benz
Kronstadter Weg 24
12279 Berlin
Phone: +49 30 55 57 35-46
Fax: +49 30 55 57 35-47
christian.benz@block.eu
Zip Code
10000–16999
39000–39999

Dresden
Leipzig
BLOCK Transformatoren-Elektronik GmbH
Max-Planck-Str. 36 - 46
27283 Verden
Phone: +49 4231 678-0
Fax: +49 4231 678-177
info@block.eu
Zip Code
01000–09999

Thuringia
Fulda
Würzburg
Frankfurt/Main
BLOCK Transformatoren-Elektronik GmbH
Max-Planck-Str. 36 - 46
27283 Verden
Phone: +49 4231 678-0
Fax: +49 4231 678-177
info@block.eu
Zip Code
34481–36499
37200–37399
60000–63999
96000–99999

Rhineland-Palatinate
Southern Hesse
Saarland
BLOCK Transformatoren-Elektronik GmbH
Jörg Theobald
Maria-Himmelfahrts-Weg 7
66773 Schwalbach
Phone: +49 6834 - 94 99 970
Fax: +49 6834 - 94 99 976
joerg.theobald@block.eu
Zip Code
53000–57999
64000–69999
76700–76999

Franconia
Northern Bavaria
BLOCK Transformatoren-Elektronik GmbH
Alfred Dehmel
Schlösseläcker 18
92318 Neumarkt
Phone: +49 9181 513-9708
Fax: +49 9181 513-9709
alfred.dehmel@block.eu
Zip Code
90000–95999

Baden-Wuerttemberg
Ingenieurbüro G. Zimmermann
Wunnensteinstr. 21
71723 Großbottwar
Phone: +49 7148 4801-0
Fax: +49 7148 4801-19
vertrieb@zimmermann-msr.de
Zip Code
70000–76699
77000–79999
88000–89299
89500–89999

Southern Bavaria
BLOCK Transformatoren-Elektronik GmbH
Franz Aicher
Eglhartinger Str. 5
85614 Kirchseeon
Phone: +49 8091 5569 856
Fax: +49 8091 5569 857
franz.aicher@block.eu
Zip Code
80000–87999
89300–89499

International agencies

Australia
Capacitor Technologies P/L
Unit 13/40 Edina Road
Ferntree Gully VIC 3156
Australia
PO Box 240 Ferntree Gully
B.C. VIC 3156 Australia
Phone: +61 3 9758 5866
Fax: +61 3 9752 2067
www.captech.com.au
sales@captech.com.au

Austria
Regatronic
Regel- und Antriebselektronik GmbH
Gewerbepark 9
4201 Gramastetten
Phone: +43 7239 7550-0
Fax: +43 7239 7550-50
www.regatronic.at
info@regatronic.at

Finland
Finn Electric Oy
P.O. Box 38, 00371 Helsinki
Fonseenintie 3
00370 Helsinki
Phone: +358 9870027-0
Fax: +358 9870027-28
www.finnelectric.fi
info@finnelectric.fi

Greece
Industrievertretungen Theodoropoulos
Stenimachou Str. 4
GR 10443 Athen Sepolia
Phone: +30 210 513 95 01
Fax: +30 210 513 95 02
www.theodoropoulos.com.gr
info@theodoropolous.com.gr

Hong Kong
申佳有限公司
Sunnice Supplies Co., Ltd.
Flat Q, 12/F., Everest Industrial Centre
396 Kwun Tong Road
Kowloon
Hong Kong
Phone: +852 2790 3918
Fax: +852 2790 3855
www.sunnice.com
sunnice@sunnice.com

Hungary
Ultima Kft.
Rétifarkas utca 6.
1172 Budapest
Phone: +36 1 432 8820
Fax: +36 1 264 1254
www.ultima.hu
info@ultima.hu

Iceland
SPENNUBREYTAR ehf
Trönuhraun 5
220 Hafnarfjördur
Box 400, 222 Hafnarfjördur
Phone: +354 555-4745
Fax: +354 565-2005
www.spennubreytar.is
spennubreytar@isholf.is

India
Spitzen Energy Solutions Pvt. Ltd.
52-53, Aditya Shagun Mall
NDA-Pashan Road, Bavdhan
Pune 411021
Phone: +91 88888 06395
Fax: +91 20 6653 1923
info@spitzenenergy.com

Israel
Semicom Lexis LTD.
P.O. Box 3
60910 Moshav Bney Zion
Phone: +972 9 7611222
Fax: +972 9 7413852
www.semicom.co.il
malka-a@semicom.co.il

Italy
SINTEL
Società Internazionale Elettronica s.r.l.
Via Raffaello Sanzio, 2/D
21013 Gallarate/Varese
Phone: +39 0331 7959-15
Fax: +39 0331 7959-13
www.sintelsrl.net
info@sintelsrl.net

Malaysia
Letrimatik Sdn Bhd
No. 4, Jalan TPK 2/4
Taman Perindustrian Kinrara
Batu 7 1/2, Off Jalan Puchong
Puchong 47100 Selangor
Phone: +60 3 8076 2588
Fax: +60 3 8076 2582
letrim@tm.net.my

Netherlands
ELINCOM ELECTRONICS B.V.
Klaverbaan 101-103
2908 KD Capelle aan den Ijssel
Phone: +31 10 26402-70
Fax: +31 10 26402-75
www.elincom.nl
info@elincom.nl

New Zealand
MARDAG HOLDINGS LIMITED
17 Wall Place Tawa
PO BOX 51184 Tawa
Wellington
Phone: +64 4 2378912
Fax: +64 4 2374559
marcus@mardag.co.nz

Russia
MEG Electro, LLC
Ulitsa Scherbakovskaya 53 (Bld. 17)
105187 Moscow
Phone/Fax: +7 495 989 7780, + 7 495 647 0833
Phone: +7 495 720 8268
www.mege.ru
info@mege.ru

South Korea
Hertz Technology Co, Ltd.
Room No. 1404, Kolon Digital Tower Aston,
505-14, Gasan-dong, Geumcheon-gu, Seoul, Korea
Phone: +82 2 3281 0811 2
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Spain
EFIBAT
SERVICIOS TÉCNICOS, SA
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Switzerland
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Taiwan
Kingdatron Electronic Industrial Co. LTD.
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Phone: +886 2 2659-6058 Ext. 19
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Turkey
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www.straschu-ev.de

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Factory 1, Germany


Factory 2, Germany

Factory USA

BLOCK Transformatoren-Elektronik GmbH
Max-Planck-Straße 36–46 • 27283 Verden • Germany
Phone +49 4231 678-0 • Fax +49 4231 678-177
info@block.eu • block.eu

BLOCK
block.eu