

# Sales Release

## CPS-M

### Modular SHEV system



- » Modular structure – simple retrofitting
- » Bus communication between modules and drives – easy configuration using SCS
- » Compact design – reduction in measurable space thanks to modules and control panel structure
- » Centralised/decentralised – control panel able to be used either as an individual system or in a distributed network

### Availability

- » Can be ordered starting: **10.11.2016**
- » Can be delivered starting: **28.11.2016**

# Sales Release

## CPS-M

### Product highlights at a glance

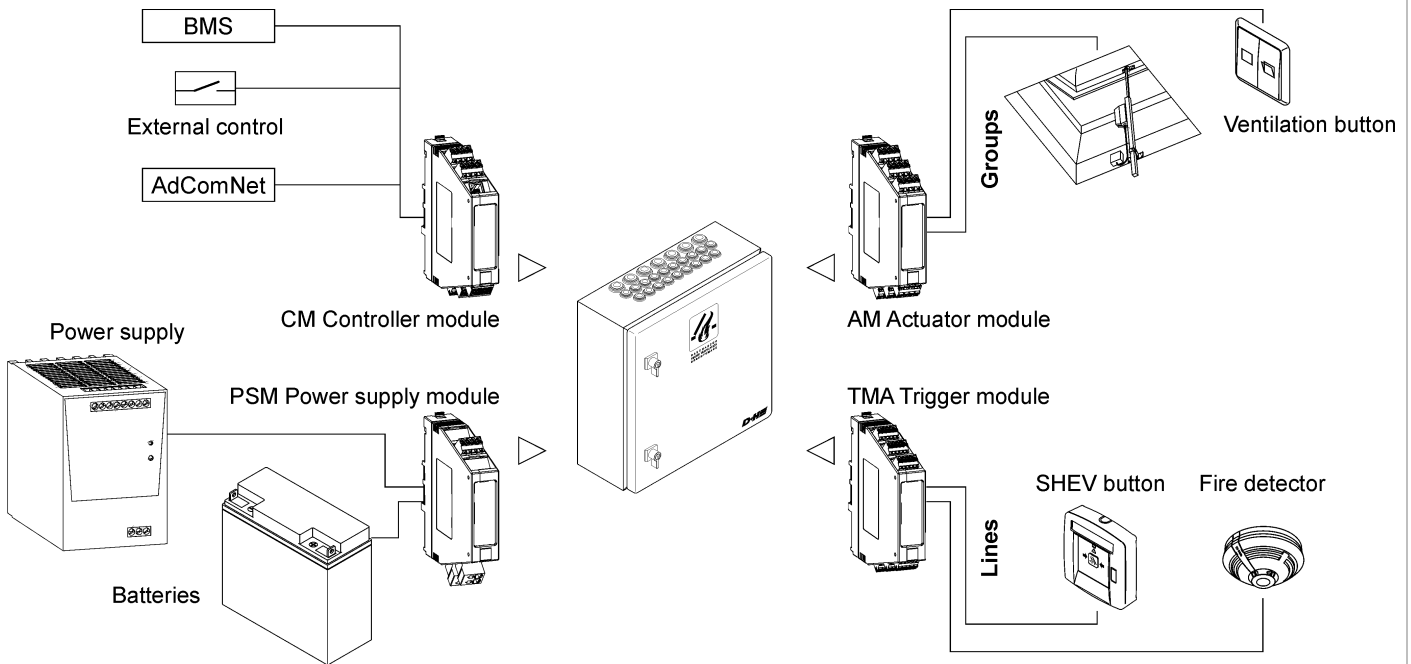
#### USPs

- » Modular SHEV system consisting of controller, supply, actuator and trigger modules
- » Scalable and expandable: in the planning stage and the addition that follows, the components offer the necessary flexibility to adapt to changed or expanded conditions
- » System expansion through a simple arrangement of additional modules without wiring effort
- » Bus communication between all components to process incoming signals right in the controller, ensuring that the smoke extraction process runs smoothly
- » Customised configurations can be created in the D+H Software SCS. This software can also be used for all other D+H components
- » SCS software can be used to make subsequent functional enhancements to the control panel and all connected ACB drives without disconnecting individual assemblies
- » Easy configuration of connected ACB drives via the control panel
- » Intuitive menu guidance using a 3.5" full colour touch panel, through which the system status of the individual modules can be visually observed
- » Integrated bus system approved by VdS for communication and networking of multiple CPS-M control panels to form a network
- » Control panels function autonomously when the bus connection fails
- » Reliable voltage supply thanks to high-quality power packs
- » Electronic fuse protection of motor and digital outputs
- » Approved by VdS in accordance with EN 12101-10
- » All outputs are short-circuit resistant and electronically protected by a fuse
- » 72 hour emergency power supply in case of mains outage
- » Temperature-controlled battery charge
- » Battery charge and status check
- » Simple implementation of complex SHEV scenarios

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## CPS-M

### System overview



The new CPS-M modular SHEV control panel was developed for natural smoke extraction, certified in accordance with EN 12101-10 and tested by VdS. Its function is to trigger 24 V drives mounted on site in order to extract smoke in case of fire or provide natural ventilation.

The modules are conveniently mounted on standard 35 mm supporting rails and connected to each other via integrated plug connectors in the base. External wiring between the modules is not required because bus communication is transmitted and power is distributed through these plug connectors. It is easy to expand the control panel at any time.

The actuator and trigger modules monitor peripherals for wire break, overloads and short circuiting in compliance with EN 12101-9. Therefore, safety is the top priority. This importance is reflected in the electric fuses. These fuses ensure that a system is put back into operation after an error is remedied without having to replace fuses. Even the AdComNet integrated bus system is certified by VdS and provides maximum security.

Numerous inputs and outputs enable communication with external signal emitters or systems. Upon delivery, you will find a standard configuration for all signals. Each of these configurations enables direct commissioning. These functions can be changed at any time. Bus communication with corresponding D+H drives via AdComBus is just as convenient. These configuration settings can also be changed at any time.

Operation is carried out using the touch panel or SCS configuration software. Integrated LED lights provide a quick overview of the status of each module.

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## CPS-M

### System overview

#### Controller module (CM-BT1-D4-P2)

The controller module is used for bus communication with the control panel. It forwards the commands and signals from the modules of ACB drives connected within a control panel and other CPS-M control panels connected via AdComNet. Integrated digital inputs and isolated contacts can be used to communicate with third-party systems.

#### Power supply module (PSM-1-24-40)

The supply module supplies the control panel system with power and charges emergency power batteries. A connectible sensor generates temperature-dependent charging voltages so that it can reliably switch between the mains supply and battery if there is a mains outage and then the mains supply starts working again.

#### Actuator module (AM-1-2-10-24-D6-D2)

The actuator module triggers the motorised 24 V DC drives and their cable monitoring functions. The available, programmable digital inputs and outputs can be used to connect the ventilation button and position feedback messages.

#### Trigger module (TMA-1-D4-D12)

The trigger module uses the connected smoke detectors and smoke sensors to determine the alarm states that are used for colour commands transmitted to connected drives. The SCS tool also allows users to assign any digital inputs and outputs for signals.

#### Power pack (PS-S1-24-20/40)

The power pack is connected to the power supply module and supplies the control panel system with the necessary power. The wide range, the reverse polarity withstand voltage, low ripple and high energy efficiency make the power pack ideal for SHEV applications.

#### Module socket (MS-XXXX)

Module sockets are divided into basic, supply and expansion module sockets. They are used to install the modules themselves on the 35 mm supporting rail. Integrated connectors are used to supply power to and enable bus communication between the modules. This eliminates the need to connect the modules to each other through wiring.

#### Touch panel (TP-C1-35-RJ12)

The touch panel, which is connected to the controller module, uses intuitive menu guidance to easily display specific system statuses. Touch panel functions include targeted resetting or deactivation of lines or switching the menu language.

#### SCS

Of course, D+H's proprietary SCS software is used to configure the system.

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## CPS-M

### Controller module (CM-BT1-D4-P2)



- » Connecting AdComNet nodes without additional hardware
- » USB service port
- » Digital, programmable inputs for functions such as central CLOSED commands
- » Two programmable, isolated contacts for functions such as fault and alarm signals

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## CPS-M

SHEV system

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### Controller module details (CM-BT1-D4-P2)

Each system requires just one controller module to ensure that the control panel is fully functional, communicate via AdComNet and configure the connected modules, operation elements and drives. In addition, the corresponding ACN interface can be used to establish a connection to additional CPS-M control panels, creating one large, single network.

A service technician can use a USB interface on the front and SCS software to configure the system and the connected ACB drives.

The controller module features two isolated change over contacts that can be used to output system statuses such as faults, alarms, etc. In addition, three digital inputs evaluate the status of operation elements such as buttons, switches, etc.

The module sockets enable standardised installation on a 35 mm top hat rail and the supply and bus connection via integrated plug connectors. This ensures that it is easy to expand the controller. The use of spring-type terminals on the controller module also makes installation fast for the service technician.

The integrated touch panel can be used to query the status of individual modules and carry out their basic functions. There are LEDs on the front of the controller module that can quickly detect the current system status on site. These LEDs indicate the system and alarm state of the system and the module.

#### Features

- AdComNet interface for direct connection to the network
- Two configurable, isolated contacts
- Three digital inputs
- Installation on TS 35 top hat rail (using a basic module socket)
- USB service port
- Touch panel connection

#### Functions

- Configuration via SCS
- Network communication via AdComNet
- System status output
- Signal evaluation

# Sales Release

## CPS-M

### Power supply module (PSM-1-24-40)



- » Up to 40 A of power supplied to system
- » Temperature-controlled battery charge
- » Connections for peripherals (both those supplied and not supplied with emergency power)
- » Easy switch between mains supply and battery supply

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## CPS-M

SHEV system

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### Power supply module details (PSM-1-24-40)

The power supply module is responsible for properly supplying power to the control panel system. Each PSM module used can supply up to 40 A to the control panel system and ensure a reliable supply of emergency power in the event of a mains outage through automatic switching from the power pack to the battery.

The temperature-controlled battery charge provided by the temperature sensor and integrated protection against excessive discharge monitors and controls the charging process for the emergency power batteries. This substantially reduces the service life of the system and the likelihood that it will fail.

There are LEDs on the front of the trigger module that can quickly detect the current system status on site. These LEDs indicate the system and alarm state of the system and the module.

The module sockets enable standardised installation on a 35 mm top hat rail and the supply and bus connection via integrated plug connectors. This ensures that it is easy to expand the controller. The use of spring-type terminals on the power supply module also makes installation fast for the service technician.

#### Features

- Connecting the power supply unit to the control panel system
- Power supply of up to 40 A
- Charging the connected emergency power battery
- Connections for peripherals (both those supplied and not supplied with emergency power)
- Temperature sensor connection
- Installation on TS 35 top hat rail (using a basic module socket or supply module socket)

#### Functions

- Configuration via SCS
- Switch between mains supply and battery supply in case of a mains outage
- Supply to peripherals (both those supplied and not supplied with emergency power)



## Sales Release

### CPS-M

#### Actuator module (AM-1-2-10-D6-D2)



- » 2 motor connections, each with max. 10 A output current
- » Improved cable monitoring for D+H drives
- » ACB drives do not require a monitoring module
- » Connecting ventilation buttons via programmable, digital inputs and outputs

# Sales Release

## CPS-M

### Actuator module details (AM-1-2-10-D6-D2)

The actuator module is used to connect motorised 24 V DC drives to the control panel system. Each actuator module has two motor connections on it, each of which generates an output current of 10 A. Thanks to the monitoring system being used, the drives can be monitored for a wire break, short circuit and overload.

When connecting ACB-compatible drives, the SCS tool can be used to change their stroke or running speeds.

The actuator module also features two digital outputs and six digital inputs that can be configured in the SCS tool. In this tool, users can connect buttons, switches or indicator lights to perform functions such as activating drives or displaying system statuses.

There are LEDs on the front of the actuator module that can quickly detect the current system status on site. These LEDs indicate the system and alarm state of the system and the module.

Suitable module sockets enable standardised installation on a 35 mm top hat rail and the supply and bus connection via integrated plug connectors. This ensures that it is easy to expand the controller. The use of spring-type terminals on the actuator module also makes installation fast for the service technician.

#### Features

- 24 V DC supply to drives
- 2 motor connections, each with a 10 A load current
- Total output current of 20 A
- 2 digital outputs
- 6 digital inputs
- Use of pole-changing and ACB drives
- Installation on TS 35 top hat rail (using an expansion module socket)
- The cables of the ACB drives can be monitored with a terminal module (EM 47-K)

#### Functions

- Function configuration via SCS
- Cable monitoring for connected drives
- Choice between pole-changing drive and ACB drive for drive type
- Connection of ventilation buttons via digital inputs and outputs

## Sales Release

### CPS-M

#### Analogue trigger module (TMA-1-D4-D12)



- » 4 monitored line connections for using two combined RM-RT lines
- » Connection of up to 30 smoke detectors per RM line
- » Connection of up to 10 SHEV control panels per RT line
- » Alternative use of programmable, digital inputs and outputs for signals, etc.

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## CPS-M

### Analogue trigger module details (TMA-1-D4-D12)

The trigger module acts as a connection from the trigger peripheral devices to the control panel system. These can be connected to the four monitored trigger inputs without additional hardware.

Various functions and motor groups can be assigned to both separate smoke detector SHEV control panel lines respectively in the SCS software.

Up to 30 smoke detectors or 10 SHEV control panels can be connected to each of the four trigger inputs.

Use of the connection is not limited to smoke detectors. It can also be reconfigured for use with fire alarm control units using AdComNet (Advanced Communication Network) in the SCS tool. The SCS tool also allows users to assign other functions to digital inputs and outputs not currently in use.

There are LEDs on the front of the trigger module that can quickly detect the current system status on site. These LEDs indicate the system and alarm state of the system and the module.

The module sockets enable standardised installation on a 35 mm top hat rail and the supply and bus connection via integrated plug connectors. This ensures that it is easy to expand the controller. The use of spring-type terminals on the trigger module also makes installation fast for the service technician.

#### Features

- 4 monitored line connections for two combined RM-RT lines
- Connection of smoke detection control panels instead of a smoke detector
- Connection of up to 30 smoke detectors per connection
- Connection of up to 10 SHEV control panels per connection
- Four digital inputs
- Twelve digital outputs
- Alternative use of digital inputs and outputs
- Installation on TS 35 top hat rail (using an expansion module socket)

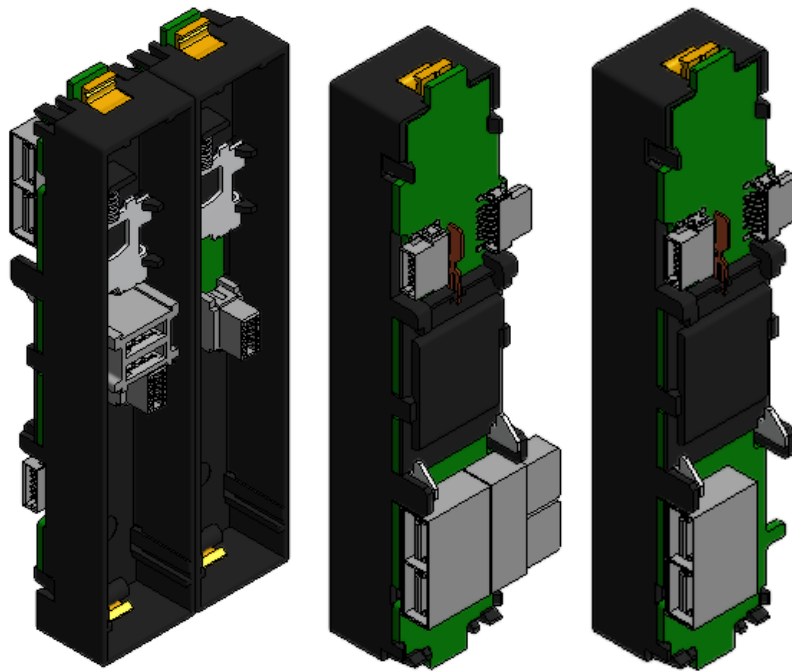
#### Functions

- Function configuration via SCS
- Cable monitoring for connected smoke detectors and SHEV control panels

## Sales Release

### CPS-M

#### Module socket (MS-D1-RR-TS / MS-S1-DD-TS / MS-S1-RD-TS)



- » For securing various modules and supplying them with power
- » Supply voltage and bus communication are transmitted via integrated plug connectors
- » Installation on 35 mm top hat rail

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## CPS-M

### Module socket details (MS-D1-RR-TS / MS-S1-DD-TS / MS-S1-RD-TS)

The module sockets secure the various modules to the 35 mm supporting rail and act as a supply and communication link between the modules, eliminating the need to wire them together.

This system allows users to remove individual modules without having to remove any adjacent modules. System operation continues, assuming this is possible without the removed module.

#### Features

- Installation on 35 mm top hat rail
- Integrated supply and communication using integrated plug connectors

## Sales Release

### CPS-M

#### Power pack (PS-S1-24-20 / PS-S1-24-40)



- » Compact supply of 24 V within the 20 A and 40 A variants
- » Low ripple ensures that the mains supply is stable
- » Reverse-voltage protected and short-circuit resistant

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## CPS-M

### Power pack details (PS-S1-24-20 / PS-S1-24-40)

PS Series power packs are ideal for supplying power to CPS-M control panels. The standardised installation on a 35 mm top hat rail ensures that it will be easy to expand the system.

The wide range of the input voltage enables worldwide use without the need to specially select components. Essential elements for reliable and efficient supply also include low ripple, short-circuit resistance, and highly efficient reverse voltage protection. Using low-loss electronics ensures a high level of efficiency in voltage transformation.

#### Features

- High efficiency
- Low ripple
- Reverse-voltage protected
- Short-circuit resistant
- Installation on 35 mm top hat rail



# Sales Release

## CPS-M

SHEV system

### Technical data and functions for CPS-M1

	CPS-M1-020-XXXX	CPS-M1-040-XXXX	CPS-M1-060-XXXX	CPS-M1-080-XXXX
Supply	230 V AC, ± 10 %, 50 Hz			
Nominal power	530 VA / 480 W	1040 VA / 960 W	1570 VA / 1440 W	2080 VA / 1920 W
Output voltage	24 V DC			
Operating temperature	-5 °C to +40 °C			
Mode of operation alarm/ventilation	Short-time duty 30 % duty cycle			
Humidity	Non-condensing			
Protection class	I			
Type of protection	IP 54			
Dimensions (WxHxD)	500 x 500 x 210	600 x 800 x 260		800 x 1000 x 300

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## CPS-M

### Technical data and functions for controller module (CM-BT1-D4-P2)

	CM-BT1-D4-P2
Dimensions (WxHxD)	26 x 130 x 125 mm
Installation type	35 mm top hat rail (using a basic module socket)
<b>Digital inputs</b>	
Number	3
Switching type	minus- or plus-active
Voltage range	±30 V
Assignment	Configurable
Cross section	max. 1.5 mm <sup>2</sup> , flexible
<b>Isolated contacts</b>	
Number	2
Design	Change over contact
Assignment	Configurable
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
Switching voltage	Max. 35 V
Switching current	Max. 1 A
<b>Display connection</b>	
Interface	R12
<b>AdComNet connection</b>	
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
<b>Maintenance port</b>	USB interface
<b>Operation display</b>	LED - green
<b>Fault display</b>	LED - yellow
<b>Alarm display</b>	LED - red

SHEV system

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## CPS-M

### Technical data and functions for power supply module (PSM-1-2-40)

	PSM-1-24-40
Dimensions (WxHxD)	26 x 130 x 125 mm
Installation type	35 mm top hat rail (using a basic module socket)
<b>Connection for power supply</b>	
Number	1
Voltage range	24 V DC (22.4 V DC to 29.5 V DC)
Load current	Max. 40 A
Cross section	Max. 6 mm <sup>2</sup> , flexible
<b>External connection for peripherals</b>	
Supplied current (emergency power)	500 mA
Supplied current (not emergency power)	500 mA
Cross section	Max. 2.5 mm <sup>2</sup> , flexible
<b>Connection for temperature sensor</b>	
Interface	R12
<b>AdComNet connection</b>	
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
<b>Battery connection</b>	
Cross section	Max. 6 mm <sup>2</sup> , flexible
Supply	max. 2x type 6
Protection against excessive discharge	YES
Temperature monitoring	YES
<b>Fault display</b>	LED - yellow
<b>Alarm display</b>	LED - red

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## CPS-M

### Technical data and functions for actuator module (AM-1-2-10-24-D6-D2)

	AM-1-2-10-24-D6-D2
Dimensions (WxHxD)	26 x 130 x 125 mm
Installation type	35 mm top hat rail (using a basic module socket)
<b>Monitored motor outputs</b>	
Number	2
Output voltage	24 V DC
Output current for each connection	Max. 10 A
Total output current	Max. 20 A
Cross section	Max. 2.5 mm <sup>2</sup> , flexible
Usable drives	Polarity-changing drives, ACB-compatible drives
Fuse protection	electronic
<b>Digital inputs</b>	
Number	4
Switching type	Minus- or plus-active
Voltage range	±30 V
Assignment	Configurable
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
<b>Digital outputs</b>	
Number	2
Output current	Max. 50 mA
Output voltage	24 V DC (short-circuit resistant)
Assignment	Configurable
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
<b>Fault display</b>	LED - yellow
<b>Alarm display</b>	LED - red

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## CPS-M

### Technical data and functions for analogue trigger module (TMA-1-D4-D12)

	TMA-1-D4-D12
Dimensions (WxHxD)	26 x 130 x 125 mm
Installation type	35 mm top hat rail (using a basic module socket)
<b>Monitored line inputs</b>	
Number	4
Smoke detector connection	max. 30
Smoke sensor connection	max. 10
Cross section	max. 1.5 mm <sup>2</sup> , flexible
<b>Digital inputs</b>	
Number	4
Switching type	Minus- or plus-active
Voltage range	±30 V
Assignment	Configurable
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
<b>Digital outputs</b>	
Number	12
Output current	Max. 50 mA
Output voltage	24 V DC (short-circuit resistant)
Assignment	Configurable
Cross section	Max. 1.5 mm <sup>2</sup> , flexible
<b>Fault display</b>	LED - yellow
<b>Alarm display</b>	LED - red

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## CPS-M

### Technical data and functions for power pack

	<b>PS-S1-24-20</b>
Input voltage	230 V AC
Frequency	45 to 65 Hz
Nominal power	530 VA / 480 W
Output voltage	24 V DC
Ripple	<50 mV
Output current	20 A (continuous duty)
Operating temperature	-25 °C to +70 °C
Humidity	5 to 95 %, non-condensing
Installation type	TS 35 mm top hat rail
Protection class	I
Type of protection	IP 20
Dimensions (WxHxD)	90 x 130 x 150 mm
Short-circuit resistant	YES
Can be connected in parallel	YES
Reverse-voltage protected	YES

	<b>PS-S1-24-40</b>
Input voltage	230 V AC
Frequency	45 to 65 Hz
Nominal power	1040 VA / 960 W
Output voltage	24 V DC
Ripple	<50 mV
Output current	40 A (continuous duty)
Operating temperature	-25 °C to +70 °C
Humidity	5 to 95 %, non-condensing
Installation type	TS 35 mm top hat rail
Protection class	I
Type of protection	IP 20
Dimensions (WxHxD)	140 x 130 x 150 mm
Short-circuit resistant	YES
Can be connected in parallel	YES
Reverse-voltage protected	YES

# Sales Release

## CPS-M

SHEV system

### CPS-M1 prices

#### Pre-fabricated control panels

Ord. No.	Type	Designation	Price
31.700.10	CPS-M1-020-0202	20 A modular SHEV control panel, two RM/RT lines, 2 motor groups	1.632,00 €
31.700.15	CPS-M1-020-0204	20 A modular SHEV control panel, two RM/RT lines, four motor groups	1.910,00 €
31.700.20	CPS-M1-020-0404	20 A modular SHEV control panel, four RM/RT lines, four motor groups	2.180,00 €
31.700.25	CPS-M1-020-0606	20 A modular SHEV control panel, six RM/RT lines, six motor groups	2.728,00 €
31.700.30	CPS-M1-040-0204	40 A modular SHEV control panel, two RM/RT lines, four motor groups	2.165,00 €
31.700.35	CPS-M1-040-0206	40 A modular SHEV control panel, two RM/RT lines, six motor groups	2.443,00 €
31.700.40	CPS-M1-040-0404	40 A modular SHEV control panel, four RM/RT lines, four motor groups	2.435,00 €
31.700.45	CPS-M1-040-0406	40 A modular SHEV control panel, four RM/RT lines, six motor groups	2.713,00 €
31.700.50	CPS-M1-040-0606	40 A modular SHEV control panel, six RM/RT lines, six motor groups	2.983,00 €
31.700.55	CPS-M1-060-0206	60 A modular SHEV control panel, two RM/RT lines, six motor groups	2.958,00 €
31.700.60	CPS-M1-060-0208	60 A modular SHEV control panel, two RM/RT lines, eight motor groups	3.236,00 €
31.700.65	CPS-M1-060-0210	60 A modular SHEV control panel, two RM/RT lines, ten motor groups	3.514,00 €
31.700.70	CPS-M1-060-0406	60 A modular SHEV control panel, four RM/RT lines, six motor groups	3.228,00 €
31.700.75	CPS-M1-060-0408	60 A modular SHEV control panel, four RM/RT lines, eight motor groups	3.506,00 €
31.700.80	CPS-M1-060-0410	60 A modular SHEV control panel, four RM/RT lines, ten motor groups	3.784,00 €
31.700.85	CPS-M1-080-0208	80 A modular SHEV control panel, two RM/RT lines, eight motor groups	3.485,00 €
31.700.90	CPS-M1-080-0210	80 A modular SHEV control panel, two RM/RT lines, ten motor groups	3.763,00 €
31.700.95	CPS-M1-080-0408	80 A modular SHEV control panel, four RM/RT lines, eight motor groups	3.755,00 €
31.701.00	CPS-M1-080-0410	80 A modular SHEV control panel, four RM/RT lines, ten motor groups	4.033,00 €
31.701.05	CPS-M1-080-0608	80 A modular SHEV control panel, six RM/RT lines, eight motor groups	4.025,00 €
31.701.10	CPS-M1-080-0610	80 A modular SHEV control panel, six RM/RT lines, ten motor groups	4.303,00 €
31.701.15	CPS-M1-080-0808	80 A modular SHEV control panel, eight RM/RT lines, eight motor groups	4.295,00 €
31.701.20	CPS-M1-080-0810	80 A modular SHEV control panel, eight RM/RT lines, ten motor groups	4.573,00 €
31.701.25	CPS-M1-080-1010	80 A modular SHEV control panel, ten RM/RT lines, ten motor groups	4.843,00 €
31.701.35	CPS-M1-080-0216	80 A modular SHEV control panel, two RM/RT lines, sixteen motor groups	4.597,00 €

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### CPS-M1 prices

#### Module sets

Ord. No.	Type	Designation	Price
31.704.00	CM-PSM-MS-TP-BTM-TCSU-CC	Basic / expansion set (with touch panel)	700,00 €
31.704.40	CM-PSM-MS-BTM-TCSU-CC	Basic / expansion set (without touch panel)	520,00 €
31.704.10	PSM-MS-TCSU-CC	Mains supply expansion set	240,00 €
31.704.20	AM-MS	Actuator module expansion set	278,00 €
31.704.30	TMA-MS	Trigger module expansion set	270,00 €

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## CPS-M

SHEV system

### CPS-M1 prices

#### Spare parts

Ord. No.	Type	Designation	Price
64.801.98	PS-S1-24-20	24 V DC 20 A power pack	275,00 €
64.801.99	PS-S1-24-40	24 V DC 40 A power pack	435,00 €
31.703.00	ET PSM-1-24-040	Mains supply module	195,00 €
31.703.10	ET CM-BT1-D4-P2	Controller module	270,00 €
31.703.20	ET AM-1-2-10-24-D6-D2	24 V DC actuator module	245,00 €
31.703.30	ET TMA-1-D4-D12	Analogue trigger module	237,00 €
31.703.40	ET MS-D1-RR-TS	Basic module socket	60,00 €
31.703.50	ET MS-S1-RD-TS	Mains supply module socket	60,00 €
31.703.60	ET MS-S1-DD-TS	Expansion module socket	60,00 €
31.703.90	ET TP-C1-35-RJ12	3.5" touch panel	180,00 €
31.702.70	TCSU1-RJ12	Temperature control sensor unit	12,00 €
31.702.80	BTM-1-1	Bus termination module	17,00 €
63.502.63	CC-TP/TCSU-1000	TP/TCSU 1 m connecting cable	3,00 €
63.502.64	CC-TP/TCSU-2000	TP/TCSU 2 m connecting cable	4,00 €
63.502.65	CC-TP/TCSU-6000	TP/TCSU 6 m connecting cable	6,00 €

**All prices are gross prices without value-added tax (price list prices)!  
Above-mentioned prices apply until new price list is released**

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