

SIPLUS HCS4200 POM4220 FLEXIBLE. POWER OUTPUT MODULE (POM) TO INSERT IN HCS RACK4200. WITH 12 POWER OUTPUTS EACH MAX. 4432 W (WITH CONTROL MODE HALF-WAVE CONTROL: DEPENDING ON THE INRUSH CURRENT OF THE ELECTRIC LOAD THERE IS A LIMITATION OF MAX. 1600 W)



## General information

Product type designation	POM4220 Flexible
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## Installation type/mounting

Mounting type	Screw mounting to rack
Mounting position	vertical
Type of ventilation	Self ventilation or forced ventilation

## Supply voltage

Type of supply voltage	AC
Rated value (AC)	230 V
• Relative negative tolerance	10 %
• Relative positive tolerance	30 %
2nd rated value (AC)	277 V
• Relative negative tolerance	25 %
• Relative positive tolerance	8 %
3rd rated value (AC)	110 V
• Relative negative tolerance	10 %
• Relative positive tolerance	50 %
4th rated value (AC)	70 V

• Relative negative tolerance	10 %
• Relative positive tolerance	15 %
5th rated value (AC)	45 V
• Relative negative tolerance	10 %
• Relative positive tolerance	15 %
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
• Relative symmetrical tolerance	5 %
<b>Mains buffering</b>	
• Recovery time after power failure, typ.	1 s
<b>Connection method</b>	
• Design of electrical connection for supply voltage	Connector, 3-pole with spring-loaded connection
— Connectable conductor cross-sections, solid	1x (0.75 ... 16 mm <sup>2</sup> )
— Connectable conductor cross-sections, finely stranded with wire end processing	1x (0.75 ... 16 mm <sup>2</sup> )
— Connectable conductor cross-sections for AWG cables	1x (18 ... 4)
<b>Input voltage</b>	
Design of the power supply	Power supply via rack
<b>Power</b>	
Active power input, max.	1 W
<b>Power electronics</b>	
Type of load	Ohmic load
Power capacity, max.	23 kW; at 230 V AC
• For phase against neutral with fan at 40 °C, max.	23 kW; at 230 V AC
• For phase against neutral without fan at 40 °C, max.	7.3 kW; at 230 V AC
Switching capacity current per phase, max.	50 A
Short-time withstand current (SCCR) acc. to UL 508A	100 kA
<b>Control of heating elements</b>	
• Half-wave control	Yes
• Soft start	No
• Phase control	No
<b>Load connection type</b>	
• Star connection with neutral conductor (single-phase)	Yes
• Open delta connection (single-phase)	No
• Closed delta connection (3-phase)	No

• Star connection with neutral conductor (2-phase)	No
• 2-pole switching	No
<b>Setpoint input</b>	
• Percent	Yes
• Watts	No
<b>Heating power</b>	
• Number of digital outputs	12
• Number of heating elements per output, max.	1
• Output voltage for heating power	230 V
• 2nd output voltage for heating power	277 V
• 3rd output voltage for heating power	110 V
• 4th output voltage for heating power	70 V
• 5th output voltage for heating power	45 V
• Power carrying capacity per output, min.	100 W; at 230 V AC
• Power carrying capacity per output, max. — for heating elements with high inrush current, max.	3 680 W; at 230 V AC 1 600 W; at 230 V AC
• Output current for heating power	16 A; max.
• Melting I2t value	20 A <sup>2</sup> ·s
• Design of short-circuit protection per output	Fuse 16 A
• Design of overvoltage protection	Transil Diode
<b>Connection method</b>	
• Design of electrical connection at output for heating and fan	Connector, 6-pole with spring-loaded connection
— Connectable conductor cross-sections, solid	1x (0.2 ... 10 mm <sup>2</sup> )
— Connectable conductor cross-sections, finely stranded with wire end processing	1x (0.25 ... 6 mm <sup>2</sup> )
— Connectable conductor cross-sections for AWG cables, stranded	1x (24 ... 8)
<b>Interfaces</b>	
Interfaces/bus type	system interface
<b>Interrupts/diagnostics/status information</b>	
Number of status displays	15
LED status display	LED green = ready, LED yellow = heating on/off, LED red = error display, LED red = error for each channel
Diagnostics function	Voltage diagnostics
<b>Diagnostic messages</b>	
• Fuse blown	Yes
• Load failure	Yes
• Triac error	Yes

• Switch-off threshold for internal device temperature	Yes
• Parallel-connected heating elements	No
• Rotating field fault	Yes
• Communication error	Yes
• Supply voltage not connected	Yes
• Line voltage outside the permissible range	Yes
• Frequency outside the permissible range	Yes
• Fault current too high	No

## Integrated Functions

### Monitoring functions

• Temperature monitoring	Yes
• Type of temperature monitoring	NTC thermistor

### Measuring functions

• Voltage measurement	No
• Current measurement	No
• Fault current detection	No

## Potential separation

Design of electrical isolation between the outputs	Optocoupler and/or protective impedance between main circuit and PELV
	No

## Isolation

Overvoltage category	III
Degree of pollution	2

## EMC

EMC interference emission	Limit value in accordance with IEC 61000-6-4:2007 + A1:2011
Electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge
Field-related interference acc. to IEC 61000-4-3	10 V/m (80 ... 1 000 MHz), 3 V/m (1.4 ... 2.0 GHz), 1 V/m (2.0 ... 2.7 GHz)
Conducted interference due to burst acc. to IEC 61000-4-4	2 kV power supply lines, 2 kV load lines
Conducted interference due to surge acc. to IEC 61000-4-5	Supply and load lines: 1 kV symmetrical, 2 kV asymmetrical
Conducted interference due to high-frequency radiation acc. to IEC 61000-4-6	10 V (0.15 ... 80 MHz)

## Degree and class of protection

IP degree of protection	IP20
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## Standards, approvals, certificates

CE mark	Yes
UL approval	Yes
RCM (formerly C-TICK)	Yes

KC approval	Yes
EAC (formerly Gost-R)	Yes
China RoHS compliance	Yes
Reference designation according to DIN EN 81346-2	Q

### Ambient conditions

#### Ambient temperature during operation

- min. 0 °C
- max. 55 °C

#### Ambient temperature during storage/transportation

- Storage, min. -25 °C
- Storage, max. 70 °C
- Transportation, min. -25 °C
- Transportation, max. 70 °C

#### Air pressure acc. to IEC 60068-2-13

- Operation, min. 860 hPa
- Operation, max. 1 080 hPa
- Storage, min. 660 hPa
- Storage, max. 1 080 hPa

#### Altitude during operation relating to sea level

- Installation altitude above sea level, max. 2 000 m

#### Relative humidity

- Operation at 25 °C, max. 95 %
- Operation at 50 °C, max. 50 %; 95 % at 25 °C, decreasing linearly to 50 % at 50 °C

#### Vibrations

- Vibration resistance during operation acc. to IEC 60068-2-6 10 ... 58 Hz / 0.075 mm, 58 ... 150 Hz / 1 g
- Vibration resistance during storage acc. to IEC 60068-2-6 5 ... 8.5 Hz / 3.5 mm, 8.5 ... 500 Hz / 1 g

#### Shock testing

- Shock resistance during operation acc. to IEC 60068-2-27 15 g / 11 ms / 3 shocks/axis
- Shock resistance during storage acc. to IEC 60068-2-29 25 g / 6 ms / 1 000 shocks/axis

### Dimensions

Width	36 mm
Height	285 mm
Depth	281 mm

**last modified:** 06/16/2020