CopperOn™

Data Center Systems

Contents

CopperOn

CopperOn is one of the leading producers of racks and data center solutions. In our product portfolio, you can find telecommunication and data racks, complete solutions for data centers, and outdoor cabinets. Our solutions include free-standing & wall-mounting racks, precision cooling, cable management, intelligent power distribution & environmental monitoring systems, as well as a wide range of accessories.

CopperOn was established in 1996 in Claremont, NC as a manufacturer of communication cables and later extended to manufacturing of fiber optical connectivity products, structured cabling systems & data center products.

CopperOn headquartered in Washington DC, USA, with global offices, manufacturing, and service partners throughout the world.

Standard Specifications of CopperOn Server Cabinet

Rack Dimensions	Load-carrying capacity up to 1600 kg standard model height, 42 to 52 U width 600- and 800-mm depth 1000 to 1200 mm.
Profile	Grid holes and meander-shaped profile with mounting options on all three planes.
Doors	Full doors and double doors with 1- or 3-point locking, opening angle 180° to left or right.
Top Covers	Solid, perforated, with cable entry brush strips, flat with various cutout zones, raised.
Base plate	Without (open), multi-piece, brush strips, filler panels.
Side panels	Screw-fixed or with quick-release fasteners and separating walls for side-by-side cabinets.
Safety	Various handle and closing options, including electronic and remote.
19" plane	Suitable for recessed mounting in 25 mm increments in server cabinets.
Accessories	Over 1000 parts and components, including those for cabling in various cable ducting zones.

CopperOn™

Data & Network Technology Cabinet

- High installed load of 1600 kg.
- CopperOn Server Cabinets, Electronic-Packaging at its Best.
- Wide variety of designs and dimensions.
- Unique meander-shaped (zigzag) profile with multiple mounting options and new cable management options.

Flexible Solutions

The more complex and demanding the conditions in which your IT infrastructure operates, the greater the demands that need to be met by an individually adaptable server or network cabinet.

- Flexible platform. (dimensions)
- Compatibility of all components.
- Continual ongoing development.

- Datacom cabinet with two 19"planes & base.
- Single and side-by-side cabinets.

- Server cabinet with perforated front & rear door, up to 1200 mm deep.
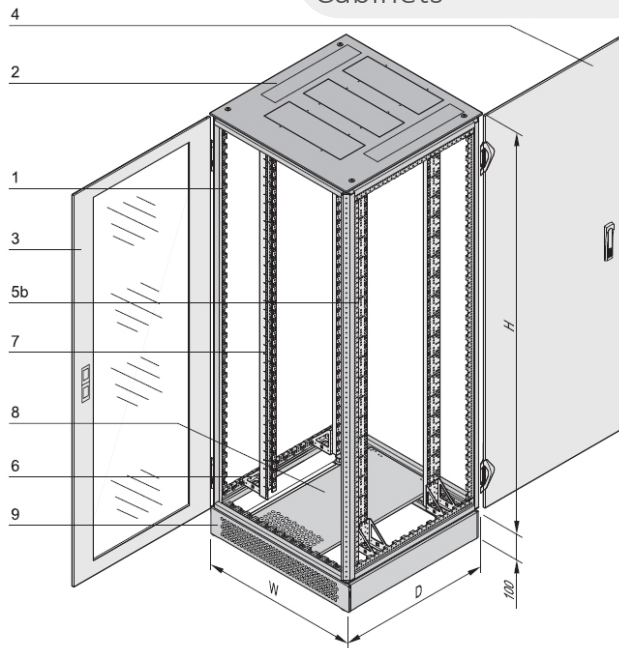- Single and side-by-side cabinets.

- Network cabinet with 2, 3 or 4 divider units.
- Flexible cable ducting and secure separation of divider units.

- Cabling cabinet with two 19"planes and base/plinth.
- Protection class IP 20.
- Tested load-carrying capacity 400 kg to IEC 61587-1.
  Available in two versions:
- Single cabinet. (with side panels)
- Side-by-side cabinet. (with side-by-side mounting kit)
- Delivery Includes. (Completely assembled and earthed)

Side-by-side cabinet (without side panel)   Single cabinet

Item	Qty	Description
1	1	Welded basic frame (Slim-Line) from steel profiles, RAL 7021
2a	1	From cabinet height 42 U/47 U: Top cover, St, RAL 7021 with prepunched perforation for subsequent assembly of brush strip, perforated cover plate or fan tray
2b	1	Cabinet height 24 U: Top cover, St, RAL 7021, without cut-out zone
3	1	Front door: frame St, RAL 7035, with safety glass 6 mm and 180° hinge, single point locking and lever handle (optionally with DIN profile half cylinder)
4	1	Rear door, St, RAL 7035, with 180° hinge, single point locking and lever handle (optionally retrofittable with DIN profile half cylinder)
5a	2	Single cabinet: side panels, St, RAL 7035, with quick-release fastener
5b	1	Side-by-side cabinet: 1 side-by-side mounting kit
6	4	Adaptor bracket for reduced width, St, finish AlZn, for assembly of 19" panel/slide mounts (only with 800 mm wide cabinets)
7	4	19" panel/slide mount, St, RAL 7035, with EIA perforation (800 mm wide cabinets: assembled on the adaptor bracket for reduced width); 600 mm cabinet depth: distance to front door 50 mm; at 800 mm 150 mm, from 900 mm cabinet depth: 70 mm; depth-adjustable in 25 mm increments.
8	1	Base plate for lateral cable ducting, St, RAL 7021, subsequent lateral assembly of brush strip possible
9	1	Base/plinth, St, RAL 7021, height 100 mm with front and rear ventilation trim, mounted base/plinth trims, integrated feet
10	1	GND/earthing kit, assembled

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Side-by-side cabinet
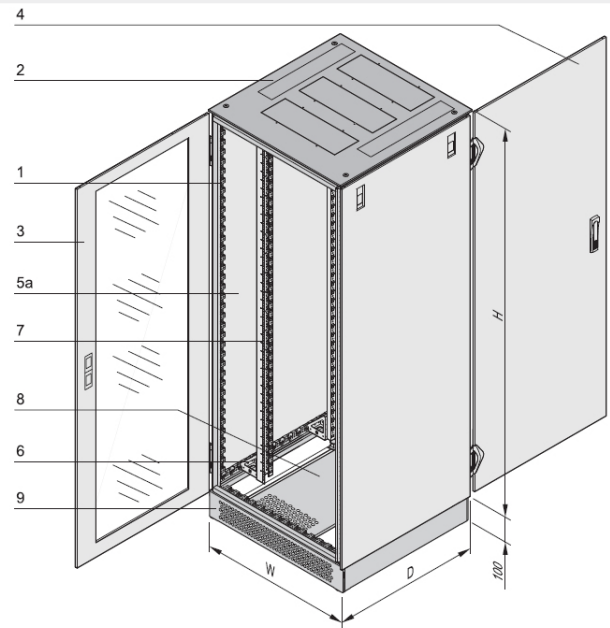
Single cabinet

The 24 U cabinet has a top cover without pre punched perforation (not suitable for retrofitting with brush strips, fan tray, etc.)

Order Information

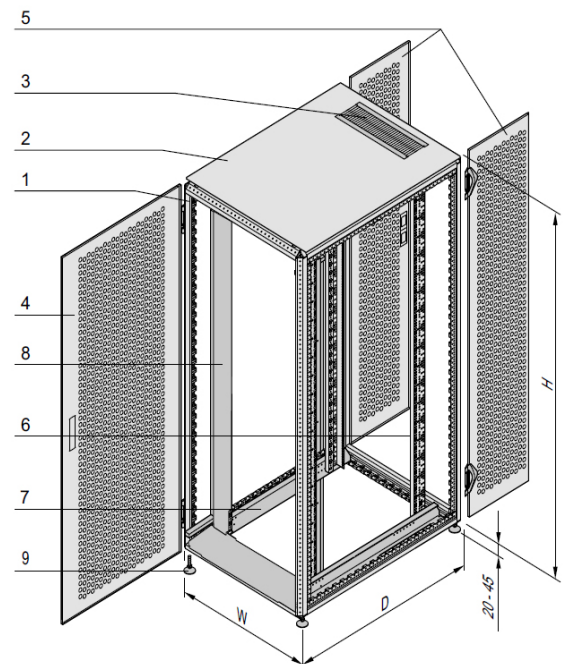| Height U	Height H mm	Width W mm	Depth D mm	Side-by-side cabinet Part No.	Single cabinet Part No.
24	1200	600	600	12413-012	12413-011
24	1200	600	800	12413-014	12413-013
24	1200	600	900	12413-016	12413-015
24	1200	600	1000	12413-018	12413-017
24	1200	800	600	12413-020	12413-019
24	1200	800	800	12413-022	12413-021
24	1200	800	900	12413-024	12413-023
24	1200	800	1000	12413-026	12413-025
42	2000	600	600	14213-012	14213-011
42	2000	600	800	14213-014	14213-013
42	2000	600	900	14213-016	14213-015
42	2000	600	1000	14213-018	14213-017
42	2000	800	600	14213-020	14213-019
42	2000	800	800	14213-022	14213-021
42	2000	800	900	14213-024	14213-023
42	2000	800	1000	14213-026	14213-025
47	2200	600	600	14713-012	14713-011
47	2200	600	800	14713-014	14713-013
47	2200	600	900	14713-016	14713-015
47	2200	600	1000	14713-018	14713-017
47	2200	800	600	14713-020	14713-019
47	2200	800	800	14713-022	14713-021
47	2200	800	900	14713-024	14713-023
47	2200	800	1000	14713-026	14713-025

Server Cabinet – Side By Side – 1600 KG

- Server cabinet with perforated doors, airflow rate 78%.
- Protection class IP 20.
- Static load-carrying capacity up to 1600 kg.
- Installation of different servers possible.
  Available in three color schemes
- Stone gray RAL 7021.
- Light gray RAL 7035.
- Signal white RAL 9003.
- Delivery Includes. (Completely assembled and earthed)

RAL 7021   RAL 7035

Item	Qty.	Description
1	1	Welded basic frame (Slim-Line) from steel profiles, RAL 7021
2	1	Flat top cover, St, RAL 7021, with pre punched perforation for retrofitting the brush strip, perforated cover plate (width 600 mm) or perforated and lateral fan tray (width 800 mm)
3	1	Brush strip for 600 mm and 800 mm widths.
4	1	Front door, perforated, St, with 180° hinges, 3-point locking and lever handle (option to upgrade with DIN profile half cylinder), colors RAL 7035, RAL 7021, or RAL 9003 (see order information)
5	1	Rear double door, perforated, St, with 180° hinges, 3-point locking and lever handle (option to upgrade with DIN profile half cylinder), colors RAL 7035, RAL 7021, or RAL 9003 (see order information)
6	4	19" panel/slide mounts, St, mounted in 740 mm intervals, with U marking, color RAL 7035, RAL 7021, or RAL 9003.
7	4	Cross member, St (to accept 19" panel/slide mounts in 800 mm wide cabinets)
8	1	Baffle kits to separate the front side of 19" plane, St, 1.5 mm, color RAL 7035, RAL 7021, or RAL 9003
9	4	Adjustable foot
10	1	Earthing (GND) kit, fitted

Order Information

Height	Height H	Width W	Depth D	Part no.	Part no.	Part no.
U	mm	mm	mm	RAL 7021	RAL 7035	RAL 9003
42	2000	600	1000	14213–075	14223–075	14233–075
42	2000	600	1200	14213–085	14223–085	14233–085
42	2000	800	1000	14213–076	14223–076	14233–076
42	2000	800	1200	14213–086	14223–086	14233–086
47	2200	600	1000	14713–079	14723–079	14733–079
47	2200	600	1200	14713–089	14723–089	14733–089
47	2200	800	1000	14713–080	14723–080	14733–080
47	2200	800	1200	14713–090	14723–090	14733–090
52	2450	600	1000	15213–083	15223–083	15233–083
52	2450	600	1200	15213–093	15223–093	15233–093
52	2450	800	1000	15213–084	15223–084	15233–084
52	2450	800	1200	15213–094	15223–094	15233–094

Accessories

- DIN profile half cylinder, common locking for lever handle (1 key type 333 fits all locks) incl. 2 keys.
- Spare key handle with locking insert 1 piece.
- Tip–over protection for floor mounting is screwed to the floor, PU 2 pieces.
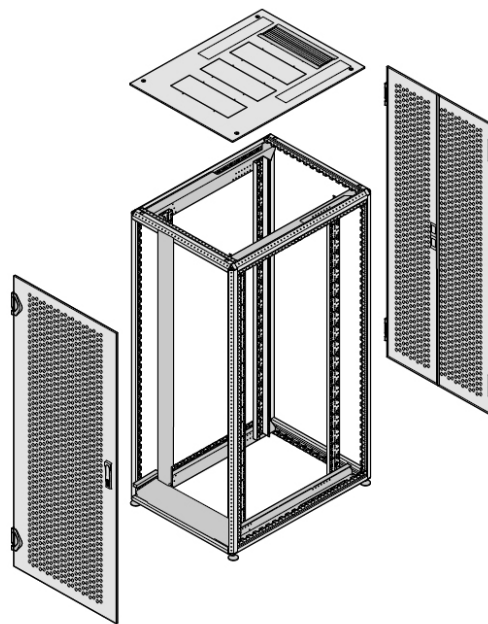
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Colocation Cabinets

- CopperOn Colocation cabinets with 2, 3 or 4 divider units to accommodate servers, for example.
- Perforated doors (airflow rate 78%)
- Multi-point door locking to prevent unauthorized access (Lever handle with key and numeric code)
- Access to false floors and cabling only from the appropriate divider unit.
- Flexible cabling, possible from above, below, left or right (data and power cables can be run separately)
- Protection class IP 20
- Available in three color schemes
- Stone gray RAL 7021
- Light grey RAL 7035
- Signal white RAL 9003

RAL 7021   RAL 9003
Illustration shows cabinet with 3 divider unit.
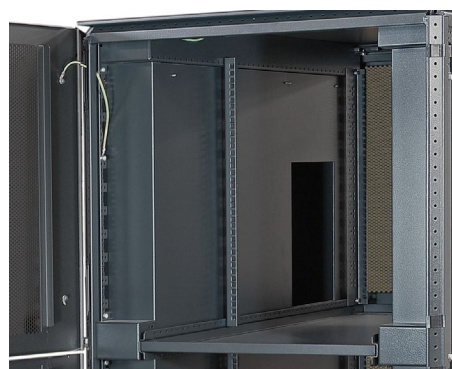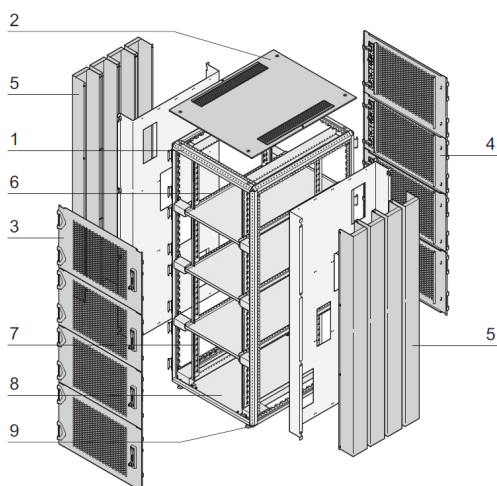
Delivery Includes (Completely assembled and earthed)

Item	Qty.	Description
1	1	Welded basic frame (Slim-Line) from steel profiles, RAL 7021
2	1	Flat top cover, St, RAL 7021, with brush strip (left and right)
3	1 per divider unit	Front door, frame St, perforated, 180° hinge, 2-point locking and lever handle (key and numeric code), colors RAL 7035, RAL 7021, or RAL 9003
4	1 per divider unit	Rear door, St, perforated, RAL 7021, 180° hinge, 2-point locking and lever handle (key and numeric code), colors RAL 7035, RAL 7021, or RAL 9003
5	2 per divider unit	Cable channels (left, right)
6	2 per divider unit	Depth member for fixing shelf dividers and 19" profiles
7	4 per divider unit	19" panel, St, RAL 7021, with EIA perforation, depth-adjustable in 25 mm increments, standard fitting position 74 mm recessed
8	1 per divider unit	Base plate/shelf divider, can be fitted from inside
9	4	Adjustable foot
10	1	Earthing (GND) kit, fitted

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Order Information

Height	Width	Depth	No. of spacings	RAL 7021 Part no.	RAL 7035 Part no.	RAL 9003 Part no.
2000	600	1000	2	12013–02	12033–02	12053–02
2000	600	1000	3	12013–03	12033–03	12053–03
2000	600	1000	4	12013–04	12033–04	12053–04
2000	600	1200	2	12013–14	12033–14	12053–14
2000	600	1200	3	12013–15	12033–15	12053–15
2000	600	1200	4	12013–16	12033–16	12053–16
2000	800	1000	2	12013–05	12033–05	12053–05
2000	800	1000	4	12013–07	12033–07	12053–07
2000	800	1000	2	12013–17	12033–17	12053–17
2000	800	1000	4	12013–19	12033–19	12053–19
2200	600	1000	2	12213–08	12233–08	12253–08
2200	600	1000	3	12213–09	12233–09	12253–09
2200	600	1000	4	12213–10	12233–10	12253–10
2200	600	1200	2	12213–20	12233–20	12253–20
2200	600	1200	3	12213–21	12233–21	12253–21
2200	600	1200	4	12213–22	12233–22	12253–22
2200	800	1000	2	12213–11	12233–11	12253–11
2200	800	1000	4	12213–13	12233–13	12253–13
2200	800	1200	2	12213–23	12233–23	12253–23
2200	800	1200	3	12213–24	12233–24	12253–24
2200	800	1200	4	12213–25	12233–25	12253–25
2450	600	1000	2	12413–57	12433–57	12453–57
2450	600	1000	3	12413–58	12433–58	12453–58
2450	600	1000	4	12413–59	12433–59	12453–59
2450	600	1200	2	12413–69	12433–69	12453–69
2450	600	1200	3	12413–70	12433–70	12453–70
2450	600	1200	4	12413–71	12433–71	12453–71
2450	800	1000	2	12413–60	12433–60	12453–60
2450	800	1000	3	12413–61	12433–61	12453–61
2450	800	1000	4	12413–62	12433–62	12453–62
2450	800	1200	2	12413–72	12433–72	12453–72
2450	800	1200	3	12413–73	12433–73	12453–73
2450	800	1200	4	12413–74	12433–74	12453–74
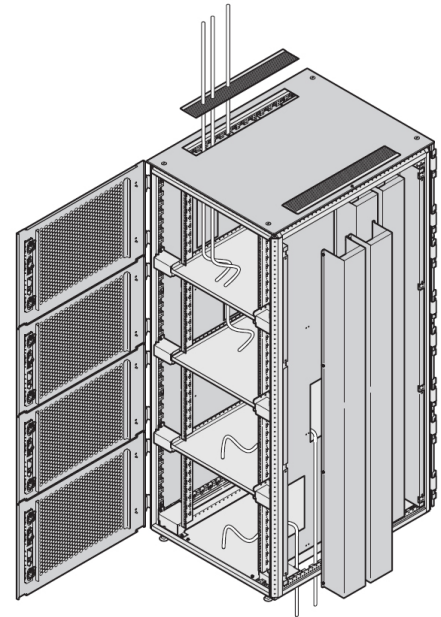
Micro / Mini Data Centers

CopperOn Micro / Mini Data Centers provides Cutting edge solutions for your decentralized DC architecture.

Ease of Use

- Pre-configured for various operational scenarios, therefore fast ordering.
- Can be installed as a "plug-and-play" system by any IT technician.
- Rapid deployment.
- Touchscreen and user-friendly software.

High Reliability

- Quality of each MDC is tested prior to delivery.
- The environment and security monitoring system protects the equipment.
- All data is managed and stored redundantly on local storage media as well as in the cloud.
- Can be monitored anywhere and anytime via the cloud.
- Proactive alarm notification via app, email and/or SMS.

Low TCO

- Real-time monitoring of the UPS and cooling unit help to save energy.
- Integrated cooling ensures high power usage effectiveness. (PUE)
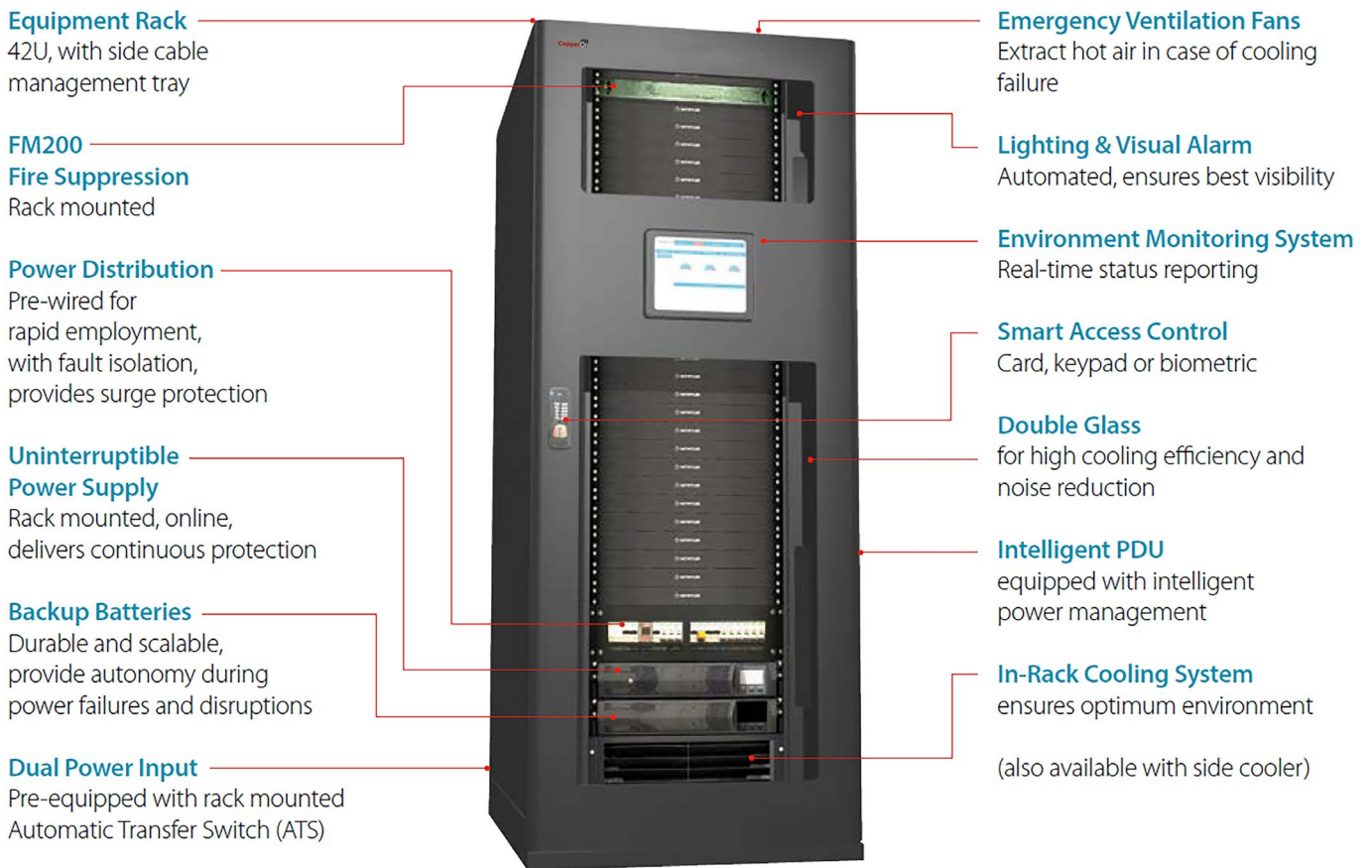- Small footprint and fast deployment.

Fast Maintenance

- Key components are of modular design.
- UPS has a maintenance bypass.
- Remote management of all the equipment in the racks allows authorized personnel to be alerted so that faults can be rectified before they have serious consequences.
- Software upgrades can be downloaded from the cloud.
- Most of the environmental sensors support toolless magnetic installation.

The CopperOn Data Center Infrastructure Management solution features an innovative approach towards IT infrastructure management, taking into consideration the latest technological advancement in IoT, AI, IP communication, and other technologies. The platform allows the DCIM to integrate with a wide range of systems supporting the IT infrastructure. It provides real-time monitoring of environment conditions, access control and energy consumption, activates the alarm in case of an emergency and collects data for planning of preventative maintenance. It comes with a friendly and easy to use graphical user interface that simplifies the complexity and sophistication of the systems running behind.

CopperOn™

Micro Data Centers

In a compact 42U rack Micro Data Center contains a fully preassembled plug–and–play IT infrastructure solution; including a power distribution unit, UPS, cooling system, fire suppression system, air gap sealing and environment monitoring system, which can be deployed within a few hours. It provides multiple ways to configure power and cooling redundancy to meet the current demand while being ready for future technology migration at no cost and less disruption.

CopperOn Micro Data Center is designed for applications such as edge computing, computing node in remote and branch offices, floor distributor (FD) and "smart facilities" deploying IoT devices and running AI, AR, VR & automation.

Equipment Rack
42U, with side cable management tray

FM200
Fire Suppression
Rack mounted

Power Distribution
Pre-wired for
rapid employment,
with fault isolation,
provides surge protection

Uninterruptible
Power Supply
Rack mounted, online,
delivers continuous protection

Backup Batteries
Durable and scalable,
provide autonomy during
power failures and disruptions

Dual Power Input
Pre-equipped with rack mounted
Automatic Transfer Switch (ATS)

Emergency Ventilation Fans
Extract hot air in case of cooling
failure

Lighting & Visual Alarm
Automated, ensures best visibility

Environment Monitoring System
Real-time status reporting

Smart Access Control
Card, keypad or biometric

Double Glass
for high cooling efficiency and
noise reduction

Intelligent PDU
equipped with intelligent
power management

In-Rack Cooling System
ensures optimum environment

(also available with side cooler)

Specifications

Specifications	With in-Rack Cooling	With Side Cooling	With Side Cooling
IT load	up to 2.7 kW	up to 5.4 kW	up to 9 kW
UPS capacity	up to 3 kVA	up to 6 kVA	up to 10 kVA
Available space	24 U to 27U	27U to 31U	24U to 28U
Backup time	10 to 20 mins	8 to 16 mins.	11 to 15 mins.
Sensible cooling capacity*	up to 3.8 kW	up to 7.5 kW	up to 12.5 kW
Input voltage	220/230/240 VAC | 50/60 Hz | 1Ph+N+PE	220/230/240 VAC | 50/60 Hz | 1Ph+N+PE	380/400/415 VAC | 50 Hz | 3Ph+N+PE**
Dimensions (W x D x H)	(600-800) x 1200 x 2000 mm	(900-1100) x 1400 x 2000 mm	
Reliability	Tier I	Tier I, Tier II, Tier III	
Mounting	Direct on floor or on raised floor		
Cable entry	Top / bottom access		
Emergency ventilation	Top of the rack and front door		
Fire suppression	FM200-J, rack mounted (1U)		
Remote management	Cooling system, UPS, access control, iPDU, environment setpoint and alarm notification		
Remote monitoring	Cooling system, UPS, power usage effectiveness (PUE), iPDU, IT load, access control, temperature, humidity & alarm status		
User interface	10.4" touch screen and remote web interface		
Alarm	Sound and light alarm with SMS notification		

The CopperOn Micro Data Center is tailor-made and customized solution to fulfil the customers' specific needs & requirements.

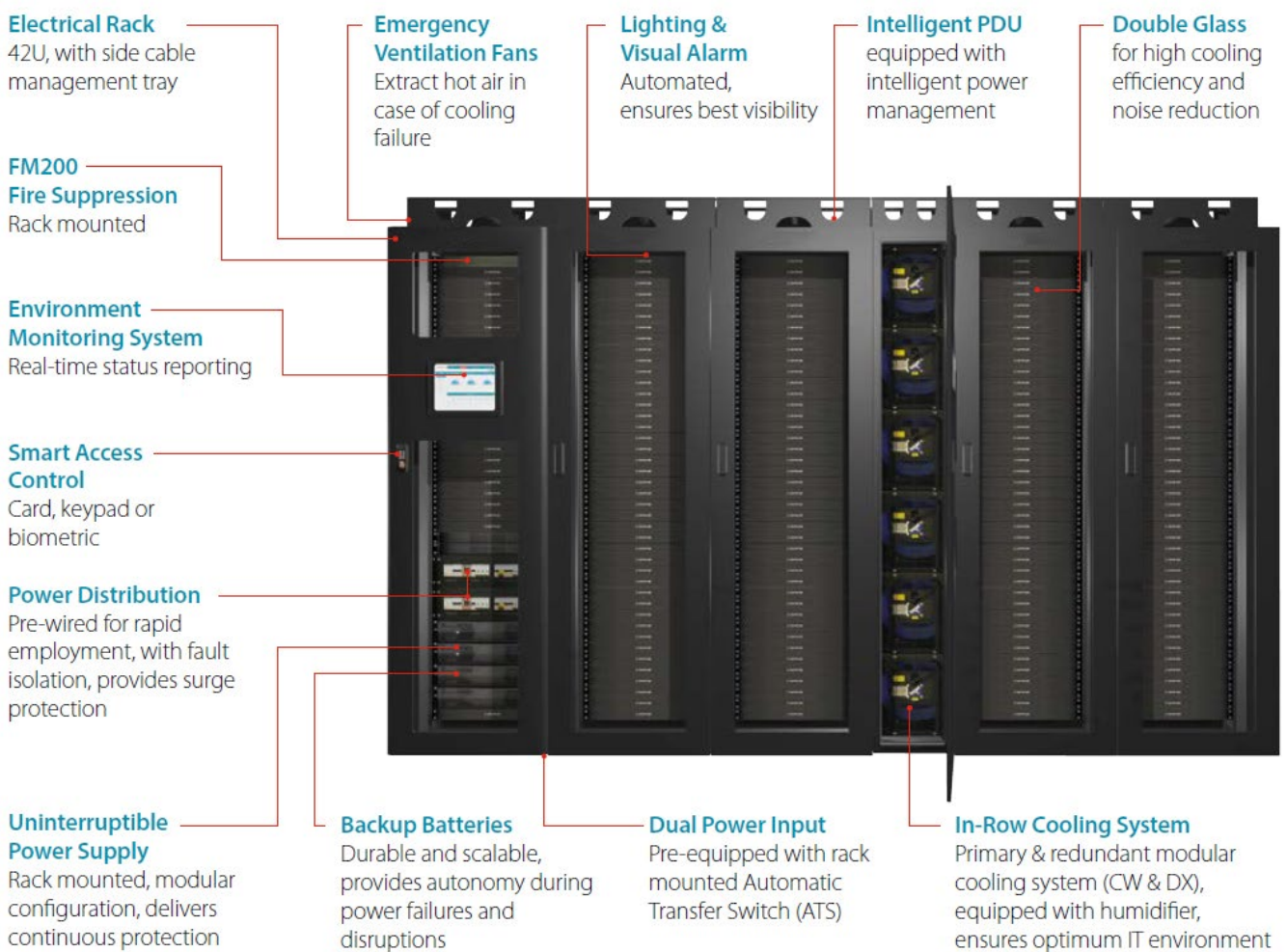* Provision of outdoor cooling unit is optional.

** 60 Hz 10 kVA capacity is available in single phase only.

Mini Data Center

CopperOn modular Mini Data Center is a state-of-the-art, pre-assembled plug-and-play IT infrastructure solution. It consists of a 42U rack with integrated power distribution, uninterruptible power supply (UPS), fire suppression system, air gap sealing and environment monitoring system, and additional IT equipment racks as well as an in-row cooling system. It can be deployed within a few hours.

It provides multiple ways to configure power and cooling redundancy to meet the current demand while being ready for future technology migration at no cost and with less disruption.

CopperOn modular Mini Data Center is designed for applications such as edge computing, small data center, building distributor (BD), floor distributor (FD) and "smart facilities" deploying IoT devices and running AI, AR, VR and automation.

Electrical Rack
42U, with side cable management tray

FM200 Fire Suppression
Rack mounted

Environment Monitoring System
Real-time status reporting

Smart Access Control
Card, keypad or biometric

Power Distribution
Pre-wired for rapid employment, with fault isolation, provides surge protection

Emergency Ventilation Fans
Extract hot air in case of cooling failure

Lighting & Visual Alarm
Automated, ensures best visibility

Intelligent PDU
equipped with intelligent power management

Double Glass
for high cooling efficiency and noise reduction

Uninterruptible Power Supply
Rack mounted, modular configuration, delivers continuous protection

Backup Batteries
Durable and scalable, provides autonomy during power failures and disruptions

Dual Power Input
Pre-equipped with rack mounted Automatic Transfer Switch (ATS)

In-Row Cooling System
Primary & redundant modular cooling system (CW & DX), equipped with humidifier, ensures optimum IT environment

Specifications

IT load	up to 72 kW
UPS capacity	up to 80 kVA
IT racks	up to 8 (static load 1300 kg / rack)
Backup time	8 to 15 mins.
Sensible cooling capacity	up to 75.3 kW (CW or DX)
Input voltage	380~415 VAC | 50/60 Hz | 3Ph+N+PE*
Dimensions (W x D x H)	(1500 – 6900) x 1400 x 2000 mm
Reliability	Tier I, Tier II and Tier III
Mounting	Direct on floor or on raised floor
Cable entry	Top / bottom access
Emergency ventilation	Top of the rack and front door
Fire suppression	FM200-J, rack mounted (1U)
Remote management	Cooling system, UPS, access control, iPDU, environment setpoint and alarm notification
Remote monitoring	Cooling system, UPS, power usage effectiveness (PUE), iPDU, IT load, access control, temperature, humidity & alarm status
User interface	10.4" touch screen and remote web interface
Alarm	Sound and light alarm with SMS notification

The CopperOn Mini Data Center is tailor-made and customized solution to fulfil the customers' specific needs and requirements.

*60 Hz 10 kVA capacity is available in single phase only.

HMI Touch Screen Features

- 10.4" flat multi-contact touch screen.
- Built-in AI/DI/RS232/RS485 interfaces.
- Collects, processes, displays, and uploads data.
- Displays PUE and energy consumption.
- Report's temperature and controls cooling units.
- Compatible with a variety of environmental sensors and infrastructure equipment.
- USB interface for 3G wireless or WIFI support.

Cabinet Accessories

Screw-Fixed Side Panel

Delivery Includes

Item	Qty.	Description
1	2	Side panel, St, 1 mm, to screw on
2	1	Earthing (GND) kit

Order Information

Height	Height	Depth	Qty/PU	Screw-fixed for IP 55	Screw-fixed for IP 55	Screw-fixed for IP 55
				RAL 7021	RAL 7035	RAL 9003
U	mm	mm	Piece	Part no.	Part no.	Part no.
42	2000	1000	2	214213-10	234213-10	254213-10
42	2000	1200	2	214213-35	234213-35	254213-35
47	2200	1000	2	214713-10	234713-10	254713-10
47	2200	1200	2	214713-35	234713-35	254713-35
52	2450	1000	2	215213-10	235213-10	255213-10
52	2450	1200	2	215213-35	235213-35	255213-35

Accessories

Internal retainer for side panel 2 pieces	214310-311

Note: Optional internal locking prevents side panel being removed from outside.

Separating Wall

- Where cabinets are arranged in rows the separating wall replaces the cabinet side wall.
- Mounts laterally, prevents unauthorized access.
- For cabinet height 42, 47 or 52 U and cabinet depth 1000 mm, 1100 mm, or 1200 mm.

Delivery Includes

Item	Qty	Description
1	1	Separating wall, St, 1 mm, finish Al,Zn
2	1	Fixing materials kit

Order Information

For Cabinet Height	For Cabinet Depth	Part no.
U	mm	
42	1000	24233-100
42	1100	24233-110
42	1200	24233-120
47	1000	24233-100
47	1100	24233-110
47	1200	24233-120
52	1000	24233-100
52	1100	24233-110
52	1200	24233-120
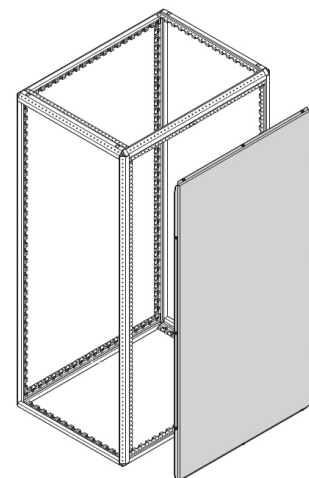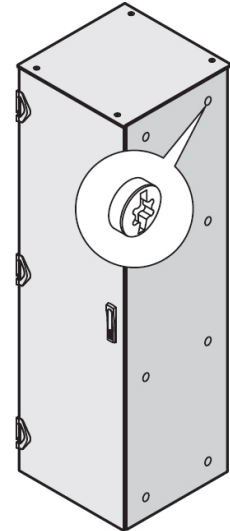
Covers for Front Air Separation

- Covers prevent unwanted air short-circuits in front, i.e., the mixing of hot exhaust air with cold incoming air.
- For cabinet width 600 or 800 mm, for cabinet height 42, 47 or 52 U.
- Covers, solid (full height) or with two cable ducting openings. (19"x 2 U)
- Baffle plates for recessed integral 19" planes with adapter bracket for reduced width (70, 145, 220 mm) available, can be offset with the 19" plane. (recessed)
- Network and server cabinets can be arranged side by side.
- Seals, UL 94 HF-1, –20 °C … 100° C.
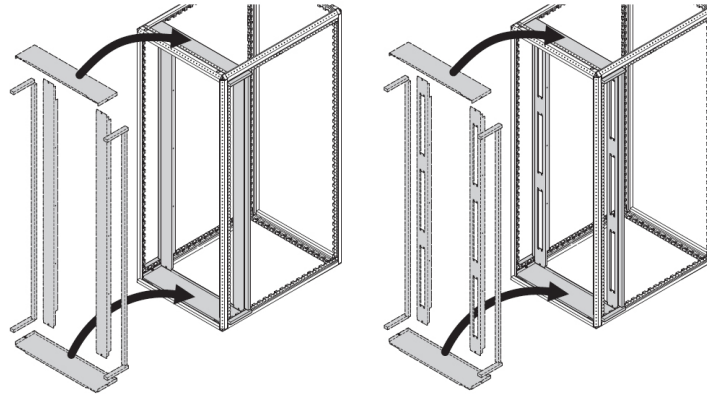
Delivery Includes (Completely assembled and earthed)

Item	Qty.	Description
1	2	Cover, St, 1 mm, left/right
2	1	Cover, top, St, 1 mm
3	1	Cover, bottom, St, 1 mm
4	1	Fixing materials kit, gasketing

Order Information

Height	Height	Cover, solid for 800 mm width	Cover with cable ducting openings for 800 mm width
42	2000	24211-020	24211-120
47	2200	24711-022	24711-122
52	2450	25211-024	25211-124
Accessories			
Brush strip for closing the open cable through-ducting opening 1 U, black, PU 6 pieces			22033-076
Clip-on 19" plastic front panels for sealing the open cable ducting openings of the lateral trim; 6 brushes, sufficient for 3 cutouts 1 U, black, PU 10 pieces			C19CSTRU

Fan Unit with 3 Fans

- Suitable for flat top cover with cut–out zones.

- Mounting position completely in cabinet interior, no protrusion over top cover.

- 3 fans fully wired.

- Mains connection via UTE plug – IEC 60320 C13 socket.

Delivery Includes (completely assembled and wired)

Item	Qty	Description
1	1	Fan tray, RAL 7021
2	3	Axial fan 230 VAC, fully wired, Connects via UTE plug – IEC 60320-C12 socket
3	3	Protective grille
4	1	Assembly kit

Order Information

Description	Qty/PU (piece)	Part no.
Fan unit with 3 fans	1	25105–130
Fan with grille, 230 VAC, 38x 119 x 119 mm, at 50 Hz, 162 m3/h, 1 piece		25105–136
Thermostat with mains cable 230 VAC (UTE plug/ IEC 60320 C13 socket), adjustment range 0 … 60°C, 1 piece		25185–453
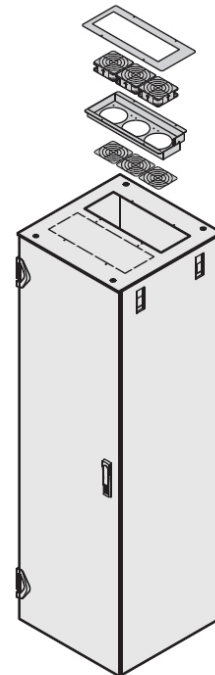
Technical Data of One Fan

Frequency	50 Hz	60 Hz
Voltage	230 VAC	230 VAC
Airflow volume	162 m3/h	192 m3/h
Noise pressure level	37 dB(A)	41 dB(A)
Max. static pressure	73 PA	88 PA
Max. ambient temperature	+70 °C	+70 °C
Power consumption	15 W	14 W

Flat Top Cover with Cut-Out Zones

- Cut-out zones are easy to cut out.
- Cut-outs can be fitted with brush strips, fan units, perforated cover plates or edge protectors.

Delivery Includes

Item	Qty	Description
1	1	Flat top cover, St, 1.5 mm, with cut-out zones for cut-outs, RAL 7021
2	1	GND/earthing kit

Order Information

Width	Depth	Part no.
mm	mm	RAL 7021
600	600	26130-450
600	800	26130-551
600	900	26130-652
600	1000	26130-753
600	1100	26130-347
600	1200	26130-842
800	600	26130-854
800	800	26130-955
800	900	26130-156
800	1000	26130-159
800	1100	26130-941
800	1200	26130-040

Accessories	
Brush strip Nylon, black, PU 2 pieces	26813-021
Fan unit with 3 fans with 3 fans, fully assembled and wired, 1 kit	26813-024
Perforated cover plate for top cover with cut-out zones 6 mm perforation, incl. earthing, 1 piece	26813-027
Edge protection PVC, black, 3 m PVC, black, 3 m, 1 piece	22129-432
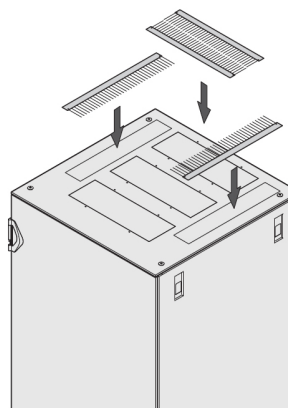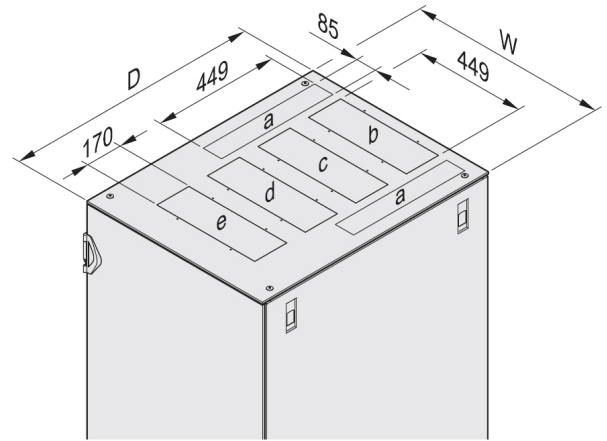
Flat top cover construction with brush strips
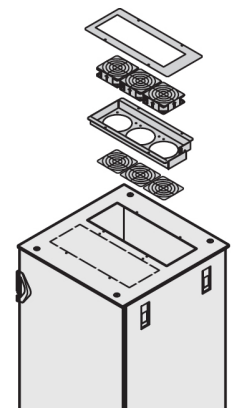
Flat top cover construction with fan insert
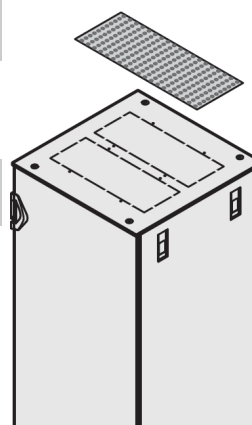
Flat cop cover construction with cover plate
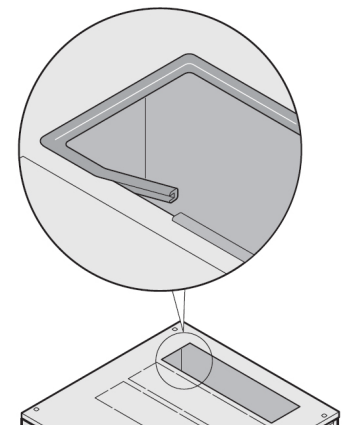
Flat top cover construction with edge protection

CopperOn™

Flat Top Cover with Cable Through-Ducting Openings

- Includes earthing.
- Color RAL 7021.
- St, 1.5 mm.
- Cutouts must be covered with brush strips or fitted with edge protection, please order these separately.

Delivery Includes

Item	Qty	Description
1	1	Flat top cover, St, 1.5 mm, with cutouts, RAL 7021
2	1	GND/earthing kit
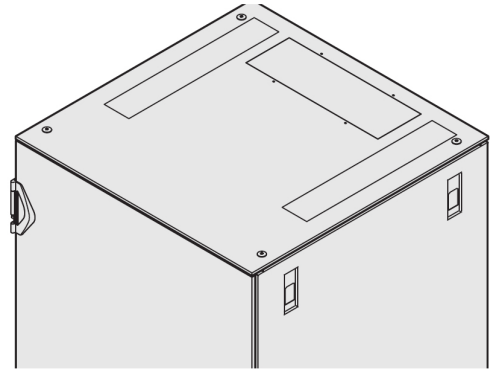
Order Information

Width W	Depth D	Part no.
mm	mm	
600	1000	21001-172
600	1100	21001-173
600	1200	21001-174
800	1000	21001-175
800	1100	21001-176
800	1200	21001-177

Accessories	
Brush strip Nylon, black, PU 2 pieces	23009-096
Edge protection PVC, black, 3 m PVC, black, 3 m, 1 piece	26017-369
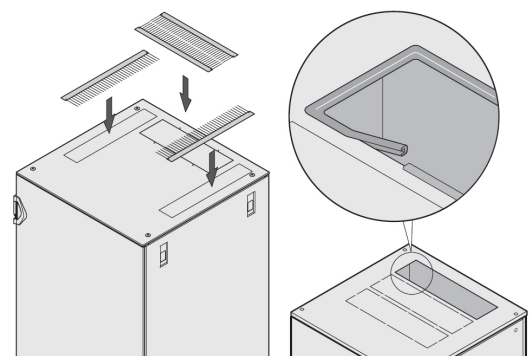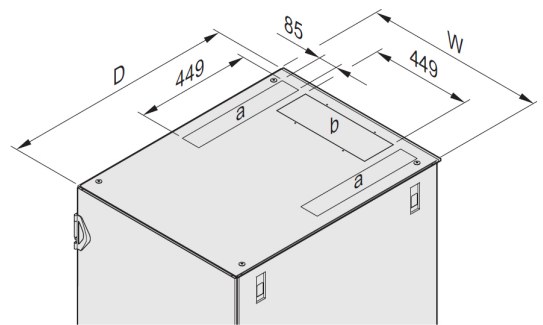
Flat top cover construction with brush strips

Edge protection

Edge Protection PVC, Black, 3 M

- Suitable for flat top cover with cut-out zones.
- To cover the sharp edges of an open cut-out. (protects against injury)

Order Information

| Description	Part No.
Edge protection PVC, black, 3 m	41497-133
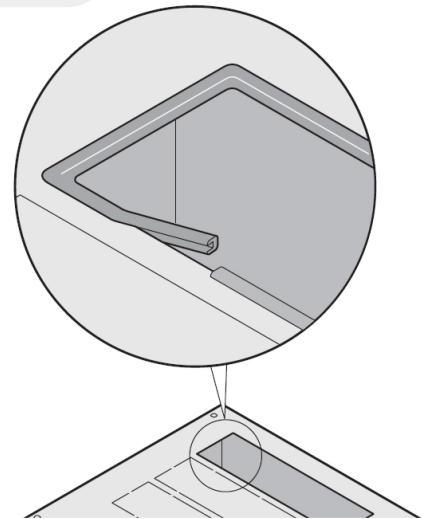
Brush Strip

- For cable ducting with flat top cover. (with cut-out zones)
- 600 mm wide top cover: two brush strips cover one center cut-out.
- 800 mm wide top cover: brush strip can be used either lengthways or depth ways; one brush strip covers a lateral cut-out two brush strips cover a center cut-out.

Order Information

Description	Qty/PU	Part No.
Brush strip	2	41326-071
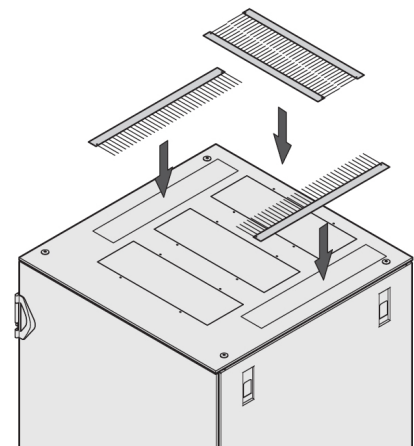
## Perforated Cover Plate for Top Cover with Cut-Out Zones

- Suitable for flat top cover (with cut-out zones), screws on.
- Allows heat dissipation from cabinet. (perforated with 6 mm holes)

Delivery Includes

Item	Qty	Description
1	1	Top cover plate, perforated, 6 mm perforation, St, 1 mm, RAL 7021, incl. GND/earthing
2	1	Assembly kit

Order Information

Description	Qty/PU	Part No.
Perforated cover plate for top cover with cut-out zones	1	41037-081
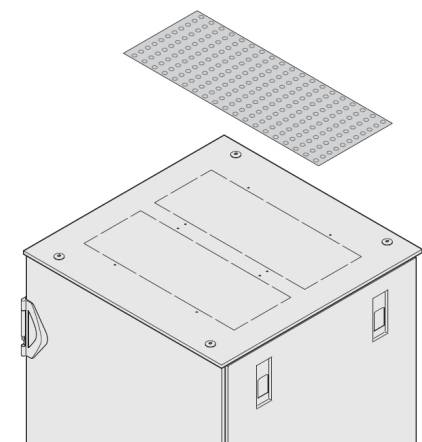
Base Plate, One-Piece, Solid

- Base plate is solid and covers the entire floor of the cabinet.
- Installation takes place from the outside.

Delivery Includes

Item	Qty.	Description
1	1	Base plate, St, 1.5 mm, RAL 7021
2	1	Mounting materials

Order Information

| For Cabinet Width	Depth	Qty/PU	Part no.
mm	mm	Piece	RAL 7021
600	1000	1	23081-462
600	1100	1	23081-463
600	1200	1	23081-464
800	1000	1	23081-465
800	1100	1	23081-466
800	1200	1	23081-467

Base Plate, One-Piece, with Cable Ducting

- Base plate with a cutout for cable ducting.
- Cable ducting is covered with a brush strip.
- Installation takes place from the outside.

Delivery Includes

Item	Qty.	Description
1	1	Base plate, St, 1.5 mm, RAL 7021, with cable ducting opening
1	1	Set of brush strips
2	1	Mounting materials

Order Information

For cabinet width	Depth	Qty/PU	Part no.
mm	mm	piece	RAL7021
600	1000	1	23093-566
600	1100	1	23093-567
600	1200	1	23093-568
800	1000	1	23093-569
800	1100	1	23093-570
800	1200	1	23093-571
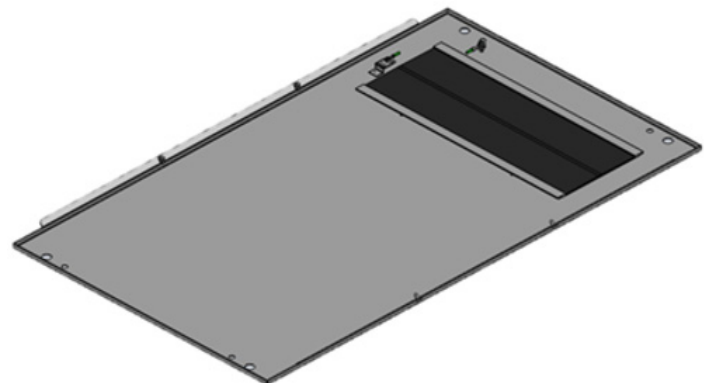
Slide Rails

- For assembly on 19" panel/slide mounts
- Assembly in 1 U increments (snap-in, bolt-on)
- Wide support surface (48 mm)
- 2 versions
- Static load-carrying capacity 25 kg per pair
- Static load-carrying capacity 100 kg per pair

Delivery Includes

Item	Qty	Description
1	–	Slide rail, AlZn, 1.5 mm (Load capacity 25 kg), or 2.5 mm (Load-carrying capacity 100 kg), zinc-plated
2	1	Assembly kit incl. GND/earthing

c = pitch of the 19" panel/slide mounts
x_f = standard dimension
D = cabinet depth

Order Information

Static Load-Carrying Capacity 25 kg

For cabinet depth mm	xf mm	C mm	Length L mm	Qty/PU	Part No.
600, 800	50	500, 700	456	2	27631-035
600, 800	50	500, 700	456	10	27631-039
800	150	500	456	2	27531-035
800	150	500	456	10	27531-039
900, 1000, 1200	70	740	699	2	27731-037
900, 1000, 1200	70	740	699	10	27731-041

Static Load-Carrying Capacity 100 kg

For cabinet depth mm	xf mm	C mm	Length L mm	Qty/PU	Part No.
600, 800	50	500, 700	458	2	27630-071
600, 800	50	500, 700	458	10	27630-073
800	150	500	458	2	27530-071
800	150	500	458	10	27530-073
900, 1000, 1200	70	740	699	2	27130-075
900, 1000, 1200	70	740	699	10	27130-077

Static load-carrying capacity 25 kg

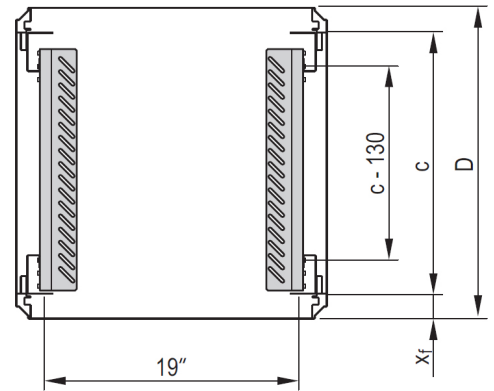Static load-carrying capacity 100 kg

Short Slide Rails

- Support for heavy 19" chassis.
- To attach on 19" slide mounts.
- Static load-carrying capacity max. 15 kg per pair.
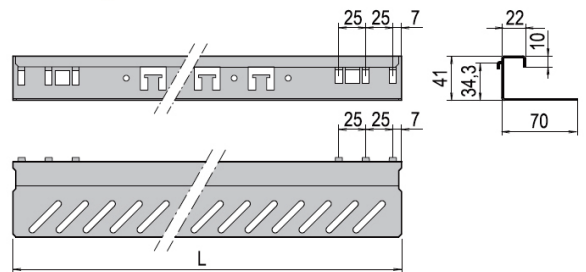
Delivery Includes

Item	Qty	Description
1	2 / 10	Short slide rail, St, 1.5 mm, finish AlZn
2	1	Assembly kit

Order Information

| Description	Qty/PU	Part No.
Short slide rails	2	27593-076
Short slide rails	10	27543-077
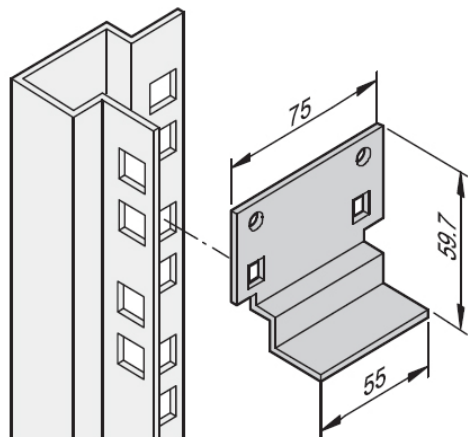
19" Stationary Shelf, 75 KG

- Static load-carrying capacity 75 kg. (150 kg with strengthening rail)
- Mounting height 1 U, for mounting on four panel/slide mounts.
- With hammer head perforation to fix cable ties.

Delivery Includes

Item	Qty	Description
1	1	Perforated shelf, St, 1.5 mm
2	1	Assembly kit incl. GND/earthing
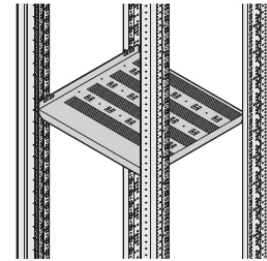
Order Information

| For cabinet depth mm	Usable surface w x d mm	xf mm	C mm	RAL 7035 Part No.	RAL 7021 Part No.
600	495 x 442	50	500	27810-603	27810-602
800	495 x 442	150	500	27810-803	27810-802
900	495 x 682	70	740	27810-903	27810-902
1000	495 x 682	70	740	27810-103	27810-102
1200	495 x 682	70	740	27810-123	27810-122
Strengthening rail for stationary 19" shelf, PU 1 piece PU 1 piece					27090-081
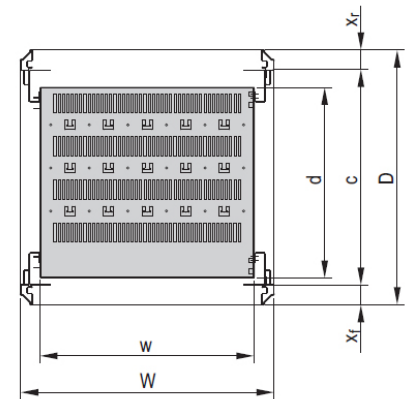
c = max. pitch of the 19" slide mounts
x_f, x_r = standard assembly dimension

19" Shelf, Stationary, Depth-Adjustable, 1 U

- Static load-carrying capacity 68 kg.
- Mounting height 1 U.
- For mounting on four 19" posts or four 19" panel/slide mounts.
- Depth-adjustable mounting dimension from 19" bracket to 19" bracket.
- 2 versions:
  - Mounting dimensions 495 ... 851 mm.
  - Mounting dimensions 792 ... 1151 mm.
- 2 oval cut-outs for cable ducting.
- Colour black, RAL 9005.

Delivery Includes

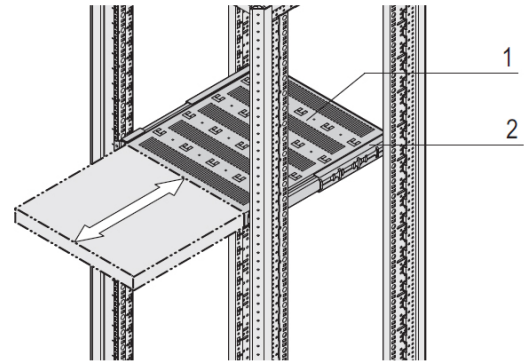| Item	Qty	Description
1	1	Shelf, depth-adjustable, width 19", RAL 9005 (black); Shelf is suspended on 19" upright or 19" panel / slide mounts
2	1	Fitting materials
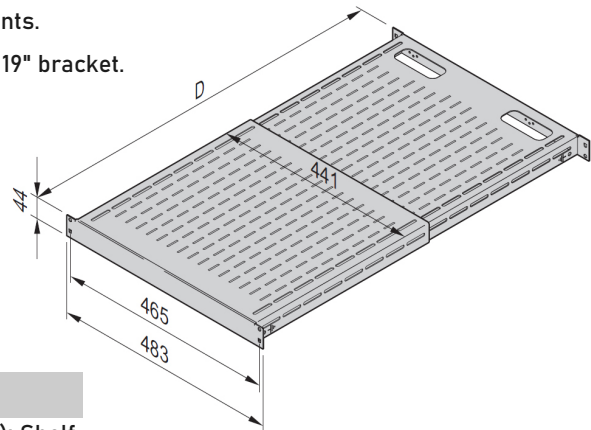
Order Information

19" shelf, stationary, depth-adjustable, 1 U	Part no.
Mounting dimensions D 495 ... 851 mm	S19DST21B
Mounting dimensions D 792 ... 1151 mm	S19DST46B

19" Telescopic Shelf, 30 KG

- Static load–carrying capacity at full extension 30 kg.
- Mounting height 1 U, for mounting on four 19" panel/slide mounts.
- Incl. telescopic slides.
- Hammer head perforation to fix cable ties.
- 2 versions:
  - Full depth.
  - Depth shortened by 100 mm for rear cable ducting.
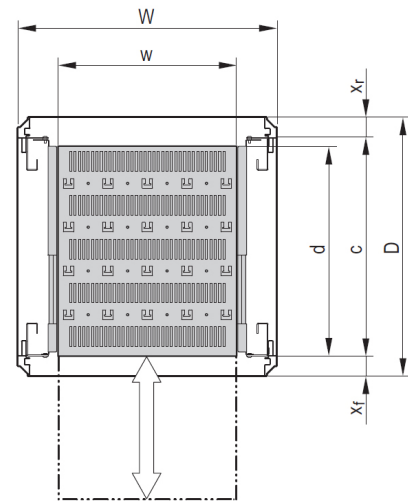

Delivery Includes

Item	Qty	Description
1	1	Perforated shelf, St, 1.5 mm
2	2	Telescopic slide
3	1	Assembly kit

Order Information

Full depth

Full depth

For cabinet depth mm	Usable surface w x d mm	xf mm	C mm	RAL 7035 Part No.	RAL 7021 Part No.
600	417 x 482	50	500	27820–656	27820–646
800	417 x 482	150	500	27820–657	27820–647
GND/earthing for telescopic 19" shelf PU 1 kit.					27800–622

Order Information

Shortened by 100 mm

Shortened depth

For cabinet depth mm	Usable surface w x d mm	xf mm	C mm	RAL 7035 Part No.	RAL 7021 Part No.
600	417 x 382	50	500	27820–110	27820–219
800	417 x 382	150	500	27820–111	27820–221
GND/earthing for telescopic 19" shelf PU 1 kit					27820–223
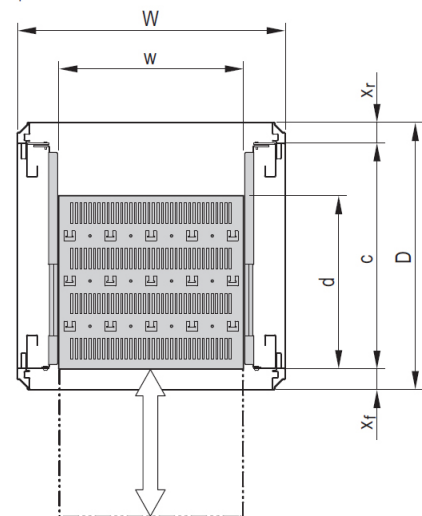
c = max. pitch of the 19" panel/slide mounts
x_f, x_r = standard assembly dimension

CopperOn™

19" Telescopic Shelf, 70 KG

- Static load-carrying capacity at full extension 70 kg.
- Mounting height 2 U, for mounting on four 19" panel/slide mounts.
- Incl. telescopic slides.
- Locking with T-bar lock possible.
- Hammer head perforation to fix cable ties.
- Hammer head perforation to fix cable ties.
- 2 versions:
  - Full depth.
  - Depth shortened by 100 mm for rear cable ducting.
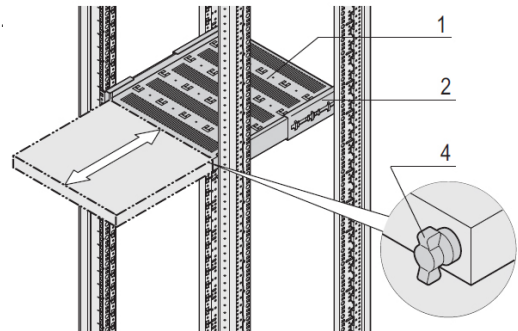
Delivery Includes

Item	Qty	Description
1	1	Perforated shelf, St, 1.5 mm
2	2	Telescopic slide
3	1	Assembly kit

Order Information

Full depth

For cabinet depth mm	Usable surface w x d mm	xf mm	C mm	RAL 7035 Part No.	RAL 7021 Part No.
600	405 x 482	50	500	27830-357	27830-212
800	405 x 482	150	500	27830-358	27830-213
Item 4 T-bar lock for 1 telescopic shelf (can be mounted right or left), 1 piece				27830-214	
GND/earthing for telescopic 19" shelf PU 1 kit				27830-216	

Full depth
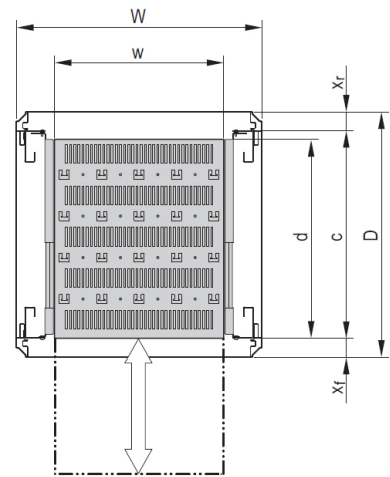
c = max. pitch for 19" panel/slide mounts

Shortened depth

Order Information

Shortened by 100 mm.

For cabinet depth mm	Usable surface w x d mm	xf mm	C mm	RAL 7035 Part No.	RAL 7021 Part No.
600	405 x 382	50	500	27830-351	27830-223
800	405 x 382	150	500	27830-353	27830-224
Item 4 T-bar lock for 1 telescopic shelf (can be mounted right or left), 1 piece				27830-225	
GND/earthing for telescopic 19" shelf PU 1 kit				27830-226	

Shortened depth
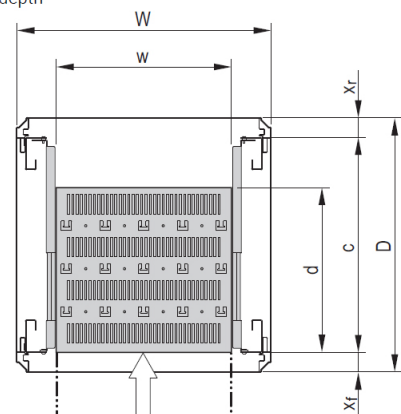
c = max. pitch of the 19" panel/slide mounts
x_f, x_r = standard assembly dimension

Cable Eye – Plastic

- For mounting on cabinet uprights on 600- or 800-mm wide cabinets.
- Simple and fast assembly by clicking into the cabinet profile. (without assembly kit)
- Cable ducting laterally in front of the 19" panel/slide mount.
- With additional assembly kit also suitable for lateral assembly on the 19" panel/slide mounts.

Delivery Includes

Item	Qty	Description
1	4	Cable eye, PA, UL 94 V-0, black

Illustration shows application (W, D = 100 mm)

Order Information

For cabinet width mm	W mm	D mm	Part no.
600	31	92	27840-407
800	100	100	27840-412

Accessories

Taptite screw M6, PU 50 pieces			27840-419
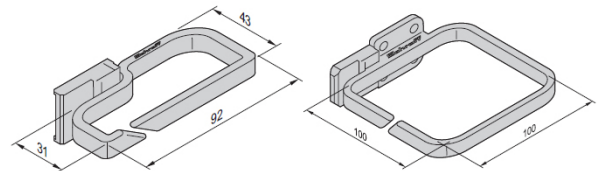
W = 31 mm, D = 92 mm

W, D = 100 mm

Cable Eye – Steel

- For assembly on cabinet uprights (800 mm cabinet width) or laterally to the 19" panel/slide mounts.
- Cable ducting laterally next to and/or in front of the 19" panel/slide mounts

Delivery Includes

Item	Qty	Description
1	4	Bracket, St, Zinc-Plated
2	4	Terminal, Al, die-cast
3	1	Assembly kit

Order Information

For cabinet width mm	W mm	D mm	Part no.
800	100	100	27840-065
800	100	180	27840-069
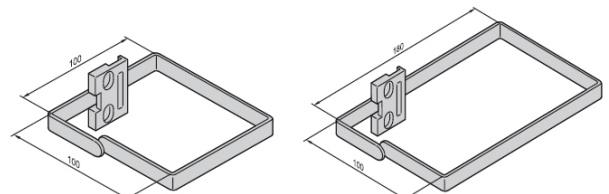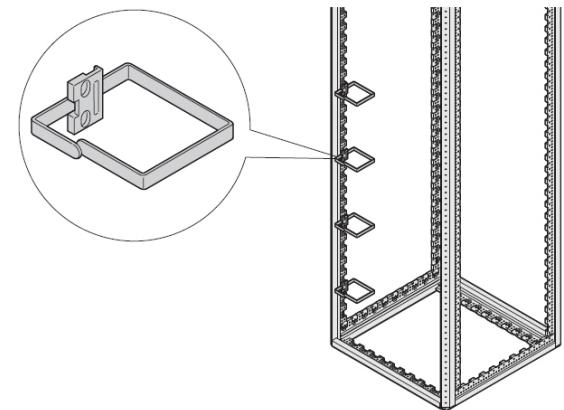
Fiber Optic Cable Ducting

- For secure, damage-free laying of optic fiber cables.
- For assembly on 19" panel/slide mount.
- Mounted from inside or outside on panel/slide mount.

Delivery Includes

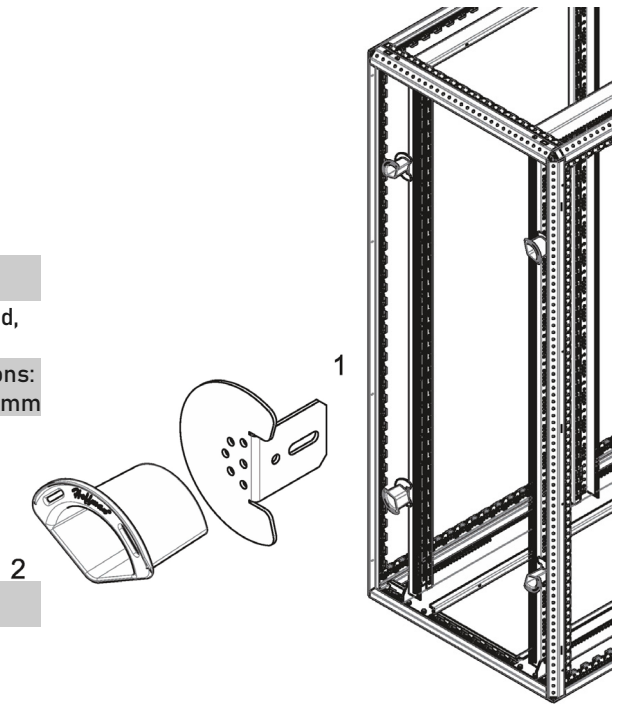| Item	Qty	Description
1	4	Optic fiber cable ducting holder, St, powder coated, RAL 7021
2	4	Optic fiber cable ducting, PA, UL 94 V-0, dimensions: radius 30 mm, width 50 mm, side panel height 15 mm
3	1	Fixing materials kit

Order Information

Description	Qty/PU (piece)	Part no.
Fiber optic cable ducting	4	27845-163

Cover Panel - Hinged

- For use in 2000 mm high and 800 mm wide cabinets.
- For lateral covering of e.g., the patch cables.
- Optionally with brush strip.

Delivery Includes

Item	Qty	Description
1	2	Cover panel, St, 1 mm, RAL 7021
2	1	Assembly kit
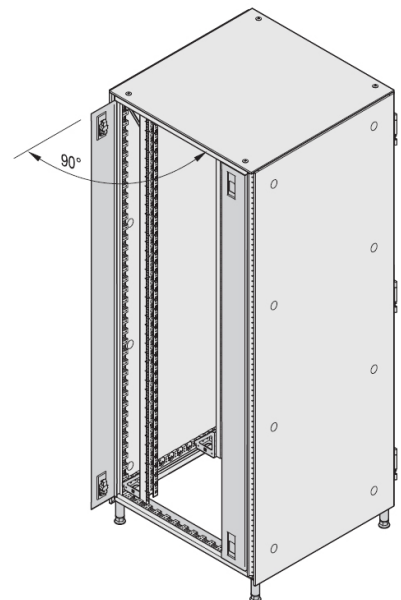
Order Information

Height	Width	Qty/PU piece	Part no.
2000	100	2	27845-483
Brush strip for cover panel height 2000 mm, PU 2 pieces			27845-485

Cable Tie – Velcro

- Fixing materials kit for cable ducting.

Order Information

Description	Part no.
Cable ties, Plastic, 92 mm x 2.5 mm, PU 25 piece	27800-911
Cable ties, Plastic, 186 mm x 5 mm, PU 25 piece	27800-912
Cable ties, Plastic, 360 mm x 5 mm, PU 25 piece	27800-913
Velcro strip, PE/PA, black, length 300 mm, PU 10 piece	27800-914

Cable tie   Velcro
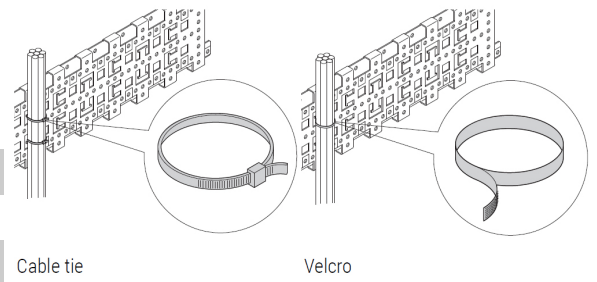
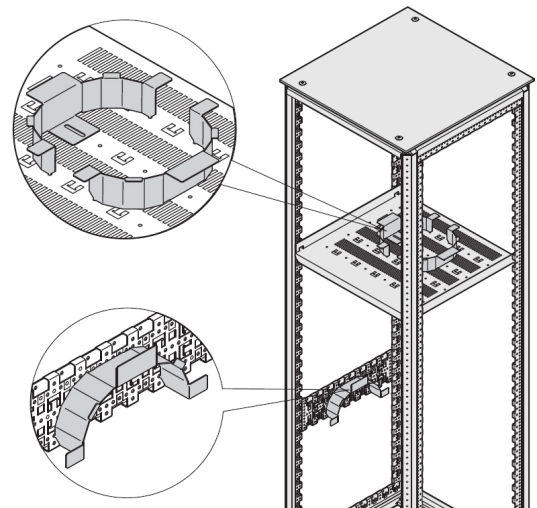## Deposit for Excess Cable Lengths

- For fixing on shelf or depth member.
- Height with shelf is 2U.

Delivery Includes

Item	Qty	Description
1	2	Deposit for excess cable lengths, St, 1.5 mm, height 55 mm, RAL 7021
2	1	Assembly kit

Order Information

Description	Part No.
Deposit for excess cable lengths	27802-016
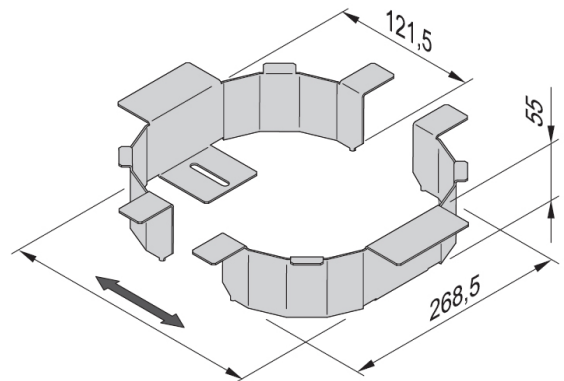
Frame Dimensions

Cabinet height		Frame	
		H	h
mm	u	mm	mm
1200	24	1192	1102
1400	29	1392	1302
1600	33	1592	1502
1800	38	1792	1702
2000	42	1992	1902
2200	47	2192	2102

Width

Cabinet width	Frame	Slim-Line	Heavy-Duty
mm	W	w	w
mm	mm	mm	mm
600	592	535	502
800	792	735	702

Depth

Cabinet width	Frame			
mm	D	d	d1	d2
300	292	128.8	150	175
600	592	428.8	450	475
800	792	628.8	650	675
900	892	728.8	750	775
1000	992	828.8	850	875
1100	1092	928.8	950	975
1200	1192	1028.8	1050	1075
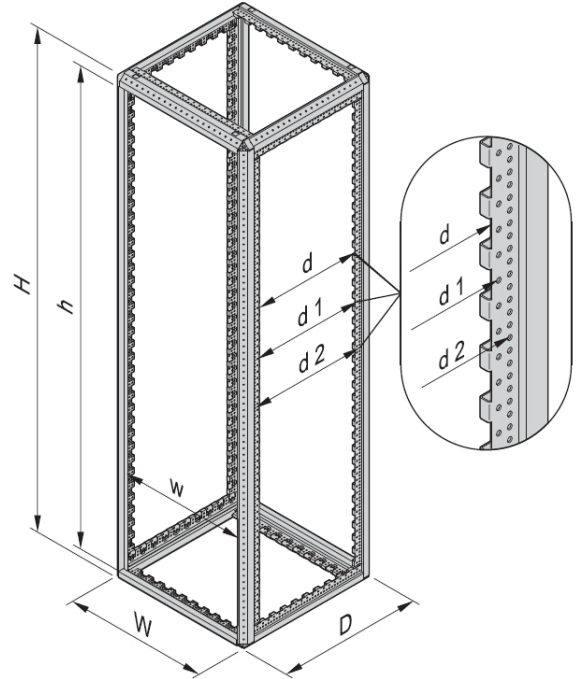
Cooling System

Heat Dissipation to Exact Requirements: Cooling Concepts

Depending on installed heat dissipation and the surroundings, CopperOn offers various cooling options and also good conditions for problem-free operation of the installed equipment.

Either top cover fans are used to assist the heat dissipation or perforated doors with 78 % air throughput are fitted.

Additionally, CopperOn LHX 20/40 with assembled air/water heat exchanger allows to cool especially strained appliances with water. And that for up to 40 kW per cabinet.

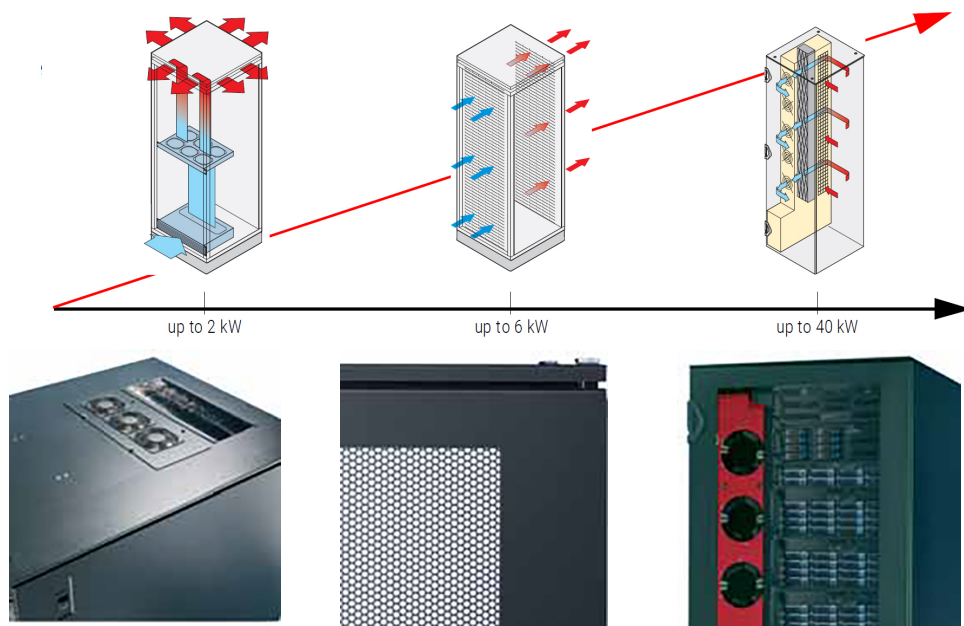| up to 2 kW | up to 6 kW | up to 40 kW |

Classic and Consistent: Colour and Design

As well as its functional aspects, in the development of the design of the individual components and their combined effect on the appearance of the cabinet was always a priority. The cabinet gains its characteristic, unmistakable look from the high narrow door with the memorable hinges and the very thin, almost inconspicuous top cover edge. While rack, base and cover are offered in black grey (RAL 7021) for all standard cabinets, a choice of two colour options are available – even in our standard program – for side panels, doors, and rear panels:

Either entirely black grey (RAL 7021), as is the contemporary look in data centers and recording studios. Or in light grey (RAL 7035), whereby an attractive combination of mainly light surfaces with a few dark accents is obtained.

CopperOn™

CopperOn Air/Water Heat Exchanger for Data Centers

- Cooling capacity up to 34 kW.
- Complete cabinet solution, static load capacity up to 1600 kg.
- Space-independent cooling, high energy efficiency.
- Water and air circuits are temperature controlled.
- Low noise level.
- Fans may be changed individually while the unit is operating.

With Single Door

With Double Door

- Cooling capacity up to 34 kW (heat exchanger on left or right)

- Cooling capacity up to 34 kW (heat exchanger on left or right)

Accessories

Management system for monitoring cabinet parameters

Optimum Temperature for Air/Water Heat Exchanger

Since the thermal load continues to increase, conventional cooling methods eventually reach their physical limits. It can happen that thermal load limits within a cabinet are such that some height units must go unused.

Air/water heat exchangers installed close to the heat source not only increase the cooling capacity per cabinet, but also improve the redundancy of the data center. With intelligent control systems, air conditioners can quickly respond to the working load of the equipment, thereby enabling additional savings.

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Advantages

- Integrated solutions with space-independent thermal transfer.
- Highest cooling capacity in the smallest of spaces.
- A wide variety of dimensions are supported, short implementation time and low planning effort.

CopperOn™
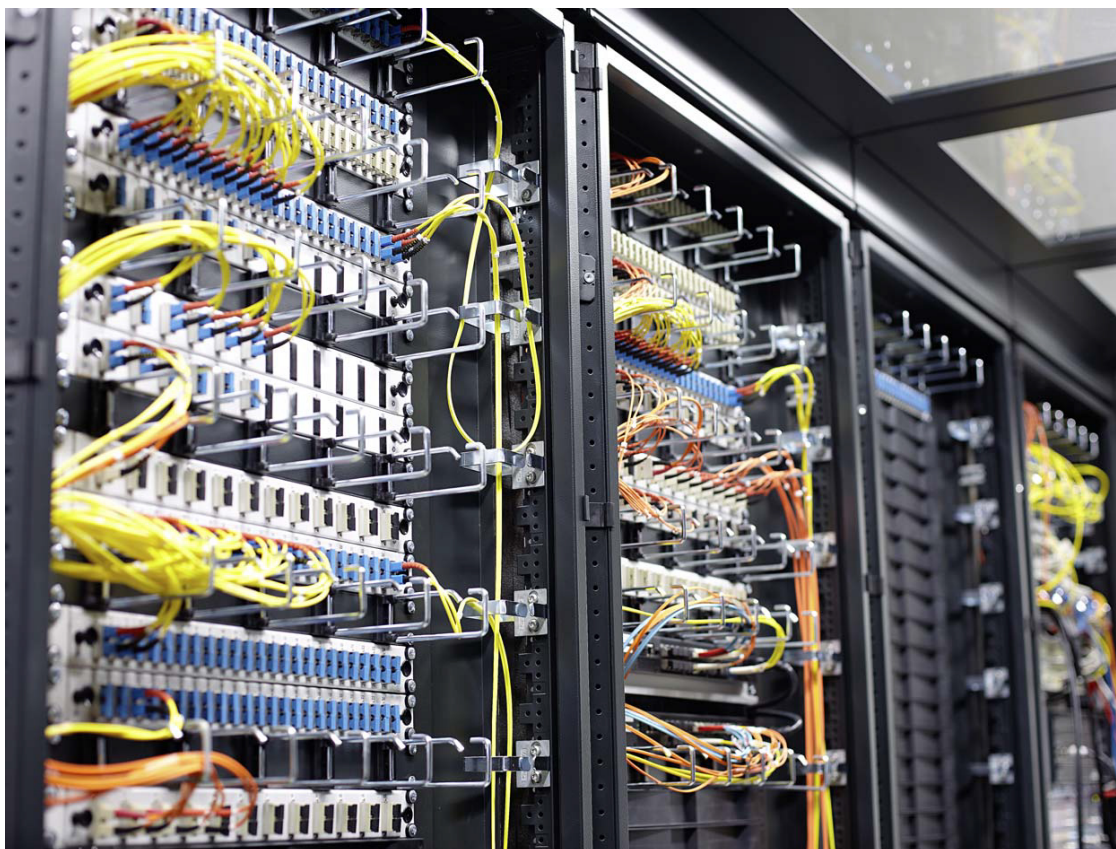
Integrated Heat Exchanger

In this combination, an active heat exchanger integrated into an 800 mm wide cabinet has the lowest space requirement on the market. The closed system reduces the noise level and controls itself by means of the thermal load. With a cooling capacity of up to 34 kW[1]), the heat exchanger is suitable for HPC applications. Multiple cabinets can be mounted side-by-side to create a closed system. Thanks to the low space requirement, reduced noise level and ease of creating redundancy, this heat exchanger is well suited also for medium-sized data centers.

Heat Exchanger Mounted Side-By-Side

Active Text heat exchanger for containment systems with a cooling capacity of up to 34 kW[1]). This in-row heat exchanger is mounted side-by-side to cabinets within the aisle containment. This enables optimal scalability regarding planning for the cooling capacity and the redundancy of the system.

SHX 30 in-Row Heat Exchanger

LHX+ cabinets mounted side-by-side with integrated heat exchangers.

Integrated Heat Exchanger	
Cooling capacity	Up to 34 kW[1])
Dimensions	Width 800 mm Height 2100 mm Depth 1000 to 1200 mm
Functions	IP 55 protection on request EMC design on request 1600 kg static load capacity Bottom/top water connections Control system options with an external temperature sensor.
In-Row Heat Exchanger	
Cooling capacity	Up to 34 kW
Dimensions	Width 300 mm Height 2000 to 2200 mm Depth 1000 to 1200 mm
Functions	Water connections from bottom/top Control system options with an external temperature sensor Display in four languages
1) Cooling capacity 34 kW at +12 °C water flow temperature, +24 °C cold air temperature, 4.5 m³/h water flow rate; for other conditions refer to the diagram for the cooling capacity	

One Heat Exchanger for Multiple Cabinets

The option of mounting the cooling unit to the left or right of the 19" plane means it is easy to build very variable cooling systems from multiple cabinets. If the full cooling capacity is not needed initially, one unit can supply cold air to multiple cabinets mounted side-by-side. In cabinets mounted side-by-side, the space for the cooling unit is closed with an air baffle. If the necessary cooling capacity increases, the air baffle is removed, and an additional cooling unit is inserted.

Redundancy from Side-by-Side Mounting

Text Redundant systems are also very easy to implement. If two cabinets are mounted side-by-side with one heat exchanger each, one unit can take over the cooling of both cabinets up to half of the max. cooling capacity per cabinet.

One Heat Exchanger for Multiple Cabinets

For installation and maintenance, the air conditioners of these series have a very service-friendly design. The water connections are easy to access. Fans can be changed individually and very quickly while the unit is operating. However, if a defined threshold value does arise, either in the cabinet or in the unit itself, each heat exchanger will provide valuable information for maintenance and service work. Fan speeds and temperatures at various positions in the cooling circuit are measured via integrated communication interfaces and can be shown on a display. However, all information (measured values, threshold values, etc) can also be transferred directly into the network management system.

- Bottom or top and bottom water connections.
- Power supplies.
- Communication interface.
- External temperature sensor.
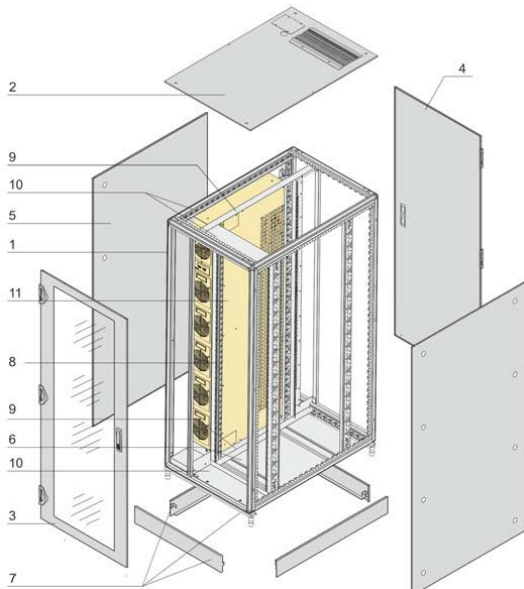- Interlog interface.

- Display.
- Hot-swap-capable fans.

Cabinet with Single Door, Integrated Air Conditioner

- Cabinet with air/water heat exchanger with cooling capacity of 34 kW.
- Max. static load capacity 1600 kg.
- Gasket all around reduces noise and suction of room air.

Item	Qty.	Description
1	1	Welded basic frame, Slim-Line, St profile, zinc-plated, RAL 7021, with gasket all around
2		Flat roof, St, RAL 7021 with cable entry point in rear with brush, entry point for water connection in rear, entry points can be sealed with a gasket/cover plate
3		Front door glazed, St frame, RAL 7021, single-pane safety glass 6 mm, 3 x 180° hinge, three-point closure, pivoting lever handle for optional DIN profile half
4		Rear door, St, RAL 7021, 3 x 180° hinge, three-point closure, pivoting lever handle for optional DIN profile half cylinder
5	2	Side panel, screwed, St, RAL 7021
6		Baseplate, St, RAL 7021 with cable entry point in rear with brush, entry point for water connection in rear, entry points can be sealed with a gasket/cover plate
7		Base/plinth 100 mm, with additional center crossmember, St, RAL 7021, removable covers, integrated adjustable feet
8	4	19" panel/slide mount with EIA cut-outs, St, RAL 7021, 225 mm recessed in front, c dimension 740 mm distance between front and rear 19" plane
9	2	Support rail for connecting the air/water heat exchanger and 19" panel/slide mounts, St, RAL 7021
10	4	Air baffle, St, RAL 7021
11	1	SHX 30 air/water heat exchanger, RAL 7021, 100 to 240 V_{AC}, may be mounted on the left or right, see Order Information
12	1	Power cable, length 1.5 m
13	1	Connecting cable for management unit

Order Information

Height U	mm	Width mm	Depth mm	Heat Exchanger	Water connection	Power supply	Part no.
42	2100	800	1200	Left	Bottom	1	C8218-800
42	2100	800	1200	Right	Bottom	1	C8218-801
42	2100	800	1200	Left	Top & Bottom	2 redundant	C8218-802
42	2100	800	1200	Right	Top & Bottom	2 redundant	C8218-803

Accessories

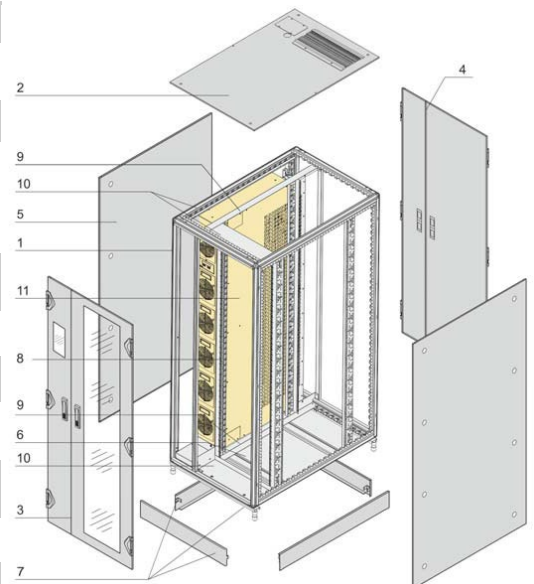|	
Lifting eye for top cover PU 4 pieces	C8460-479
Electronic closing (MLR3000), 13.56 MHz-With reader, 1 set	C8460-428
Electronic locking (MRL3000), With reader, 1 set	C8460-430

Note

- 34 kW cooling capacity at +12 °C water flow temperature, +24 °C cold air temperature.
- Other dimensions on request.

Cabinet with Double Door, Integrated Air Conditioner

- Cabinet with air/water heat exchanger with cooling capacity of 34 kW.
- Max. static load capacity 1600 kg.
- Separate front and rear access doors for air/water heat exchanger.
- Gasket all around reduces noise and suction of room air.

Item	Qty.	Description
1	1	Welded basic frame, Slim-Line, St profile, zinc-plated, RAL 7021, with gasket all around
2	1	Flat roof, St, RAL 7021 with cable entry point in rear with brush, entry point for water connection in rear, entry points can be sealed with a gasket/cover plate
3	1	Front door, divided asymmetrically, RAL 7021, 3 x 180° hinges, three-point closure, pivoting lever for optional DIN profile half cylinder; in front of the 19" plane, 600 mm, St frame, glazed, single-pane safety glass 6 mm, in front of the heat exchanger, 200 mm, St, with viewing window, single-pane safety glass 6 mm
4	1	Back door, divided asymmetrically, St, RAL7021, 3 x 180° hinges, three-point closure, pivoting lever for optional DIN-profile half cylinder: in front of the 19" plane, 600 mm, in front of the heat exchanger, 200 mm
5	2	Side panel, screwed, St, RAL 7021
6	1	Baseplate, St, RAL 7021, cable entry point in rear, entry point for water connection, entry points can be sealed with gasket/cover plate
7	1	Base/plinth 100 mm, with additional center crossmember, St, RAL 7021, removable covers, integrated adjustable feet
8	4	19" panel/slide mount with EIA cut-outs, St, RAL 7021, 225 mm recessed in front, c dimension 740 mm distance between front and rear 19" plane
9	2	Support rail for connecting the air/water heat exchanger and 19" panel/slide mounts, St, RAL 7021
10	4	Air baffle, St, RAL 7021
11	1	SHX 30 air/water heat exchanger, RAL 7021, 100 to 240 VAC, may be mounted on the left or right, see Order Information
12	1	Power cable, length 1.5 m
13	1	Connecting cable for management unit

Order Information

Height U mm	Width mm	Depth mm	Heat Exchanger	Water connection	Power supply	Part no.
42 2100	800	1200	Left	Bottom	1	C8221-081
42 2100	800	1200	Right	Bottom	1	C8221-082
42 2100	800	1200	Left	Top & Bottom	2 redundant	C8221-083
42 2100	800	1200	Right	Top & Bottom	2 redundant	C8221-084

Accessories

Lifting eye for top cover PU 4 pieces	C8229-324
Electronic closing (MLR3000), 13.56 MHz-with reader, 1 set	C8229-325
Electronic locking (MRL3000),with reader, 1 set	C8229-326

Note

- 34 kW cooling capacity at +12 °C water flow temperature, +24 °C cold air temperature.
- Other dimensions on request.

Rack Chiller In-Row Cooler

- Air- / water heat exchanger with housing (RAL 9005) is installed between row-based cabinets.
- Cooling capacity up to 55 KW (300 mm) and 75 kW. (600 mm)
- Width 300 mm and 600 mm.
- 230 VAC and 208 VAC power connection.
- Water connection from the back top or bottom.
- Monitoring via Modbus or Ethernet interface.
- Control with internal and external sensors.

Delivery Includes

Item	Qty	Description
1	1	In-Row Cooler with integrated air-water heat exchanger, RAL 9005, removable front panel with display and LED display, rear door perforated with 1-point locking, opening angle 180°
2	2	Water connection hose 3 m (blue / red), pre-assembled
3	1	Control valve (2 ways) and actuator
4	2	Transport castors

Order Information

Height U	Height mm	Width mm	Depth mm	Heat Exchanger	Qty/PU Piece	Part no.
42	2000	300	1200	Cooler 230 V_{AC}	1	C7013-832
42	2000	600	1200	Cooler 230 V_{AC}	1	C7013-833
42	2000	300	1200	Cooler 208 V_{AC} (US-Version)	1	C7013-834
42	2000	600	1200	Cooler 208 V_{AC} (US-Version)	1	C7013-835

Rack Chiller In-Row Cooler

Technical Data

Connection	Water connection at top or bottom
Max. airflow volume	7200 m3/h
Dimensions heat exchanger	Height 2000 mm, width 300 mm, depth 1200 mm; width 600 mm, depth 1200 mm plus 170 mm radial fan overhang
Supply voltage (1-phase) nominal voltage)	100 ... 230AC (50/60 Hz, dual supply
Input / sensor	Connection for external temperature sensor
Adjustment range air outlet temperature	18 ... 30 °C (in 0,1 °C-steps)
Cooling capacity at 14° C water inlet, flow 4,2 m³ / h; Room temperature 22-24 ° C	300 mm width 55 KW; 600 mm width 75 KW
Cooling medium *)	Water, water-glycol mixture (max. 33%)
Water inlet temperature **)	>14 °C
Water flow volume	up to 4,6 m3/h
Water conduit	Copper
Water connection inlet / outlet	Female cone / BSP 1"
Control valve	1" Rp, 24 VDC, connected to the central monitoring system
Water volume	11 L
Max. Current consumption	6 A (230 VAC)
Pre fuse (on building side)	D10 A
RJ 45 Interface	Monitoring via Modbus or Ethernet interface
Ambient temperature during transport	Transport, storage when fully emptied / when containing 35% glycol / in operation outside cabinet: -25 ... 70 °C / 5 ... 70 °C
Relative humidity	5 ... 95 %
Weight heat exchanger	140 kg (without water)
General Data	
Protection class of the cabinet	IP 55
Ambient temperature outside the cabinet (during operation)	5 ... 70 °C
Sound pressure level (cabinet closed) at 80% fan power	50,7 dB(A)

*) To problem-free operation of the air/water heat exchanger the quality requirements of the water must be maintained; the appropriate anti-corrosion and frost protection agents are dependent on the environment in which the unit is used and on the external chiller (VDI 3803, see also user manual).

**) At water inlet temperatures of <14 °C there is also a risk of condensation. We recommend requesting a unit with integrated condensate management.

CopperOn Uninterruptible Power Supply (UPS)

CS400 UPS 10- 40 KVA

CopperOn CS400 Uninterruptible Power Solutions is a modular on-line UPS system with a high operating AC/AC efficiency and compact footprint. The system is designed to protect critical data and IT infrastructures with the ultimate on-line power protection.

CopperOn CS400 is based on a 2U high 10 kVA/kW power module that can be housed in one of two frame sizes (20 kVA or 40 kVA) providing up to 40 kVA maximum capacity or 30 kVA N+1 configuration. Up to 4 frames can be operated in parallel for additional resilience or capacity.

The 20 kVA and 40 kVA frames can be installed into a 19-inch cabinet. (1000 mm deep and weight dependent). The batteries are housed in a separate battery cabinet.

The Frame Plus provides a self-contained solution. The standard Frame Plus provides space for a 20 kVA or 40 kVA frame and internal battery shelves. Longer runtimes can be achieved using external battery cabinets.

CS400 has one of the lowest Total Cost of Ownership (TCO) factors in its class. The operating efficiency in on-line mode is up to 95 % and 98 % in Eco Mode. The UPS delivers up to unity-power factor and the system can be configured for 1/1, 3/1 or 3/3 input/output connections at installation.

Features

- Up to 95 % operating efficiency. (on-line mode)
- Up to 98 % operating efficiency. (Eco Mode)
- 10 kVA 'hot-swappable' Power modules. (2U high)
- 20 and 40 kVA UPS frame sizes.
- Parallel up to 4 frames for additional resilience.
- UPS modules incorporate 'idle mode' and cyclic operation.
- Output PF up to unity.
- Phase configuration options 1/1, 3/1 and 3/3.
- Centralized static and manual bypass lines.
- Centralized battery connection.
- Built-in 'Intelligent Test Mode.

UPS frame
(20 or 40 kVA)

Optional PDU

Free space
for batteries
(40 or 80 blocks
9 or 12 Ah)

"Frame Plus" (UPS frame and batteries)

CopperOn CS400 is designed to provide stable and secure power for very demanding applications with either a 100 % step load change, unbalanced or non-linear IT-type loads.

The UPS also provides exceptional performance with a Unity-rated output power factor when protecting leading or lagging power factor loads.

The modular architecture allows up to four power modules to be connected in parallel in a single frame cabinet (40 kVA).

With an operating efficiency up to 98 % (Eco Mode), CS400 is one of the most eco-friendly UPS systems available today.

Benefits

- Green Modular Scalable UPS.
- Double Conversion (VFI-SS-111).
- Modular design with N+X built-in redundancy.
- Transformer-less architecture.
- Power capability up to 40 kVA.
- 10 kVA power modules (2U height each) with independent LED status indications.
- Hot-swappable modules.
- ECO Mode up to 98 % efficiency.
- Idle Mode, to increase operating efficiency, even with low % of load.
- Output PF up to 1.
- Frequency converter mode.
- 7" color Touch Screen graphic display.
- Built-in 'Intelligent Test Mode.'
- Centralized (static and manual) Bypass Module.
- Centralized (external) battery connection.
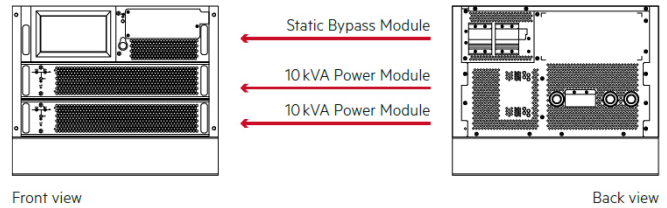- Parallel capability up to 4 units.

Easy Installation, Operation & Maintenance

The CS400 can be configured as a 1/1, 3/1 or 3/3 phase system upon installation. The 7" LCD touchscreen built into the frame's front panel provides access to a range of operating information for the entire UPS system as well as each individual power module including, historical logs, alarms, operating parameters, load and electrical system measurements.

The power modules can also be accessed from the front of the frame for easy removal and inspection.

The Mean Time To Repair (MTTR) is significantly low thanks to the hot swappable architecture. The models are held in place by four screws and slide into/out of their position in the UPS frame. Bottom and top cable entry are available for the frames.

Frame 20 kVA

Front view — Static Bypass Module / 10 kVA Power Module / 10 kVA Power Module — Back view

Frame 40 kVA

Front view — Static Bypass Module / 10 kVA Power Module / 10 kVA Power Module / 10 kVA Power Module / 10 kVA Power Module — Back view
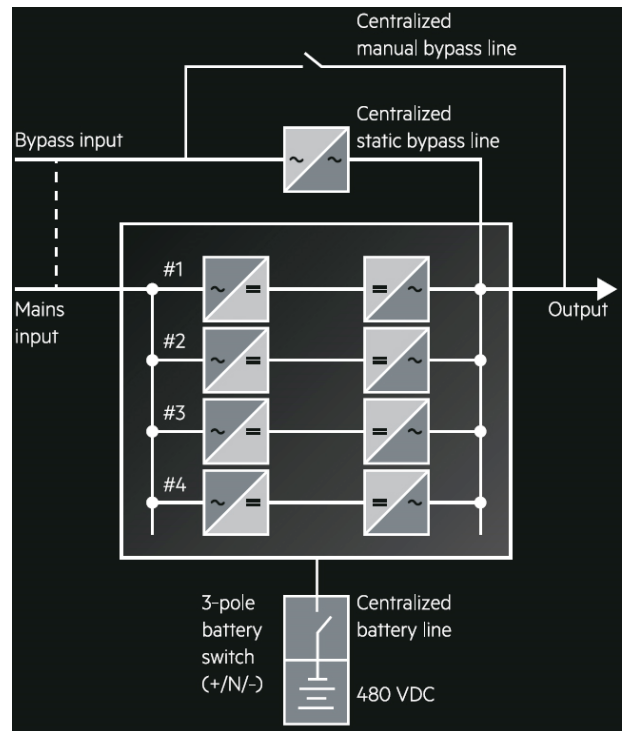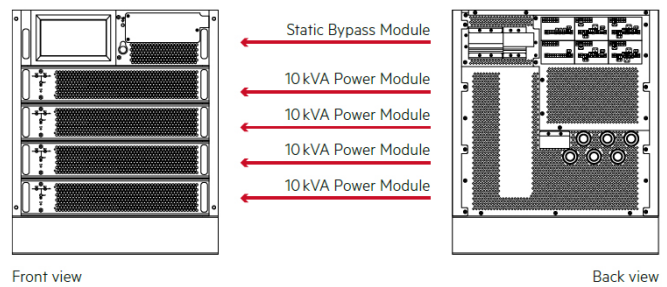
Specifications

Frame Model	20	40
Maximum capacity (kVA/kW)	20/20	40/40
Maximum number of power modules connected	2	4
Dimensions W x D x H (mm)	485 x 697 x 398 (7U)	486 x 697 x 575 (11U)
Weight (kg)	42	51
Phase configuration	3/3; 3/1; 1/1	
IP protection degree	IP20	
Color of the frame and modules	RAL 7021	
Power Module		
Parallel capability	Up to 4 frames	
Nominal power (kVA/kW)	10/10	
Dimensions W x D x H (mm)	438 x 590 x 85 (2U)	
Weight (kg)	15.3	
Frame Plus (Cabinet for UPS Frames and Battery Strings) Input		
Dimensions W x D x H (mm)	600 x 1000x1600	
Weight, empty (kg)	120 kg	
Input		
Phase	3 or 1 Phase + N + G	
Nominal voltage (V)	3 Phase: 380/400/415, 1 Phase: 220/230/240	
Voltage range (V)	304 to 478 V (at full load) 228 to 304 V (with load decreasing linearly)	
Frequency (Hz)	50/60	
Frequency range (Hz)	40/70	
Power factor	0.99	
Input THDi	< 3 % (with full linear load)	
Output		
Voltage (V)	3 Phase: 380/400/415, 1 Phase: 220/230/240	
Output THDv (according to IEC EN 62040-3)	< 1 % (with linear load), < 5.5 % (with nonlinear load)	
Output PF	1	
Crest factor	3:1	
Frequency (Hz)	50/60	
Slew rate (Hz/s)	0.5 (standard); settable from 0.5 to 3	
Overload capacity	110 % for 60 min, 125 % for 10 min, 150 % for 1 min, 150 % for 200 ms	
AC/AC efficiency in double conversion	Up to 95 %	
AC/AC efficiency in ECO Mode	Up to 98 %	
Battery Line		
Nominal DC voltage (VDC)	± 240 (with +/N/– connections)	
Quantity of lead acid batteries (12 V each)	40 (settable from 32 to 44)	
Recharge power	10 % * System Power (nominal value); Settable: from 0 – 20 % * System power	
User Interface		
Display	7" LCD touch screen (central) display	
Standard communication ports	RS232, RS485, Dry contacts, USB	
Optional communication ports	SNMP, Expansion Dry contact card	
Environmental		
Operating temperature (°C)	0 to 40	
Storage temperature (°C)	–40 to 70	
Relative humidity	0 to 95 %	
Noise at 1 m distance, each power module at 100 % of load (dB)	58	
Standards and Certifications		
Safety	IEC EN 62040-1	
EMC	IEC EN 62040-2	
Test and Performance	IEC EN 62040-3	

CS416 UPS 160-600 KVA

The UPS CS416 is a highly reliable solution with a very long track record in system availability and use, providing safe uninterrupted power back-up. It is a compact ready to install unit, with a maximum single unit capacity of up to 600 kVA, ensuring the safe operation of any critical loads. It allows you to benefit from a proven design. The robust and easy to operate UPS has excellent overload capability, superior dynamic response and is easy to maintain. Tailoring to specific requirements is possible due to the high level of customization available. Operational expenditure is optimized with a complete and cost-effective life cycle.

Features

- High efficiency.
- Small footprint.
- Short lead time.
- Potential free output voltage.
- Full redundant control architecture.
- Very fast dynamic response time.
- Output short circuit proof.
- Redundant and monitored fan control.
- EMC immunity and emission better than IEC 62040.
- High communication capabilities.
- Low voltage ripple to prolong battery lifetime.
- Intelligent battery charge and monitoring control.
- Large battery voltage range.
- Redundant parallel operation.
- Lithium Ion Battery charging options ready and available.

Benefits

- Dedicated to very harsh environments.
- Compact design with small footprint.
- High overload capability protection.
- Long lifetime.
- High efficiency even at low output power.
- Comply with all relevant international standards.
- Over 60-year experience to guarantee your business continuity.
- Robust and reliable solution suitable for stringent seismic spectrum, high humidity level and temperature range, able to operate up to 4000 m above sea level.

Typical Applications

- Data Centers.
- Oil & Gas, Petrochemical. (offshore, onshore, pipelines)
- Energy and Power. (generation, transmission, distribution)
- Transportation. (rail, airports, shipping, highways, tunnels)
- Water. (desalination, treatment)
- Instrumentation & process control. (chemicals, mining, steel, paper, emergency lightning)
- All industrial applications.

Specifications

Rectifier Unit	
Nominal DC voltage	384 V
Nominal AC voltage	3 x 400 V (3 x 380 V, 3 x 415 V)
Input frequency range	50 Hz / 60 Hz ±10 %
Operation range (min. / max.)	340 V – 460 V
Input current at nominal load	259 – 1230 A
Charge characteristic acc. IEC478-10	IU
Max. charging voltage	480 V
Rectifier type	12 pulse
Inverter Unit	
DC Input	384 V ± 20 %
Nominal AC voltage	3 x 400 V (3 x 380 V, 3 x 415 V)
Nominal output current	231 – 867 A
Nominal power	160 – 600 kVA
Output voltage static response	< ±1 %
Output voltage dynamic response 0 % – 100 % – 0 %	< ±5 %
Recovery time	2 ms
Frequency	50 / 60 Hz
Frequency static tolerance	±0.1 %
Frequency synchronization range	±1 %
Power factor at nominal load	0.0 lag to 0.0 lead
Voltage wave form	Sinusoidal
Crest factor	≤3
Overload response 1 min.	150 %
Overload response 10 min.	125 %
Short circuit response	≤31 nominal
Static Bypass Switch	
Nominal AC voltage	3 x 400 V (3 x 380 V, 3 x 415 V)
Nominal frequency	50/60Hz
Overload	500 % for 10 ms
General Data	
Efficiency depending on rating	Up to 94 %*
Degree of protection	IP20 (option up to IP31)
Noise level depending on rating	> 69 dB (A)
Color	RAL 7035
Operation temperature	–10 °C to 35 °C (without derating)
Storage temperature	–30 °C to 75 °C
Maximum altitude without derating	1000 m
Standards	
Safety	IEC 62040 - 1
EMC immunity and emission	IEC 62040 - 2
Performance	IEC 62040 - 3
Environment	RoHS (2011/65/EU) WEEE (2012/19/EU)
CE marking	Yes

* values ± 2% change.

CS600 UPS 30 – 900 kVA

CopperOn CS600 is a Modular UPS system that combines high AC/AC efficiency values with a compact footprint and a flexible and scalable architecture.

CS600 UPS can start with a basic configuration of just 30 kVA and then grow gradually as required, up to 900 kVA.

The CS600 models offer input PF 0.99 and input THDi <3 %, even when a low percentage of load is applied. The system can reach the highest AC/AC efficiency levels available, of up to 98.5 % in ECO Mode. The flat efficiency curve from 35 % of load will ensure maximum energy savings at every percentage of load.

Features

- Double Conversion. (VFI-SS-111)
- Transformer-less architecture: lower space & weight.
- Excellent power capability, up to 900 kVA without additional tools.
- 30 kVA hot-swappable power modules for predictive power management & lowest MTTR.
- AC/AC Efficiency in double conversion up to 95.5 %.
- ECO Mode, up to 98.5 % efficiency.
- Idle Mode.
- Output PF = 0.9.
- 10.4" color Touch Screen.
- Intelligent and innovative Self Aging Test.

Benefits

- High Efficiency leads to lowest cost of ownership of its category.
- Scalability optimizing capex and limiting opex.
- Modular and scalable architecture to maximize savings in terms of footprint (m2), power installed (kVA), electrical system (cabling and protection devices), security (MTTR and MTBF) and energy management. (kWh and costs)
- Hot swappable power modules for predictive power management and lowest Mean Time To Repair (MTTR) rate.
- Independent hardware and controllability for each power module; able to operate and coordinate with others within the system.
- Control of power modules connected in parallel decentralized in the single 30 kVA device.
- No master/slave architecture eliminates problems due to the failure of a single module.

Typical Applications

- Data centers,
- Transportation,
- Retail & light industrial applications.

As well as all other critical applications where power reliability is essential and power consumption is an important variable.

Specifications

Model	CS600	CS600	CS600
Frame model	Frame 180	Frame 300	Frame 600
Maximum capacity (kVA)	180	300	540 (+ redundancy)
Maximum number of power modules connected	6	10	20
Parallel operation	Up to 3 frames	Up to 3 frames	No
Dimensions W x D x H (mm)	600 x 1100 x 1600	600 x 1100 x 2000	2000 x 1100 x 2000
Weight (kg)	165	220	660
Color of the frame	RAL 7021		
Power Module			
Nominal power (kVA / kW)	30 / 27		
Dimensions W x D x H (mm)	460 x 790 x 134		
Weight (kg)	34		
Input			
Phase	3Ph + N + G		
Nominal voltage (V)	380 / 400 / 415		
Voltage range (V)	304 to 478 V (at full load) ; 228 to 304 V (with load decreasing linearly)		
Frequency (Hz)	50 / 60		
Frequency range (Hz)	40 / 70		
Power factor	0.99		
Input THDi	<3 % (with linear load)		
Output			
Voltage (V)	3Ph + N: 380 / 400 / 415		
Voltage regulation	1.5 %		
Output THDv	<1 % (with linear load), <6 % (with nonlinear load)		
Output PF	0.9		
Crest factor	3:1		
Frequency (Hz)	50 / 60		
Overload capacity	110 % for 60 min, 125 % for 10 min, 150 % for 1 min, 150 % for 200 ms		
AC/AC efficiency in double conversion (VFI)	Up to 95.5 %		
AC/AC efficiency in ECO Mode (VFD)	Up to 98.5 %		
Battery Line			
Nominal DC voltage (VDC)	±240 (with +/N/– connections)		
Quantity of lead acid batteries (12 V each)	40 (settable from 32 to 44)		
Recharge power	10 % system power (nominal value); Settable: from 0 to 20 % system power		
Temperature compensation (mV / ° C)	–3.0 (selectable: 0 to –5.0)		
User Interface			
Display	10.4" LCD + LED, Color touch screen + Keyboard		
IP protection degree	IP20		
Standard communication ports	RS232; RS485, Dry contacts, USB		
Optional communication ports	SNMP, Expansion Dry contact card		
Environmental			
Operating temperature (° C)	0 to 40		
Storage temperature (° C)	–40 to 70		
Relative humidity	0 to 95 %		
Noise at 1 m distance (dB)	65 (with nominal load); 62 (with 45 % of load)		
Standards & Certifications			
Safety	IEC EN 62040–1		
EMC	IEC EN 62040–3		
Test and performance	IEC EN 62040–3		

CopperOn™

CopperOn Intelligent Power Management Solutions

- Ensure Uptime
- Enjoy Flexibility
- Automate your Infrastructure Management.

Features	PD3000	PD2000	PD1500	PD1000	PD100
Outlet measurement	Yes		Yes		
Outlet switch ON/OFF	Yes	Yes			
Latching relay	Yes	Yes			
SNMP hardware	Yes		Yes	Yes	
Strip level measurement	Yes	Yes	Yes	Yes	Yes

Smart Rack Power

- PDU's with digital 2.8" local touchscreen display and IP network connectivity.
- All data you need with a metering accuracy within +/-1%:
- Current (AMP), voltage (Volt), power (kW), energy consumption (kWh) and power factor of the entire PDU.
- Hot-pluggable meter and field replaceable PSU.
- Single and three phases supporting regional voltages.

Smart Environmental Monitoring & Security

- Full range of Automatic Transfer Switches. (ATS)
- Rack Power Manager Software delivers a centralized remote management platform for the PDUs in multiple IP-access groups.

IP Gateway (SNMP)

Hot pluggable IP Gateway provides IP remote access to the PDUs using a single IP address chain. Only one IP Gateway is required to access a maximum of 16 PDUs in a daisy chain reducing data ports and network IP addresses.

Hot swappable meter

Field replaceable RMS current meter with 2.8" color LCD display with touch screen functionality.

Colored chassis

A simple way to enhance cable management and visualization of the power sources. Allows differentiation of primary and redundant power feeds (A & B) if required.

Protection

Thermal resettable fuse or circuit breakers.

Bottom Power Feed Entry

In single and three phases with country specific voltages. Customization to top feed entry is available on request.

Dual Power Feed PDU

Single phase range with one chassis, two power feed and color coded outlets.

Multiple outlet configurations

Multiple outlet configurations per each individual PDU. C13, C19, all types of sockets available.

Latching Relays

Socket switching is controlled via bistable/latching relays. It keeps outlets up and running with no power.

Field replaceable PSU module

IP Gateway (SNMP)

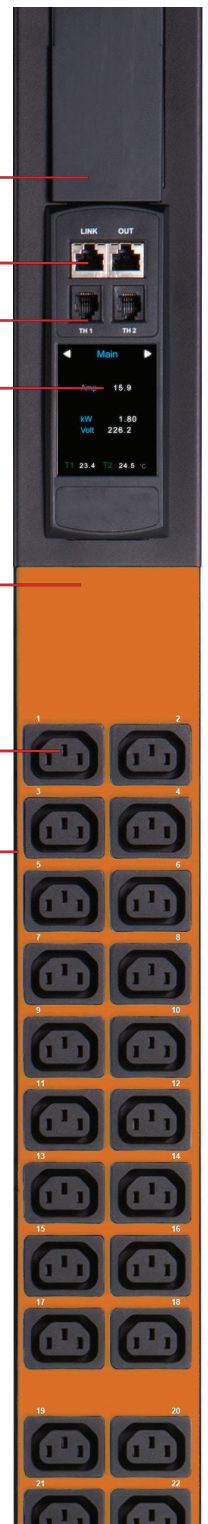Environmental sensor ports

Hot swappable meter

Colored chassis

Multiple outlet configurations

Latching relays

NOTES

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