

Accessories for climate control

Filter technology



Filter mats

for tangential fans

Made of chopped-fibre mat with a progressive structure. Temperature-resistant to 100°C, self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean-air side: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:

- Chemical fibres

For tangential fans/front outlet grilles 2 U

To fit Model No.	W x H x D mm	Packs of	Model No.
3144.000/ 3145.000/ 3176.000	425 x 85 x 8	5 pc(s).	3177.000



Filter mats

for cooling units and air/air heat exchangers

Rittal cooling units are low-maintenance and are supplied without filter mats. Filter mats may be used for extreme conditions.

Benefits:

- Temperature-resistant from -40°C...+80°C

Material:

- Open-celled polyurethane foamed plastic

To fit Model No.	for cooling units	for air/air heat exchangers	W x H x D mm	Packs of	Model No.
3302.300/3203.310	■	–	190 x 95 x 10	3 pc(s).	3286.110
3273.../3382.../3383.../3384.../ 3385.../3359....	■	–	530 x 255 x 10	3 pc(s).	3286.500
3386.../3387....	■	–	720 x 300 x 10	3 pc(s).	3286.600
3186.930/3187.930/3188.940/ 3189.940	■	–	380 x 358 x 10	3 pc(s).	3285.900
3302.../3303.../3361.../3126.100/ 3126.115	■	■	265 x 200 x 10	3 pc(s).	3286.300
3304.../3305.../3328.../3329.../ 3332.../3366.../3127.100/3127.115/ 3128.100/3128.115/3129.100/ 3129.115/3130.100/3130.115	■	■	344 x 268 x 10	3 pc(s).	3286.400

Accessories for climate control

Filter technology

Metal filters

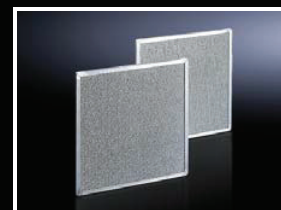
Particularly when cooling units are used in dusty and oily environments, it is advisable to use washable metal filters. If air or steam condenses on the metal surfaces, any particles present will adhere to the metal, and can easily be washed out with water or grease-dissolving detergents.

Material:

- Aluminium

Note:

- 2 metal filters are required for 3334.660, 3335.880 and 3335.890



To fit Model No.	for cooling units	for air/air heat exchangers	for chillers	for climate control door/section door	W x H x D mm	Packs of	Model No.
3186.930/3187.930/ 3188.940/3189.940	■	–	–	–	380 x 358 x 10	1 pc(s).	3285.910
3300.040/3300.050/ 3300.060/3300.070/ 3300.080/3300.090/ 3300.110/3300.120	–	–	–	■	425 x 78 x 10	1 pc(s).	3284.210
3302.300/3302.310	■	–	–	–	190 x 95 x 10	1 pc(s).	3286.120
3302.100/3302.110/ 3302.200/3303.../ 3361.../3126.100/ 3126.115	■	■	–	–	265 x 200 x 10	1 pc(s).	3286.310
3304.../3305.../ 3328.../3329.../ 3332.../3366.../ 3127.100/3127.115/ 3128.100/3128.115/ 3129.100/3129.115/ 3130.100/3130.115/ 3360.100/3360.250	■	■	■	–	344 x 268 x 10	1 pc(s).	3286.410
3273.../3382.../ 3383.../3384.../ 3385.../3359.../ 3318.600/3318.610/ 3319.600/3319.610/ 3334.660	■	–	■	–	530 x 255 x 10	1 pc(s).	3286.510
3320.600/3334.600	–	–	■	–	500 x 558 x 8	1 pc(s).	3286.520
3386.../3387...	■	–	–	–	720 x 300 x 10	1 pc(s).	3286.610
3335.840/3335.850/ 3335.880	–	–	■	–	595 x 1030 x 20	1 pc(s).	3286.530
3335.860/3335.870/ 3335.890	–	–	■	–	1000 x 1035 x 20	1 pc(s).	3286.540
3335.790/3335.830	–	–	■	–	595 x 780 x 20	1 pc(s).	3286.550

Accessories for climate control

Filter technology



Spare filter mats

Made of chopped-fibre mat with a progressive structure. Temperature-resistant to 100°C, self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean-air side: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

For roof-mounted fan

To fit Model No.	Material	W x H x D mm	Filter class to DIN EN 779	Packs of	Model No.
3138.../3139.../3140...	Chemical fibre	264 x 95 x 17	G3	12 pc(s).	3174.100

For EMC fan-and-filter units

To fit Model No.	Material	W x H x D mm	Filter class to DIN EN 779	Packs of	Model No.
3237.6..	Copper-nickel-chrome coated chemical fibres	92 x 92 x 10	G2	5 pc(s).	3237.066
3238.6..	Copper-nickel-chrome coated chemical fibres	125 x 125 x 12	G2	5 pc(s).	3238.066
3239.6..	Copper-nickel-chrome coated chemical fibres	178 x 178 x 17	G3	5 pc(s).	3239.066
3240.6../3241.6..	Copper-nickel-chrome coated chemical fibres	226 x 226 x 17	G3	5 pc(s).	3240.066
3243.6../3244.6../3245.6..	Copper-nickel-chrome coated chemical fibres	294 x 294 x 17	G3	5 pc(s).	3243.066

For fan-and-filter units

To fit Model No.	Material	W x H x D mm	Filter class to DIN EN 779	Packs of	Model No.
3237....	Chemical fibres	89 x 89 x 10	G2	5 pc(s).	3321.700
3237....	Chemical fibres	89 x 89 x 10	G2	50 pc(s).	3321.705
3238....	Chemical fibres	120 x 120 x 12	G2	5 pc(s).	3322.700
3238....	Chemical fibres	120 x 120 x 12	G2	50 pc(s).	3322.705
3239....	Chemical fibres	173 x 173 x 17	G3	5 pc(s).	3171.100
3239....	Chemical fibres	173 x 173 x 17	G3	50 pc(s).	3171.105
3240.../3241....	Chemical fibres	221 x 221 x 17	G3	5 pc(s).	3172.100
3240.../3241....	Chemical fibres	221 x 221 x 17	G3	50 pc(s).	3172.105
3243.../3244.../3245....	Chemical fibres	289 x 289 x 17	G3	5 pc(s).	3173.100
3243.../3244.../3245....	Chemical fibres	289 x 289 x 17	G3	50 pc(s).	3173.105

For Thermoelectric coolers

To fit Model No.	Material	W x H x D mm	Filter class to DIN EN 779	Packs of	Model No.
3201.200/3201.300	Chemical fibre	90 x 106 x 8	G2	5 pc(s).	3201.050

Accessories for climate control

Filter technology

Fine filter mats

for fan-and-filter units

Made of chopped-fibre mat with a progressive structure. Temperature-resistant to 100°C, self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean-air side: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:

- Chemical fibres

To fit Model No.	W x H x D mm	Filter class to DIN EN 779	Packs of	Model No.
3238....	120 x 120 x 12	F5/M5	5 pc(s).	3238.055
3239....	173 x 173 x 12	F5/M5	5 pc(s).	3181.100
3240.../3241....	221 x 221 x 12	F5/M5	5 pc(s).	3182.100
3243.../3244.../3245....	289 x 289 x 12	F5/M5	5 pc(s).	3183.100



Outlet filter

Standard

For ventilation by convection, an outlet filter can be installed in the upper and lower sections of the enclosure.

Material:

- ABS
- Material resistance to UL 94-5VA

Colour:

- RAL 7035

Protection category IP to IEC 60 529:

- IP 54 including filter mat

Supply includes:

- Outlet filter
- Filter mat



Accessories:

- Spare filter mats, see page 456
- Fine filter mats, see page 457
- Hose-proof hood, see page 458
- Blanking cover, see page 459

W x H x D mm	Required cut-out, Width mm	Required cut-out, Height mm	Packs of	Model No.
116.5 x 116.5 x 16	92	92	1 pc(s).	3237.200
148.5 x 148.5 x 24	124	124	1 pc(s).	3238.200
204 x 204 x 24	177	177	1 pc(s).	3239.200
255 x 255 x 25	224	224	1 pc(s).	3240.200
323 x 323 x 25	292	292	1 pc(s).	3243.200



Accessories for climate control

Filter technology



Outlet filter

EMC

For ventilation by convection, an outlet filter can be installed in the upper and lower sections of the enclosure.

Material:

- ABS
- Material resistance to UL 94-5VA

Colour:

- RAL 7035

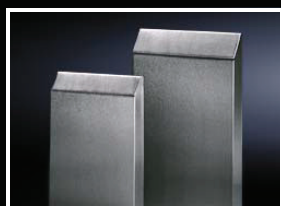
Protection category IP to IEC 60 529:

- IP 54 including filter mat

Supply includes:

- Outlet filter
- Filter mat

W x H x D mm	Required cut-out, Width mm	Required cut-out, Height mm	Packs of	Model No.
116.5 x 116.5 x 16	92	92	1 pc(s).	3237.060
148.5 x 148.5 x 24	124	124	1 pc(s).	3238.060
204 x 204 x 24	177	177	1 pc(s).	3239.060
255 x 255 x 25	224	224	1 pc(s).	3240.060
323 x 323 x 25	292	292	1 pc(s).	3243.060



Hose-proof hood

To increase the protection category

For fan-and-filter units/outlet filters. Easy cleaning thanks to exterior silicone coating approved for use with foodstuffs.

Material:

- Stainless steel
- Silicone

Protection category IP to IEC 60 529:

- IP 56 when fitted over fan-and-filter unit/outlet filter with filter mat

To fit Model No.	W x H x D mm	Protection category	Packs of	Model No.
3237....	150 x 230 x 40	NEMA 12	1 pc(s).	3237.080
3238....	176 x 245 x 55	NEMA 1 NEMA 12 NEMA 3 NEMA 4 NEMA 4X	1 pc(s).	3238.080
3239....	233 x 330 x 55	NEMA 1 NEMA 12 NEMA 3 NEMA 4 NEMA 4X	1 pc(s).	3239.080
3240..../3241....	282 x 390 x 85	NEMA 1 NEMA 12 NEMA 3 NEMA 4 NEMA 4X	1 pc(s).	3240.080
3243..../3244....	350 x 480 x 110	NEMA 1 NEMA 12 NEMA 3 NEMA 4 NEMA 4X	1 pc(s).	3243.080
3245....	350 x 480 x 160	NEMA 1 NEMA 12 NEMA 3R	1 pc(s).	3245.080

Accessories for climate control

Filter technology

Blanking cover

for fan-and-filter units / outlet filters

If existing mounting cut-outs for fan-and-filter units/ outlet filters need to be closed to achieve a higher protection category, the filter mat of the fan-and-filter unit/outlet filter can simply be replaced with a blanking cover; welding or other mechanical modification of the enclosure is not necessary.

Material:

- Plastic

Colour:

- Anthracite

Protection category IP to IEC 60 529:

- IP 54

To fit Model No.	Packs of	Model No.
3237....	2 pc(s).	3237.020
3238....	2 pc(s).	3238.020
3239....	2 pc(s).	3239.020
3240..../3241....	2 pc(s).	3240.020
3243..../3244..../3245....	2 pc(s).	3243.020



Front outlet grille 2 U

for tangential fans

This front outlet grille is required if a 482.6 mm (19") cross-flow blower (SK 3144.000/SK 3145.000) is used in the lower section of the electronic enclosure and the hot air is to be expelled to the outside from the upper section of the enclosure. The design of the grille matches that of the intake grille in the cross-flow blower. These grilles can also be used as simple inflow and outflow grilles with natural convection.

Packs of	Model No.
1 pc(s).	3176.000



Accessories:

- Filter mats, see page 454



Enclosure internal fan

for TS

To prevent hot-spots and support the air routing of active enclosure climate control components. Adjustable in two axes. Attached to the TS 8 frame section. Several fans may be cascaded using the quick-release clamping strip.

Supply includes:

- Complete unit with radial fan ready for connection
- Snap-on pivot device
- Assembly parts



Air throughput (unimpeded air flow) m³/h	Rated operating voltage V, ~, Hz	Power consumption W	Rated current A	Packs of	Model No.
160	230, 1~, 50/60	19 / 18	0.12 / 0.11	1 pc(s).	3108.100
160	115, 1~, 50/60	19 / 18	0.24 / 0.23	1 pc(s).	3108.115
160	24 (DC)	3.5	0.15	1 pc(s).	3108.024

Accessories for climate control

Filter technology



Mini fan

Compact DC fan for enclosure and component cooling in enclosures.

Supply includes:

- Fan
- Assembly screws
- Contact hazard protection

W x H x D mm	Air throughput (unimpeded air flow) m ³ /h	Rated operating voltage V	Power consumption W	Operating temperature range	Noise level dB(A)	Packs of	Model No.
60 x 60 x 25.4	21	24 (DC)	1	-20°C...+70°C	20	1 pc(s).	3236.124



Integrated louvres

For ventilation by convection; easily retro-fitted using 4 screws.

Material:

- Sheet steel

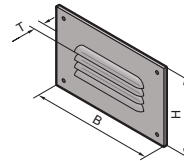
Colour:

- RAL 7035

Supply includes:

- Assembly parts

W x H x D mm	Packs of	Model No.
160 x 110 x 8	4 pc(s).	2541.235
210 x 100 x 8	4 pc(s).	2542.235
330 x 110 x 8	4 pc(s).	2543.235



Accessories for climate control

Air routing

Air duct system

For roof-mounted cooling units and roof-mounted air/water heat exchangers

Cold air may be routed directly to specific areas of the enclosure using the air duct system. The risk of air short circuits due to self-ventilated installed devices is therefore eliminated.

The dimensions of the shallow duct are W x H x D 229 x 1500 x 29 mm, and can be shortened to the required length.

Material:

- Flame-resistant plastic to DIN 4102/B1

Colour:

- RAL 7035

Supply includes:

- Shallow duct
- Compensating hose

Note:

- Do not direct cold air straight at active components.
- When using the ducting system, the performance of the cooling unit may be reduced, depending on the application in question.
- For devices 3359.../3382..., the air duct adaptor 3286.840 is additionally required.

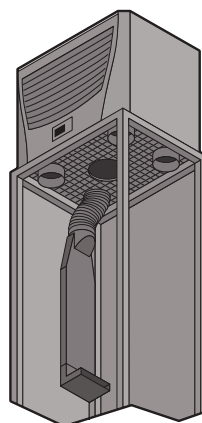
To fit Model No.	Packs of	Model No.
3209.../3210.../3273.../ 3359.../3382.../3383.../ 3384.../3385...	1 pc(s).	3286.870
3386.../3387....	1 pc(s).	3286.970

! Also required:

- Mounting bars, see page 685

+ Accessories:

- Deflector, 90°, see page 461
- Stoppers, see page 463
- Flat duct extension, see page 462



Air duct adaptor

for air duct system and shallow air duct system

The adaptor serves as a connection between the roof-mounted cooling unit (air inlet opening) and the air-duct system.

Material:

- ABS

Colour:

- RAL 9005

To fit Model No.	Packs of	Model No.
3359.../3382....	1 pc(s).	3286.840



Deflector, 90°

for air duct system

For targeted air deflection at the end of the shallow duct.

Material:

- Flame-resistant plastic to DIN 4102/B1

Colour:

- RAL 7035

Packs of	Model No.
1 pc(s).	3286.990



Accessories for climate control

Air routing



Shallow air duct system

For roof-mounted cooling units and roof-mounted air/water heat exchangers

Cold air may be routed directly to specific areas of the enclosure using the air duct system. The risk of air short circuits due to self-ventilated installed devices is therefore eliminated.

The dimensions of the shallow duct are W x H x D 229 x 1500 x 29 mm, and can be shortened to the required length.

Applications:

- Suitable for TS 8 enclosures with widths of 800 mm or more and depths of 600 mm or more.

Material:

- Flame-resistant plastic to DIN 4102/B1

Colour:

- RAL 7035

Supply includes:

- Shallow duct
- Adaptor
- Compensating piece
- Deflector, 90°

Note:

- Do not direct cold air straight at active components.
- When using the ducting system, the performance of the cooling unit may be reduced, depending on the application in question.
- Not suitable for use in conjunction with quick-change frame.

To fit Model No.	Packs of	Model No.
3209..../3210..../3273..../ 3383..../3384..../3385..../ 3359..../3382....	1 pc(s).	3286.850



Also required:

- Air duct adaptor, see page 461
- Mounting bars, see page 685



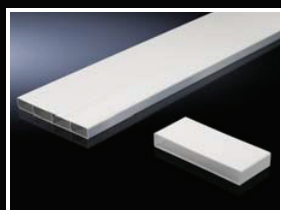
Assembly instruction:

- For devices 3359.XXX and 3382.XXX, the air duct adaptor 3286.840 is required for mounting.



Accessories:

- Deflector, 90°, see page 461
- Stoppers, see page 463
- Flat duct extension, see page 462



Flat duct extension

Extension kit for shallow air duct system 3286.850 for length compensation in the width, depth or height in TS 8 enclosures.

Material:

- Flame-resistant plastic to DIN 4102/B1

Colour:

- RAL 7035

Supply includes:

- Shallow duct 1500 mm
- Connecting piece

Packs of	Model No.
1 pc(s).	3286.860

Accessories for climate control

Air routing

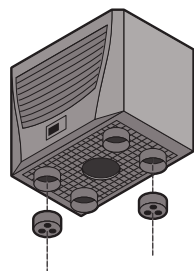
Stoppers

For roof-mounted cooling units and roof-mounted air/water heat exchangers

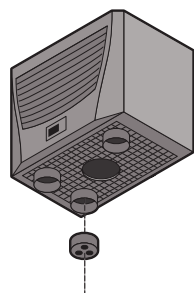
To cover any cold air outlets that are not required.

Material:

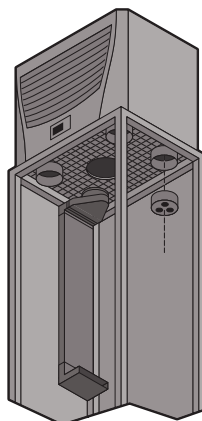
- Polyurethane foam



Max. 2 stoppers
for 3209.../3210.../3383.../
3384.../...3385.../3273...



Max. 1 stopper
for 3359.../3382.../3386.../
3387...



To fit Model No.	Ø mm	Max. no. of stoppers per unit	Packs of	Model No.
3359.../3382....	80	1	2 pc(s).	3286.780
3209.../3210.../3273.../ 3383.../3384.../3385....	100	2	2 pc(s).	3286.880
3386.../3387....	150	1	2 pc(s).	3286.980

Air diverter

For use with wall-mounted cooling units. For targeted routing of cold air in a downward direction. Particularly well-suited for densely-packed electrical components in the lower section of the enclosure.

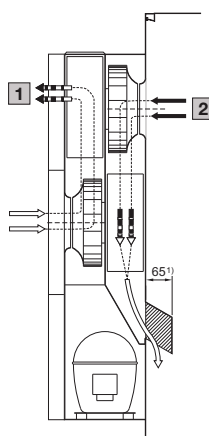
Material:

- Sheet steel

Colour:

- RAL 7035

To fit Model No.	Installation depth mm	Packs of	Model No.
3304.../3305....	65	1 pc(s).	3213.310
3328.../3329....	65	1 pc(s).	3213.320
3332....	115	1 pc(s).	3213.330



¹⁾ 115 mm for 3213.330

1 External air circuit

2 Internal air circuit

Accessories for climate control

Water distribution



Electric condensate evaporator

For external mounting on the enclosure. For use with all enclosure cooling units and air/water heat exchangers (wall-mounted).

Benefits:

- Suitable for international use thanks to multi-voltage support

Colour:

- RAL 7035

Supply includes:

- Electric condensate evaporator, ready to connect.

W x H x D mm	Rated operating voltage V, ~, Hz	Operating temperature range	Evaporation performance	Packs of	Model No.
280 x 129 x 105	115 - 230, 1~, 50/60	+5°C...+60°C	230 V: 3,5 l/d 115 V: 3,0 l/d	1 pc(s).	3301.500
400 x 129 x 105	115 - 230, 1~, 50/60	+5°C...+60°C	230 V: 3,5 l/d 115 V: 3,0 l/d	1 pc(s).	3301.505



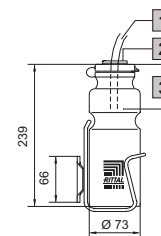
Condensate collecting bottle

For mounting on the enclosure. For use with all enclosure cooling units and air/water heat exchangers. Safety overflow at the side. Capacity approximately 0.75 l.

Supply includes:

- Condensate collecting bottle
- Bottle holder
- Assembly parts

Packs of	Model No.
1 pc(s).	3301.600



- 1 Condensate discharge tube
- 2 Membrane grommet
- 3 Max. 70 mm



Condensate hose

For discharging and transporting condensate. For connection to enclosure cooling units and air/water heat exchangers.

Material:

- PVC, transparent

To fit Model No.	Length m	Ø mm	Material thickness mm	Packs of	Model No.
3201....	5	6	1	1 pc(s).	3301.606
3202....	10	8	1.5	1 pc(s).	3301.608
3212..../3303..../3361....	10	10	1.5	1 pc(s).	3301.610
3209...3210/3214.100/3215.100/ 3216.480/3273..../3304...3305/ 3328...3329/3332..../3359..../ 3363...3364/3366..../3373...3375/ 3377...3378/3382...3385/3386...3387	10	12	2	1 pc(s).	3301.612

Accessories for climate control

Water distribution

Connection set

for air/water heat exchangers

For professional laying of water connections and regulation of volumetric flow. The pressure hoses may be cut to length individually, depending on the application.

Material:

- Water-carrying parts EPDM/brass

Supply includes:

- Hose for water return
- Hose for water inlet including regulator valve for regulating the volumetric flow (setting range 3 to 12 l/min)
- Assembly parts



To fit Model No.	Length mm	Water connections	Permissible operating pressure (p. max.) bar	Packs of	Model No.
3209.XX0/3210.XX0/3216.480/ 3363.XX0/3364.XX0/3373.XX0/ 3374.XX0/3375.XX0	3600	G 3/8" internal thread	1 - 10	1 pc(s).	3201.990

Flow regulator valve

For use with air/water heat exchangers, especially if more than one heat exchanger ($n > 1$) is used in the water cooling circuit. The correctly set valve then ensures the same quantity of cooling medium for all equipment.

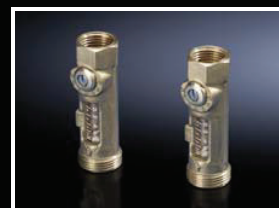
Applications:

- The valve is used for hydraulic balancing.

Material:

- Brass

Design	Setting range l/min	Packs of	Model No.
3/4" x 1/2" for volumetric flow control	3 - 12	1 pc(s).	3301.930
3/4" x 3/4" for volumetric flow control	3 - 12	1 pc(s).	3301.940



Fitting G 3/8"

The G 3/8" internal threaded adaptor can be used to create fixed piping on the air/water heat exchanger for both the inlet and return.

Material:

- Brass

To fit Model No.	Packs of	Model No.
3209.../3210.../3363.../ 3364.../3373.../3374.../ 3375....	2 pc(s).	3201.900



Cooling medium (ready-mixed)

For chillers and air/water heat exchangers

As well as protecting against frost, this cooling medium also serves to inhibit bacterial growth and provide optimum corrosion protection.

Application	Antifreeze/water mixture	Container	Contents l	Operating temperature range	Packs of	Model No.
Outdoor	1 : 2	Canister	10	-20°C...+60°C	1 pc(s).	3301.950
Outdoor	1 : 2	Canister	25	-20°C...+60°C	1 pc(s).	3301.955
Standard	1 : 4	Canister	10	-10°C...+60°C	1 pc(s).	3301.960
Standard	1 : 4	Canister	25	-10°C...+60°C	1 pc(s).	3301.965



Accessories for climate control

Control/regulation



Digital enclosure internal temperature display and thermostat

Protection category IP to IEC 60 529:
– IP 54

For installation in the enclosure door or wall.

Technical specifications:

- Three-digit, 7-segment display
- Option of switching between °C/°F
- Includes 1800 mm long NTC sensor
- Two relay outputs as change-over contact and normally open contact (max. contact load 230 V, 6 A)
- Freely selectable switching difference

Colour:

- RAL 7035

Rated operating voltage V, ~, Hz	Installation depth mm	Setting range	Operating temperature range	Packs of	Model No.
100 - 230, 1~, 50/60 24 - 60 (DC)	100	+5°C...+55°C	+0°C...+50°C	1 pc(s).	3114.200



Digital enclosure internal temperature display and thermostat

Colour:
– RAL 7035

integrated into a patch panel 1 U

Including cable attachment for connection cable and label holder.

Technical specifications:

- Three-digit, 7-segment display
- Option of switching between °C/°F
- Includes 1800 mm long NTC sensor
- Two relay outputs as change-over contact and normally open contact (max. contact load 230 V, 6 A)
- Freely selectable switching difference

Rated operating voltage V, ~, Hz	Installation depth mm	Setting range	Packs of	Model No.
100 - 230, 1~, 50/60 24 - 60 (DC)	100	+5°C...+55°C	1 pc(s).	7109.035

Accessories for climate control

Control/regulation

Thermostat

Enclosure internal thermostat

Particularly suitable for controlling fans, heaters and heat exchangers, this thermostat can also be used as a signal generator for monitoring the enclosure internal temperature.

Benefits:

- Time-saving connection technique using a terminal strip with a screw connection from the outside
- Flexible mounting on a vertical or horizontal 35 mm support rail to EN 50 022, and snap fastening in the TS/SE enclosure section or on the mounting plate using the supplied adaptor

Technical specifications:

- Bi-metal controller as a temperature-sensitive element with thermal feedback
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load: Category 5 – 3 (heating) AC 10 (4) A (inductive load at $\cos \phi = 0.6$)/category 5- 4 (cooling): AC 5 (4) A (inductive load at $\cos \phi = 0.6$)/DC = max. 30 W
- Switching difference: approx. 1 K \pm 0.8 K

Colour:

- RAL 7035



Accessories:

- Bottom-mounted adaptor, see page 469
- Mounting plates, see page 727



W x H x D mm	Rated operating voltage V_n ~	Setting range	Packs of	Model No.
71 x 71 x 33.5	24 - 230, 1~ 24 - 60 (DC)	+5°C...+60°C	1 pc(s).	3110.000

Thermostat with strain relief

For controlling fan-and-filter units, roof-mounted fans, heaters and heat exchangers, and also as a signal generator for monitoring the enclosure internal temperature.

Design:

- Strain relief and contact hazard protection

Benefits:

- Flexible mounting on a vertical or horizontal 35 mm support rail to EN 50 022, and snap fastening in the TS/SE enclosure section or on the mounting plate

Technical specifications:

- Bi-metal controller as a temperature-sensitive element with thermal feedback
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load: Category 5 – 3 (heating): AC 10 (4) A (inductive load at $\cos \phi = 0.6$)/category 5- 4 (cooling): AC 5 (4) A (inductive load at $\cos \phi = 0.6$)
- Switching difference: approx. 1 K \pm 0.8 K
- Connection: Screwless spring terminal with PE entry

Colour:

- RAL 7016

Protection category IP to IEC 60 529:

- IP 20



Rated operating voltage V_n ~	Setting range	Operating temperature range	Storage temperature range	Packs of	Model No.
24 - 230, 1~	+5°C...+60°C	-40°C...+60°C	-45°C...+70°C	1 pc(s).	3110.100

Accessories for climate control

Control/regulation



Hygrostat

The hygrostat switches on the heater and/or fan when a preset relative humidity in the enclosure is exceeded. In this way, the relative humidity is reduced, and condensation on assemblies or electronic components is avoided.

Benefits:

- Time-saving connection technique using a terminal strip with a screw connection from the outside
- Flexible mounting on a vertical or horizontal 35 mm support rail to EN 50 022, and snap fastening in the TS/SE enclosure section or on the mounting plate using the supplied adaptor

Technical specifications:

- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load: AC ~ 5 (0.2) A (inductive load at $\cos \phi = 0.6$)/DC = max. 20 W
- Setting range: 50 – 100% relative humidity
- Switching difference: approx. 4%

Colour:

- RAL 7035

W x H x D mm	Rated operating voltage V, ~	Packs of	Model No.
71 x 71 x 33.5	24 - 230, 1- 12 - 75 (DC)	1 pc(s).	3118.000

Accessories:

- Bottom-mounted adaptor, see page 469
- Mounting plates, see page 727



Hygrostat with strain relief

Switches on the heater and/or fan when a preset relative humidity in the enclosure is exceeded. In this way, the relative humidity is reduced, and condensation on assemblies or electronic components is avoided.

Design:

- Strain relief and contact hazard protection

Benefits:

- Flexible mounting on a vertical or horizontal 35 mm support rail to EN 50 022, and snap fastening in the TS/SE enclosure section or on the mounting plate using the supplied adaptor

Technical specifications:

- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load: AC ~ 5 (0.2) A (inductive load at $\cos \phi = 0.6$)/DC = max. 20 W
- Setting range: 50 – 100% relative humidity
- Switching difference: approx. 4%

Colour:

- RAL 7016

Protection category IP to IEC 60 529:

- IP 20

Rated operating voltage V, ~	Operating temperature range	Storage temperature range	Packs of	Model No.
24 - 230, 1- 12 - 75 (DC)	-40°C...+60°C	-45°C...+70°C	1 pc(s).	3118.100

Accessories for climate control

Control/regulation

Bottom-mounted adaptor for enclosure internal thermostat and hygrostat

With mounting option for screwed cable glands, for targeted cable infeed from appropriate equipment such as SK fan-and-filter units and enclosure heaters. In conjunction with screwed cable glands, it also provides strain relief.

Colour:

- RAL 7035

To fit Model No.	Packs of	Model No.
3110.000/3118.000	1 pc(s).	3110.200



EC speed control

Control unit for EC fan

Temperature-dependent speed control for EC fans to reduce noise and save energy. The function of the fan can also be monitored.

Functions:

- Activation and monitoring of up to 4 EC fan-and-filter units
- For mounting on a 35 mm support rail EN 50 022
- External temperature sensor to record the actual temperature
- Status LED to display the operating status
- Alarm relay for reporting overtemperature, fan defect, cable break and sensor failure

Supply includes:

- Speed control
- NTC sensor, length 1.80 m



To fit Model No.	Rated operating voltage V	Setting range	Packs of	Model No.
3240.500/3241.500/3243.500/ 3244.500/3245.XXX/3140.500/ 3140.510	100 - 250	+5°C...+55°C	1 pc(s).	3235.440

EC speed control

Sensor for speed control

NTC sensor for temperature-dependent speed control of EC fans to reduce noise and save energy. Activation and power supply via an EC fan-and-filter unit.

Technical specifications:

- Control characteristic: fixed setpoint at 35°C, with linear control range between +35°C (maximum speed 100%) and +20°C (minimum speed 10%)

Protection category IP to IEC 60 529:

- IP 40

Supply includes:

- External sensor with connection cable (length 3 m)



To fit Model No.	Rated operating voltage V	Operating temperature range	Packs of	Model No.
3240.500/3241.500/3243.500/ 3244.500/3245.XXX/3140.500/ 3140.510	10 - 12 (DC)	-25°C...+80°C	1 pc(s).	3235.450

Accessories for climate control

Control/regulation



Speed control

For fan-and-filter units and air/air heat exchangers

Temperature-dependent speed control to minimise noise and save energy in part-load operation.

Technical specifications:

- For mounting on a 35 mm support rail EN 50 022
- Phase cross-over with microcontroller
- Maximum fan output 300 W or 2 A

Supply includes:

- Speed control
- NTC sensor, length 1.80 m

Note:

- Only suitable for use with single-phase AC motors and equipment
- Not suitable for EC motors



Accessories:

- Mounting plates, see page 727

W x H x D mm	Rated operating voltage V	Setting range	Packs of	Model No.
105 x 90.5 x 60.2	100 - 230	+20°C...+55°C	1 pc(s).	3120.200



Temperature sensor

for Blue e+ cooling units

NTC sensor to regulate Blue e+ cooling units according to an individual measurement point within the enclosure (control based on an external sensor), and according to the cold air outlet from the cooling unit inside the enclosure (control based on outlet temperature).

Supply includes:

- External sensor with connection cable (length 2.5 m)

Packs of	Model No.
1 pc(s).	3124.400



Interface board

For equipment with e-Comfort controller

The interface board is an extension for equipment with e-Comfort controller. In this way it is possible, e.g. to monitor a master/slave combination of up to 10 cooling units. Control is achieved via standardised interfaces: RS232 (DB9) or RS485, one PLC interface (DB9). The extension board is built into a 1 U plastic housing. Power may be supplied externally using a Kycon connector.

Supply includes:

- Interface card integrated into plastic box
- Serial SUB-D cable, 1.5 m.

Note:

- Networking and monitoring plan may be found on the relevant product page on the Internet, under "Download".

W x H x D mm	Rated operating voltage V	Packs of	Model No.
136 x 44 x 129	24 (DC)	1 pc(s).	3124.200

Accessories for climate control

Control/regulation

Master/slave cable

for SK BUS system

The SK BUS system allows several cooling units and air/water heat exchangers with e-Comfort controller to communicate with one another Master-slave configuration for complex bayed enclosure systems, for optimum operating results.

Technical specifications:

- The master-slave layout facilitates common activation and deactivation via door limit switches, parallel activation and deactivation via a temperature setpoint, and common collective fault signals and temperature logging, eliminating the need for intricate wiring.

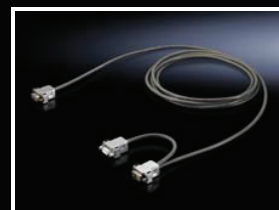
Supply includes:

- 3 m shielded interface cable
- Operating instructions on programming the cooling units

Note:

- $n_B = n_K - 1$
- n_B : Number of order units (SK BUS system)
- n_K : Number of cooling units to be linked

Packs of	Model No.
1 pc(s).	3124.100



Master/slave adaptor

for Thermoelectric Cooler

The master-slave adaptor for the Rittal thermoelectric cooler allows up to 5 thermoelectric coolers to communicate with one another (1 master and up to 4 slaves). In this way, e.g. in complex bayed enclosure systems, the master-slave configuration facilitates optimum climate control results.

Supply includes:

- Adaptor
- Connection cable

To fit Model No.	Packs of	Model No.
3201.200/3201.300	1 pc(s).	3201.070



Also required:

- CMC III CAN bus connection cable, see page 557



Toroidal transformer

Primary connection 115 V/400 V

For the power supply of wall-mounted 230 V air/water heat exchangers. Available with 115 V or 400 V primary connection.

Technical specifications:

- Output 110 VA
- Voltage tolerance $\pm 10\%$
- Primary connection 3500 mm long
- Secondary connection 1500 mm long
- For mounting on a 35 mm support rail EN 50 022

Supply includes:

- Toroidal transformer
- Assembly parts

To fit Model No.	W x H x D mm	Rated operating voltage V_1 , ~, Hz	Packs of	Model No.
3363.X0X/3364.X0X/3212.230/3214.100/3215.100	105 x 123 x 55	400 (primary), 2~, 50/60 230 (secondary), 1~, 50/60	1 pc(s).	3201.960
3363.X0X/3364.X0X/3214.100/3215.100	105 x 123 x 55	115 (primary), 1~, 50/60 230 (secondary), 1~, 50/60	1 pc(s).	3201.970



Accessories for climate control

Mounting accessories



Roof plates TS

For mounting roof-mounted units, roof-mounted air/water heat exchangers, roof-mounted fans and vent attachment TS. The cut-outs in the roof plate are arranged so that the roof-mounted cooling units are positioned centrally on the enclosure.

Benefits:

- Simple, fast assembly

Material:

- Sheet steel

Colour:

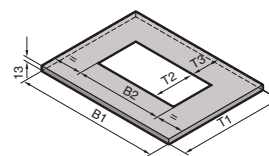
- RAL 7035

Supply includes:

- Assembly parts

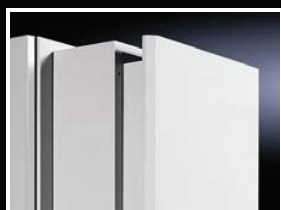
Note:

- When mounting cooling units on the roof plate 8801.310, there may be a collision with the enclosure eyebolts; for this reason, roof fastening screws are supplied loose with the roof plates.
- Attached to the roof plate 8801.340 from the inside using metal brackets and retaining clamps.



- B1 = Width
- T1 = Depth
- B2 = Cut-out width
- T2 = Cut-out depth
- T3 = Distance from cut-out to the rear

To fit enclosure width/depth mm	To fit Model No.	W x H x D mm	Cut-out width mm	Cut-out depth mm	Distance from cut-out to the rear mm	Packs of	Model No.
600 x 600	3209.../3210.../ 3383.../3384.../ 3385.../3273.../ 8801.380	567.5 x 13 x 567.5	490	390	61.3	1 pc(s).	8801.310
800 x 600	3382.../3359.../ 3149.4.../3149.8..	767.5 x 13 x 567.5	475	260	129.3	1 pc(s).	8801.320
800 x 600	3209.../3210.../ 3383.../3384.../ 3385.../3273.../ 8801.380	767.5 x 13 x 567.5	490	390	61.3	1 pc(s).	8801.330
800 x 600	3386.../3387....	767.5 x 13 x 567.5	692	392	57.8	1 pc(s).	8801.340
1200 x 600	3209.../3210.../ 3383.../3384.../ 3385.../3273.../ 8801.380	1167.5 x 13 x 567.5	490	390	61.3	1 pc(s).	8801.350



Trim frame

for slimline cooling units

Slimline cooling units can be internally or externally mounted on an enclosure door or wall. The trim frame presents a closed front for the cooling unit.

Material:

- Sheet steel

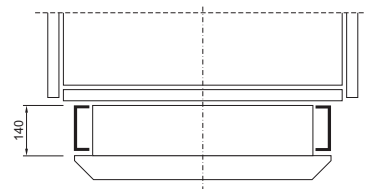
Colour:

- RAL 7035

Supply includes:

- Trim frame
- Sealing and assembly parts

To fit Model No.	Packs of	Model No.
3366....	1 pc(s).	3377.000



Accessories for climate control

Mounting accessories

Quick-change frame

for roof-mounted cooling units

The quick-change frame is more than just an alternate frame. Together with the seal, the lower part of the frame is screw-fastened to the enclosure. In this way, it is possible to install and remove the connector-ready cooling unit with the upper part of the alternate frame previously mounted on the cooling unit with quick-release fasteners. During servicing work, this means shorter assembly times and hence minimised downtime. What is more, the quick-change frame offers effective protection against the ingress of oil into the enclosure in oily atmospheres, thanks to its integral drainage trough.

Material:

- Sheet steel

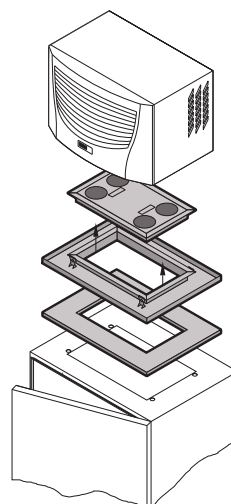
Colour:

- RAL 7035

Supply includes:

- Quick-change frame
- Seal
- Quick-release fasteners

To fit Model No.	Packs of	Model No.
3359..../3382....	1 pc(s).	3286.700
3209..../3210..../ 3383..../3384..../ 3385....	1 pc(s).	3286.800
3386..../3387....	1 pc(s).	3286.900



Guide frame

for Vario rack-mounted fan

Supply includes:

- Guide frame
- Connector and fitted connection cable
- Mounting bracket for optional attachment to the 482.6 mm (19") mounting level
- Assembly parts

To fit Model No.	Suitable for rated operating voltage	Length of connection cable m	Packs of	Model No.
3350.230/3351.230/ 3352.230	110 V (DC) 230 V	3	1 pc(s).	3355.100
3352.500	24 V DC 115 - 230 V	3	1 pc(s).	3357.100



Climate control accessories



Therm software

Precise, efficient climate control

The Therm software takes care of the time-consuming calculation of the required cooling or heating output, and proposes a suitable selection of products.

Benefits:

- Fast, thorough determination of climate control requirements
- Determining the correct climate control measures leads to cost savings
- Easy calculation of the required actual cooling output, as well as any upgrades or enhancements to the switchgear.
- Detailed documentation is supplied with the calculation

Note:

- Download Therm for free at www.rittal.com



Therm app

The Therm app for smartphones handles the time-consuming process of calculating climate control requirements for individual enclosure assemblies.

With its fast selection feature, the app is a compact variant of the full software version "Therm".

The results can be sent quickly and easily as an email. An easy-to-use interface guides the user to the most suitable, correctly dimensioned climate control component using the typical smartphone controls.

All evaluations are closely based on the requirements of IEC/TR 60 890 AMD1/02.95 and EN 14 511 for enclosure cooling units.

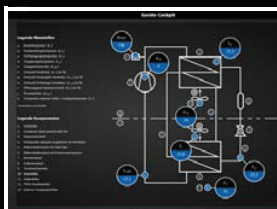
Note:

- The Therm app can be downloaded for free from the App Store and from the Google Play Store



RiDiag II

For the diagnosis, maintenance and long-term data capture of TopTherm units with e-Comfort controller. RiDiag logs equipment data and prepares an error list. RiDiag also allows you to display and set the device's operating parameters. Logged measurement data can be tracked in real time in the form of a diagram.



RiDiag III

Diagnosis software for the analysis and parameterisation of Blue e+ cooling units.

The following functions may be used in the device and efficiency cockpit:

- Quick analysis and setting of all parameters
- Display configuration: e.g. NFC, language, PIN
- Reading of historical data from the last two years
- Creation of service enquiries and selection of spare parts
- All parameters stored locally for reuse
- Software and firmware updates for devices

Note:

- Download RiDiag III for free at www.rittal.com

Climate control accessories

Chiller configurator

The chiller configurator is a cost-effective way of designing your required machine and process cooling. Cooling output, volumetric flow and refrigerant temperatures are precisely tailored to your required application.

Benefits:

- Calculate the heat loss, either mathematically or manually
- Comprehensive range of accessories
- Drawings downloadable in dwg, pdf, or 3D pdf format
- Downloadable specifications/tender texts
- Interactive performance diagram:
 - Cooling output and pump capacity
- Add option packages and download bill of materials
- Transfer order list to shopping basket
- Send a quote request

Note:

- The chiller configurator is available at www.rittal.com

Chiller app

The Rittal Chiller app allows users to make their selections from a mobile device. Alongside the existing online version of the chiller configurator, the app also supports automated calculation of the required cooling output. The matching chiller may be selected interactively in just four steps, with outputs ranging from 1 to 40 kW.

Note:

- Download the Chiller app for free from the App Store

Blue e+ app

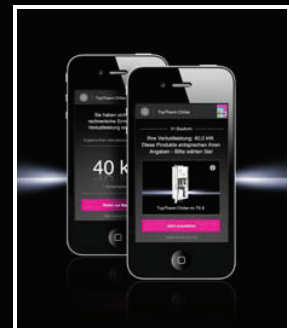
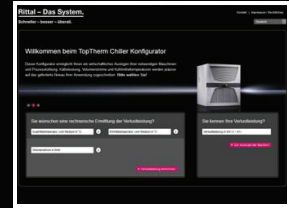
The Blue e+ app supports the contactless exchange of information as well as quick on-site analysis via the NFC interface.

Benefits:

- Saves time when reading the units
- Access restriction via PIN request (PIN of cooling unit)
- Superior operational reliability, thanks to improved fault and maintenance management
- Identical displays and menu prompting as on the Blue e+ device display
- Direct links to online shop and service team
- Simple repair, maintenance and spare parts enquiries may be sent directly via your smartphone

Note:

- Download the Blue e+ app for free from the App Store



Rittal – The System.

Faster – better – everywhere.



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

FRIEDHELM LOH GROUP

IT INFRASTRUCTURE

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IT segment	IT enclosure systems/cases	IT power	
	<p>The TS IT sets global standards in network and server enclosures. There's a reason for this: its ingenious design principle means that virtually every conceivable requirement of modern server and network architecture is met to perfection.</p>	<p>Put your faith in innovative IT power concepts for energy distribution and backup to meet all your redundancy, scalability and availability requirements.</p>	
 <p>Product variants</p>	<p>161 enclosures, 6 distributor frames and 38 cases provide an unrivalled range in this sector, with a suitable solution for every requirement.</p>	<p>From a simple socket strip, to interlinked power distribution units (PDU) through to a complete UPS system, choose from over 100 products for a reliable power supply to your IT.</p>	
<p>Product characteristics</p>	<p>All enclosures are available off the shelf or with a short delivery time. All this plus a high load-bearing capacity of up to 15,000 N and a protection category of up to IP 55, allowing it to be used in tough industrial environments as well.</p>	<p>Optimum integration of the rack PDUs by mounting in the zero U space and professional monitoring by linking to standard DCIM software (such as RiZone). The voltage, current, active and apparent power and power factor may be transmitted directly.</p>	
<p>From page</p>	<p>481</p>	<p>483</p>	



	IT cooling	IT monitoring	IT security solutions	Modular data centre solutions
	Climate control concepts from Rittal cover the full spectrum of applications, from cooling a single rack through to entire data centres. Security plus optimum energy and cost efficiency are paramount.	Today's IT landscape would be unthinkable without monitoring. It has become firmly established as a permanent feature of physical IT security, allowing modern IT infrastructures to be operated securely.	As well as security rooms, micro data centres provide optimum protection against potential physical threats. Modularity and extendibility offer a high level of diversity and protection of your investment.	Discover brand new opportunities in the IT world with standardised data centre modules. Just one Model Number, fully functional and available for immediate delivery.
	Demand-based cooling provides the basis for optimum energy efficiency in data centres, thanks to 45 units with cooling outputs ranging from 3 to 481 kW.	More than 80 different components ensure 360° monitoring of your complete IT infrastructure.	A flexible modular system allows you to configure a solution tailored to your requirements, for both security rooms and micro data centres.	A unique selling point: Rittal offers 10 complete data centres as standard products, including a range of option packages. There are also numerous variants that may be individually compiled using a configurator.
	Integral climate control concepts for rack, suite and room climate control help to minimise operating costs and ensure energy-efficient operation over a period of many years.	The CMC III monitoring system sets new standards in terms of configuration and reducing system complexity. It can communicate with a range of sensors and actuators via the integral CAN bus, and can be integrated into standard DCIM systems.	Protection from fire, flue gases, water and dust, as well as unauthorised access. Power supply, cooling, monitoring, fire alarm and extinguisher systems round out this security cover into a complete data centre.	The maximum possible protection from physical threats and optimum scaling options, even retrospectively, ensure a sound basis for your IT investment.
	513	543	565	581