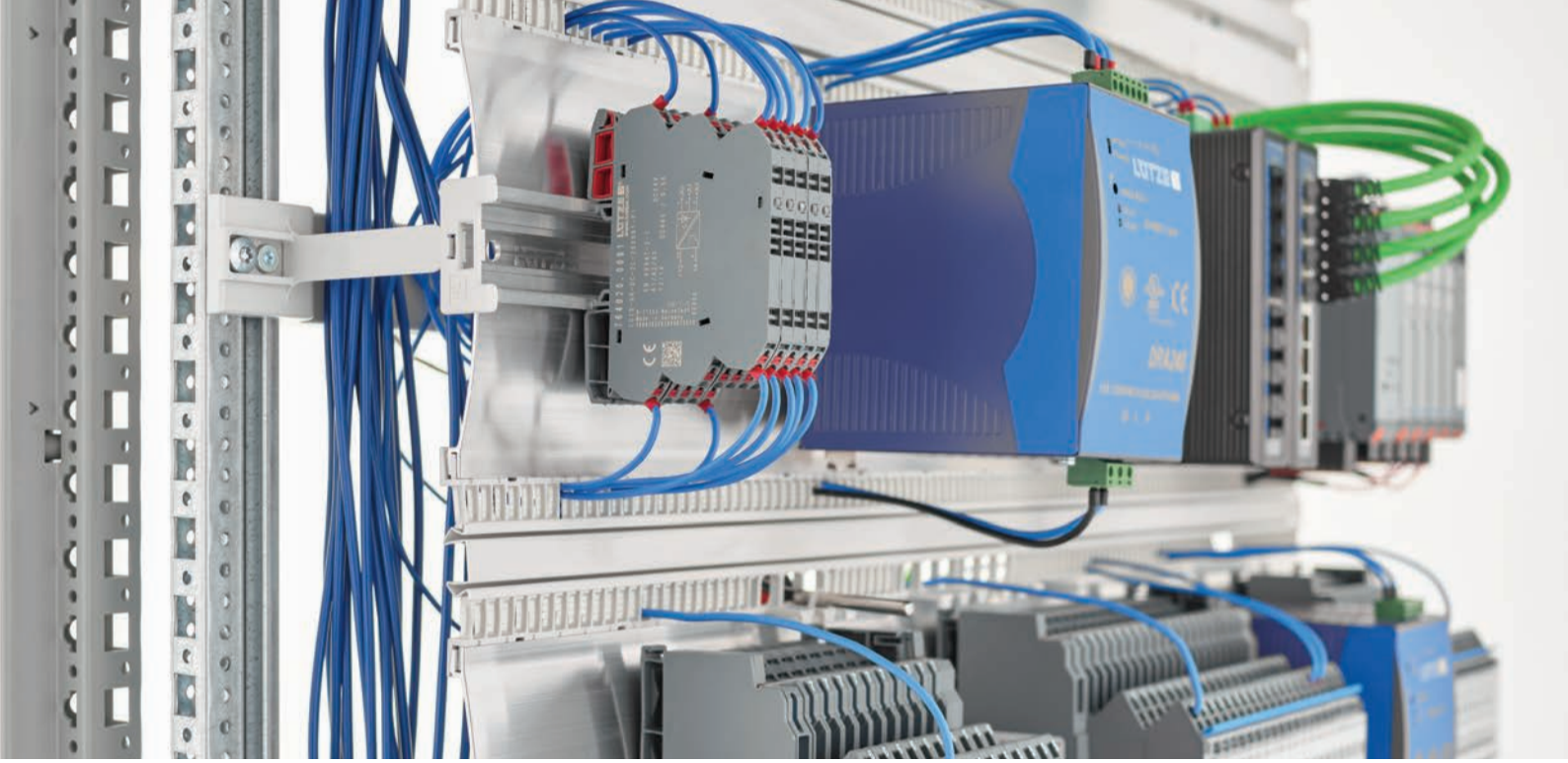


Cabinet Solutions

*Air*STREAM
*Air*STREAM Compact

SYSTEMATIC TECHNOLOGY

Welcome to LÜTZE

Cable Solutions

Connectivity Solutions

Cabinet Solutions

Control Solutions

Transportation Solutions

Today's industrial control components are becoming increasingly more compact and smaller, therefore allowing smaller control cabinets being designed with a larger number of components. Consequently resulting in the increase of the amount of heat generated inside the cabinet.

The wiring duct-free wiring systems *Air***STREAM** and *Air***STREAM** Compact optimize heat distribution and dissipation inside the control cabinet. This prolongs the service life of the components and also reduces the risk of machine downtime.

The updated *Air***STREAM** catalog provides you with all the required technical information about the individual components of this innovative wiring system and its modularity. The catalog also provides installation and ease of wiring instructions.

*Sky***BLUE**
LÜTZE

Sustainability at LÜTZE:
http://www.lutze.com/skyblue/

*Air***STREAM wiring sy stem:**
For the optimally desig ned control cabinet!

In addition to the classic *Air***STREAM** for standard control cabinets, LÜTZE also supplies the *Air***STREAM** Compact for smaller enclosures and special slimline cabinets. The fact that all cable ducts have been removed means the *Air***STREAM** Compact can take full advantage of its benefits despite spatial constraints, make full use of the available space and improve the cabinet climate.

*Air***STREAM** is also available in EPLAN Pro Panel for planning three-dimensional spaces.

Light years ahead: the LUTZE wiring system

Electronic parts are continuously becoming more innovative, smaller, and efficient. The power of innovation and engineering skills are evident here, in stark contrast to wiring with traditional back panel where developments have not been as far-reaching. In fact, the traditional back panel has hardly changed at all in decades.

*Air***STREAM** takes a completely new approach and is continuously developed to keep up with progress in the electronics field. Wiring with the *Air***STREAM** means leaving all thermal problems connected to the cable ducts behind, saving time and space, and focusing on innovation.

Many current users worldwide are pleased with the LUTZE wiring system and the continuous system enhancements and a large number of complementary accessories. Control system designers and control cabinet technicians find these beneficial and efficient.

In addition to the frame system for all control cabinet sizes, the user also has access to numerous digital features, such as the online configurator and *Air***TEMP** simulator for designing thermally-optimized control cabinets.

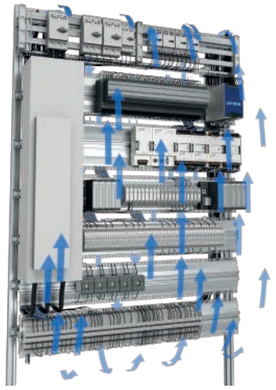
The LUTZE wiring system was launched in 1972. The original intention was to make optimum use of the space in the cabinet. Nowadays the LUTZE wiring system is a modular, energy-efficient and space-saving *Air***STREAM** wiring system.

Space saving
Compared to the back panel, *Air***STREAM** (left) uses a smaller control cabinet footprint thanks to optimum use of the available space (space gains shown in orange).

Modular or pre-fabricated
The *Air***STREAM** wiring systems are available as pre-fabricated complete frames or, for full flexibility, as modular frames for self-assembly.

*Sky***BLUE**
LUTZE

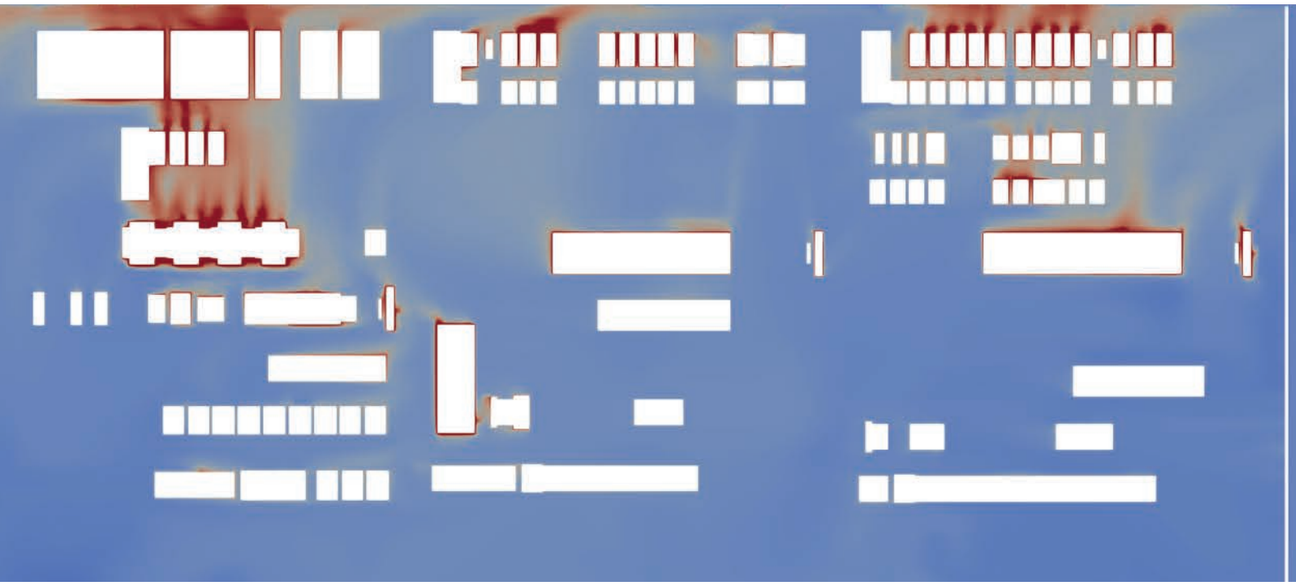
More about *Sky***BLUE** on our homepage:
https://bit.ly/33UnFKc

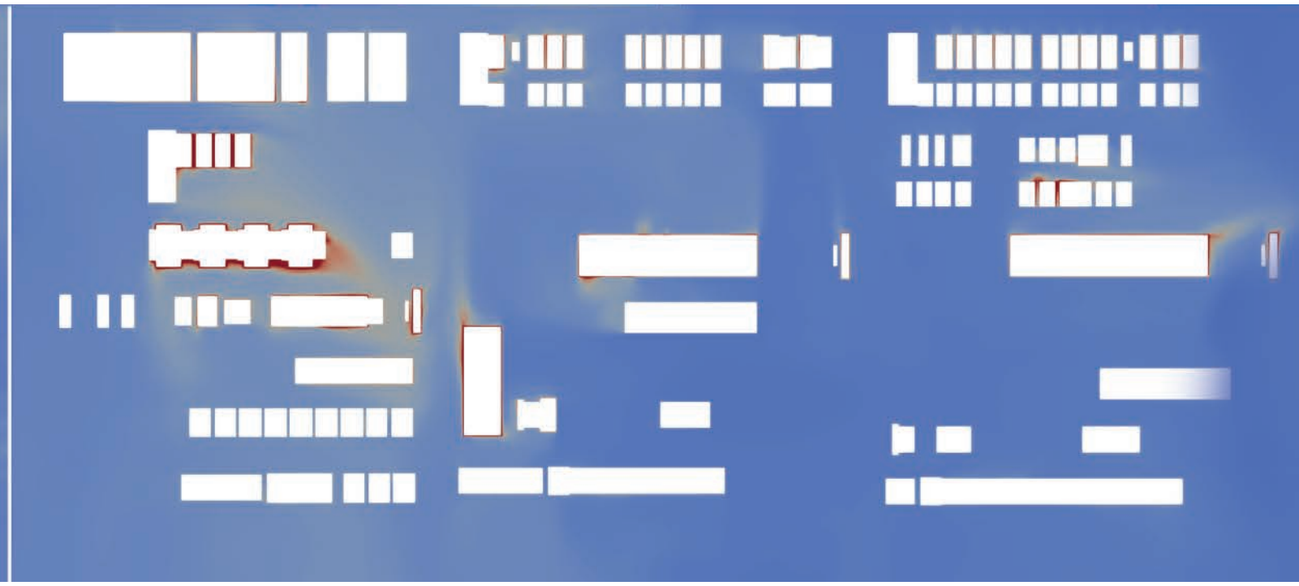


Prevents **heat stress, machine downtime an d high costs!**

The large illustration below shows on the left, a non-homogeneous control cabinet climate with the potential consequence of a machine downtime due to hotspots in the control cabinet.

On the right, the illustration shows the heat build-up after an *Air***BLOWER** fan is introduced providing extended service life for the components and energy savings thanks to reduced air conditioning energy requirements.





Excellent climate because of *Air*STREAM

*Air***STREAM** from LÜTZE helps with the control cabinet design to achieve improved air circulation and decreasing the possibility of hotspots.

The differentiation between component positioning level and the wiring level facilitate unobstructed airflow between components and increase heat dissipation. The wiring and air guide elements are integrated into the mounting frame to ensure free convection and cooling of the wires. Air circulation is not hindered by cable ducts.

The complete *Air***STREAM** system stands out thanks to numerous useful tools, including the online configurator or *Air***TEMP**, the application for calculating the heat inside the control cabinet. A number of research projects in cooperation with the University of Stuttgart, Germany, ensure the uniqueness, sustainability and the leading position of *Air***STREAM** in the wiring system world.

Together against hotspots: *Air*Temp and *Air*BLOWER

The *Air***BLOWER** is an accessory for the *Air***STREAM** wiring frame for fast and reliable climate stabilization inside the control cabinet. The use of an *Air***BLOWER** ensures that hotspots inside the control cabinet are avoided.

*Air***TEMP** is an online simulation software that helps you design thermally optimized control cabinet projects. *Air***TEMP** enables an analysis of the heat build-up and distribution in the control cabinet **more precisely than ever before!**

Determine the air temperature in your control cabinet free-of-charge using the *Air*TEMP heat analysis at: airtemp.luetze.com

From large to small con trol enclosures: *Air*STREAM and *Air*ST REAM Compact

The classic *Air*STREAM - From a single cabinet to an entire facility

The ***Air*STREAM** wiring system establishes a new design principle within control cabinet construction and impresses with its numerous benefits regarding installation and operation.

The heavy-duty ***Air*STREAM** frames are very compact because the wire guide is integrated into the frame. The LÜTZE system provides user-friendly easy wiring access from the front.

The absence of wiring ducts allows for the compact installation of a larger number of components in a smaller footprint. Additionally, the system allows for better air circulation around the components and thus improves heat dissipation.

Easy mounting - even for larger components

There are various solutions for stable installation of VFDs and other components requiring screw or surface mounting.

*Air*STREAM Compact - The small solution with huge benefits

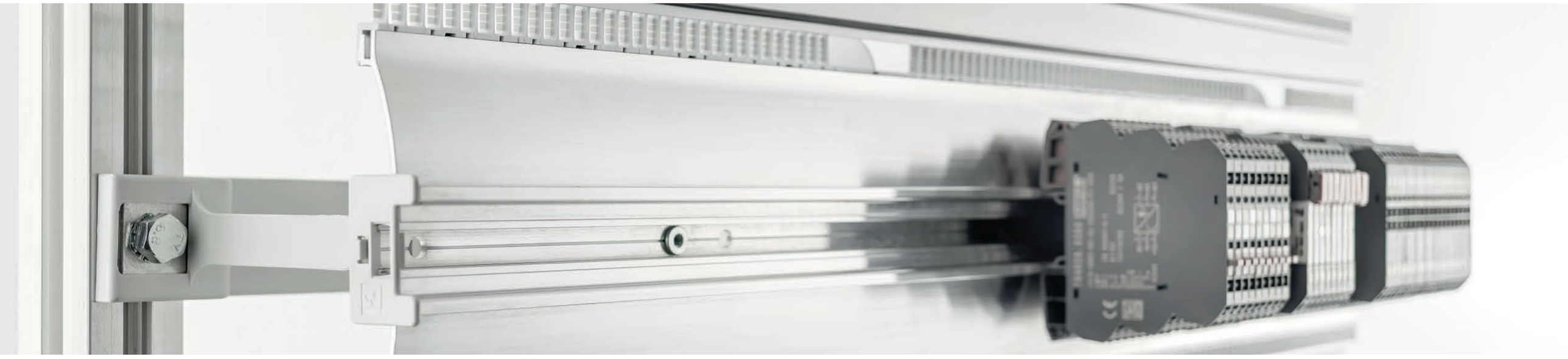
***Air*STREAM** Compact is used in small and compact control cabinets, which are often not very deep.

The flexible design generates more space and helps to save lots of time when wiring, mounting and dismantling.

The rail profiles in the ***Air*STREAM** Compact are not assembled with brackets but with supports. These supports are available in various lengths to accommodate different depth requirements.

Like the classic ***Air*STREAM**, the ***Air*STREAM** Compact system is easily wired from the front.

Well designed to the en d:
Replace the DIN rail w ith a mounting rail!



Mounting rail instead of DIN rail

The mounting rail of the *Air***STREAM** system is the cleverly-designed DIN rail. It can do much more than just attach components. For example, it can also hold screws, guide cables, or form a self-supported construction at the same time.

Ultimately, the mounting rail has much more potential that should be used. Its flexibility allows it to be small, large, flat, deep, or even high or low. It can adapt to any requirement in the control cabinet.

Another very important fact: thanks to the use of the enhanced *Air***STREAM** wiring system, cable ducts have been eliminated and the narrower positioning of the rails saves a lot of space - up to 30 %! This saving can then be used elsewhere.
For example, a smaller enclosure may be sufficient or the positioning of components may be thermally optimized.

The wiring frame looks like a back panel without cable ducts. This works simply because the wires are placed from front to back in the wiring area.

The traditional back panel is a thing of the past!

Its clever design means that the back panel is simply no longer required!

But that's not all: In the *Air***STREAM** system, everything can be accessed from the front. Assembly times are reduced thanks to optimum fastening and surface mounting options. And also because fixing wires in the comb segments is much easier than in cable ducts.

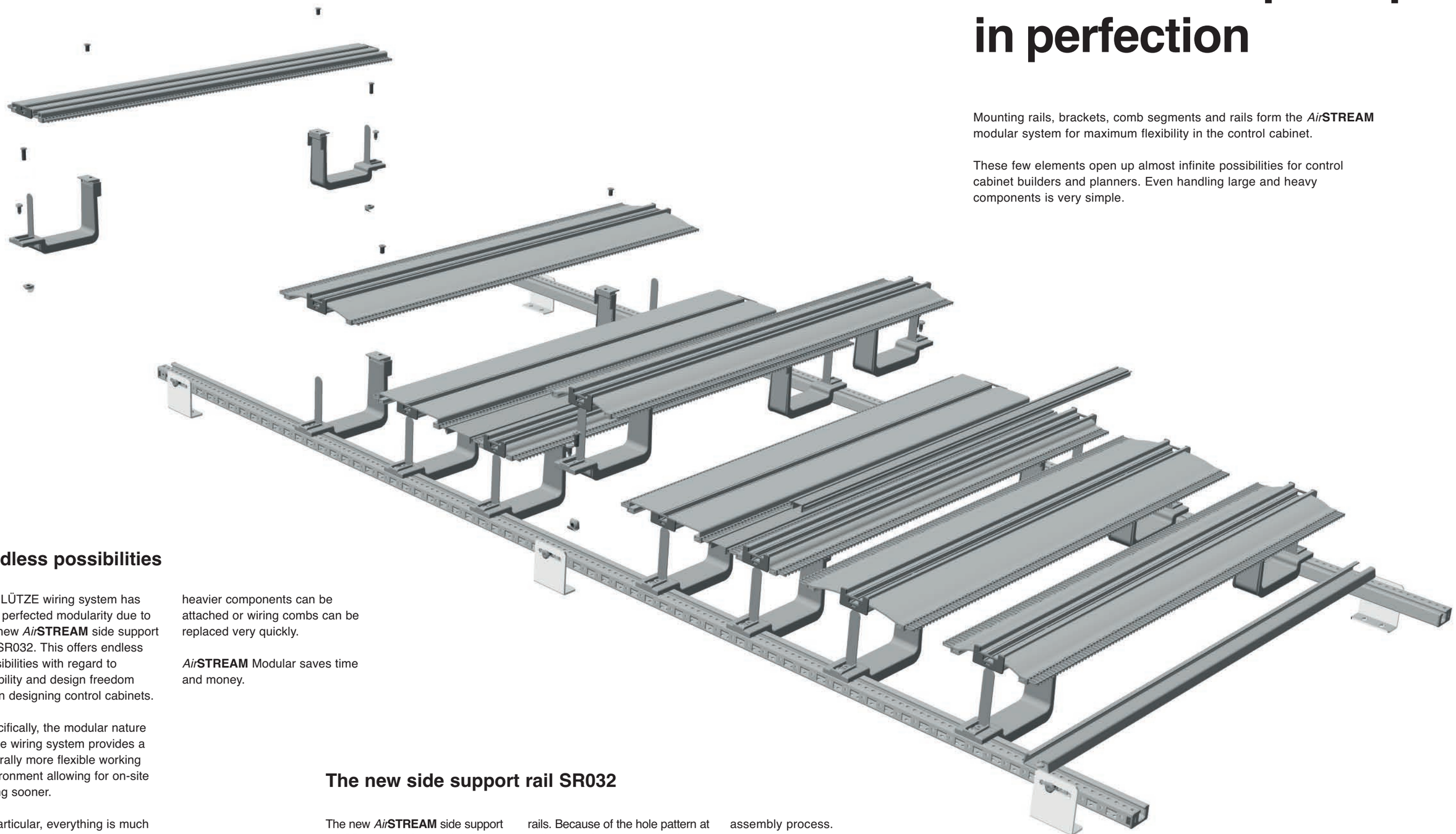
The various rail profiles with an integrated DIN rail and rails for mounting work, also facilitate quick installation and modification, or retrofitting. Thus, future adjustments in the field are not necessary.

Convinced yet? If not, then there are plenty of other benefits! Keywords: energy and CO2 savings as well as avoiding machine downtime caused by thermal issues. More information is available on the following pages....

The modular principle in perfection

Mounting rails, brackets, comb segments and rails form the *Air***STREAM** modular system for maximum flexibility in the control cabinet.

These few elements open up almost infinite possibilities for control cabinet builders and planners. Even handling large and heavy components is very simple.



Endless possibilities

The LÜTZE wiring system has now perfected modularity due to the new *Air***STREAM** side support rail SR032. This offers endless possibilities with regard to flexibility and design freedom when designing control cabinets.

Specifically, the modular nature of the wiring system provides a naturally more flexible working environment allowing for on-site wiring sooner.

In particular, everything is much easier during future adjustments to the design of the wiring frame. Mounting rails can be exchanged, surface mount accessories for heavier components can be attached or wiring combs can be replaced very quickly.

*Air***STREAM** Modular saves time and money.

The new side support rail SR032

The new *Air***STREAM** side support rail SR032 provides multiple benefits when designing a wiring frame. It allows very fast installation of the frame in a 10 mm hole pattern and all without time-consuming measuring and adjustment of the rails. Because of the hole pattern at a distance of 10 mm, each rail module can be mounted quickly with higher level of accuracy.

This innovative new component greatly enhances the users' assembly process.

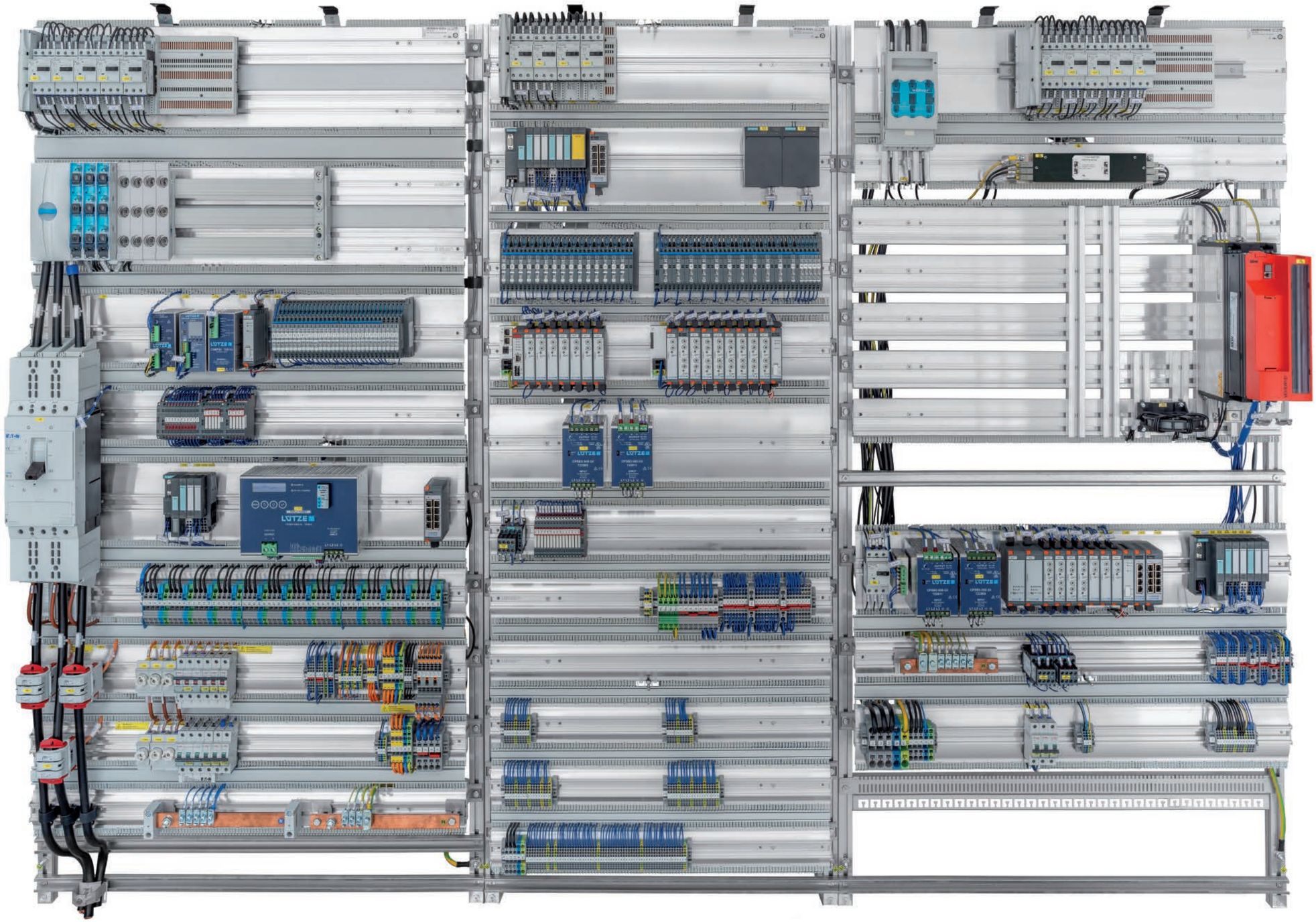
*Air*STREAM in use

The front view of a control unit designed with *Air***STREAM** shows the numerous advantages of the LÜTZE system: various rail profiles have been adapted flexibly to the components to form the component level. There are no air flow obstructions caused by components positioned close to one another, which means that the air can circulate freely and hotspots are avoided.

The cables and wiring are installed from the front although they are managed in the back of the frame. The wiring holders and wiring brackets provide excellent wiring management. Due to the absence of cable ducts, air is able to circulate freely without obstruction.
It is also possible to separate the control and power circuit wiring between the left and the right side of the frame.

Rewiring is possible at any time and is usually much easier and faster than if a conventional back panel is used for the control system.

The wiring areas between the rail profiles are closed by the covers that are in turn held by the combs. These serve to protect and round off the look of the control unit created with *Air***STREAM**.



Video: *Air***STREAM** - correct wiring with the LÜTZE system
https://bit.ly/33UQki2

*Air*STREAM
The wiring system

The *Air***STREAM** wiring system is a 1:1 alternative to traditional back panels, i.e. the wiring frame is installed in the control cabinet instead. The *Air***STREAM** series, *Air***STREAM** for upright cabinets and *Air***STREAM** Compact for small enclosures and compact cabinets, was specifically designed as a modular system to offer the market support for standardizing and digitalizing wiring tasks.

The design of the wiring system

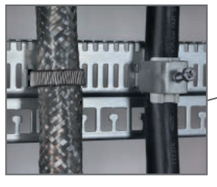
An *Air***STREAM** wiring system comprises a wiring level and a component level. The component level in the *Air***STREAM** and *Air***STREAM** Compact systems is identical and only the wiring level differs. Visually, the system is similar to a ladder - there are two vertical profiles on the left and right, that hold the various types of mounting rails.

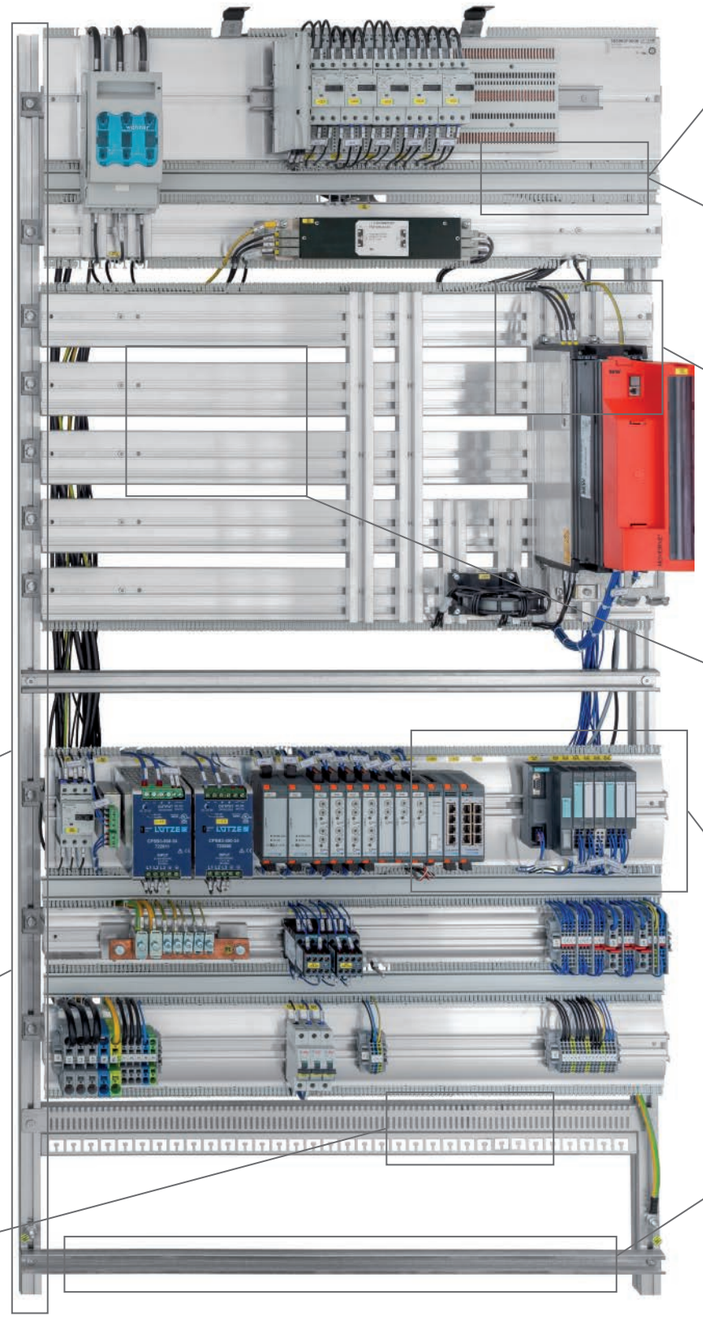
The advantages at a glance:

Mounting rail
The mounting rail runs vertically on both sides and serves to attach the frame in the control cabinet. The brackets of the modules are attached to the rail.

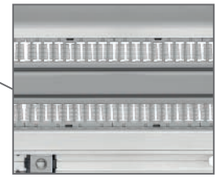
Bracket
Brackets with plastic insulation guide the cables in the rear area of the frame. The brackets are also the connecting element between the mounting rail and rail profiles.

EMC profile
The EMC profile and/or the EMC rail is used as a strain relief as well as a cable shield grounding point.



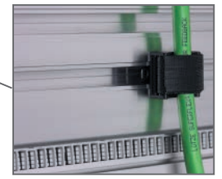


Combs
The combs are clicked into position in a 50 mm grid directly above and below the rail profiles. The plastic combs serve as double touch-protection and also arrange the wires cleanly toward the rear in the wiring area. Combs can be simply replaced with different models.

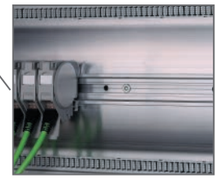


KD - Comb cover
Comb covers are clipped to the end of the wiring between the modules to close the gap and enhance the appearance of the control cabinet. Comb covers are available in various widths.

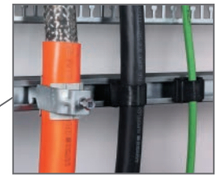
RG - Adapter rails
Adapter rails are used for surface mounting of components such as VFDs. This means that the weight can be spread across several modules and it is also possible to modify or install new parts.



MS/MA - Mounting profiles
A flat surface rail profile with one or two sliding nut channels and without a DIN rail for installation of surface mounted or direct component mounting.



HS/HA - DIN rail profiles
A DIN rail profile for quick installation of DIN rail mountable components. Includes one center gliding nut channel.



C-rail
C-rail is used for strain relief for wire and cable installation in the cabinet.

*Air*STREAM Compact

Ideal for small enclosures and control cabinets

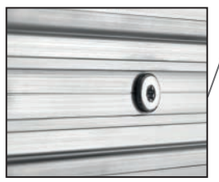
*Air***STREAM** Compact is used in smaller, compact cabinets with low depth. Thanks to the flexible design, *Air***STREAM** Compact offers increased space in the control cabinet and significant time savings during installation, modification and wiring.

Differences to the classic *Air*STREAM system
The rail profiles on the *Air***STREAM** Compact are not assembeled with brackets but with stand off supports. These are available in various lengths to accomodate different application depth requirements. Wiring is conveniently installed from the front. Stand off supports and wiring combs are used for wire management and wires are routed horizontally across the back of the rails and vertically along the sides.

Easy mounting of larger components
The mounting of surface mount components can be achieved by utilizing our various adapter rails. Additionally some mounting rails have an integrated sliding nut channel that accommodates surface mount components.

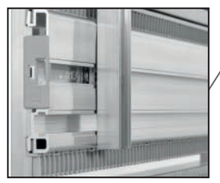
The advantages at a glance:

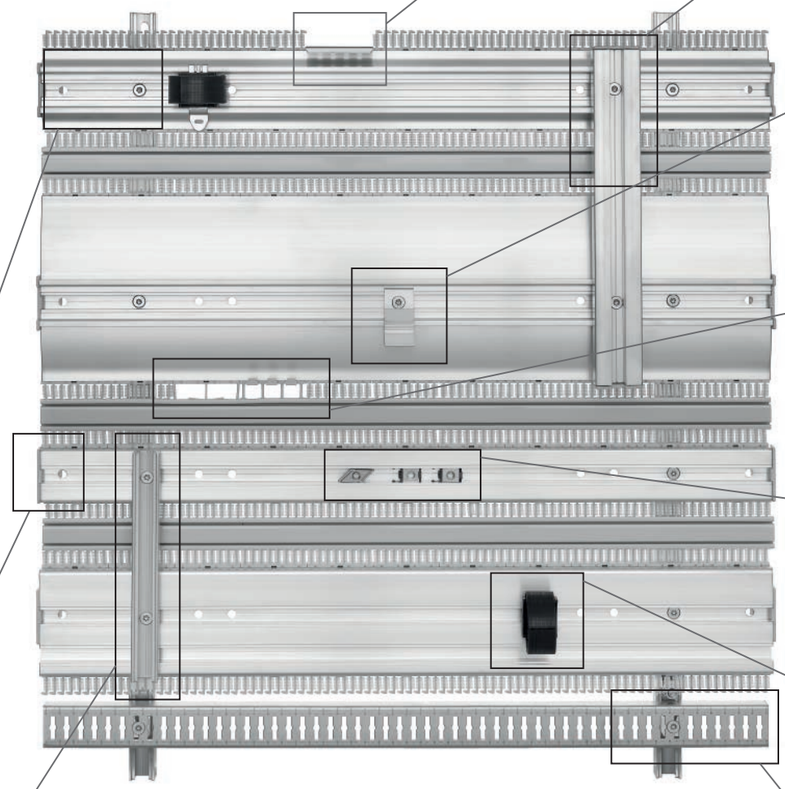
Rails with sliding nut channels
Slide nut channels simplify mounting and swapping of components.

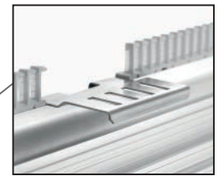


KHS - Edge protection
All rail profiles are supplied with matching edge protection. This protects the cable jackets when wiring.

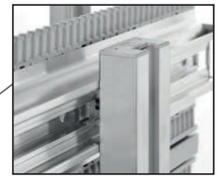
RG020 - Mounting rail
Can be used as a mounting rail or as an adapter rail.



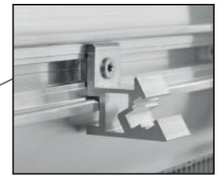




EMC accessories
The EMC shielding accessory is used in lieu of a wiring comb to secure shielded cables.



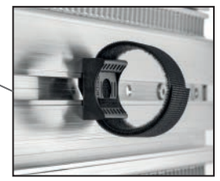
RG035 - Adapter rail
Adapter rails include edge protectors to eliminate sharp edges for safe wiring.



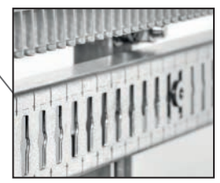
KSS - Angle adapter
For angling of components for improved wiring access.

Wiring comb options
Combs can be simply removed and replaced by using a flat head screwdriver. A variety of comb sizes is available.

Sliding nut channels
All rails are equipped with a slide nut channel to guarantee easy swapping of components. There are different slide nuts available for various rails.



KBS - Hook and loop adapter
For securing cables and wires on the mounting profile surface when required. The different options can be attached to DIN rail profiles or in sliding nut channels.



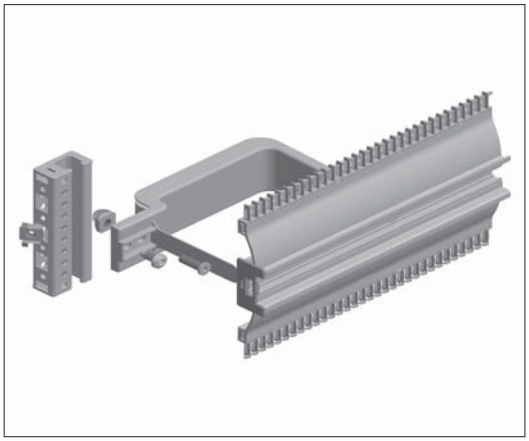
EMC rail
The EMC rail serves as a support for shielded cables.

*Air***STREAM side support rail SR032**

The new side support rail SR032 for the *Air***STREAM** system rounds off the modular kit concept.

The rail modules can be simply positioned in the 10 mm grid or anywhere on the support rail. This facilitates simple frame construction directly on site without special tools or assembly workstations.

The support rail SR032 allows the user to save a lot of time during assembly and retrofitting.



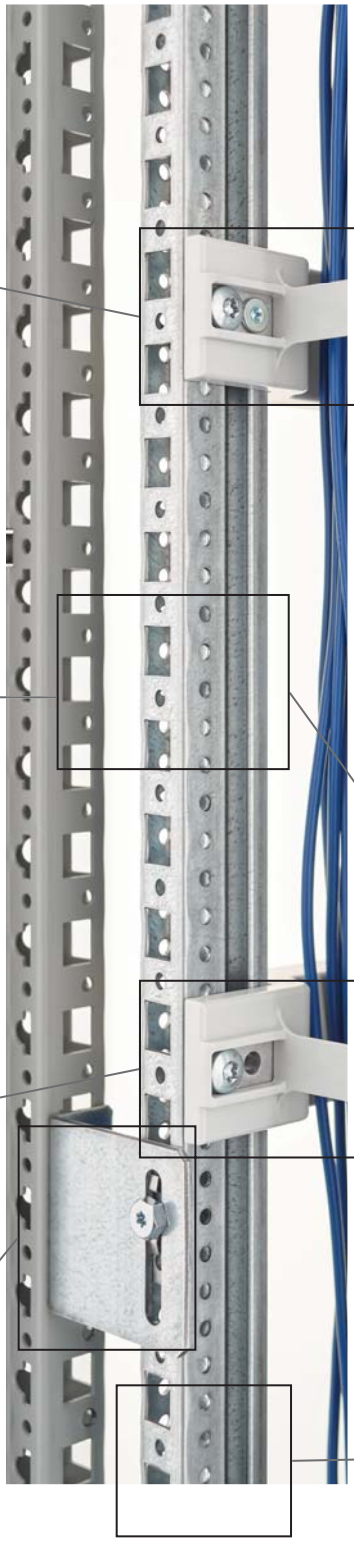
Mounting Rail - SR032 (Support Rail032)

Fastening option 1:
Double screw connection - fastening in the 10 mm incremental hole pattern. The double screw connection allows heavier loads to be attached to the modules.

Perforated strip pattern - brackets or other components are attached using self-tapping screws in a 10 mm hole pattern.

Fastening option 2:
Self-tapping screw connection - fastening in a 10 mm hole pattern without gliding nuts.

Adapter bracket - for mounting the frame in the control cabinet.



Fastening option 3:
Pairing the bolt with the sliding nut inside the sliding nut groove allows fastening at any desired position. Allows for possible future readjustment.

Swivelling sliding nuts - allows for fastening of the brackets and other components at any desired positions.

Cage nut - is installed into the side cages to fasten adapter brackets.

Edge protection - Profile end piece with a cut-out for the sliding nut groove to prevent damage to wires on hard edges.

Side Support Modules

SR032 module

Properties
- The SR032 module consists of two side support rails to be used together with SR032 brackets for fastening of mounting profiles. The set includes 4 × edge protectors and 2 × grounding screws.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	Width mm	Depth mm	Cabinet height mm	PU piece
380001M1898	S*	SR032	1898	32	18.0	2000	1
380001M1698	S*	SR032	1698	32	18.0	1800	1

SR032 (per meter)

Properties
- SR032 side support rail to be used together with SR032 brackets for fastening of mounting profiles.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	Width mm	Depth mm	Cabinet height mm	PU piece
380001R1898	S*	SR032	1898	32	18.0	2000	10
380001R1698	S*	SR032	1698	32	18.0	1800	10
380001R2048	S*	SR032	2048	32	18.0		10

* **S** Article from stock
A Available with a lead time
R Available on request

Bracket for rail set

Bracket set for SR032 side support (including fastening hardware)

Properties

- Bracket set SR032 to be used together with SR032 side support
  Set includes:
  20 mounting brackets incl. insulation
  20 M6×10 flat-head screws to attach the mounting profile to the mounting bracket
  20 GWFS M6×18 self-tapping screws to attach mounting bracket to the SR032 side support

Technical data

Material	Aluminum PC+ABS (halogen-free)
Surface	polished smooth

Part-No.		Type	Application	Wiring space cm²	PU piece
380235.0020	S*	BI 30-085	85-model (all rails apart from MS/HS040)	85	20
380237.0020	S*	BI 15-085	85-model (only HS/MS040 rail)	85	20
380229.0020	S*	BI 30-055	55-model (all rails apart from MS/HS040)	55	20
380231.0020	S*	BI 15-055	55-model (only HS/MS040 rail)	55	20

Component mounting

Bolt

Properties
- The flat screw head allows for flush installation into the base of the slot of the RG rails and therefore does not obstruct the sliding nuts above in the sliding nut channel.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	PU piece
332964.0100	S*	M6 x 10	10	100
332969.0100	S*	M6 x 16	16	100
332973.0100	S*	M6 x 18	18	100

Special bolt

Properties
- Special bolt with inner hex Torx 20 and outer hex SW 10.
  M6 thread for attachment of the support rail SR032 on the mounting brackets (ADWS).
  The mounting bracket serves to attach the frame in the control cabinet.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	PU piece
380298.0010	S*	M6 x 10	10	10
380298.0100	S*	M6 x 10	10	100

Self-tapping screw

Properties
- Self-tapping screw to attach the bracket (modules) on the support rail SR032.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	PU piece
380299.0010	S*	GWFS M6 x 18	18	10
380299.0100	S*	GWFS M6 x 18	18	100

* **S** Article from stock
A Available with a lead time
R Available on request

Component mounting

Swivel nut

Properties
- Swivel nut, M6 thread, for feeding into the slide nut channel of the SR032 support rail.

Technical data

Material	Steel
Surface	galvanized
Width	13.0 mm
Depth	6.0 mm
Height	13.0 mm

Part-No.		Type	PU piece
380296.0010	S*	SM M6	10
380296.0100	S*	SM M6	100

Cage nut

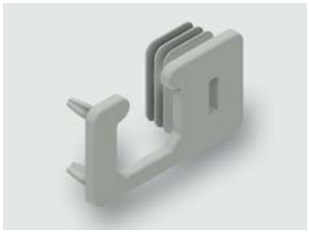
Properties
- Cage nut, M6 thread, for use in the side cage of the SR032 side support. For fastening of the mounting brackets or components.

Technical data

Material	Steel
Surface	galvanized
Width	14.0 mm
Depth	6.6 mm
Height	12.4 mm

Part-No.		Type	PU piece
380290.0010	S*	KM M6	10
380290.0100	S*	KM M6	100

Edge protector



Properties
- Edge protection for the support rail to prevent damage to the cables and wires. Sliding nut groove facing to the left or to the right.

Technical data

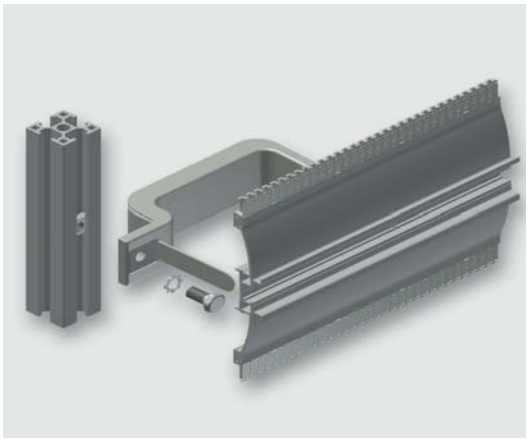
Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0
Width	32.5 mm
Depth	10.0 mm
Height	18.0 mm

Part-No.		Type	PU piece
380094.0010	S*	SCL 032	10
380095.0010	S*	SCR 032	10

*Air*STREAM side support rail VPSym

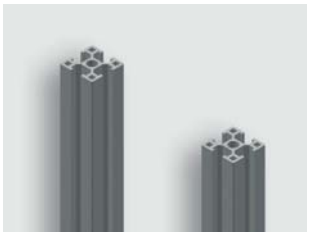
The proven VPSym side support rail made of aluminum is comprised of a square profile and has proven its worth for day-to-day assembly of the rails for many years. The profile is essential, especially in the customized construction field.

The new side support rail SR032 now offers users a modular alternative.



Mounting Rail Module

VPSym module



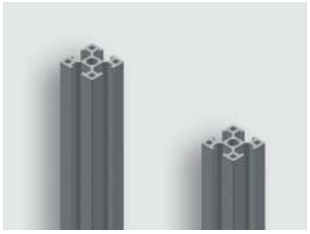
Properties
- The VPSym module serves as a mounting rail for the rail module of the *Air***STREAM**. The module consists of two rails, two grounding screws and caps.

Technical data

Material	Aluminum
Surface	polished

Part-No.		Type	Length mm	Width mm	Cabinet height mm
380556M0000	**A***	VPSym Set 0900	900	30	1000
380557M0000	**A***	VPSym Set 1080	1080	30	1200
380558M0000	**A***	VPSym Set 1280	1280	30	1400
380559M0000	**A***	VPSym Set 1480	1480	30	1600
380562M0000	**A***	VPSym Set 1680	1680	30	1800
380563M0000	**A***	VPSym Set 1880	1880	30	2000
380565M0000	**A***	VPSym Set 2080	2080	30	2200

VPSym (sold by meter)



Properties
- VPSym (sold by meter) serves as a mounting rail for modules or as a frame reinforcement.

Technical data

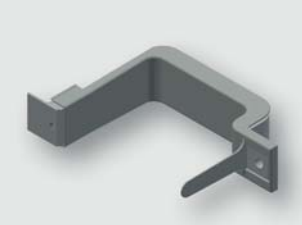
Material	Aluminum
Surface	polished electrically conductive

Part-No.		Type	Length mm	Width mm	Cabinet height mm
330138.1680	**A***	VPsym	1680	30	1800
330138.1880	**A***	VPsym	1880	30	2000

* **S** Article from stock
A Available with a lead time
R Available on request

Bracket for rail set

Bracket for rail set (including fastening material)



Properties

- The bracket set contains 20 brackets including a plastic cover.
  A differentiation is made between the wiring surfaces 55 cm^2 and 85 cm^2.
  The brackets are attached to the rails with flat head screws M6 × 10.
  GLM 8 (slide nuts), FZ 8,4 (spring toothed lock washers) and an M8 × 14 (hex screw) are required to attach the brackets to the VPSym (carrier rail).
  Screws for attachment are included in the set.

Technical data

Material	Aluminum
Surface	polished

Part-No.		Type	Application	Wiring space cm²	PU piece
380220.0020	**A***	BI 30-085	85-model (all rails apart from MS/HS040)	85	20
380214.0020	**A***	BI 30-055	55-model (all rails apart from MS/HS040)	55	20
380208.0020	**A***	BI 15-085	85-model (only HS/MS040 rail)	85	20
380202.0020	**A***	BI 15-055	55-model (only HS/MS040 rail)	55	20

* **S** Article from stock
A Available with a lead time
R Available on request

Mounting Accessories

Component mounting

Hexagonal bolt

Properties
- M8 × 16 hexagonal bolts for fastening of rail modules on VPSym-Module.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
330907.0100	**S***	Schraube, Sechsk., M8x14	100

Lock washer

Properties
- M8 lock washer, external tooth, closed perimeter.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
330903.0100	**S***	Federzahnscheibe FZ 8,4	100

Sliding nut

Properties
- Sliding nuts for use in the sliding nut channel of the *Air***STREAM** rail modules. GL M6 is used to attach the RG rails.

Technical data

Material	Steel
Surface	bright galvanized Punched edges bare/natural
Width	13.0 mm
Depth	13.0 mm
Height	4.0 mm

Part-No.		Type	PU piece
330944.0100	**S***	GL M8	100

* **S** Article from stock
A Available with a lead time
R Available on request

Mounting Accessories

Component mounting

Bolt

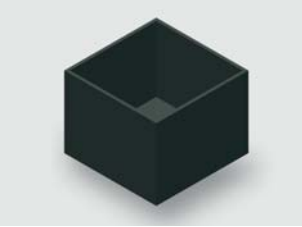
Properties
- The flat screw head allows for flush installation into the base of the slot of the RG rails and therefore does not obstruct the sliding nuts above in the sliding nut channel.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
332964.0100	S*	M6 x 10	100

Cover cap



Properties
- Cover cap 30 × 30 for mounting rail VPSym

Technical data

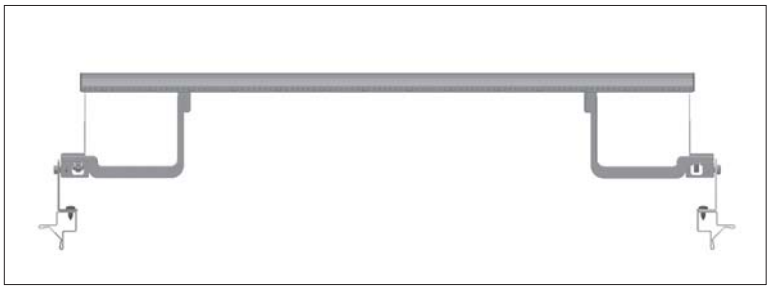
Material	LDPE
Surface	smooth
Color	black

Part-No.		Type	PU piece
330958.0010	S*	VK 30	10

* **S** Article from stock
A Available with a lead time
R Available on request

Installation in a control cabinet

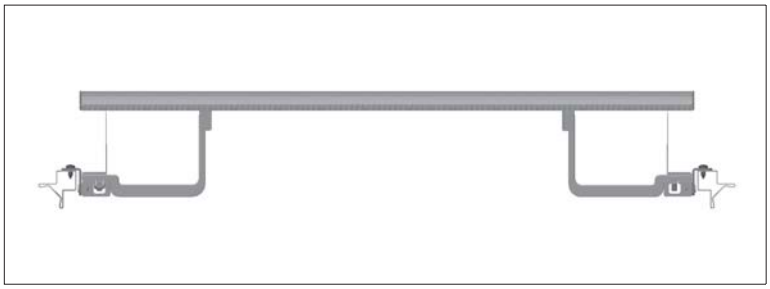
Example of an 800 mm wide control cabinet



Standard

Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm²)
750	700	120	85

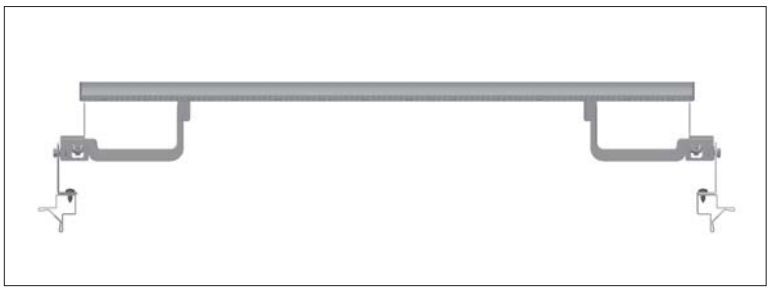
Standard: The mounting rail protrudes 25 mm over the right and left of the rails. This means that the frame is stated as being 50 mm wider than the rail. Brackets with the largest wiring space (85 cm²) are used.



Option 1

Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm²)
700	700	120	85

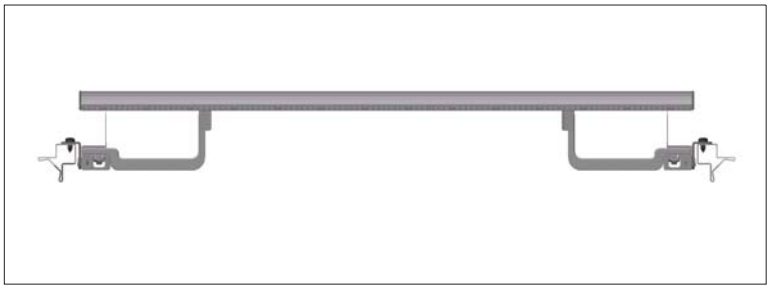
Option 1: The mounting rails are aligned with the rail profile - frame width equals rail length. Brackets with the largest wiring space (85 cm²) are used.



Option 2

Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm²)
750	700	90	55

Option 2: The mounting rail protrudes 25 mm over the right and the left of the rails. This means that the frame is stated as being 50 mm wider than the rail. Brackets with the wiring space (55 cm²) are used.

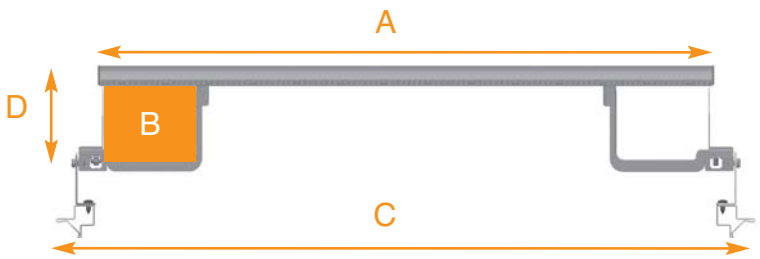


Option 3

Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm²)
700	700	90	55

Option 3: The mounting rails are aligned with the rail profile - frame width equals rail length. Brackets with the largest wiring space (55 cm²) are used.

Key:
A = Rail length
B = Wiring space
C = Frame width
D = Frame depth

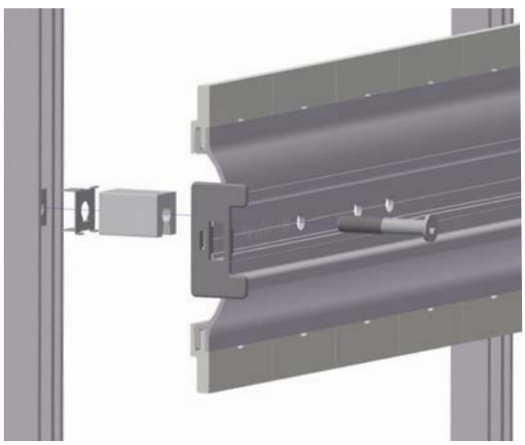


*Air*STREAM Compact

The compact and space-saving variant of the *Air***STREAM** system was specially developed for small control cabinets and enclosures.

The completely compatible profile rails of the classic *Air***STREAM** system are mounted in the compact version using special supports. This saves space at the back of the cabinet.

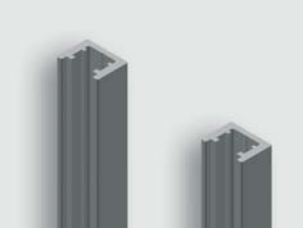
Also, the extensive range of accessories for the LÜTZE *Air***STREAM** can also be used for *Air***STREAM** Compact.



Mounting Accessories

Adapter rail module

RG020 (per meter)



Properties
- Adapter rail RG020 is used as mounting rail for AirSTREAM-Compact. RG020 can be used as the adapter rail for the vertical mounting of components.

Technical data

Material	Aluminum
Surface	polished
Rail width	20 mm
Rail height	15 mm

Part-No.		Type	PU piece
380180.2000	**A***	RG 020	1

Side supports

Properties
- The depth of the wiring space is increased with CST standoffs. CST standoffs are used to increase or decrease the depth of the wiring space of the mounting rails.

Technical data

Material	Aluminum
Surface	polished electrically conductive

Part-No.		Type	PU piece
332936.0100	**S***	CST 18	100
332901.0100	**S***	CST 23	100
332930.0100	**S***	CST 30	100
332925.0100	**S***	CST 35	100
345601.0100	**S***	CST 40	100
332937.0100	**S***	CST 45	100
332958.0100	**S***	CST 50	100

Bolt

Properties
- The flat screw head allows for flush installation into the base of the slot of the RG rails and therefore does not obstruct the sliding nuts above in the sliding nut channel.

Technical data

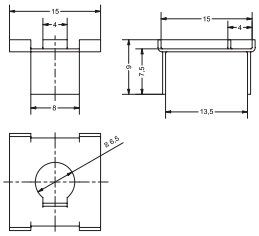
Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
332993.0100	**S***	M6 x 30	100
332971.0100	**S***	M6 x 35	100
332970.0100	**S***	M6 x 40	100
332994.0100	**S***	M6 x 45	100
332995.0100	**S***	M6 x 50	100
332996.0100	**S***	M6 x 55	100
332965.0100	**S***	M6 x 60	100

Mounting Accessories

Component mounting

Holder side supports



Properties
- Used to hold standoff in place and prevents standoff from sliding. For easy installation of rails to the side supports.

Technical data

Material	Sheet steel
Surface	galvanized
Color	silver

Part-No.		Type	PU piece
332918.0100	**S***	CSMK	100

Sliding nut

Properties
- Sliding nuts for use in the sliding nut channel of the *Air***STREAM** rail modules. GL M6 is used to attach the RG rails.

Technical data

Material	Steel
Surface	bright galvanized Punched edges bare/natural
Width	13.0 mm
Depth	13.0 mm
Height	4.0 mm

Part-No.		Type	PU piece
330943.0100	**S***	GL M6	100

Sliding nut cage

Properties
- The sliding nut cage keeps the sliding nuts in their respective positions, even in vertical applications.

Technical data

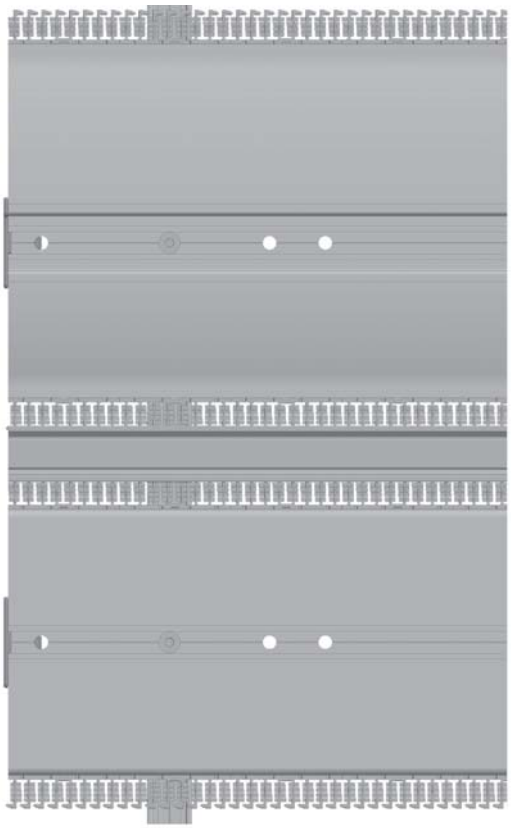
Material	POM 9021M
Surface	smooth
Color	grey

Part-No.		Type	PU piece
331023.0100	**S***	GMK	100

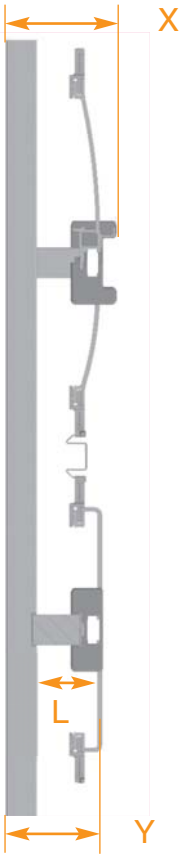
* **S** Article from stock
A Available with a lead time
R Available on request

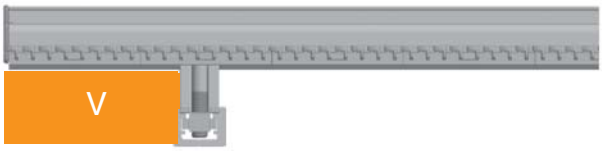
Module comparison: *Air*STREAM & *Air*STREAM Compact

Front view



Side view





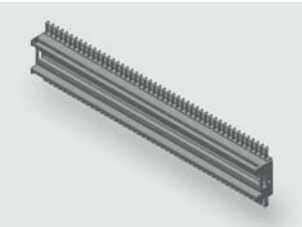
Key:
L = Length of supports
V = Wiring space
X = Dimension incl. DIN rail
Y = Dimension without DIN rail

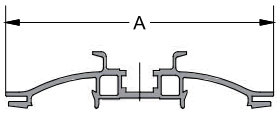
Screw options for stand off supports

Item number of supports	Length of CST supports in mm	Screw, M6 flat head, Torx, item number	Screw length in mm	Dimension X (with DIN rail)	Dimension Y (without DIN rail)
332936.0100	18,00 mm	332993.0100	30,00 mm	approx. 48,50 mm	approx. 42,00 mm
332901.0100	23,00 mm	332971.0100	35,00 mm	approx. 53,50 mm	approx. 47,00 mm
332930.0100	30,00 mm	332970.0100	40,00 mm	approx. 60,50 mm	approx. 54,00 mm
332925.0100	35,00 mm	332994.0100	45,00 mm	approx. 65,50 mm	approx. 59,00 mm
345601.0100	40,00 mm	332995.0100	50,00 mm	approx. 70,50 mm	approx. 64,00 mm
332937.0100	45,00 mm	332996.0100	55,00 mm	approx. 75,50 mm	approx. 69,00 mm
332958.0100	50,00 mm	332965.0100	60,00 mm	approx. 80,50 mm	approx. 74,00 mm

10 piece rail set

HS040 Rail set





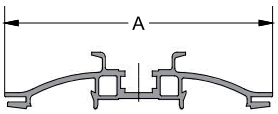
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

Technical data

Material	Aluminum
Surface	polished
A	40 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380100R0500	A*	HS040	40	500	10
380100R0550	A*	HS040	40	550	10
380100R0700	A*	HS040	40	700	10
380100R0750	A*	HS040	40	750	10
380100R0900	A*	HS040	40	900	10
380100R1100	A*	HS040	40	1100	10

HS060 Rail set



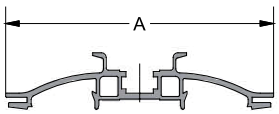
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

Technical data

Material	Aluminum
Surface	polished
A	60 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380101R0500	A*	HS060	60	500	10
380101R0550	A*	HS060	60	550	10
380101R0700	A*	HS060	60	700	10
380101R0750	A*	HS060	60	750	10
380101R0900	A*	HS060	60	900	10
380101R1100	A*	HS060	60	1100	10

HS080 Rail set



Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

Technical data

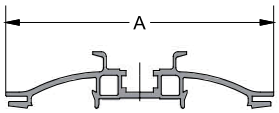
Material	Aluminum
Surface	polished
A	80 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380102R0500	A*	HS080	80	500	10
380102R0550	A*	HS080	80	550	10
380102R0700	A*	HS080	80	700	10
380102R0750	A*	HS080	80	750	10
380102R0900	A*	HS080	80	900	10
380102R1100	A*	HS080	80	1100	10

* **S** Article from stock
A Available with a lead time
R Available on request

10 piece rail set

HS100 Rail set



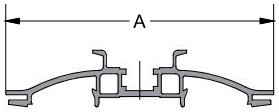
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

Technical data

Material	Aluminum
Surface	polished
A	100 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380103R0500	**A***	HS100	100	500	10
380103R0550	**A***	HS100	100	550	10
380103R0700	**A***	HS100	100	700	10
380103R0750	**A***	HS100	100	750	10
380103R0900	**A***	HS100	100	900	10
380103R1100	**A***	HS100	100	1100	10

HS120 Rail set



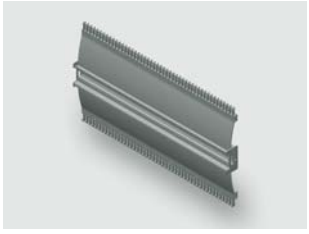
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

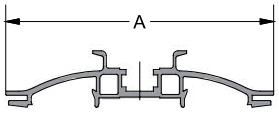
Technical data

Material	Aluminum
Surface	polished
A	120 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380104R0500	**A***	HS120	120	500	10
380104R0550	**A***	HS120	120	550	10
380104R0700	**A***	HS120	120	700	10
380104R0750	**A***	HS120	120	750	10
380104R0900	**A***	HS120	120	900	10
380104R1100	**A***	HS120	120	1100	10

HS140 Rail set





Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

Technical data

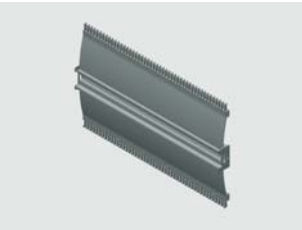
Material	Aluminum
Surface	polished
A	140 mm

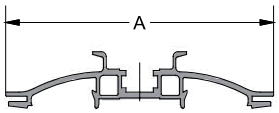
Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380105R0500	**A***	HS140	140	500	10
380105R0550	**A***	HS140	140	550	10
380105R0700	**A***	HS140	140	700	10
380105R0750	**A***	HS140	140	750	10
380105R0900	**A***	HS140	140	900	10
380105R1100	**A***	HS140	140	1100	10

* **S** Article from stock
A Available with a lead time
R Available on request

10 piece rail set

HS160 Rail set





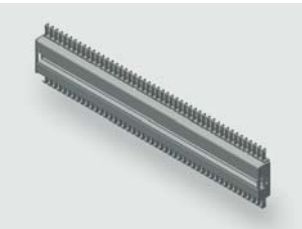
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

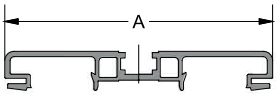
Technical data

Material	Aluminum
Surface	polished
A	160 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380106R0500	A*	HS160	160	500	10
380106R0550	A*	HS160	160	550	10
380106R0700	A*	HS160	160	700	10
380106R0750	A*	HS160	160	750	10
380106R0900	A*	HS160	160	900	10
380106R1100	A*	HS160	160	1100	10

MS040 Rail set





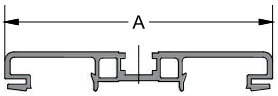
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

Technical data

Material	Aluminum
Surface	polished
A	40 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380120R0500	A*	MS040	40	500	10
380120R0550	A*	MS040	40	550	10
380120R0700	A*	MS040	40	700	10
380120R0750	A*	MS040	40	750	10
380120R0900	A*	MS040	40	900	10
380120R1100	A*	MS040	40	1100	10

MS080 Rail set



Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

Technical data

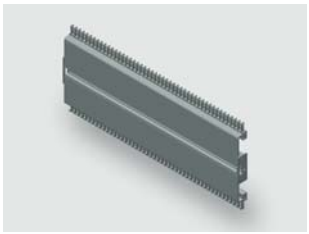
Material	Aluminum
Surface	polished
A	80 mm

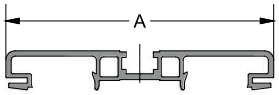
Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380122R0500	A*	MS080	80	500	10
380122R0550	A*	MS080	80	550	10
380122R0700	A*	MS080	80	700	10
380122R0750	A*	MS080	80	750	10
380122R0900	A*	MS080	80	900	10
380122R1100	A*	MS080	80	1100	10

* **S** Article from stock
A Available with a lead time
R Available on request

10 piece rail set

MS100 Rail set





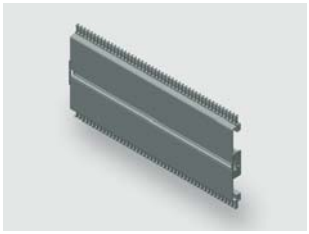
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

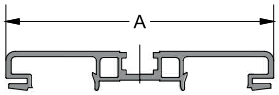
Technical data

Material	Aluminum
Surface	polished
A	100 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380123R0500	**A***	MS100	100	500	10
380123R0550	**A***	MS100	100	550	10
380123R0700	**A***	MS100	100	700	10
380123R0750	**A***	MS100	100	750	10
380123R0900	**A***	MS100	100	900	10
380123R1100	**A***	MS100	100	1100	10

MS120 Rail set





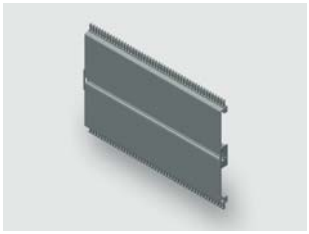
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

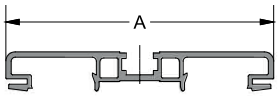
Technical data

Material	Aluminum
Surface	polished
A	120 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380124R0500	**A***	MS120	120	500	10
380124R0550	**A***	MS120	120	550	10
380124R0700	**A***	MS120	120	700	10
380124R0750	**A***	MS120	120	750	10
380124R0900	**A***	MS120	120	900	10
380124R1100	**A***	MS120	120	1100	10

MS180 Rail set





Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

Technical data

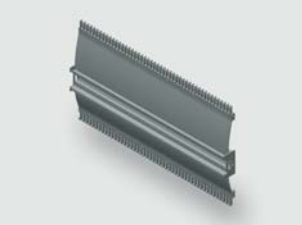
Material	Aluminum
Surface	polished
A	180 mm

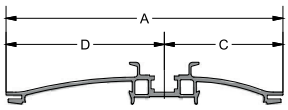
Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380127R0500	**A***	MS180	180	500	10
380127R0550	**A***	MS180	180	550	10
380127R0700	**A***	MS180	180	700	10
380127R0750	**A***	MS180	180	750	10
380127R0900	**A***	MS180	180	900	10
380127R1100	**A***	MS180	180	1100	10

* **S** Article from stock
A Available with a lead time
R Available on request

10 piece rail set

HA140 Rail set





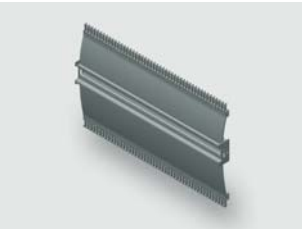
Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

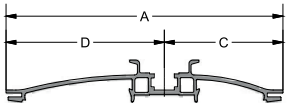
Technical data

Material	Aluminum
Surface	polished
A	140 mm
C	60 mm
D	80 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380140R0500	**A***	HA140	140	500	10
380140R0550	**A***	HA140	140	550	10
380140R0700	**A***	HA140	140	700	10
380140R0750	**A***	HA140	140	750	10
380140R0900	**A***	HA140	140	900	10
380140R1100	**A***	HA140	140	1100	10

HA160 Rail set





Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set. Other lengths in a 50 mm grid are availble on request.

Technical data

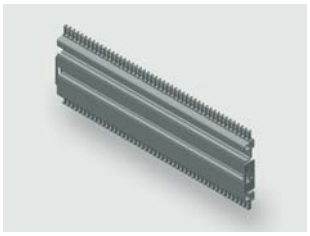
Material	Aluminum
Surface	polished
A	160 mm
C	70 mm
D	90 mm

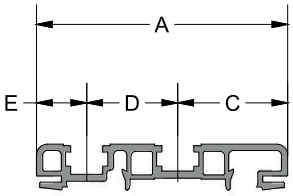
Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380141R0500	**A***	HA160	160	500	10
380141R0550	**A***	HA160	160	550	10
380141R0700	**A***	HA160	160	700	10
380141R0750	**A***	HA160	160	750	10
380141R0900	**A***	HA160	160	900	10
380141R1100	**A***	HA160	160	1100	10

* **S** Article from stock
A Available with a lead time
R Available on request

10 piece rail set

MA080 Rail set





Properties
- The rail set contains 10 rails including edge protection, combs and mounting holes. Depending on the rail type and installation depth, brackets can be used for mounting. Brackets and mounting material is not included in the set.
  Other lengths in a 50 mm grid are availble on request.

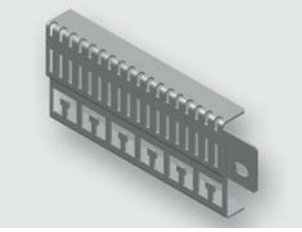
Technical data

Material	Aluminum
Surface	polished
A	80 mm
C	35 mm
D	29 mm
E	16 mm

Part-No.		Module type	Rail height mm	Rail length mm	PU piece
380160R0500	**A***	MA080	80	500	10
380160R0550	**A***	MA080	80	550	10
380160R0700	**A***	MA080	80	700	10
380160R0750	**A***	MA080	80	750	10
380160R0900	**A***	MA080	80	900	10
380160R1100	**A***	MA080	80	1100	10

EMC Module

EMC Shielding Rail



Properties
- The EMC shielding rail can be attached to the VPSym side supports. Shield termination is achieved by attaching the exposed cable shield to the EMC rail with spring shield clamps and shield clamps. Cable ties can be used to provide additional strain relief.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Frame width mm	Rail height mm
380582M0000	S*	EMV 1 0500	500	75
380582M0001	S*	EMV 1 0700	700	75
380582M0002	S*	EMV 1 0900	900	75
380582M0003	S*	EMV 1 1100	1100	75
380582M0004	S*	EMV 1 0550	550	75
380582M0005	S*	EMV 1 0750	750	75
380582M0006	S*	EMV 1 0950	950	75
380582M0007	S*	EMV 1 1150	1150	75

Strain Relief Rail (C-Rail)

Properties
- The strain relief rail can be attached to the VPSym side supports. It provides additional strain relief to cables and cable clamps.

Technical data

Material	Steel
Surface	galvanized

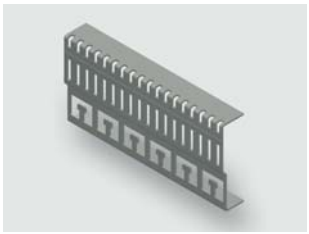
Part-No.		Type	Frame width mm	Rail height mm
380583M0000	S*	CS 1 0500	500	34
380583M0001	S*	CS 1 0700	700	34
380583M0002	S*	CS 1 0900	900	34
380583M0003	S*	CS 1 1100	1100	34
380583M0004	S*	CS 1 0550	550	34
380583M0005	S*	CS 1 0750	750	34
380583M0006	S*	CS 1 0950	950	34
380583M0007	S*	CS 1 1150	1150	34

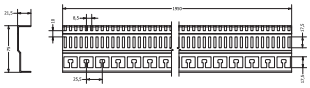
* **S** Article from stock
A Available with a lead time
R Available on request

EMC Accessories

EMC Module

EMC shield rail *Air*STREAM





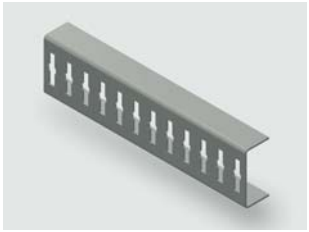
Properties
- For securing shielded cables.

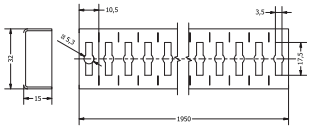
Technical data

Material	Sheet steel
Surface	galvanized
Color	natural silver

Part-No.		Type	Length mm	Height mm	PU piece
380586.1950	**S***	EMVS 03-46812	1950	75.0	10

EMC shield rail *Air*STREAM Compact





Properties
- For securing shielded cables.

Technical data

Material	Sheet steel
Surface	galvanized
Color	natural silver

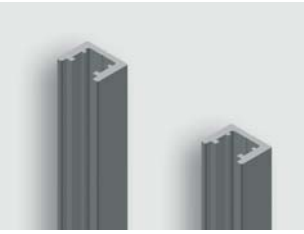
Part-No.		Type	Length mm	Height mm	PU piece
380587.1950	**S***	EMVS 04-55813	1950	32.0	10

* **S** Article from stock
A Available with a lead time
R Available on request

Mounting Accessories

Adapter rail module

RG020



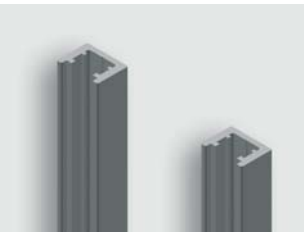
Properties
- RG020 adapter rail with incorporated gliding nut channel is intended for vertical mounting of components. RG adapter rails contain mounting holes and can thus be easily secured onto the mounting rails.
  Two rails of equal length make an RG020 set.
  Sliding nuts, sliding nut retainers and screws for installation should be ordered separately.

Technical data

Material	Aluminum
Surface	polished
Rail width	20 mm
Rail height	15 mm

Part-No.		Type	Length mm	PU piece
380180M0000	A*	RG020 0080	80	1
380180M0001	A*	RG020 0100	100	1
380180M0002	A*	RG020 0120	120	1
380180M0005	A*	RG020 0250	250	1
380180M0007	A*	RG020 0500	500	1

RG020 (per meter)



Properties
- Adapter rail RG020 is used as mounting rail for AirSTREAM-Compact. RG020 can be used as the adapter rail for vertical mounting of components.

Technical data

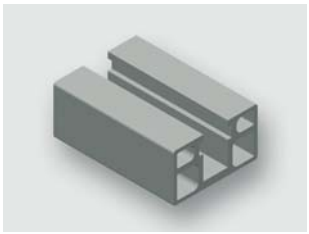
Material	Aluminum
Surface	polished
Rail width	20 mm
Rail height	15 mm

Part-No.		Type	Length mm	PU piece
380180.1000	A*	RG 020	1000	1
380180.2000	A*	RG 020	2000	1

* **S** Article from stock
A Available with a lead time
R Available on request

RG035 (gliding groove profile)

RG035 (gliding groove profile)



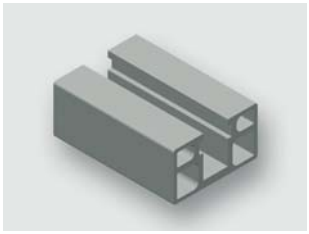
Properties
- RG035 adapter rail with incorporated sliding nut channel is intended for vertical mounting of components. RG adapter rails 100mm contain mounting holes and can thus be easily secured onto the mounting rails. Two rails of equal length make an RG035 set.
  An improved EMC connection can be achieved due to the larger contact area of RG035 rails.
  Sliding nuts, sliding nut retainers and screws for installation should be ordered separately.

Technical data

Material	Aluminum
Surface	polished
Rail width	35 mm
Rail height	20 mm

Part-No.		Type	Length mm	PU piece
380182M0001	A*	RG035 0100	100	1
380182M0003	A*	RG035 0210	210	1
380182M0004	A*	RG035 0220	220	1
380182M0005	A*	RG035 0250	250	1
380182M0006	A*	RG035 0350	350	1
380182M0007	A*	RG035 0500	500	1
380182M0008	A*	RG035 0580	580	1
380182M0009	A*	RG035 0610	610	1

RG035 (gliding groove profile, per meter)



Properties
- Adapter rail module RG035 for the easy vertical mounting of components via screw channel.
  Due to the larger contact area of RG35 rails a better EMC connection of the mounted components is given.
  For installation sliding nuts, sliding nut retainers and screws as accessories are needed.

Technical data

Material	Aluminum
Surface	polished
Rail width	35 mm
Rail height	20 mm

Part-No.		Type	Length mm	PU piece
380182.1000	A*	RG035	1000	1
380182.2000	A*	RG035	2000	1

* **S** Article from stock
A Available with a lead time
R Available on request

Component mounting

Fastening set

Properties
- Mounting kit for attaching an RG rail to a module.
  Mounting kit comprising:
  4 × screws M6×10 or M6×16
  4 × sliding nuts M6
  4 × sliding nut cage

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
332969.0001	S*	BSRG M6 HS/HA	1
332964.0001	S*	BSRG M6 MS/MA	1

Fastening set

Properties
- Mounting kit for attaching a rail module on support rail VPSym
  Mounting kit comprising:
  2 × hex screws M8×14
  2 × spring toothed lock washer M8
  2 × nuts M8

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
330907.0001	S*	BSM M8	1

Fastening set

Properties
- Mounting kit for attaching an EMC or CS module on mounting rail VPSym
  Mounting kit comprising:
  2 × flat head screws M8×10
  2 × spring toothed lock washer M8
  2 × sliding nuts M8
  2 × sliding nut cage

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	PU piece
345633.0001	S*	BS EMV CS M8	1

* **S** Article from stock
A Available with a lead time
R Available on request

Component mounting

Bolt

Properties
- The flat screw head disappears into the base of the slot of the RG rails and therefore does not obstruct the sliding nuts above in the sliding nut channel.

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	PU piece
332964.0100	S*	M6 x 10	10	100
332968.0100	S*	M6 x 12	12	100
332969.0100	S*	M6 x 16	16	100
332973.0100	S*	M6 x 18	18	100
332963.0100	S*	M6 x 20	20	100
332992.0100	S*	M6 x 25	25	100
332993.0100	S*	M6 x 30	30	100
332971.0100	S*	M6 x 35	35	100
332970.0100	S*	M6 x 40	40	100
332994.0100	S*	M6 x 45	45	100
332995.0100	S*	M6 x 50	50	100
332996.0100	S*	M6 x 55	55	100
345628.0100	S*	M8 x 10	10	100
345637.0200	S*	M8 x 20	20	200

Grounding kit

Properties
- Grounding kit
  Grounding kit comprising:
  2 × washer US 8,4 (M8) or 7,4 (M6)
  2 × locknut M8 SW13 / M6 SW10
  2 × spring toothed lock washer FZ 8,4 / FZ 6,4
  1 × screw M8×25 / M6×25
  2 × grounding label

Technical data

Material	Steel
Surface	galvanized

Part-No.		Type	Length mm	PU piece
331805	A*	ES 8		1
331816	S*	ES 6		1

Component mounting

Sliding nut

Properties
- Sliding nuts for use in the sliding nut channel of the *Air***STREAM** rail modules. GL M6 is used to attach the RG rails.

Technical data

Material	Steel
Surface	bright galvanized Punched edges bare/natural
Width	13.0 mm
Depth	13.0 mm
Height	4.0 mm

Part-No.		Type	PU piece
330940.0100	**S***	GL M3	100
330941.0100	**S***	GL M4	100
330942.0100	**S***	GL M5	100
330943.0100	**S***	GL M6	100
330944.0100	**S***	GL M8	100

T-Nut

Properties
- Specially tiered sliding nuts provide an even surface for mounting of components with RG035 and MS/MA rails.
  When inserted in the sliding nut groove provides a flat mounting surface for mounting of components.

Technical data

Material	Aluminum
Surface	polished electrically conductive
Width	13.0 mm
Depth	13.0 mm
Height	6.0 mm

Part-No.		Type	PU piece
380270.0100	**S***	T-Nut M4	100
380271.0100	**S***	T-Nut M5	100
380272.0100	**S***	T-Nut M6	100
380273.0100	**S***	T-Nut M8	100

Sliding nut cage

Properties
- The sliding nut cage keeps the sliding nuts in their respective positions, even in vertical applications.

Technical data

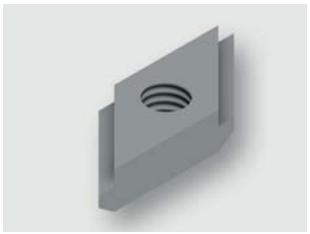
Material	POM 9021M
Surface	smooth
Color	grey

Part-No.		Type	PU piece
331023.0100	**S***	GMK	100

* **S** Article from stock
A Available with a lead time
R Available on request

Component mounting

Swiveling sliding nut



Properties
- For retroactive installation.
  Sliding nut can be swiveled thanks to the trapezoidal shape and does not need to be fixed laterally in the duct.

Technical data

Material	Steel
Surface	galvanized
Width	13.0 mm
Depth	5.0 mm
Height	10.0 mm

Part-No.		Type	PU piece
380276.0010	S*	EGL M5	10
380277.0010	S*	EGL M6	10

Load-bearing sliding nut (heavy-duty sliding nut)

Properties
- Thanks to the longer flank, it serves to attach heavy components. For insertion into the sliding nut channel.

Technical data

Material	Steel
Surface	bright galvanized
Width	25.0 mm
Depth	4.0 mm
Height	13.0 mm

Part-No.		Type	PU piece
380274.0010	S*	LGL M6	10
380275.0010	S*	LGL M8	10

Side supports

Properties
- The depth of the wiring space is increased with CST standoffs. CST standoffs are used to increase or decrease the depth of the wiring space of the mounting rails.

Technical data

Material	Aluminum
Surface	polished electrically conductive

Part-No.		Type	PU piece
346364.0010	A*	CST 7 Set	10

Component mounting

KSS Angle adapter

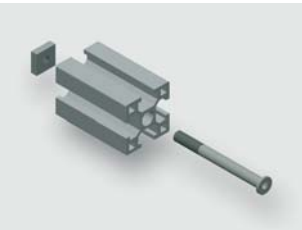
Properties
- For 30° angling of components for improved wiring access via a sliding nut channel. KSS angle adapter can be secured in a sliding nut channel.

Technical data

Material	Aluminum
Surface	polished
Width	22.0 mm
Depth	40.0 mm
Height	40.0 mm

Part-No.		Type	PU piece
330926.0010	S*	KSS	10
330926.0100	S*	KSS	100

Reinforcemet set



Properties
- Accessories for frame reinforcement. The vertical reinforcement profile VPSym must be ordered separately.
  Set comprising:
  10 x VPSym side support 49 mm
  10 x screw M6×60
  10 x GLM6

Technical data

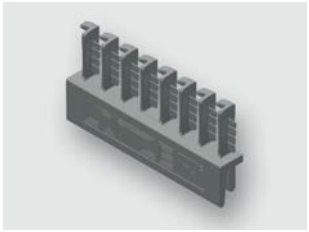
Material	Aluminum
Surface	polished

Part-No.		Type	PU piece
380264.0010	A*	VPSym Kit	10

* **S** Article from stock
A Available with a lead time
R Available on request

Wiring combs

Wiring comb with 8 sections for larger wire cross-sections up to 10 mm²



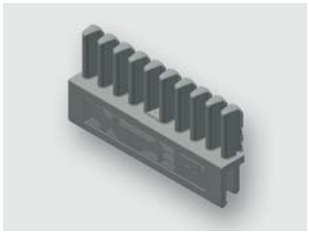
Properties
- Standard wiring comb included with all rail profiles. Comb for secure wiring of cables from 0.75 mm² to 10 mm².
  This optional comb can be simply replaced by the standard 50 mm grid.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380244.0100	S*	K050-8	Comb 8 cavities	100

Wiring comb with 10 sections for larger wire cross-sections up to 4 mm²



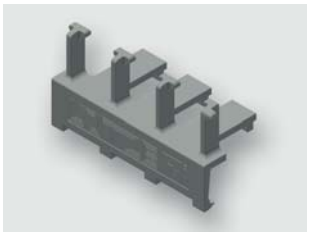
Properties
- Optional comb with 10 sections for secure wiring of cables up to 4 mm².
  This optional comb can be simply replaced by the standard 50 mm grid.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380242.0100	S*	K050-10	Comb 10 cavities	100

Wiring comb with 3 sections for larger wire cross-sections up to 16 mm²



Properties
- Optional comb with 3 sections for wiring of larger cables up to 16 mm².
  This optional comb can be simply replaced by the standard 50 mm grid.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380241.0010	S*	K050-3	Comb 3 cavities	10
380241.0100	S*	K050-3	Comb 3 cavities	100

Wiring combs

Wiring comb with 2 sections

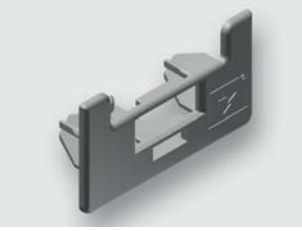
Properties
- Optional comb with 2 sections for 18 × 1 mm^2. For use with parts, e.g. control units, that are connected with many individual wires.
  This optional comb can be simply replaced by the standard 50 mm grid.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380245.0010	S*	K050-2	Comb 2 cavities	10
380245.0100	S*	K050-2	Comb 2 cavities	100

Edge protection for HS/HA modules



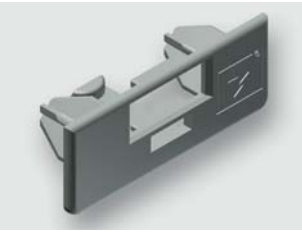
Properties
- Edge protection for the DIN rails to prevent injury on the sharp edges of the DIN rails. Sliding nuts can be inserted through the center of the edge protector.
  As standard, the rail modules are equipped with edge protectors.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380090.0010	S*	KHS-040-200	Edge protection for HS/HA module 040-200	10

Edge protection for MS/MA modules



Properties
- Edge protection for the assembly rails to prevent injury on the sharp edges. Sliding nuts can be inserted through the center of the edge protector.
  As standard, the rail modules are equipped with edge protectors.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380091.0010	S*	KMS-040-200	Edge protection for MS/MA module 040-200	10

* **S** Article from stock
A Available with a lead time
R Available on request

Wire management

Edge protection for RG 035

Properties
- Edge protection of the RG 035 (adapter rail) to prevent injuries on cables or contact with any potential sharp edges when wiring. Sliding nuts can be inserted through the recess in the edge protector.

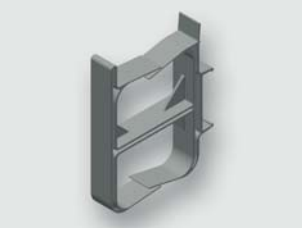
Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380093.0010	S*	KHS 035 200 RG	Edge protection for RG 035	10
380093.0100	S*	KHS 035 200 RG	Edge protection for RG 035	100

Wire management – wire holder

Wire holder D



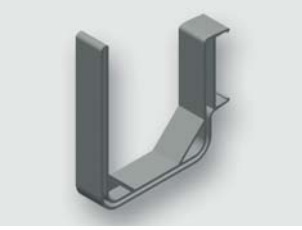
Properties
- Wire holder for assembled wires on the backside of the rail module.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type	PU piece
380260.0010	S*	D2K055-DD Set	10

Wire holder U



Properties
- Wire holder for assembled wires on the backside of the rail module.

Technical data

Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type	PU piece
380263.0010	S*	D2K055-U SET	10

Adapter set for wire holder

Properties
- Adapter for use with wire holders on MS040 and HS040 modules. One mounting kit is required for a 500 mm wide bar set (10 bars), and two sets respectively are required for sets with widths of 700, 900 and 1100 mm.
  The set contains:
  10 × adapter,
  10 × GL M6,
  10 × flat head screws M6×10.

Technical data

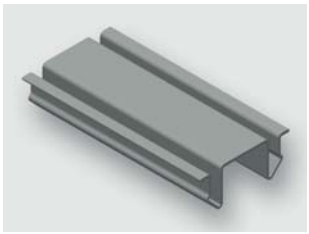
Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 HB

Part-No.		Type	PU piece
347837.0010	A*	DRAHTHALTER SET	10

* **S** Article from stock
A Available with a lead time
R Available on request

Comb cover

Comb cover



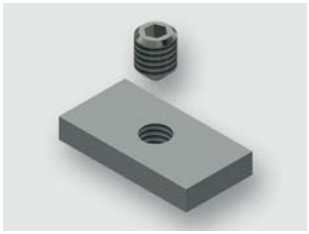
Properties
- Comb cover for closing the spaces between the comb profiles.

Technical data

Material	PC+ABS (halogen-free)
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 HB
Length	2000 mm

Part-No.		Type	Color	PU m
380800.2000	S*	KD040	grey RAL 7035	10
380810.2000	S*	KD050	grey RAL 7035	10
380811.2000	S*	KD050 blue	blue RAL 5010	10
380820.2000	S*	KD060	grey RAL 7035	10
380840.2000	S*	KD080	grey RAL 7035	10
380860.2000	S*	KD100	grey RAL 7035	10
380880.2000	S*	KD120	grey RAL 7035	10

Vertical comb cover fastening kit



Properties
- Fastening kit for the vertical comb cover between two frames.
  10 × sliding nut M6
  10 × headless hex screw M6

Technical data

Material	Steel
Surface	bright galvanized
Width	25.0 mm
Depth	4.0 mm
Height	13.0 mm

Part-No.		Type	PU piece
380279.0010	S*	Set Befestigung Vertikaler Kammdeckel	10

Wire management

Hook and loop adapter for *Air*STREAM profile

Properties
- To fix the cables to RG 035/VPSym and MS/MA profiles.
  One or several cables can be secured.
  Depending on the attachment, cables can be laid vertically or horizontally.

Technical data

Material	Plastic
Flammability rating	UL 94 V0
Color	black
Certifications	UL

Part-No.		Type	Clamping range D mm	PU piece
380250.0010	S*	KBS MS/MA/RG035/VPSym	8.0 – 35.0	10

Hook and loop adapter for DIN rail

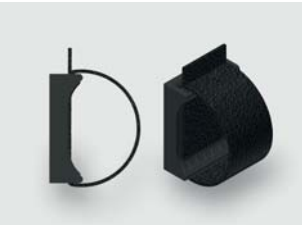
Properties
- To secure cables on DIN rails.
  One or several cables can be secured.

Technical data

Material	Plastic
Flammability rating	UL 94 V0
Color	black
Certifications	UL

Part-No.		Type	Clamping range D mm	PU piece
380251.0010	S*	KBS DIN Rail	8.0 – 35.0	10

Hook and loop adapter direct mounting



Properties
- To fasten cables via surface mount attachment.
  One or several cables can be secured.

Technical data

Material	Plastic
Flammability rating	UL 94 V0
Color	black
Certifications	UL

Part-No.		Type	Clamping range D mm	PU piece
380252.0010	S*	KBS Screw Fixing	8.0 – 35.0	10

* **S** Article from stock
A Available with a lead time
R Available on request

Wire management

Hook and loop adapter C rail

Properties
- To fasten cables to cable clamp rails (C-rails). One or several cables can be secured.

Technical data

Material	Plastic
Flammability rating	UL 94 V0
Color	black
Certifications	UL

Part-No.		Type	Clamping range D mm	PU piece
380253.0010	S*	KBS C	8.0 – 35.0	10

Hook and loop tape 5 meters

Properties
- Hook and loop tape for cutting custom lengths. One or several cables can be secured.

Technical data

Material	Plastic
Flammability rating	UL 94 V0
Color	black
Certifications	UL

Part-No.		Type	PU piece
380256.0001	S*	KBS 5m Tape	1

Adapter bracket for SR032 side support

Adapter bracket for VX25/TS 8

Properties
- Adapter bracket to attach the SR032 style frame into the Rittal cabinet VX 25/TS 8.
  Frame width 50 mm (x50) wider than the mounting profile.
  For frame width 550, 750, 950, 1150 and (500, 700, 900, 1100)
  The set contains 6 brackets incl. hardware.

Technical data

Fastening material	6 × adapter bracket 6 × KM M6 6 × hex screw/torx M6×10 12 × sheet-metal screw 5.5×13
Material	Sheet steel
Surface	galvanized

Part-No.		Type	for frame width	PU piece
380901	S*	ADWS-0010	350 mm 550 mm 750 mm 950 mm 1150 mm	1

Adapter bracket for VX25

Properties
- Adapter bracket to attach the SR032 style frame into the Rittal cabinet VX 25.
  Frame width = rail width (x00)
  The set contains 6 brackets incl. hardware.

Technical data

Fastening material	6 × adapter bracket 12 × KM M6 12 × flat head screw/torx M6×12 12 × sheet-metal screw 5.5×13
Material	Sheet steel
Surface	galvanized

Part-No.		Type	for frame width	PU piece
380903	S*	ADWS-0011	300 mm 500 mm 700 mm 900 mm 1100 mm	1

* **S** Article from stock
A Available with a lead time
R Available on request

Adapter bracket for VPSym side support rail

Adapter bracket for VX25

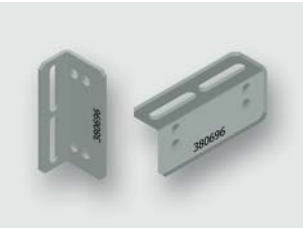
Properties
- Adapter bracket for mounting an *Air***STREAM** frame in a Rittal cabinet (TS 8 or VX 25)
  Frame width 50 mm (x50) wider than the mounting profile.
  For frame width 550, 750, 950, 1150 and (500, 700, 900, 1100 at VX 25)
  Content: 6 brackets and mounting material

Technical data

Fastening material	6 × adapter bracket 6 × hex screw M8×12 6 × spring toothed lock washer 8.4 6 × hexagonal locknut M8 12 × sheet-metal screw 5.5×13
Material	Sheet steel
Surface	galvanized

Part-No.		Type	for frame width	PU piece
380683	**S***	ADWS-0002	550 mm 750 mm 950 mm 1150 mm	1

Adapter bracket for VX25



Properties
- Adapter bracket for mounting an *Air***STREAM** frame in a Rittal cabinet (VX 25)
  Frame width = rail width (x00)
  For frame width 500, 700, 900, 1100
  Content: 6 brackets and mounting material

Technical data

Fastening material	6 × adapter bracket 12 × GLM6 12 × flat head screw M6×12 12 × spring toothed lock washer 6.4 12 × GMK 12 × sheet-metal screw 5.5×13
Material	Sheet steel
Surface	galvanized

Part-No.		Type	for frame width	PU piece
380697	**S***	ADWS-0009	500 mm 700 mm 900 mm 1100 mm	1

* **S** Article from stock
A Available with a lead time
R Available on request

Universal bracket

Universal bracket

Properties
- Universal bracket for mounting of an *Air***STREAM** frame in widths of 500 – 1150 mm in special cabinets and cabinets that differ from Rittal. The installation position depends on the frame width and control cabinet. The set includes 6 adapter brackets with screws.

Technical data

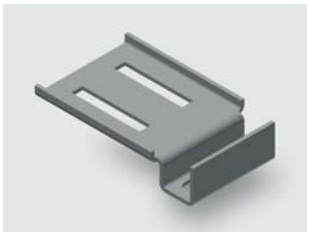
Fastening material	6 × adapter bracket 6 × GLM8 6 × GMK 12 × spring toothed lock washer 8.4 12 × flat head screw M8×10
Material	Sheet steel
Surface	galvanized

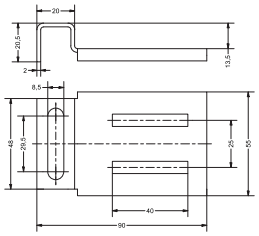
Part-No.		Type	for frame width	PU piece
380693	**S***	ADWS-0008	500 mm 550 mm 700 mm 750 mm 900 mm 950 mm 1100 mm 1150 mm	1

* **S** Article from stock
A Available with a lead time
R Available on request

Adapter bracket for compact cabinets / small enclosures

Bracket





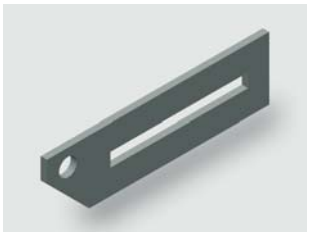
Properties
- For securing into an AE/AX enclosure.

Technical data

Fastening material	4 × adapter bracket 4 × washer M8 4 × spring toothed lock washer 8.4 4 × hexagonal locknut M8×16 4 × covering cap 8 4 × flat head screw M6×25 4 × washer 7 4 × spring toothed lock washer 6.4 4 × hexagonal locknut M6 4 × covering cap 6
Material	Sheet steel
Surface	chromated

Part-No.		Type	for frame width	PU piece
332916	S*	ADWS-C		1

Bracket



Properties
- For attachment in compact cabinets

Technical data

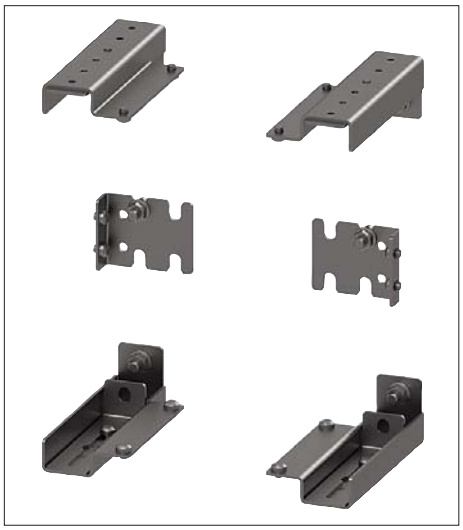
Fastening material	4 × adapter bracket 4 × hexagonal locknut M10 4 × washer 7.4 4 × spring toothed lock washer 6.4 4 × flat head screw M6×25 4 × covering cap 6 4 × covering cap 8
Material	Sheet steel
Surface	galvanized

Part-No.		Type	for frame width	PU piece
346459	S*	CGE 4 Himel		1

* **S** Article from stock
A Available with a lead time
R Available on request

Adapters for other cabinet systems

SIEMENS 8MF cabinets, article number 8MF1000-2HL



Style	
Product brand name	SIVACON
Product designation	Adapter
Product model	for the LÜTZE wiring system
Surface type	galvanized
Product design / EMC model	No
Product part	
• Ventilation	No

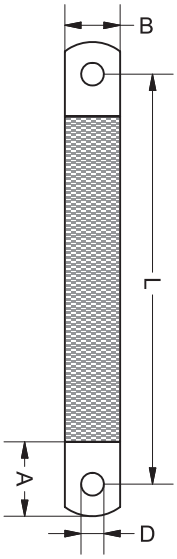
Mechanical construction	
Net weight	1,800 g
Reference code	
• acc. to DIN EN 61346-2	U
• acc. to IEC 81346-2:2009	UC

Item available from SIEMENS

Further Information is available in the information and download centre:
https://sie.ag/3k4iiOZ

Grounding strip, copper braiding, tin-plated
Single wire Cu ETP UNI 5649-71, similar to DIN 72333

Dimensions



Description		Part-No.		Type	PU
both ends drilled, cold pressed					
Cross-section surface	10 mm²	346109.0010	**S***	EMVMB 10/300/M6	10
	10 mm²	346112.0010	**S***	EMVMB 10/200/6	10
	16 mm²	346123.0010	**S***	EMVMB 16/100/6	10
	16 mm²	346110.0010	**S***	EMVMB 16/300/8	10

Technical data	346109.0010	346112.0010	346123.0010	346110.0010
Wire conductors		0.15 mm²		
A		22 mm		25 mm
B		12.0 mm		15.0 mm
D		6.5 mm		8.5 mm
L	300 mm	200 mm	100 mm	300 mm
Weight		0.100 kg/m		0.160 kg/m
Certifications	–	cULus		–
General				
Amperage range		See standards table		
Cable construction	–	individual strands braided cross-section rectangular		–
Storage temperature range		-30 °C … +90 °C		
Operation temperature range		5 °C … +105 °C		

Comments
D = hole diameter / A = sleeve length / B = width / L = distance of hole – **Other lengths are available upon request**

* **S** Article from stock
A Available with a lead time
R Available on request

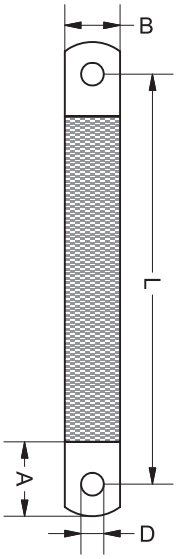
Grounding strip, copper braiding, tin-plated
Single wire Cu ETP UNI 5649-71, similar to DIN 72333

Description		Part-No.		Type	PU
both ends drilled, cold pressed					
Cross-section surface	16 mm²	346113.0010	**S***	EMVMB 16/200/8	10
	16 mm²	346114.0010	**S***	EMVMB 16/500/8	10
	25 mm²	346111.0010	**S***	EMVMB 25/300/10	10
	25 mm²	346116.0010	**S***	EMVMB 25/200/10	10

Technical data	**346113.0010**	**346114.0010**	**346111.0010**	**346116.0010**
Wire conductors	0.15 mm²			
A	25 mm			
B	15.0 mm		23.0 mm	
D	8.5 mm		10.5 mm	
L	200 mm	500 mm	300 mm	200 mm
Weight	0.160 kg/m		0.250 kg/m	
Certifications	–			
General				
Amperage range	See standards table			
Cable construction	–			
Storage temperature range	-30 °C … +90 °C			
Operation temperature range	5 °C … +105 °C			

Comments
D = hole diameter / A = sleeve length / B = width / L = distance of hole – **Other lengths are available upon request**

Dimensions



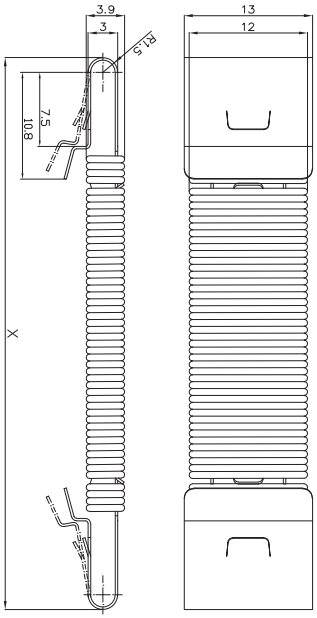
* **S** Article from stock
A Available with a lead time
R Available on request

Spring shield clamp
Shield connection for large-diameter cables

Description	Part-No.		Type	PU
Spring shield clamp				
	330071.0010	**S***	EMVFSK 1	10
	330072.0010	**S***	EMVFSK 2	10
	330073.0010	**S***	EMVFSK 3	10

Technical data	**330071.0010**	**330072.0010**	**330073.0010**
For cable diameter	12 – 20 mm	20 – 30 mm	30 – 50 mm
Length	42 mm	55 mm	74 mm
Weight	0.300 kg/100 units	0.500 kg/100 units	0.700 kg/100 units
Tensile strength		1000 N/mm²	
General			
Material		Sheet steel	
Color		polished	
Operation temperature range		0 °C … +60 °C	

Dimensions



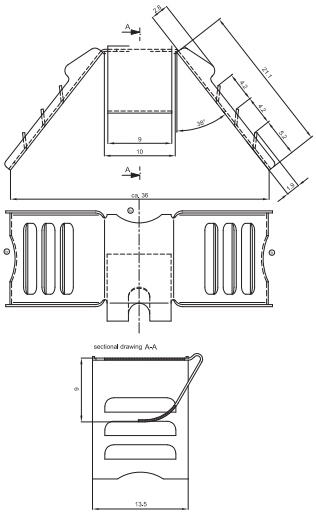
* **S** Article from stock
A Available with a lead time
R Available on request

Shield clamp

Description	Part-No.		Type	PU
Shield clamp				
	330089.0100	**S***	EMVSK 12	100

Technical data	**330089.0100**
For cable diameter	0 – 12 mm
Weight	0.250 kg/100 units
General	
Material	Sheet steel
Material thickness	0.3 mm
Surface	smooth
Color	polished
Operation temperature range	0 °C … +60 °C

Dimensions



* **S** Article from stock
A Available with a lead time
R Available on request

Snap-on element for snapping onto DIN rail for attaching a grounding clamp

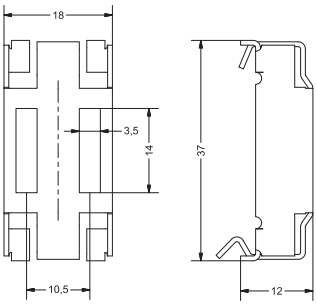
Description		Part-No.		Type	PU
Snap-on element					
Length	18.00 mm	330088.0010	**S***	EMVRE H 1	10

Technical data	**330088.0010**
Weight	0.700 kg/100 units
General	
Material	Sheet steel
Surface	polished
Operation temperature range	-20 °C … +60 °C

Comments
Suitable for all crosspieces and DIN profile TS35

Use

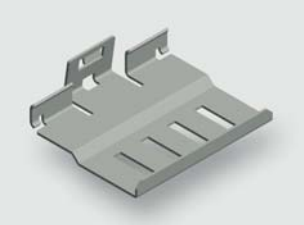
Dimensions



* **S** Article from stock
A Available with a lead time
R Available on request

EMC Snap-on element

EMC Snap-on element



Properties
- For securing shielded cables. The EMC element can be used in place of a wiring comb to secure cable shielding with spring or shield clamp accessories.

Technical data

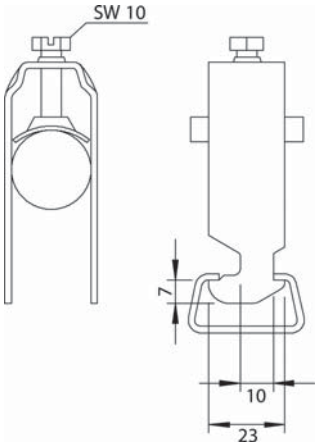
Material	Stainless steel
Surface	polished – stainless
Width	50.0 mm
Depth	16.0 mm
Height	39.0 mm

Part-No.		Type	PU piece
380258.0010	S*	EMV Rastelement AirSTREAM	10

* **S** Article from stock
A Available with a lead time
R Available on request

Cable clamp

Dimensions



Description		Part-No.		Type	PU
Cable clamp					
For cable diameter	8 – 12 mm	331000.0010	**S***	Kabelschelle KS 0	10
	12 – 16 mm	331001.0010	**S***	Kabelschelle KS 1	10
	16 – 22 mm	331002.0010	**S***	Kabelschelle KS 2	10
	34 – 40 mm	331003.0010	**S***	Kabelschelle KS 3	10
	52 – 58 mm	331004.0010	**S***	Kabelschelle KS 4	10
	22 – 28 mm	331005.0010	**S***	Kabelschelle KS 5	10
	28 – 34 mm	331006.0010	**S***	Kabelschelle KS 6	10
	40 – 46 mm	331007.0010	**S***	Kabelschelle KS 7	10
	46 – 52 mm	331008.0010	**S***	Kabelschelle KS 8	10

Technical data	**KS 0**	**KS 1**	**KS 2**	**KS 3**	**KS 4**	**KS 5**	**KS 6**	**KS 7**	**KS 8**
Thread	M6								
General									
Material	Steel								
Surface	galvanized								
Operation temperature range	0 °C … +60 °C								
Hexagon screw	slotted								
Weight (kg/100 pieces)	3.00	3.20	3.50	6.80	6.00	6.20	7.70	10.80	11.80

Accessories

can be used on Lütze rails:
Part.-No. 380582Mxxxx
Part.-No. 380583Mxxxx
Part.-No. 380586Mxxxx
Part.-No. 380587Mxxxx

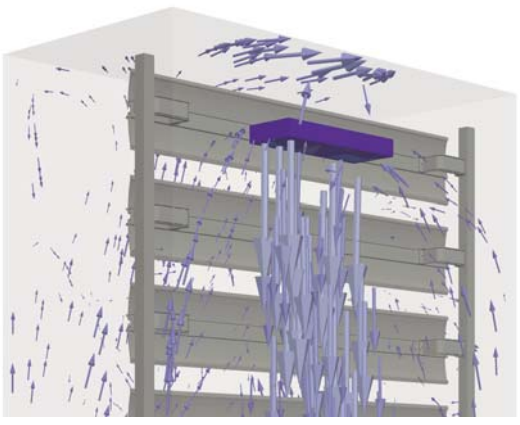
Comments
Includes a plastic (polypropylene) counter insert

* **S** Article from stock
A Available with a lead time
R Available on request

*Air***BLOWER**

The *Air***BLOWER** is an accessory for the *Air***STREAM** wiring frame for fast and reliable climate stabilization inside the control cabinet.

The use of an *Air***BLOWER** ensures that hotspots inside the control cabinet are avoided.



The *Air*BLOWER control unit

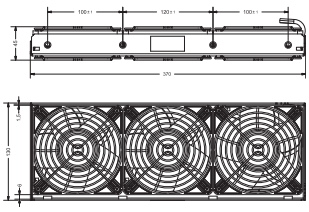
The DIN rail mountable ***Air*BLOWER** control unit can be configured to monitor the temperature and operate the fans in the control cabinet.

Technical data for the *Air*BLOWER fan bank:
- 24 V DC power supply
- 15 W power consumption
- Durability at 40° 62500 h
- Current consumption approx. 700mA
- Temperature range -40 °C to +75 °C

Technical data for the *Air*BLOWER control unit LCOS-AB-I:
- -25 °C to 70 °C
- IP20
- LED status indicator
- 24 V power supply
- 2 W power consumption
- 24 V connection for fan module
- Floating outputs for error message (Standard - broken wire, excessive temperature (45°C +/- 5K) - can be configured freely) e.g. temperature unit
- Current control of the connected fan bank
- Connection for 3 PT100 (pre-set to 35°C +/- 5K switchpoint for fan module, can be freely configured)
- Communication via IO link
- Configured via downloadable FDT/DTM

Mounting Accessories

*Air*BLOWER Fan Bank



Properties
- *Air***BLOWER** fan bank with three 24 Vdc axial fans mounts onto the *Air***STREAM** frame to supply an evenly distributed airflow inside the control cabinet. The control unit LCOS-AB0I can be used to monitor the temperature and control the *Air***BLOWER** fans.
  The mounting kit must be ordered separately.

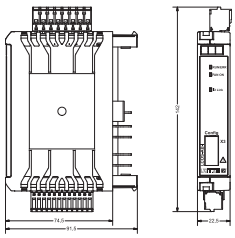
Part-No.		Type		PU piece
777000.1011	**S***	AirBLOWER	*Air***BLOWER** fan bank	1

Adapter set

Properties
- For attaching the *Air***BLOWER** to the *Air***STREAM**.

Part-No.		Type		PU piece
780994.0000	**S***	AirBLOWER Adapter	Attachment set for *Air***BLOWER**	1

Control unit for *Air*BLOWER



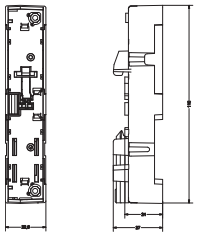
Properties
- To control the *Air***BLOWER**.
  Control unit to be used together with function carrier base.

Part-No.		Type		PU piece
777100.0011	**S***	LCOS-AB-I	Control unit of the *Air***BLOWER** with spring terminal	1

* **S** Article from stock
A Available with a lead time
R Available on request

Mounting Accessories

Base for control unit



Properties
- Function carrier base 22,5 mm to be used together with the control unit.

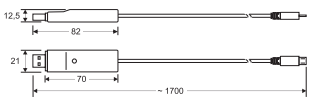
Part-No.		Type		PU piece
780331.225.1	**A***	LCOS-FT-PE-225-00-03-1	Base for control unit	1

Temperature sensor for control unit

Properties
- Temperature sensor with PVC cable to be used together with the control unit LCOS-AB-I for the *Air***BLOWER**. PT100 sensor for measuring the temperature in the control cabinet.

Part-No.		Type		PU piece
773900.0001	**S***	PT100 Element	Set of 3 PT100 for the control unit	3

USB Service cable



Properties
- USB interface cable for parameterization of FDT/DTM capable LCON converters, time relays, etc.

Part-No.		Type		PU piece
750894	**S***	LCON ZB USB	USB data cable for parameterization	1

* **S** Article from stock
A Available with a lead time
R Available on request

*Air*BLADE

Properties
- *Air***BLADE**s serve to direct the current of air within the control cabinet. They can be used in a 50 mm spacing increments instead of a comb to direct air flow from the back of the *Air***STREAM** frame to the front in order to circulate air directly around devices.

Technical data

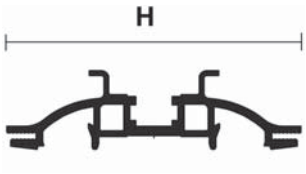
Material	PA 6.6
Surface	smooth
Halogen free according to	VDE 0472-815
Flammability rating	UL 94 V0

Part-No.		Type		PU piece
380281.0010	**S***	AirBLADE 85 Set	*Air***BLADE**	10

* **S** Article from stock
A Available with a lead time
R Available on request

*Air*BLOWER module

*Air*BLOWER module



Properties

- *Air***BLOWER** modules consist of a preassembled *Air***STREAM** mounting rail and the *Air***BLOWER** fan bank with three 24 Vdc axial fans. Additional assembly is required. *Air***BLOWER** module mounts onto the *Air***STREAM** frame to supply an evenly distributed airflow inside the control cabinet. The control unit LCOS-AB-I can be used to monitor the temperature and control the *Air***BLOWER** fans.

Technical data

Material	Aluminum
Surface	polished
H	60 mm

Part-No.		Type	Design	Rail height mm	Rail length mm	Frame width mm	Wiring space cm²
380101M2013	**A***	HS 060 0700-0750 BI30-085	Standard	60	700	750	85
380101M2009	**A***	HS 060 0700-0750 BI30-055	Option 2	60	700	750	55
380101M2014	**A***	HS 060 0900-0950 BI30-085	Standard	60	900	950	85
380101M2010	**A***	HS 060 0900-0950 BI30-055	Option 2	60	900	950	55
380101M2015	**A***	HS 060 1100-1150 BI30-085	Standard	60	1100	1150	85
380101M2011	**A***	HS 060 1100-1150 BI30-055	Option 2	60	1100	1150	55

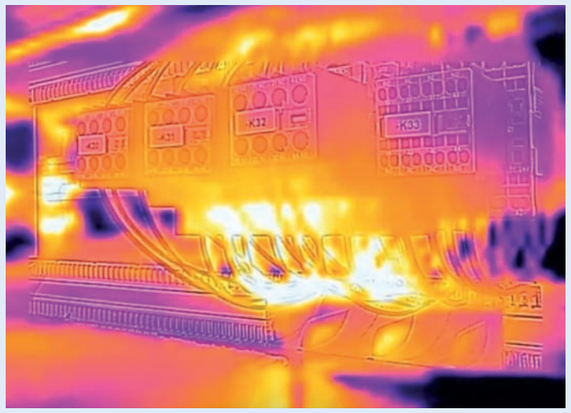
* **S** Article from stock
A Available with a lead time
R Available on request

A healthy circulation f or the control cabinet:
air circulation without a back panel

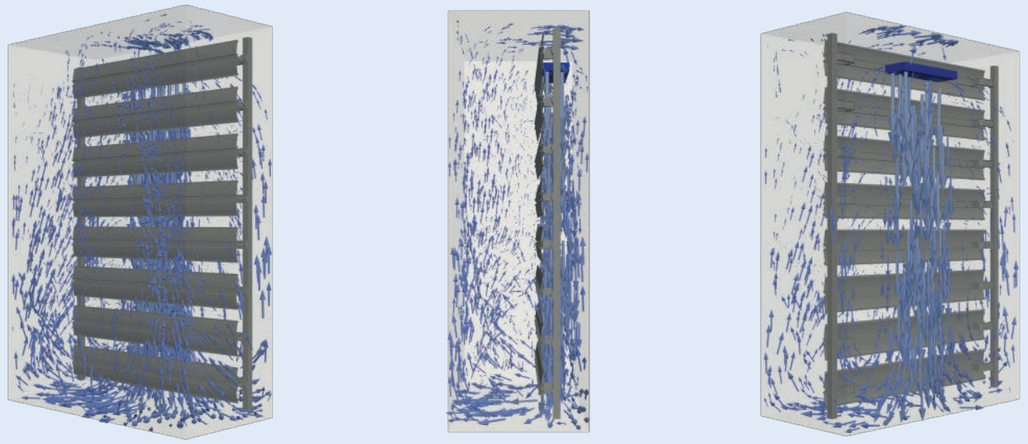
The components used in control cabinets are becoming more and more compact which leads to more heat generation.

*Air***STREAM** improves air circulation and helps to avoid hotspots. The separation into an installation level and a wiring level means that the air can flow almost unobstructed, removing dissipated heat quickly, and cable ducts do not interfere with circulation.

As a result, the risk of a thermally induced machine downtime is drastically reduced compared to traditional back panel wiring systems.



Thermal image of a hotspot in the control cabinet



Circulation flow around the *Air***STREAM** frame with a fitted *Air***BLOWER** fan system

The top priority: Climate neutrality

Working in a climate-neutral manner is the key goal of future industrial operations. The way towards this starts with saving energy, for instance on the control level, i.e. in the control cabinet. To avoid damage, the power loss or heat needs to be discharged. Ideally, this heat would not be created at all or would be distributed more evenly.

*Air***STREAM** has the potential to save up to 23 % of the energy used by the control cabinet cooling system. The potential savings increase when the *Air***BLOWER** fan system is used in combination with the *Air***STREAM**.

In many cases, air conditioning units are oversized as a result of the cable ducts and the resulting air blocking. The fact that no cable ducts are required usually means that there is no more over-dimensioning. *Air***STREAM** also supports the climate devices in the control cabinet and makes them much more efficient, which in turn means that they can be designed to be smaller and are required less frequently.

*Air***STREAM** - The first step toward climate neutrality.

Becoming climate-neutral

It takes a lot of steps to become climate-neutral - LÜTZE can help! The *Air***STREAM** system not only has properties that help the user achieve climate neutrality goals but also ensures that the overall climate balance is correct.

Following this idea, this *Air***STREAM** Catalog has been printed in a climate-neutral manner, and the control elements, which are also used for the *Air***BLOWER** fans, were specially developed for use in the *Air***STREAM** System and are therefore highly efficient.

Even these small steps help to improve the overall performance of a system.

Need-based cooling of control cabinets with duct-free wiring and a fan system

A series of measurements taken in practical situations shows the benefits of the *Air***BLOWER** control cabinet fan for need-based cooling of control cabinets. The fan system, which is designed for use with the duct-free *Air***STREAM** wiring system, homogenizes the climate in the control cabinet and breaks up the temperature layers that are created when hot air rises. The practical measurements also highlighted something amazing: the simultaneity factor* in one of the examined control cabinets was only 40 %. If this is taken into account when calculating effective power loss in the control cabinet, new possibilities arise with respect to need-based air conditioning, reduction of total energy costs, and CO2 savings.

Knowledge of the operating conditions is important when designing the air conditioning equipment in control cabinets. As these conditions are difficult to specify precisely, calculations usually factor in large safety reserves. A practical example shows the potential of need-based air conditioning and how this can be tapped without compromising the operational safety of a system. During the course of the long-standing cooperation between LUTZE and the Institute for Building Energy, Thermal Engineering and Energy Storage (IGTE) of the University of Stuttgart, practical measurements as well as detailed theoretical examinations were conducted. For instance, it was possible to make very precise predictions about the air flow situation and the expected temperatures for various operating conditions.

Test series shows potential

During the test series, temperature measurements were taken in control cabinets used in industrial environments. These measurements are also required to validate theoretical examinations. The following is a detailed explanation of the results of the test series for one of the examined control cabinets, specifically, an assembly cabinet that controls a cyclic assembly process. This cabinet does not have any cooling equipment and works with a free cooling principle. According to the data provided by all manufacturers about the nominal power loss of the respective parts, a power loss of 500 W dissipates into the control cabinet. If, in this case, a calculation is conducted with the heat analysis software *Air***TEMP** that takes into account the spatial power loss distribution, temperatures of up to 73 °C can be expected in the air at the top of the control cabinet that works with free cooling (no air conditioning equipment). A simultaneity factor of 100 % was used here. It was not possible to confirm the temperatures predicted under these conditions in the practical measurements. In fact, the temperatures in practice were far lower due to the much lower simultaneity factor. However, the temperatures measured in the control cabinet still exceeded the allowed level. Therefore, the control cabinet was equipped with an *Air***BLOWER**.

Air circulation

The *Air***BLOWER** creates targeted circulating currents in the control cabinet. Here, a flow of air of up to 510 m³/h is blown downwards behind the *Air***STREAM** frame and as a result, the air in the control cabinet flows around the *Air***STREAM** frame. Figure 1 shows the resulting air flow situation based on theoretical calculations. It clearly demonstrates how the air is circulating across the entire height of the control cabinet. As a result, areas with little or no airflow are minimized and air layers are broken up.

Figure 1: Circulation flow around the *Air***STREAM** frame with a fitted *Air***BLOWER** fan system

To verify the efficiency of the LÜTZE fan system mechanism, the temperatures were measured when an *Air***BLOWER** was used. Figure 2 shows the temperatures that were measured. The *Air***BLOWER** is operated with a 3-point control strategy. Based on the temperatures that the fan captures via its control unit and the 3 temperature sensors, the *Air***BLOWER** is switched on when a configured temperature is reached. In the upper part of Figure 2, the temperatures initially increase at all measuring points. As the *Air***BLOWER** is inactive at this time, a free cooling principle is used. Ultimately, the switching threshold of the *Air***BLOWER** at one of the control positions is exceeded and it is activated. And immediately, the temperature increase is stops at all measuring positions. The temperatures finally stay in a relatively steady and even rang.

Temperature layering is dissipated

The remaining temperature fluctuations towards the end of the measuring cycle are due to the timerelated clocking procedure of the system. The efficiency of the *Air***BLOWER** fan mechanism was particularly impressive upon examination of the temperatures in the upper and lower area of the free air volume in the control cabinet. The respective temperature curves are clearly shown in the lower section of Figure 2, how activation of the *Air***BLOWER** completely dissipated the height-dependent temperature layering in the control cabinet. The targeted circulation current mixes with a high percentage of the control cabinet air and the parts are cooled more efficiently.

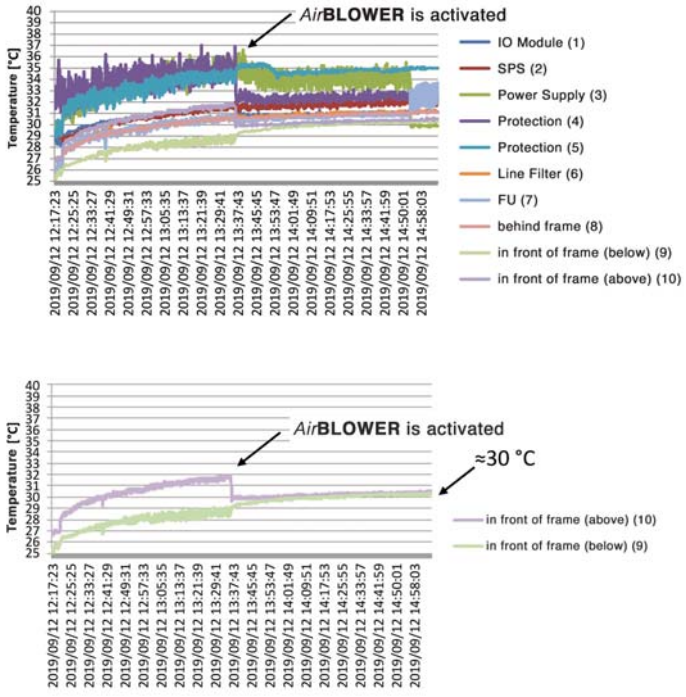


Figure 2: Temperatures in the control cabinet during controlled *Air***BLOWER** mode

Determining the simultaneity factor

The mean temperature of the free air volume is 30 °C if an *Air***BLOWER** is used. In a theoretical examination with *Air***TEMP** and an assumed simultaneity factor of 100 %, the temperature would be approximately 37 °C. Once again, this clearly shows the benefits of the *Air***BLOWER** system. In a theoretical examination, the maximum temperature in the control cabinet during free cooling is approximately 36 K higher than if it is operated with an *Air***BLOWER**. If the air is well mixed when operated with an *Air***BLOWER**, the mean temperature in the free air volume is a good indicator of the power loss released in a control cabinet. This is because when there is no active cooling, the power loss needs to be completely discharged via the walls of the control cabinet.

This discrepancy between the theoretical examination and measurement, and the fact that the examined system is timed, leads to the conclusion that the simultaneity factor cannot equal 100 %. The actual simultaneity factor can be determined fairly precisely based on the practical measurements and the theoretical examinations. Here, the simultaneity factor is reduced during the theoretical examinations until a temperature of 30 °C in free air volume is reached. Based on this procedure, a simultaneity factor of just 40 % is achieved. This means that the effective power loss, which is essential when designing control cabinet air conditioning, is reduced from 500 W to 200 W. The following shows the impact of this on the predicted climate in the control cabinet.

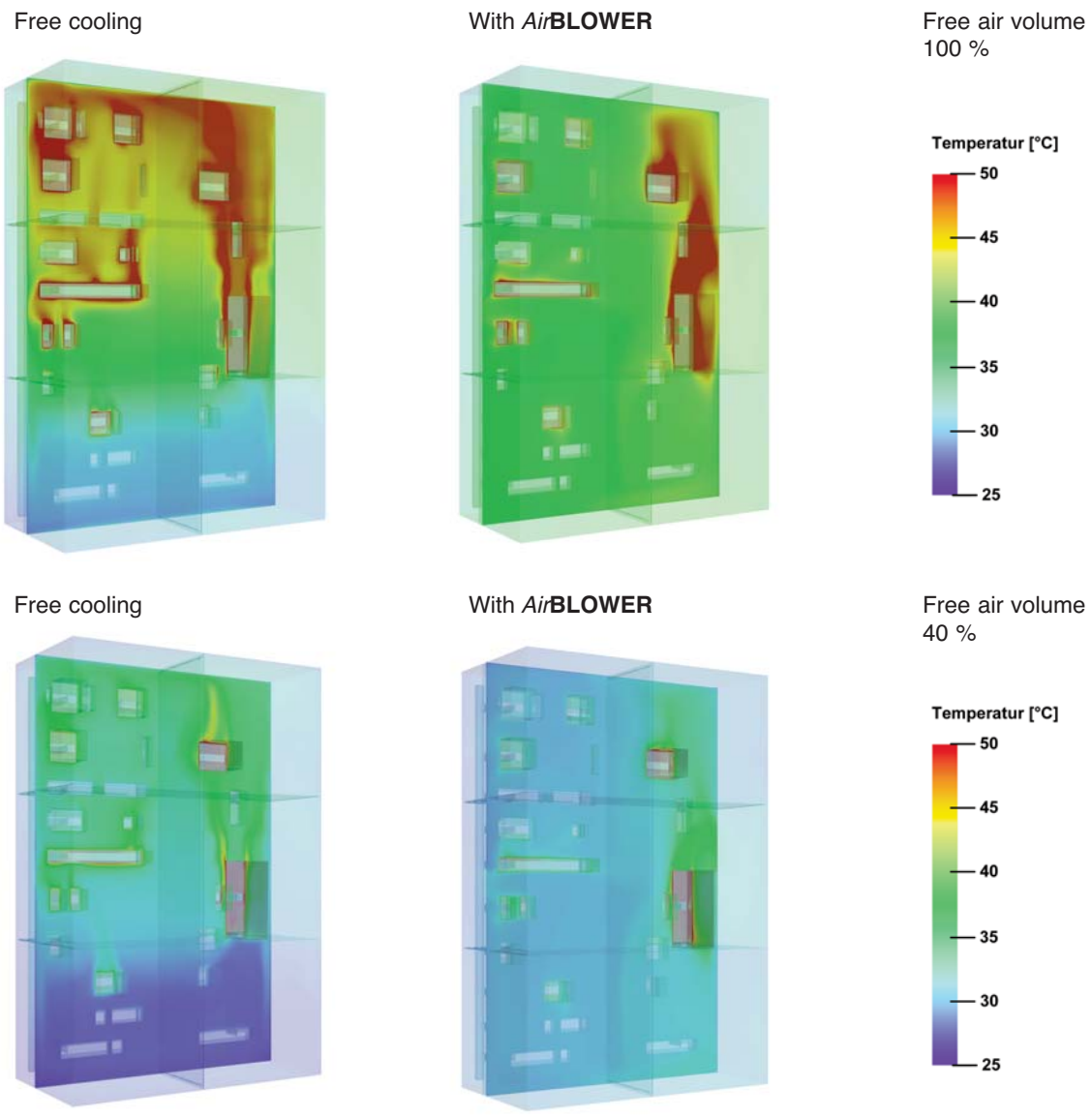


Figure 3: Comparison of free cooling and operation with the *Air***BLOWER** for simultaneity factors of 100 % and 40 %

Controlling the climate in the cabinet

Figure 3 shows the conducted theoretical examination for the operating conditions 'free cooling' and 'operation with the *Air***BLOWER**' at simultaneity factors of 100 % and 40 %. Here, the nominal power losses stipulated by the manufacturers were used. Regardless of the simultaneity factor that was applied, it is impressive that the *Air***BLOWER** is able to dissipate the temperature layering and even hotspots. When looking at the free cooling case, the importance of the simultaneity factor and the assumed power loss distribution become evident. At a simultaneity factor of 100 %, hotspots are created above almost every part. At a simultaneity factor of 40 %, there is still evidence of temperature layering during free cooling but most of the hotspots have disappeared. If an *Air***BLOWER** is also installed, the climate in the control cabinet can be managed easily.

The homogenous moderate air temperatures (30 °C in the free air volume) increase the lifespan of the parts and reduce the probability of system failure. In permanent operating mode, the power consumption of an *Air***BLOWER** is an average of 20 W, which is negligible compared to an air conditioning unit.

Don't forget the ambient temperature

The impact of the ambient temperature also needs to be examined as a final key factor when designing the thermal equipment of the control cabinet. The temperature measurements recorded an ambient temperature of 25 °C. This was used for the illustrated theoretical examination, although due to the installation environment, the ambient temperature may reach up to 40 °C on hot summer days. This increase in the ambient temperature is transferred directly to the temperature inside the control cabinet. For instance, the temperature in the summer may be up to 15 K higher than the temperature when the measurements were taken, which is why it is essential that the *Air***BLOWER** breaks up the temperature layers in the control cabinet.

The transition range in which a system can be operated without an air conditioning device can be increased, if the system is operated with an *Air***BLOWER**. However, it is not possible to do without an air conditioning unit when the released power loss tolerance is exceeded and the expected permanent ambient temperature is high. Here too, the *Air***BLOWER** helps by reducing the operating time of the air conditioning unit as much as possible. This also allows the best possible distribution of the energy-intensive cooling capacity OR cold air that is produced. Homogenization of the inner temperature is a way towards need-based cooling of control cabinets because only the cooling power that is actually required is supplied. The next step is to assess in detail the available potential to allow statements to be made about the reduction of operating costs and a reduction of the CO2 footprint. Other practical and theoretical examinations in this field are planned.

* *The simultaneity factor takes into account the fact that all parts in a control cabinet are never operated at full power at the same time.*

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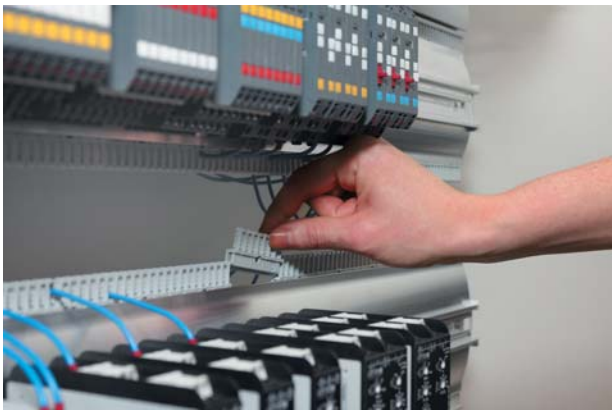
Daniel Haag, University of Stuttgart, Institute for Building Energy, Thermal Engineering and Energy Storage (IGTE)

The *Air*BLADE eliminates the hotspots

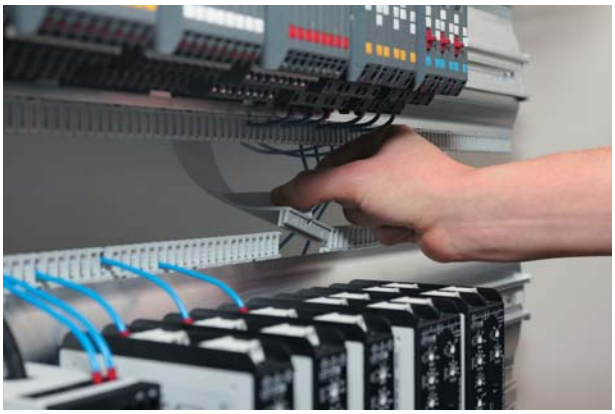
It may be essential to install an *Air***BLADE** in a hot spot. *Air***BLADES** enhance air circulation and redirect air flow generated by the *Air***BLOWER** to optimize temperature inside a control cabinet. Hot spots are reduced, if not completely eliminated, thanks to the precise positioning of the *Air***BLADES**. Additionally, proper component placement should be practiced.

Attention:
Please keep in mind that it is important to find an optimal number of *Air***BLADES** for each application to ensure proper airflow and leave room for wiring management.

Instructions to use the *Air*BLADE



Step 1: Remove a 50 mm comb section



Step 2: Insert the *Air***BLADE**

The PT 100 reacts at increased temperatures

The PT 100 temperature sensor should be positioned in a hotspot area so that the hotspot can be monitored.
The PT 100 is attached with a cable tie to a 3-fold comb beneath the part that is most sensitive to temperature. If the temperature limit is exceeded, the *Air***BLOWER** is activated to circulate the air inside the control cabinet with the help of *Air***BLADES**. One *Air***BLOWER** controller can monitor up to three PT 100 temperature sensors.

Technical specifications
- Cable temperature sensor with PVC cable
- Sensor: PT 100 (DIN EN 60751)
- Connection cable: 2m PVC (2x0.25mm²)

Service cable for configuring the *Air***BLOWER** control unit

Technical specifications
- USB to micro-USB with electronics
- Length 1.70 m
- Cable type: PVC

Wiring Comb Options

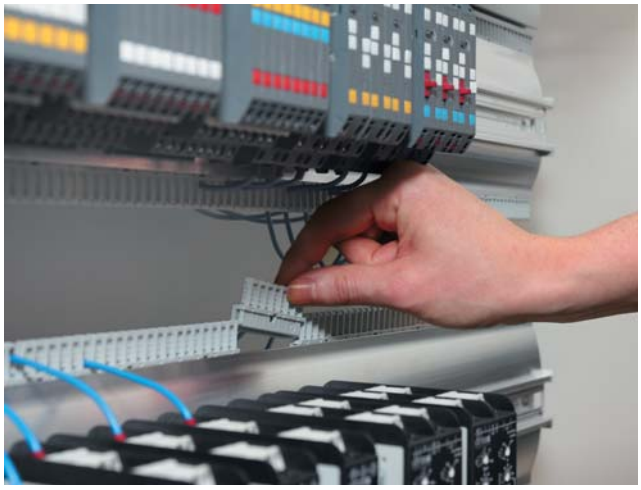
All comb segments are 50 mm in length.

Combs can be easily removed with a screwdriver (Fig. 1). Various combs can be used in different sections depending on application requirements.

The various wiring comb options accommodate a wide range of cable diameters, thus eliminating the need to use a wire cutter to remove comb sections. This prevents sharp edges that may damage wires when the teeth are removed.

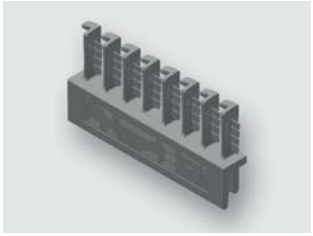
Wiring comb options provide a well organized and clean cable and wire management. This greatly simplifies subsequent wiring.

Step 1: Remove the combs with a screwdriver

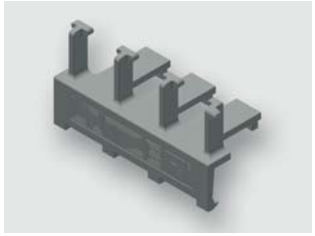


Step 2: Easier removal and insertion of the combs

Various comb options

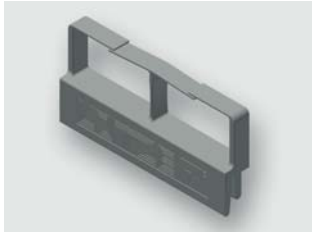


7 section wiring comb for wire diameters of up to 10 mm². Standard comb.



3 section wiring comb for wire diameter of greater than 10 mm² and data cables

9 section wiring comb for wire diameters of up to 4 mm².

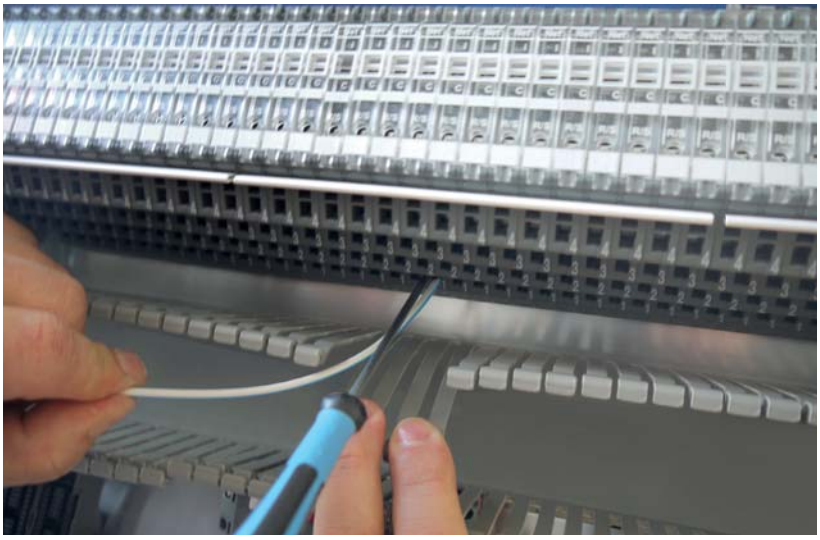


2 section wiring comb to accommodate multiple wires, for example 18 x 1 mm² / AWG18.

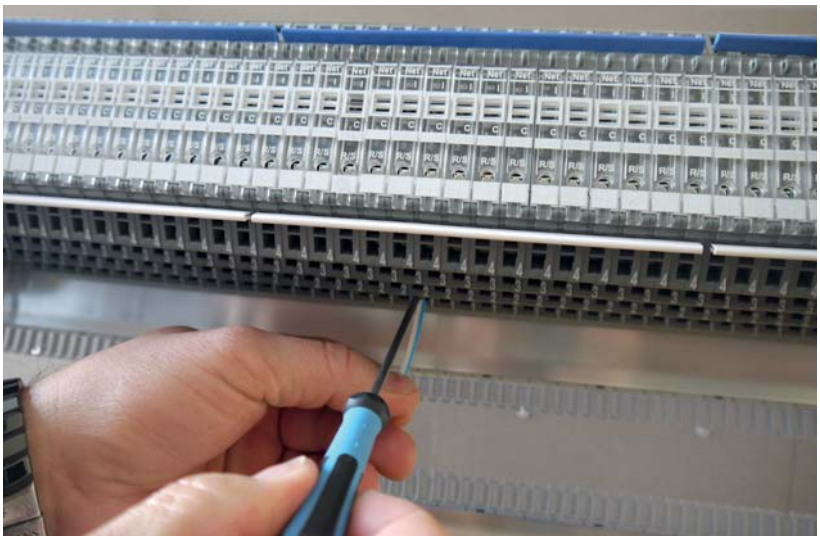
Unobstructed access to component wiring

The *Air***STREAM** wiring system offers an innovative way for wiring. It provides a simplified user-friendly wiring method which can also offer significant time savings.

- **Time saving through straightforward wiring.** The components can be easily reached by hand
  → easily reachable connection terminals
- **Cables/wires do not have to be fixed in the cable duct** because the wiring behind the bar falls downward and is held in position
- **No risk of injury during wiring!** The modules (bar types) each have edge protection and the comb segments have been rounded and designed for flexibility.



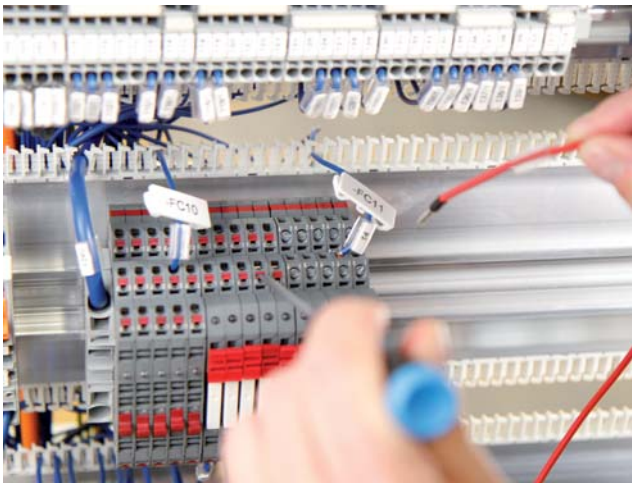
By comparison:
Back panel - obstructed by wiring ducts



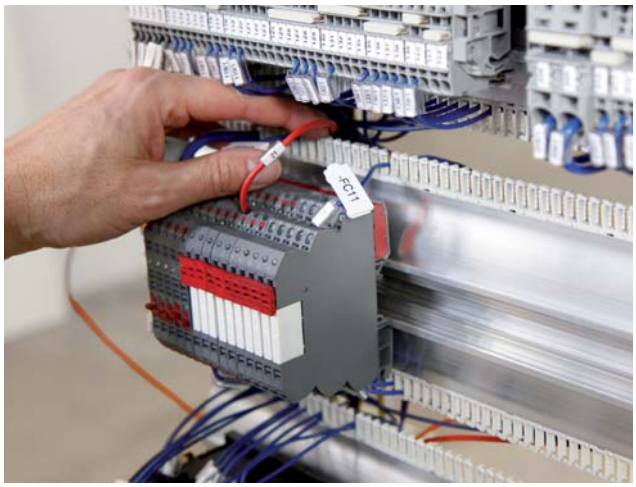
By comparison:
*Air***STREAM** - unobstructed access to component wiring

The wiring in the *Air*STREAM ...

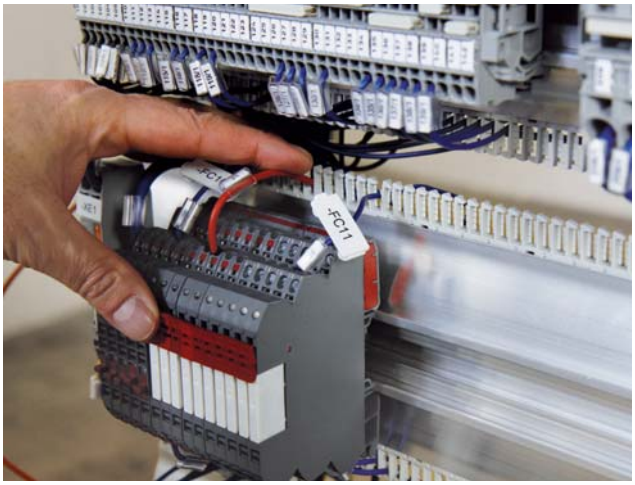
With the *Air***STREAM** wiring system, the wiring is installed exclusively from the front because the cables are laid from front to back. The following shows how the wire can be laid step by step over the brackets.



Step 1:
Connecting the wires to the components



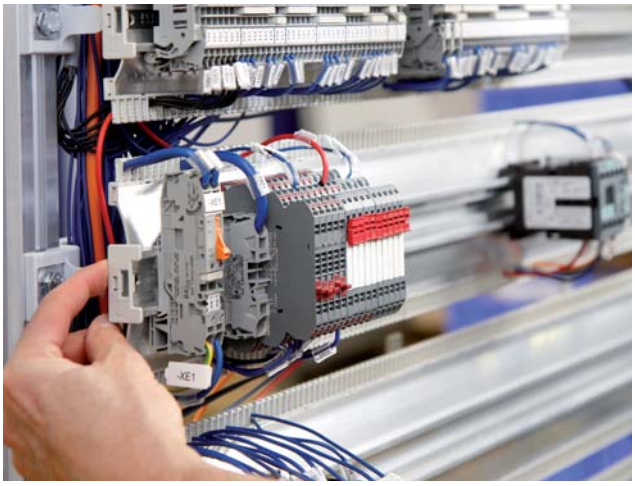
Step 2:
Installing the wires via the comb segment



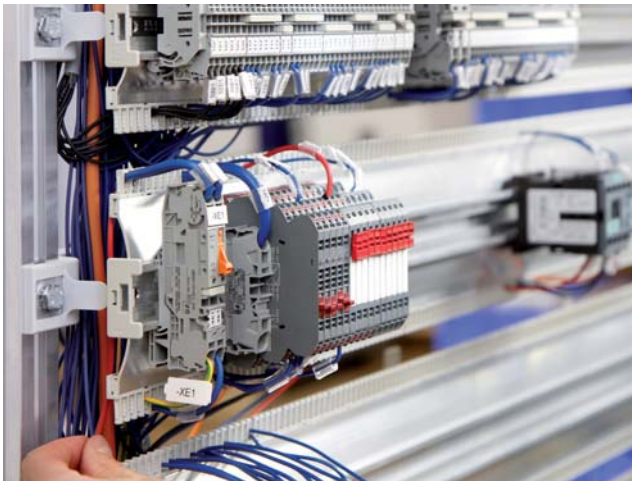
Installed wires in the comb segment

*Air***STREAM** - Correct wiring with the LÜTZE system
https://bit.ly/33UQki2

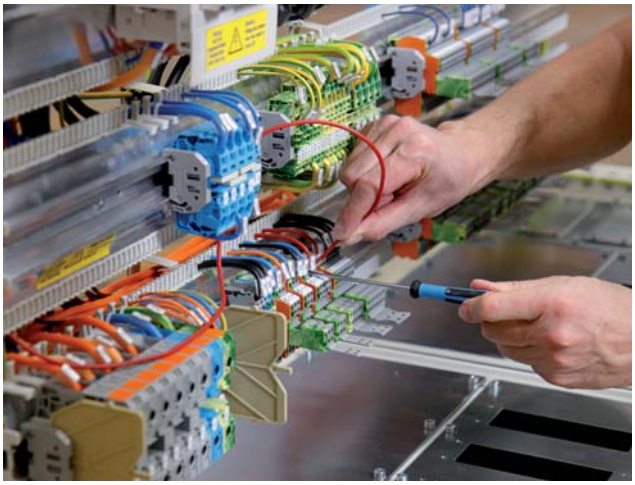
...is all installed from the front!



Step 3:
Depending on requirements, the wires are laid from top to bottom across the bracket



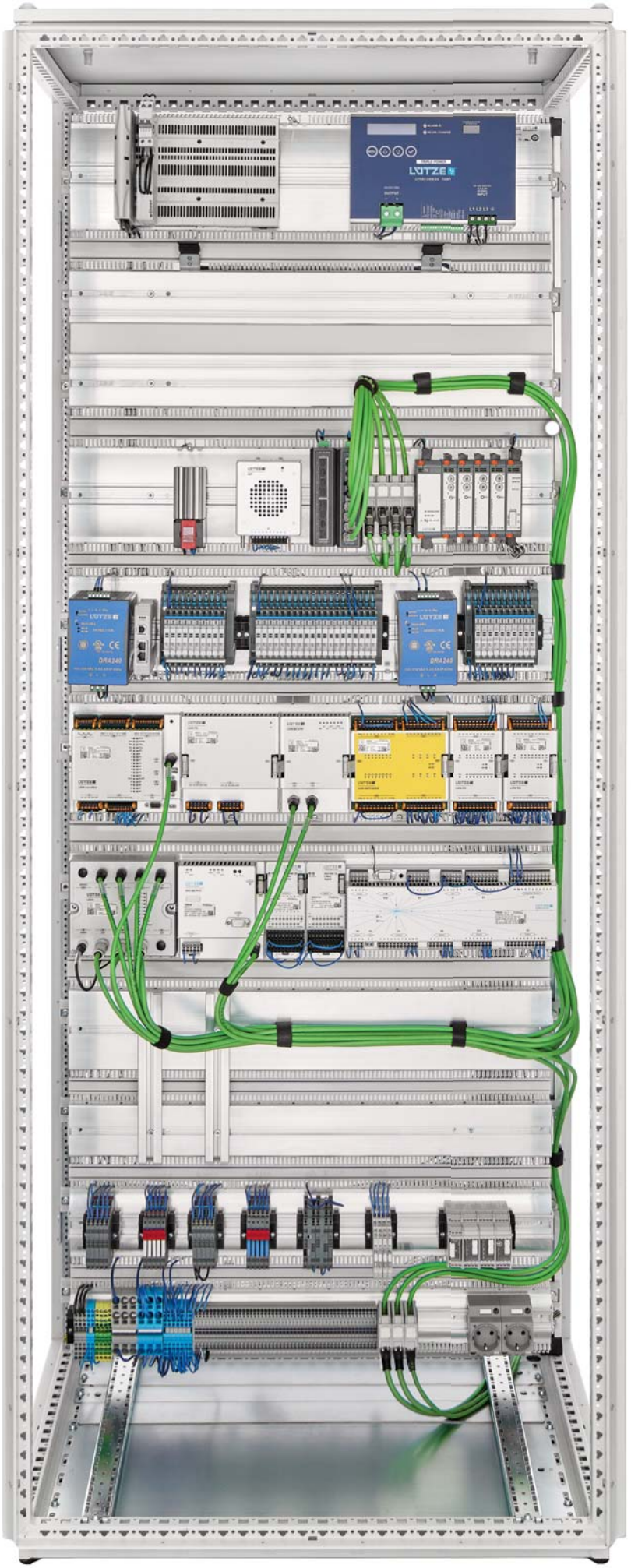
Step 4:
The plastic slats allow the cables to be inserted easily and prevents them from slipping out
The plastic cover prevents direct contact between cables and aluminium



Step 5:
The cable is fed in the corresponding order to the right or left to the component and can be connected again

Advantages:

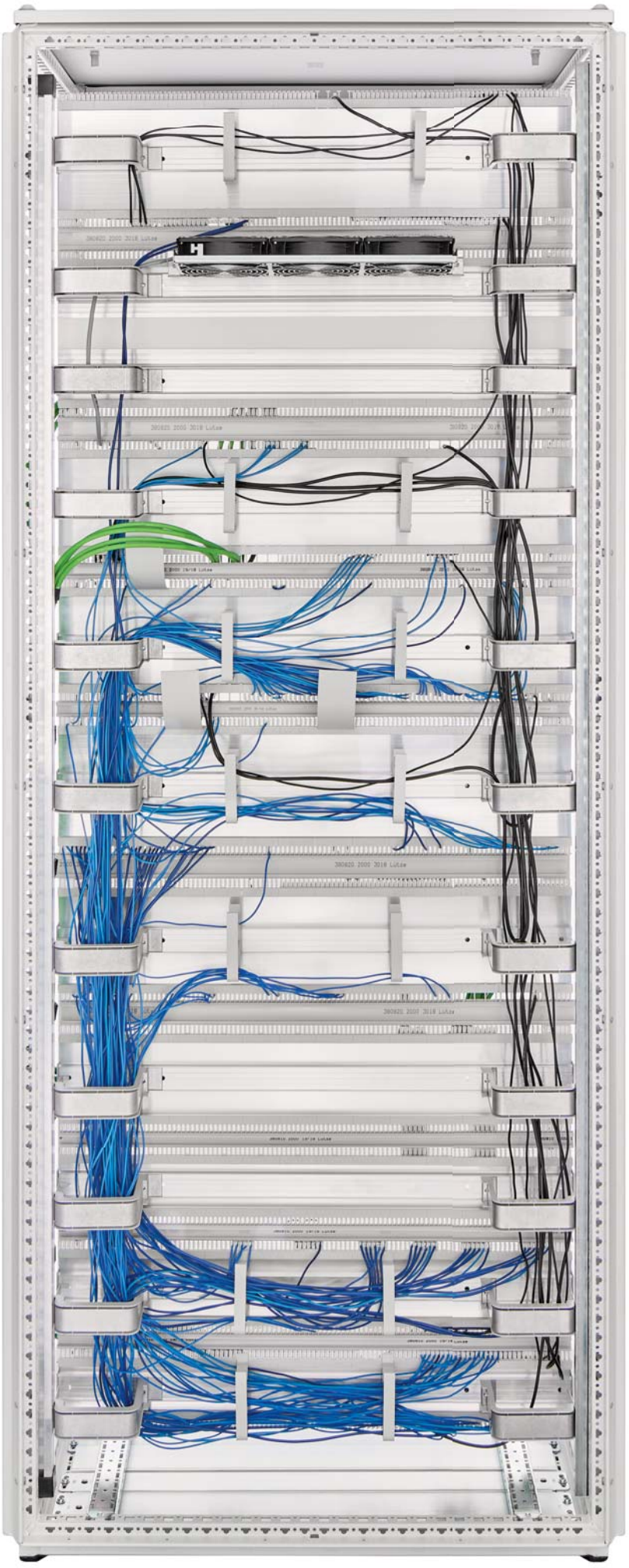
- **Reduction of hotspots**
  The cables hang loosely at the rear, which means that they are better ventilated as they are no longer enclosed inside a cable duct
- **Rewiring possible**
  Pulling the cables makes tracing easier
- **Replace comb segments**
  The comb segments can be replaced very easily depending on the number or cross-sections



Neat and organized from the front side...

Once components have been installed and wired, the wiring system provides a very clean and organized look inside the control cabinet.

Thanks to the *Air***STREAM** wiring system, the component level is displayed as a clearly organized control cabinet.



...even when you take a look behind the scenes.

The back side of the control cabinet is not always accessible, which is not an issue with the *Air***STREAM** system as everything is wired and accessed from the front.

The example in the illustration shows how tidy and well organized the wiring system looks from the back.

The cables from the control and main power circuits are separated by colour on both the left and right of the bracket. Wire holders also help to sort the wires on the horizontal level and prevent X-wiring.

The wire holder prevents X-wiring

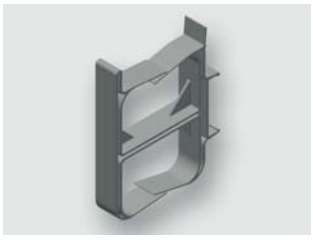
X-wiring is eliminated thanks to the use of wire holders. The wires are held on every level.
Here the wiring is also installed from the front. The wire holders should be positioned before the wiring process has commenced. Due to this careful separation of the individual wires on the module level, the wiring not only looks clean, but it also helps to track the wires during troubleshooting and rewiring. In the application area, the cabinets often stand against the wall or are integrated into the machine because access from the front is guaranteed. This means that the shielded rear wall is not a problem.

Wire holders are clipped in place on the rail on the rear side of the rail module profile (illustration on left).

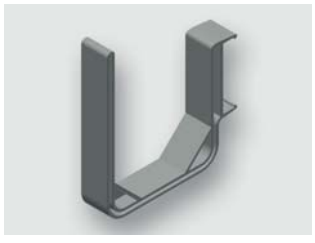
We recommend the following number of wire holders for the following bar widths:

- 500 mm/ 700 mm length – 1 wire holder per bar
- 900 mm/ 1100 mm length – 2 wire holder per bar

Distinctions are made between two types; U and D-wire holder.
The respective holder can be selected depending on the application scope.



D - wire holder for holding the wires from the bottom and top



U - wire holder for holding the wires from the top

Comb covers close gaps to the wiring space

The *Air***STREAM** design has a clear and tidy appearance. Therefore, various widths of comb covers are inserted between the modules.

Using covers closes the gaps between the modules and facilitates targeted air guidance in the frame.

Also, the wires are secured in the comb segment because the cover prevents them from slipping out.

All plastics are halogen-free and UL Recognized.

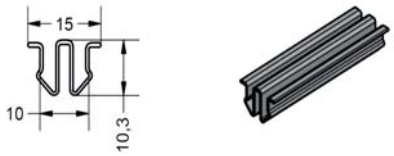
To calculate the overall distance between the mounting profiles is to consider the cover clearance between the outer edges together with the comb clearance.

Example KD 050:
• Clear distance 20 mm between comb segments
• 2 x comb segment, each 15 mm

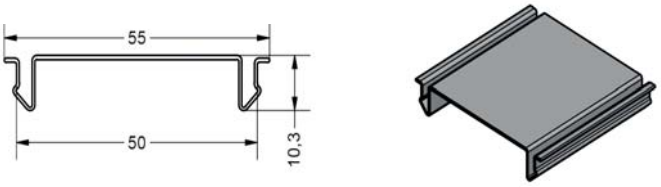
As the bars only state the width of the aluminium, it is simpler to state the plastic part in one size. This makes it much easier to calculate the frame structure.

Technical data:
Material: PC+ABS (halogen free)
Brand class: UL94 V0
Colour: RAL 7035

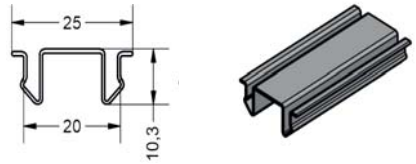
KD040



KD080



KD050



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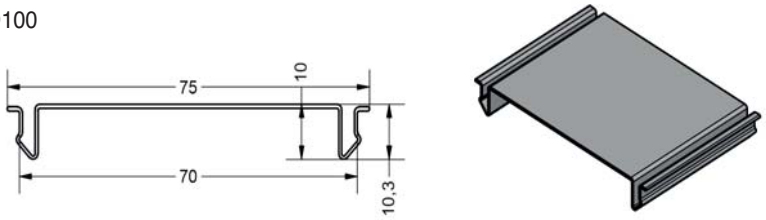
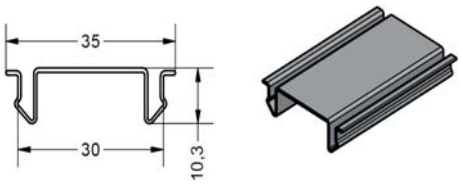
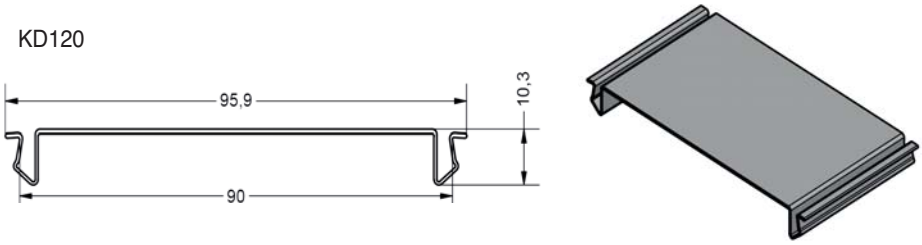


KD060



KD120



Modification and expansion...

The *Air***STREAM** wiring frame can be wired directly and fitted with components so that the high flexibility of conversions is guaranteed.

- **No mechanical work when retrofitting or converting!** By using sliding nuts (threads M3-M8) flexible conversion and retrofitting is possible at any time.
- **Converter / main switch / transformer / etc**., components that are not snapped but screwed to the DIN rail profile can be screwed directly into the sliding nut channel or to a switch bridge
- **In the case of greater loads, the adapter rails should be attached to several mounting profiles to distribute the weight.**
- **The switch bridges can be fastened to all types of bridges**. Depending on the size of the components and weight, several bridges can be used.

Example:
Attachment of an adapter for a bus bar system. Groove distance (sliding nut channel) should be planned in advance when planning the frame. This allows for fast attachment of the components.

Here, two MA 080 modules were used with the groove- groove distance of 75 mm.

Step 1: Sliding nut pieces (with thread M3-M8) can be simply slipped into the sliding nut channel with a sliding nut cage.

Step 2: The sliding nut cages prevent the sliding nuts from slipping out. Place the sliding nuts into both grooves.

Step 3: If both sliding nuts have been placed in the desired location, the component can be mounted.

Step 4: Align components if necessary and simply attach.

...with no mechanical effort!

Variant 1: If DIN rail bars are built over (Type HS / HA) on assembly bars (Type MS / MA), CST 7 supports can be used to balance out the height.

Variant 2: Installed adapter rails RG 020.
The length of the adapter rails are adapted to the size of the components.

Fig. 1: Master switch to RG 035.

Fig. 2: Converter to RG 035.

Depending on the application it is possible to distribute the weight of the components across multiple mounting profiles in order to achieve a better weight strength distribution.

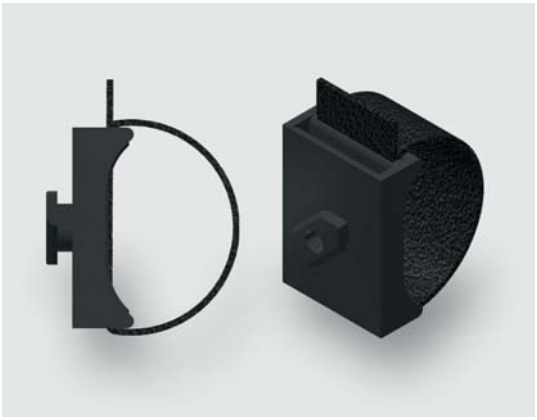
- There are two different types of RG bars.
- RG 020 with a height of 15 mm and a width of 20 mm
- RG 035 with a height of 20 mm and a width of 35 mm

Cable installation: Hook and loop adapter

The different versions of the *Air***STREAM** hook and loop adapters allow tool-free cable routing in the control cabinet.

The time-saving and careful securing of wires, cables and hoses means that no cable clips or ties are required.

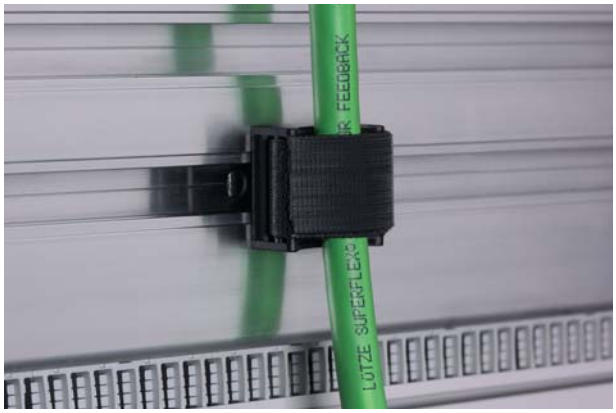
The fact that hook and loop tapes can be opened and closed many times without wear make them particularly suitable for retrofitting parts or expanding installations. Data cables can now be installed simply outside the *Air***STREAM** bracket to ensure separation of the main and control wiring.



KBS Hook and loop adapter

DIN rail hook and loop adapter (picture 1) and/or hook and loop adapter for profiles (picture 2), mounting rails MS/MA, adapter rail RG 035 and VPSym, allow gentle strain relief and precise cable installation. One or several cables can be secured, and the hook and loop tape can be opened and closed without wear.

Hook and loop adapter for DIN rails



Hook and loop adapters for LÜTZE profiles

Cable guard rail: the hook and loop adapter allows gentle strain relief and the clamping of cables. One or several cables can be secured, and the hook and loop tape can be opened and closed without wear.

Cable installation: EMC solutions

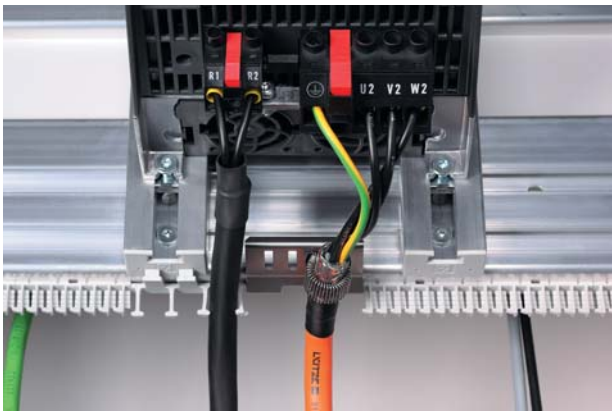
The following pages contain various application examples and options. The control cabinet builder decides which EMC-compatible wiring is required.

Cable guard rail (picture on the left): Various cable clips allow cables with double insulation to be clamped. The cable clips can also be used on the EMC rail to clamp cables (see picture on the right).

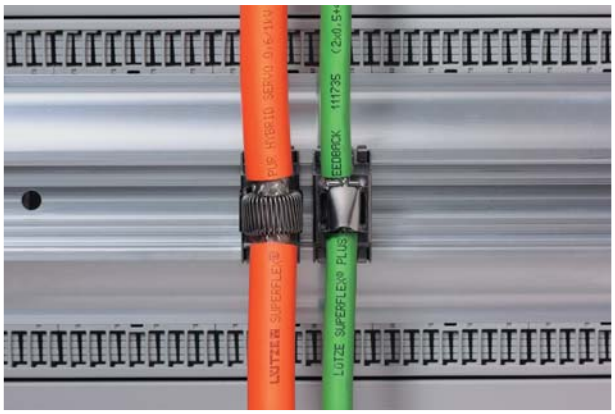
The cable clamp and/or EMC solutions below should be evaluated for each application separately.

Individual use of the cable clips

EMC DIN rail accessories

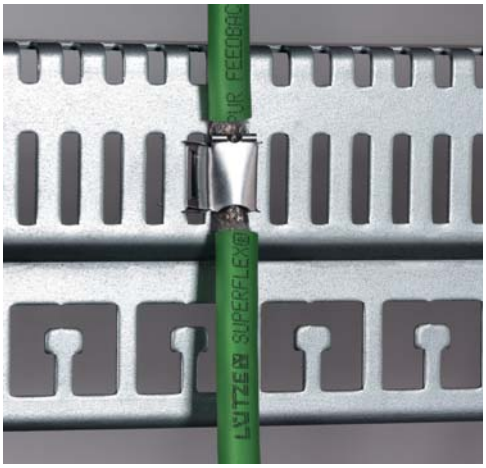


EMC snap on accessory for *Air***STREAM** rail profiles. These are used instead of a comb segment. Shielded cables can be fitted directly in front of the part using shield clamps or spring shield clamps.

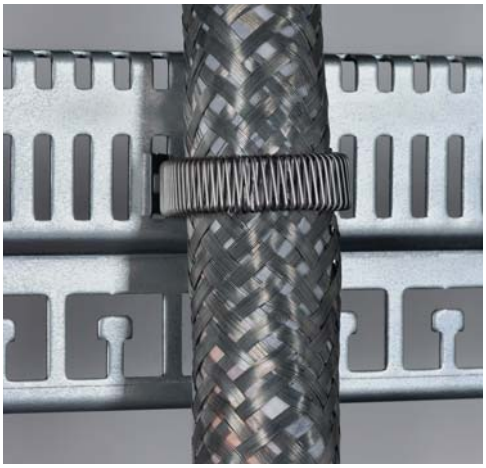


EMC snap on accessory for the DIN rail profiles. This can be simply positioned on a DIN rail. Shielded cables can be fitted directly in front of the part using shield clamps or spring shield clamps.

EMC rail for shielded cables that can be installed directly via shield clamps (picture on the left) or spring shield clamps (picture on the right).



Shielded cable with shield clamp



Shielded cable with a spring shield clamp

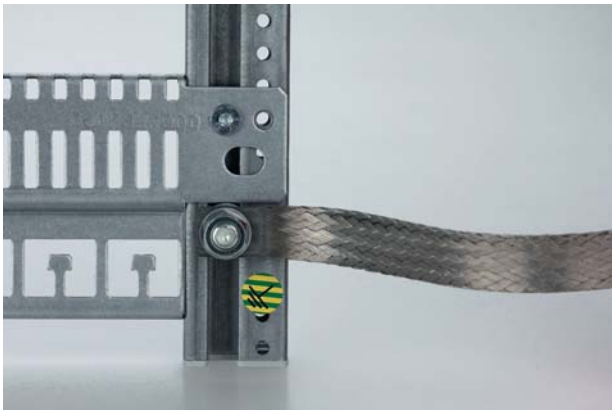
All EMC components are suggestions and recommendations only.
All information is subject to change because the applications can vary.

EMC/frame grounding

Inverters and network filters should always be positioned next to one another on the same level (same rail profiles). If larger or several inverters are used, we recommend also using flat grounding strips/ground straps. These allow a direct connection between the inverters and enclosure to distribute interference frequencies as broadly as possible over a short distance.

Example applications:
In the picture on the left, the flat grounding strip is positioned on the rail profile onto which the inverters were mounted. The other end should be laid on the enclosure of the control cabinet or alternatively on the frame (VPSym).

The picture on the right shows the position of the inverter on the adapter rails that are used to clamp the high loads evenly across other rail profiles. The flat grounding strip is laid from the adapter rail directly to the casing.



Frame grounding

Flat grounding strip/ground straps are connected as a grounding frame to the control cabinet.

All EMC components are suggestions and recommendations only.
All information is subject to change because the applications can vary.

Notes

The entire sys tem by LUTZE
*Air*STREAM o verview

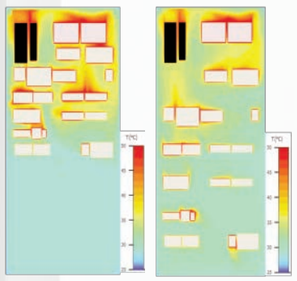
1. Recognizing the problem

- Hotspots and/or high-energy costs due to air conditioning
- Machine downtime
- Inconsistent control cabinet climate and cold short-circuits

2. Discover differences

- *Air*TEMP thermal simulation with different wiring types and cooling systems

3. Optimize



- Improved thermal arrangement of the components
- Component density
- Component placement

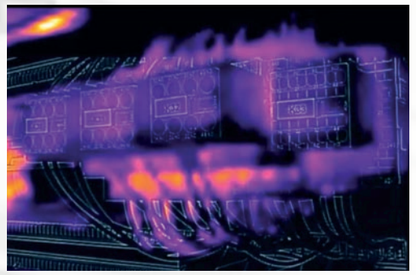
4. Climate stability inside the control cabinet

- The use of the *Air*BLOWER
- Intelligent air guidance thanks to *Air*BLADES

5. Plan the control cabinet

- Use of the free *Air*STREAM online configurator

6. Find a solution

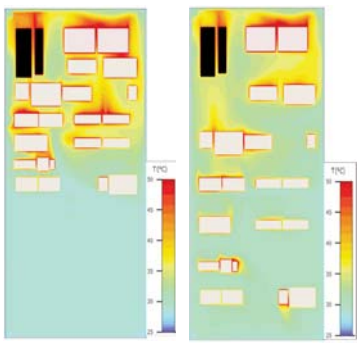


- Longer lifecycle of the electrical components
- Power savings thanks to reduced energy requirements of the air conditioning
- Less machine downtime
- Higher energy efficiency

Two units to prevent hotspots: *Air*TEMP and Online configurator

***Air*TEMP - differentiated thermal simulation for the control cabinet**
***Air*TEMP** allows precise and differentiated analysis of the heat development and distribution in the control cabinet.

***Air*STREAM planning with the online configurator**
Using the web-based control cabinet configurator, the user can configure and send an inquiry for an ***Air*STREAM** frame.



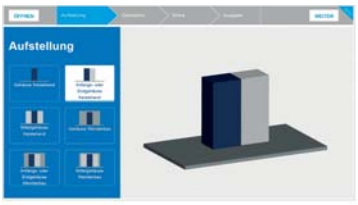
Heat calculation in the control cabinet

*Air*TEMP: Control cabinet heat analysis for everyone

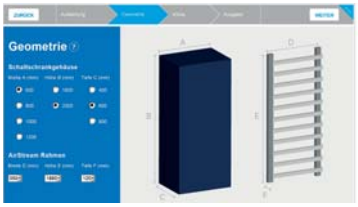
The *Air***BLOWER** is an accessory for the *Air***STREAM** wiring frame for fast and reliable climate stabilization inside the control cabinet. The use of an *Air***BLOWER** ensures that hotspots inside the control cabinet are avoided.

*Air***TEMP** is an online simulation software that helps you plan thermally optimized control cabinet projects. *Air***TEMP** enables an analysis of the heat build-up and distribution in the control cabinet more precisely than ever before!

At the end of the simulation, the set parameters can be saved and printed. The calculated temperature results can be used for construction verification according to DIN 61439.



Step 1: Define the installation site



Step 2: Enter the control cabinet dimensions

Step 3: Information about the loss output and ambient parameters

Step 4: Calculation and differentiated presentation of the control cabinet's internal temperature

Test your control cabinet!
AirTEMP: Control cabinet heat analysis for the control cabinet: airtemp.luetze.com

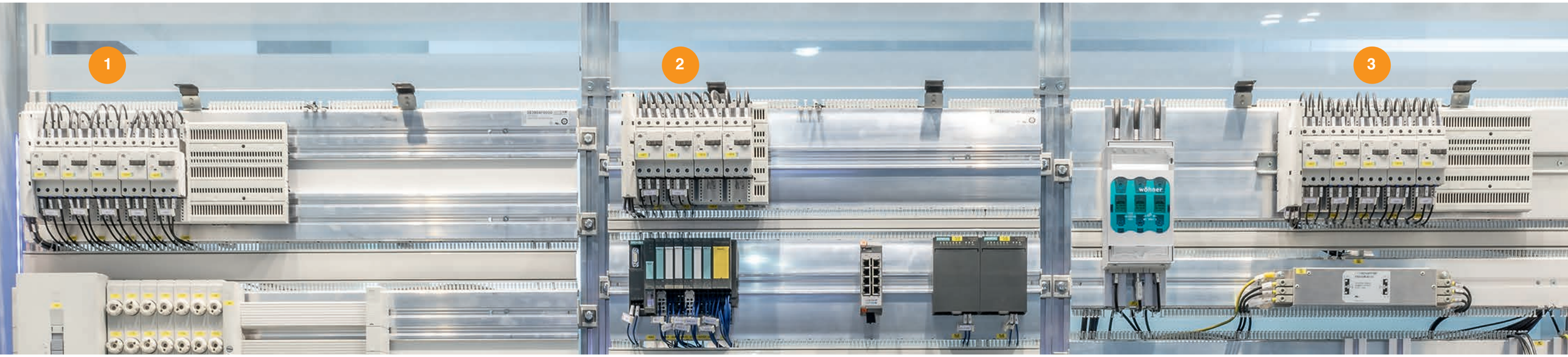
*Air*STREAM Online configurator: Efficient and user-friendly

Just 5 steps to design an *Air*STREAM frame
Using the web-based control cabinet configurator for the *Air***STREAM** wiring system, the user can design a complete frame in a few steps.
The final file can be further processed in any CAD program. The *Air***STREAM** configurator is available for use online at www.luetze.com. No additional software on the PC is required.

High-speed online control cabinet planning

Assembly of the Wöhne r CrossBoard® on the *Air***STREAM wiri ng frame**

Modular, touch-protected, energy distribution system with optimum climate management and integrated cable guide



Mounting options

1. CrossBoard® on 2x MA mounting rails
2. CrossBoard® on RG035 adapter rails
3. CrossBoard® on a separate DIN rail

1 Attachment with 2 x MA 80

- Sliding nut distance (groove/groove) 83 mm
- Use KABS (Touch protection)
- Attachment set 332964.0001 contains:
  4x sliding nut M6
  4x flat head screws M6x10
  4x sliding cage nut GMK

2 Attachment using adapter rails on HS 160

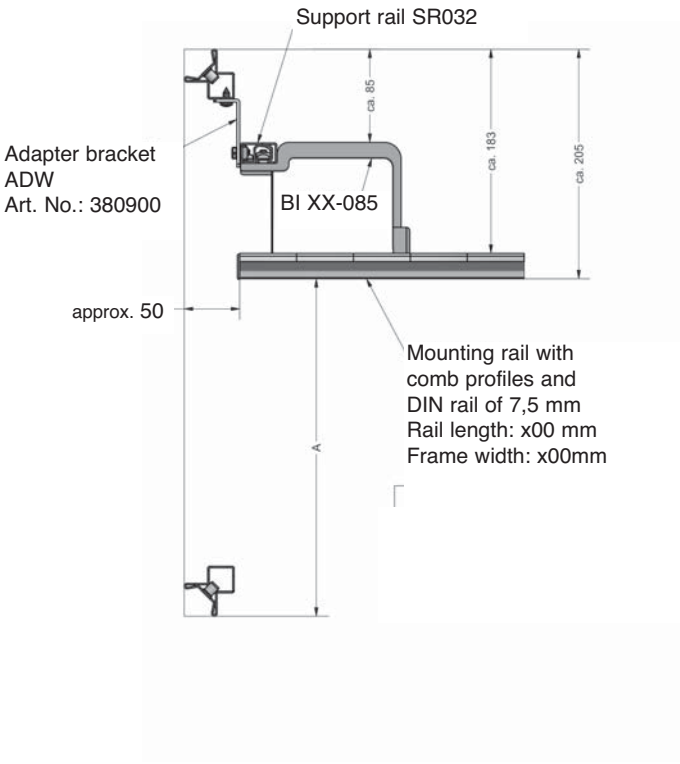
- Pre-mounted RG035 on the frame is possible or self-assembly
- 2 x RG035
- 6 x sliding nut
- 6 x flat head screws
- 6 x cage nut

3 CrossBoard® on back panel MS 180 via adapted (pre-mounted) DIN rail

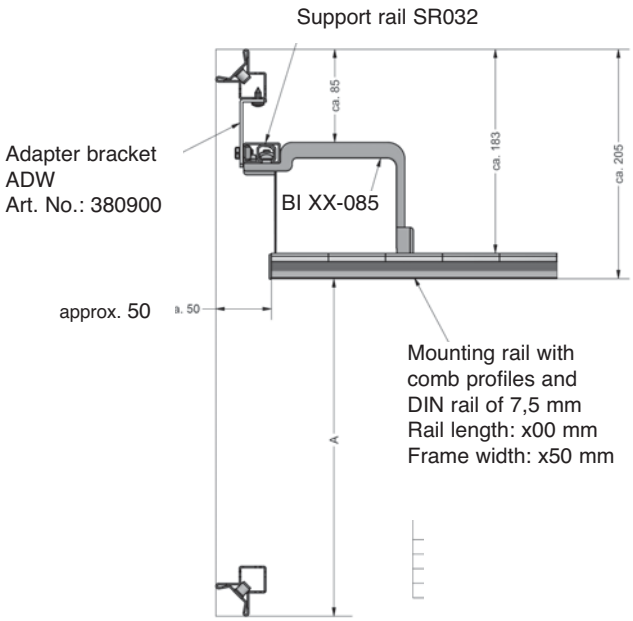
- DIN rails (7.5 mm) can be pre-assembled on delivery
- Steel or aluminum available on request
- Attachment set 332964.0001 contains:
  4x sliding nut M6
  4x flat head screws M6x10
  4x sliding cage nut GMK

Mounting - Installation dimensions

Installation dimensions for Rittal VX25 - front position ADWS 380901

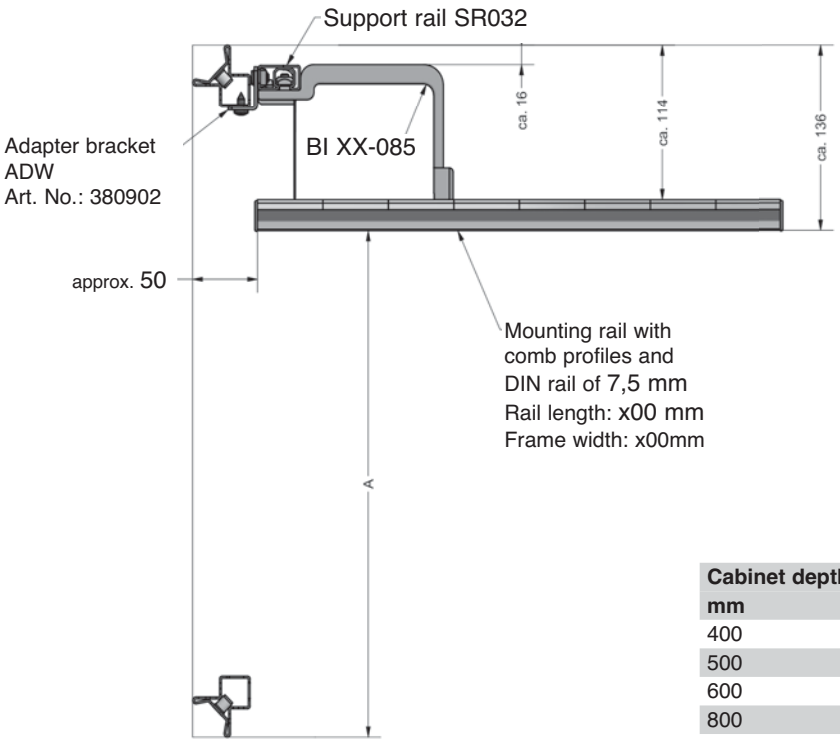


Installation dimensions for Rittal VX25 - rear position ADWS 380903 standard bracket



Cabinet depth mm	Installation depth A: BI XX-085	Installation depth A: BI XX-055
400	196	226
500	296	326
600	396	426
800	596	626

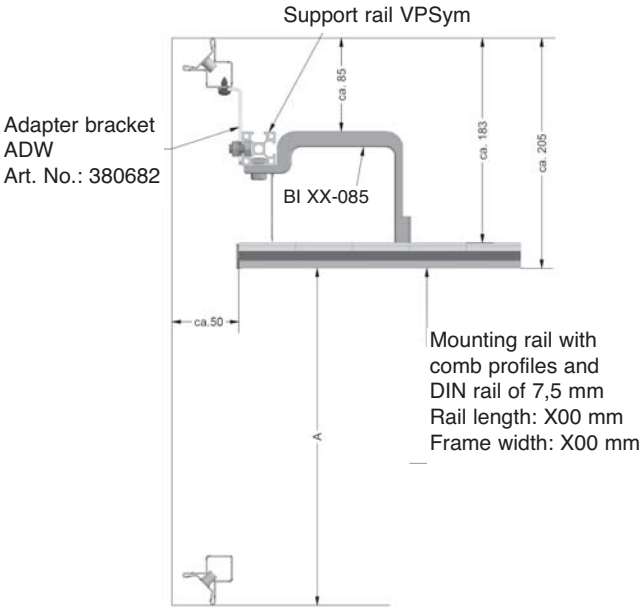
Installation dimensions for Rittal VX25 - rear position ADWS 380903 standard bracket

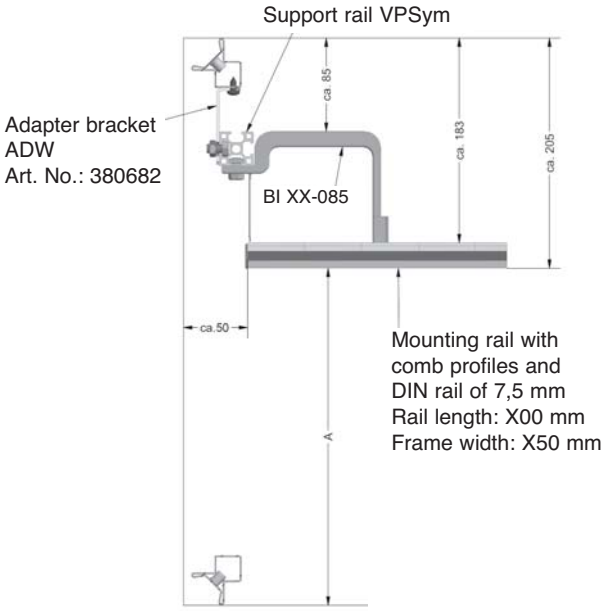


Cabinet depth mm	Installation depth A: BI XX-085	Installation depth A: BI XX-055
400	255	296
500	355	396
600	455	496
800	655	696

Mounting - Installation dimensions

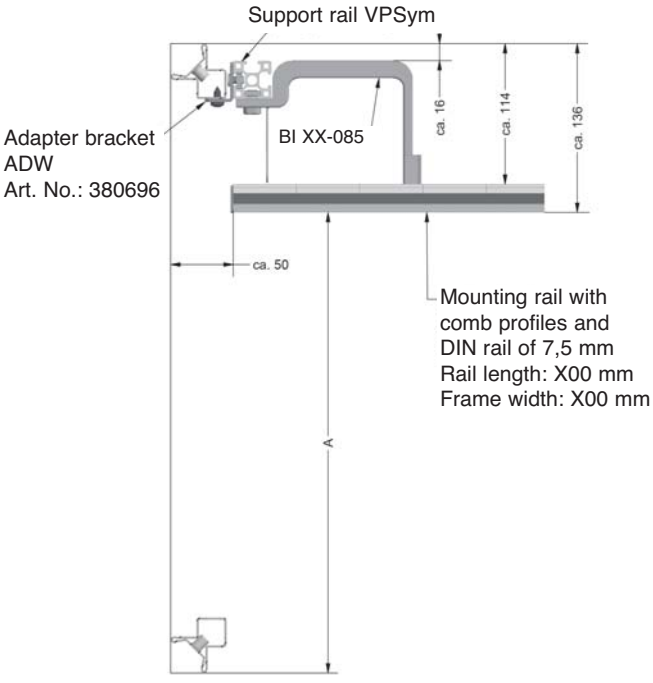
Installation dimensions for Rittal VX25 - front position ADWS 380683





Cabinet depth mm	Installation depth A: BI XX-085	Installation depth A: BI XX-055
400	196	226
500	296	326
600	396	426
800	596	626

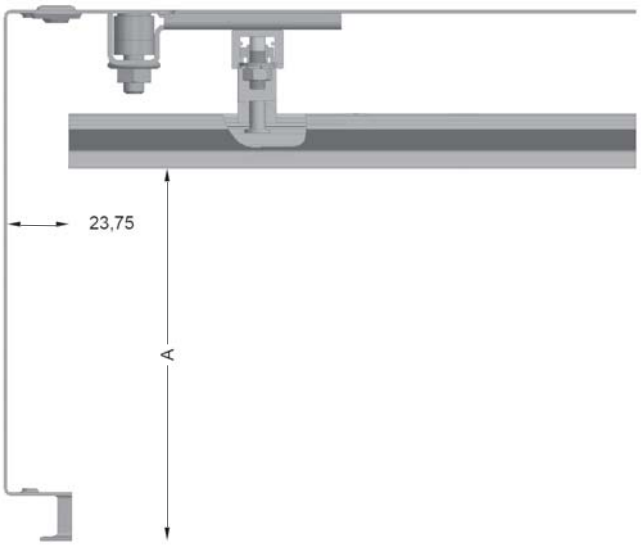
Installation dimensions for Rittal VX25 - rear position ADWS 380697 standard bracket



Cabinet depth mm	Installation depth A: BI XX-085	Installation depth A: BI XX-055
400	266	296
500	366	396
600	466	496
800	666	696

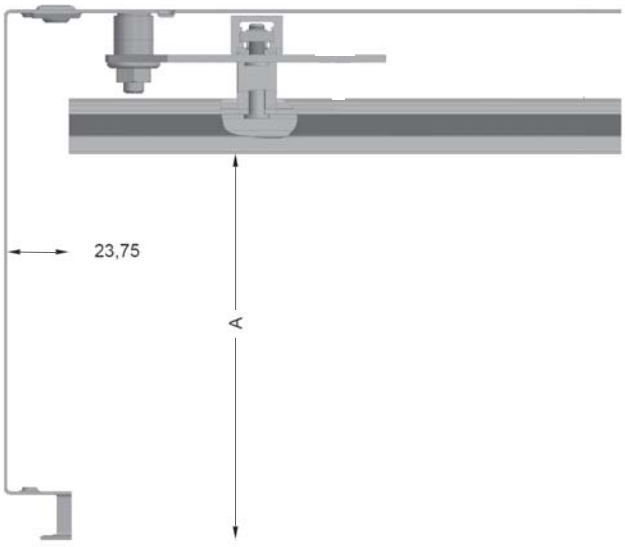
Mounting - Installation dimensions

Installation dimension for AX Compact cabinets - ADWS 332916
Example of a 200 mm deep control cabinet



Length L CST supports	Dimension A mm
18,00	approx. 148,25
23,00	approx. 143,25
30,00	approx. 136,25
35,00	approx. 131,25
40,00	approx. 126,25
45,00	approx. 121,25
50,00	approx. 115,25

Installation dimension for AX Compact cabinets - ADWS 346459
Example of a 200 mm deep control cabinet

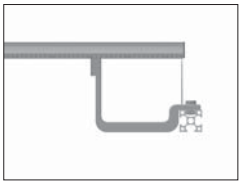
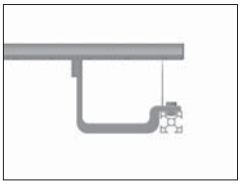
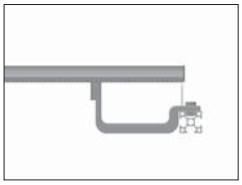
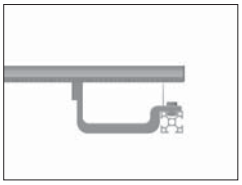


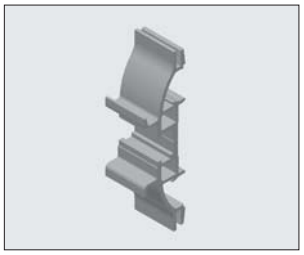
Length L CST supports	Dimension A mm
18,00	approx. 155,75
23,00	approx. 148,75
30,00	approx. 143,75
35,00	approx. 138,75
40,00	approx. 133,75
45,00	approx. 128,75
50,00	approx. 123,25

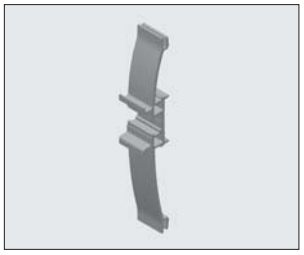
Notes

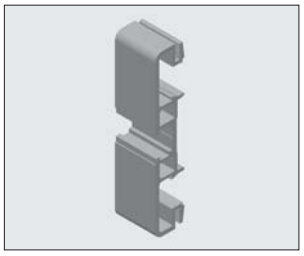
Module selection for rail width 500 mm

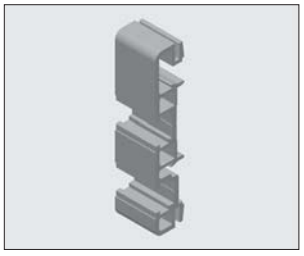
Prefabricated modules, equipped with a wiring comb

Variant	Standard	Option 1	Option 2	Option 3
Frame width	= Rail length + 50 mm	= Rail length	= Rail length + 50 mm	= Rail length
				
Wiring space	85 cm^2	85 cm^2	55 cm^2	55 cm^2







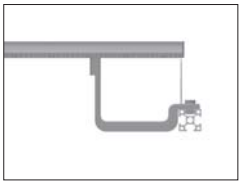
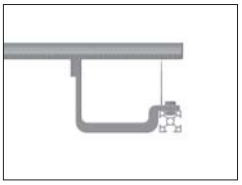
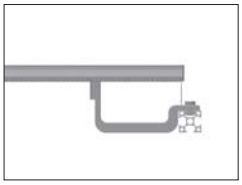
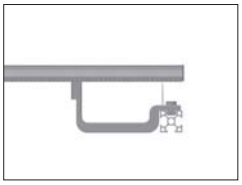


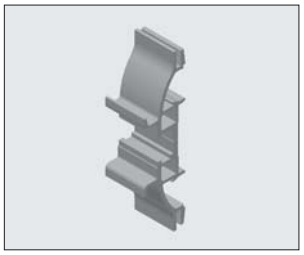
Rail width		500 mm			
Bracket		85 cm^2		55 cm^2	
Frame width		550 mm	500 mm	550 mm	500 mm
Module type	H* (mm)	Standard	Option 1	Option 2	Option 3
HS040	40	380100M0012	380100M0004	380100M0008	380100M0000
HS060	60	380101M0012	380101M0004	380101M0008	380101M0000
HS080	80	380102M0012	380102M0004	380102M0008	380102M0000
HS100	100	380103M0012	380103M0004	380103M0008	380103M0000
HS120	120	380104M0012	380104M0004	380104M0008	380104M0000
HS140	140	380105M0012	380105M0004	380105M0008	380105M0000
HS160	160	380106M0012	380106M0004	380106M0008	380106M0000
HA140	140	380140M0012	380140M0004	380140M0008	380140M0000
HA160	160	380141M0012	380141M0004	380141M0008	380141M0000
MS040	40	380120M0012	380120M0004	380120M0008	380120M0000
MS080	80	380122M0012	380122M0004	380122M0008	380122M0000
MS100	100	380123M0012	380123M0004	380123M0008	380123M0000
MS120	120	380124M0012	380124M0004	380124M0008	380124M0000
MS180	180	380127M0012	380127M0004	380127M0008	380127M0000
MA080	80	380160M0012	380160M0004	380160M0008	380160M0000

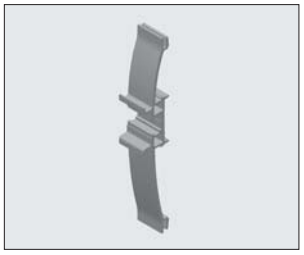
H* = Rail height

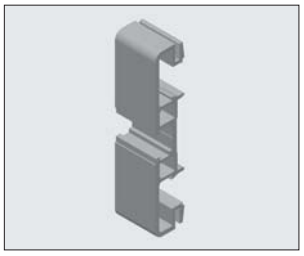
Module selection for rail width 700 mm

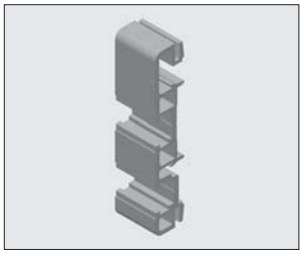
Prefabricated modules, equipped with a wiring comb

Variant	Standard	Option 1	Option 2	Option 3
Frame width	= Rail length + 50 mm	= Rail length	= Rail length + 50 mm	= Rail length
				
Wiring space	85 cm^2	85 cm^2	55 cm^2	55 cm^2







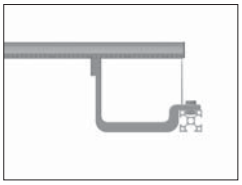
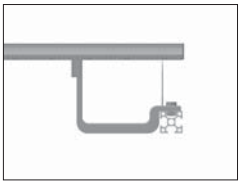
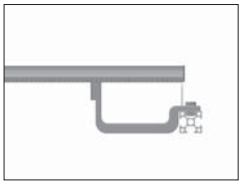
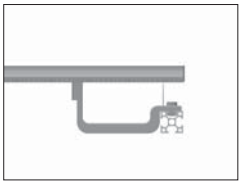


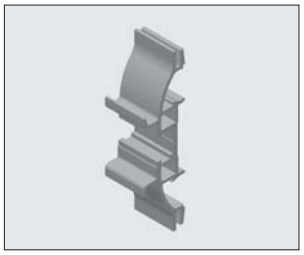
Rail width		700 mm			
Bracket		85 cm^2		55 cm^2	
Frame width		750 mm	700 mm	750 mm	700 mm
Module type	H* (mm)	Standard	Option 1	Option 2	Option 3
HS040	40	380100M0013	380100M0005	380100M0009	380100M0001
HS060	60	380101M0013	380101M0005	380101M0009	380101M0001
HS080	80	380102M0013	380102M0005	380102M0009	380102M0001
HS100	100	380103M0013	380103M0005	380103M0009	380103M0001
HS120	120	380104M0013	380104M0005	380104M0009	380104M0001
HS140	140	380105M0013	380105M0005	380105M0009	380105M0001
HS160	160	380106M0013	380106M0005	380106M0009	380106M0001
HA140	140	380140M0013	380140M0005	380140M0009	380140M0001
HA160	160	380141M0013	380141M0005	380141M0009	380141M0001
MS040	40	380120M0013	380120M0005	380120M0009	380120M0001
MS080	80	380122M0013	380122M0005	380122M0009	380122M0001
MS100	100	380123M0013	380123M0005	380123M0009	380123M0001
MS120	120	380124M0013	380124M0005	380124M0009	380124M0001
MS180	180	380127M0013	380127M0005	380127M0009	380127M0001
MA080	80	380160M0013	380160M0005	380160M0009	380160M0001

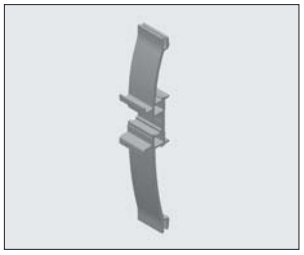
H* = Rail height

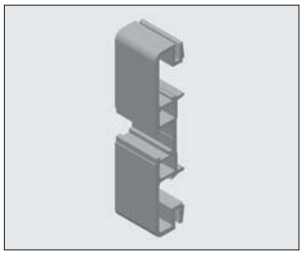
Module selection for rail width 900 mm

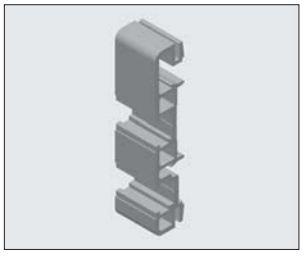
Prefabricated modules, equipped with a wiring comb

Variant	Standard	Option 1	Option 2	Option 3
Frame width	= Rail length + 50 mm	= Rail length	= Rail length + 50 mm	= Rail length
				
Wiring space	85 cm^2	85 cm^2	55 cm^2	55 cm^2







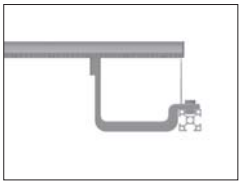
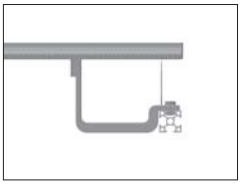
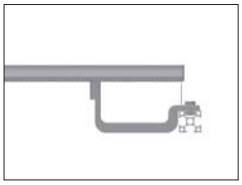
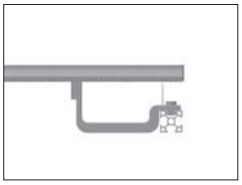


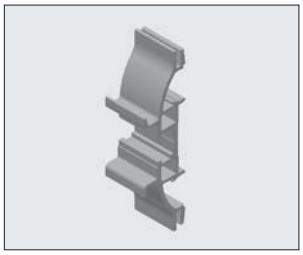
Rail width		900 mm			
Bracket		85 cm^2		55 cm^2	
Frame width		950 mm	900 mm	950 mm	900 mm
Module type	H* (mm)	Standard	Option 1	Option 2	Option 3
HS040	40	380100M0014	380100M0006	380100M0010	380100M0002
HS060	60	380101M0014	380101M0006	380101M0010	380101M0002
HS080	80	380102M0014	380102M0006	380102M0010	380102M0002
HS100	100	380103M0014	380103M0006	380103M0010	380103M0002
HS120	120	380104M0014	380104M0006	380104M0010	380104M0002
HS140	140	380105M0014	380105M0006	380105M0010	380105M0002
HS160	160	380106M0014	380106M0006	380106M0010	380106M0002
HA140	140	380140M0014	380140M0006	380140M0010	380140M0002
HA160	160	380141M0014	380141M0006	380141M0010	380141M0002
MS040	40	380120M0014	380120M0006	380120M0010	380120M0002
MS080	80	380122M0014	380122M0006	380122M0010	380122M0002
MS100	100	380123M0014	380123M0006	380123M0010	380123M0002
MS120	120	380124M0014	380124M0006	380124M0010	380124M0002
MS180	180	380127M0014	380127M0006	380127M0010	380127M0002
MA080	80	380160M0014	380160M0006	380160M0010	380160M0002

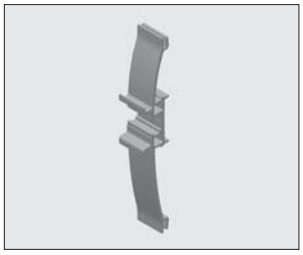
H* = Rail height

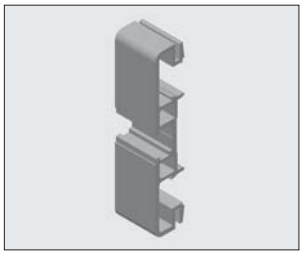
Module selection for rail width 1100 mm

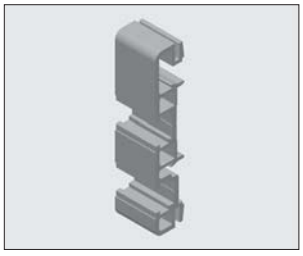
Prefabricated modules, equipped with a wiring comb

Variant	Standard	Option 1	Option 2	Option 3
Frame width	= Rail length + 50 mm	= Rail length	= Rail length + 50 mm	= Rail length
				
Wiring space	85 cm^2	85 cm^2	55 cm^2	55 cm^2









Rail width		1100 mm			
Bracket		85 cm^2		55 cm^2	
Frame width		1150 mm	1100 mm	1150 mm	1100 mm
Module type	H* (mm)	Standard	Option 1	Option 2	Option 3
HS040	40	380100M0015	380100M0007	380100M0011	380100M0003
HS060	60	380101M0015	380101M0007	380101M0011	380101M0003
HS080	80	380102M0015	380102M0007	380102M0011	380102M0003
HS100	100	380103M0015	380103M0007	380103M0011	380103M0003
HS120	120	380104M0015	380104M0007	380104M0011	380104M0003
HS140	140	380105M0015	380105M0007	380105M0011	380105M0003
HS160	160	380106M0015	380106M0007	380106M0011	380106M0003
HA140	140	380140M0015	380140M0007	380140M0011	380140M0003
HA160	160	380141M0015	380141M0007	380141M0011	380141M0003
MS040	40	380120M0015	380120M0007	380120M0011	380120M0003
MS080	80	380122M0015	380122M0007	380122M0011	380122M0003
MS100	100	380123M0015	380123M0007	380123M0011	380123M0003
MS120	120	380124M0015	380124M0007	380124M0011	380124M0003
MS180	180	380127M0015	380127M0007	380127M0011	380127M0003
MA080	80	380160M0015	380160M0007	380160M0011	380160M0003

H* = Rail height

Certificates

		*Air*STREAM VPSym			*Air*STREAM SR032		*Air*STREAM Compact		Comments
UL									
***Air*BLOWER**									
Frame is installed	Industrial Control Panels, UL508A, C22.2 No. 14-18 im File E331566	Yes							
Plastic components		according to UL 94 V0.			according to UL 94 V0.		according to UL 94 V0		
Halogen free		acc. to VDE0472-815			acc. to VDE0472-815		acc. to VDE0472-815		
CE Directive 2014/35/EU		**CE**	**Rail**	**DNV-GL**	**CE**	**DNV-GL***	**CE**	**DNV-GL***	
DIN rail	EN 60715:2017 Dimensions of low-voltage switching devices - Standardized mounting rails for mechanical attachment of electronic devices in switching devices	•			•		•	•	Dimensional tolerance, measurement of torsional moments on the DIN rail
Verification of the connections of the earth conductor circuit	EN 60439-1:2011 Low-voltage switching device combinations - Part 1: General specifications 10.5.2 Consistency of the connection between the body of the switching device combination and protective circuit	•		•	•	•	•	•	Resistance measurement <0,1 Ohm at 10 A Resistance measurements were conducted when assessing the Kesternich test and salt spray test
Short-circuit resistance of the earth conductor circuit (high current test)	EN 60439-1:2011 Low-voltage switching device combinations - Part 1: General specifications 10.5.3 short-circuit resistance of the protective circuit	•		•	•	•	•	•	Test of the rated surge current strength, rated short-term current strength
Short-circuit resistance	EN 60947-7-2:2009 Low voltage switching devices - Part 7-2: Auxiliary devices - Ground conductor-terminal blocks for copper conductors	•			•		•		8.4.6 Tab. A1 Maximum short-term current strengths assigned to the mounting rails and thermal rated current of a PEN-busbar
Test based on flammability category	EN 60947-1:2007 Low-voltage switching devices - Part 1: General specifications 7.1.2.3	•			•	•	•	•	Verified by stating the HWI and AI indicators acc. to IEC 60965-11-10
Glow wire test on plastics	EN 60947-1:2007: Low-voltage switching devices - Part 1: General specifications 7.1.2.2	•			•	•	•	•	Requirement to meet IEC 60695-2-12 provided by insulation material manufacturer
Vibration/shock test	EN 60647-1:2007 Tab. Q1 corresponds to DNV-GL CG0339 Vibration A 2-13, 2 Hz; ± 1 mm 13, 2-100 Hz; ± 0,7 g Resonance dwell 2 h Sweep in the resonance range				•	•	•	•	Test with resonance search and subsequent dwelling on resonance points in 3 axles
Vibration test	EN 61373:2010 Class1 CatB 5,9 m/s² (vertical) 2,9 m/s² (crosswise) 3,9 m/s² (longitudinal)		•	•	•	•			Service-life test with 5 h in 3 axles respectively
Shock test	Class1 Cat B 30 m/s² ± 20% (vertical, crosswise) 50 m/s² ± 20% (longitudinal) 30 ms		•	•	•	•	•		Shock test acc. to Rail ***Air*STREAM** with VPSym simply screwed ***Air*STREAM** with SR032 doubled screwed
Kesternich test 5 cycles	DIN 50018:2013			•	•	•	•	•	Corrosive gas-(sulfurous atmosphere) Corrosion test
Salt spray test 96 h	IEC 60068-2-11			•	•	•	•	•	Corrosion test

*normative test without DNV-GL certificate

Technical information

Current capacity of the *Air*STREAM profiles

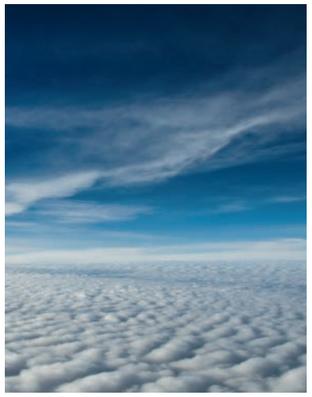
The following applies for all *Air*STREAM profiles:	
Material	**Al Mg Si 0,5 F 25**
Conductance in S	**24**

Type	Cross section in mm²
VPsym	342
HS 040	231
HS 060	276
HS 080	308
HS 100	351
HS 120	390
HS 160	468
MS 040	202
MS 080	349
MS 100	389
HA 140	433
HA 160	477
MA 080	385

Type	Cross section in mm²
RG 020	138
RG 035	180
B15-055	150
B15-085	150
B30-055	150
B30-085	150

Tightening torques for threaded connections

Tightening torques for threaded connections	Nm
Hex screws with sliding nuts for VPSym M8	10
Pan-head screws with sliding nuts for VPSym M8	10
Pan-head screws M6	8
Self-tapping screws BS 5.5	8
Self-tapping screws for SR032 M6	10



Business Management:
Sustainable and forward-looking

„The competitiveness of our industry and of its suppliers depends quite substantially on how we succeed in developing practical results. The results that we produce together today, are our competitive advantages in the future.“
Udo LÜTZE,
Member of the Executive Committee of the Green Carbody Innovation Alliance

The future is blue

Sustainable enterprise means thinking and planning ahead, understanding and embedding the belief that long lasting success is more important than short-term profit maximisation.

This is an attitude that has existed within LUTZE for quite some time. Economic and environmental responsibilities complement each other well and are reflected in the sustainable management and product policy - and from now in the *Sky***BLUE** campaign.

We manufacture our products in a resourceful and energy-conscious manner. We use long lasting, environmentally-friendly materials. And our products, in turn, help our customers save energy and resources.
Good for everyone: for us, for the environment, for our customers a win-win-win situation.

Goods with real value

The value of a product or a solution from LUTZE is determined by its sustainable qualities as well. Every innovation is only as successful in the future if it has a long-term pos-itive effect. Therefore, we provide long lasting as well as highly efficient components.
We are incorporating the necessary knowledge and manufacturing competence in numerous joint projects with the objective of improving energy efficiency and sustainable technologies and industries. Thus, LUTZE provides answers and demonstrates how to handle resources responsibly, with our environment and our future in mind.

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RoHS

Part number index

Cable Solutions
Highly flexible tray cables and continuous motion cables for industrial control, Ethernet, motor, VFD, and servo applications

Connectivity Solutions
Servo cable assemblies, industrial Ethernet and M12 connectors, panel pass through devices and cable entry systems

Cabinet Solutions
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Control Solutions
Industrial power supplies, electronic control circuit protection, network gateways for IIoT, relays and signal converters

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