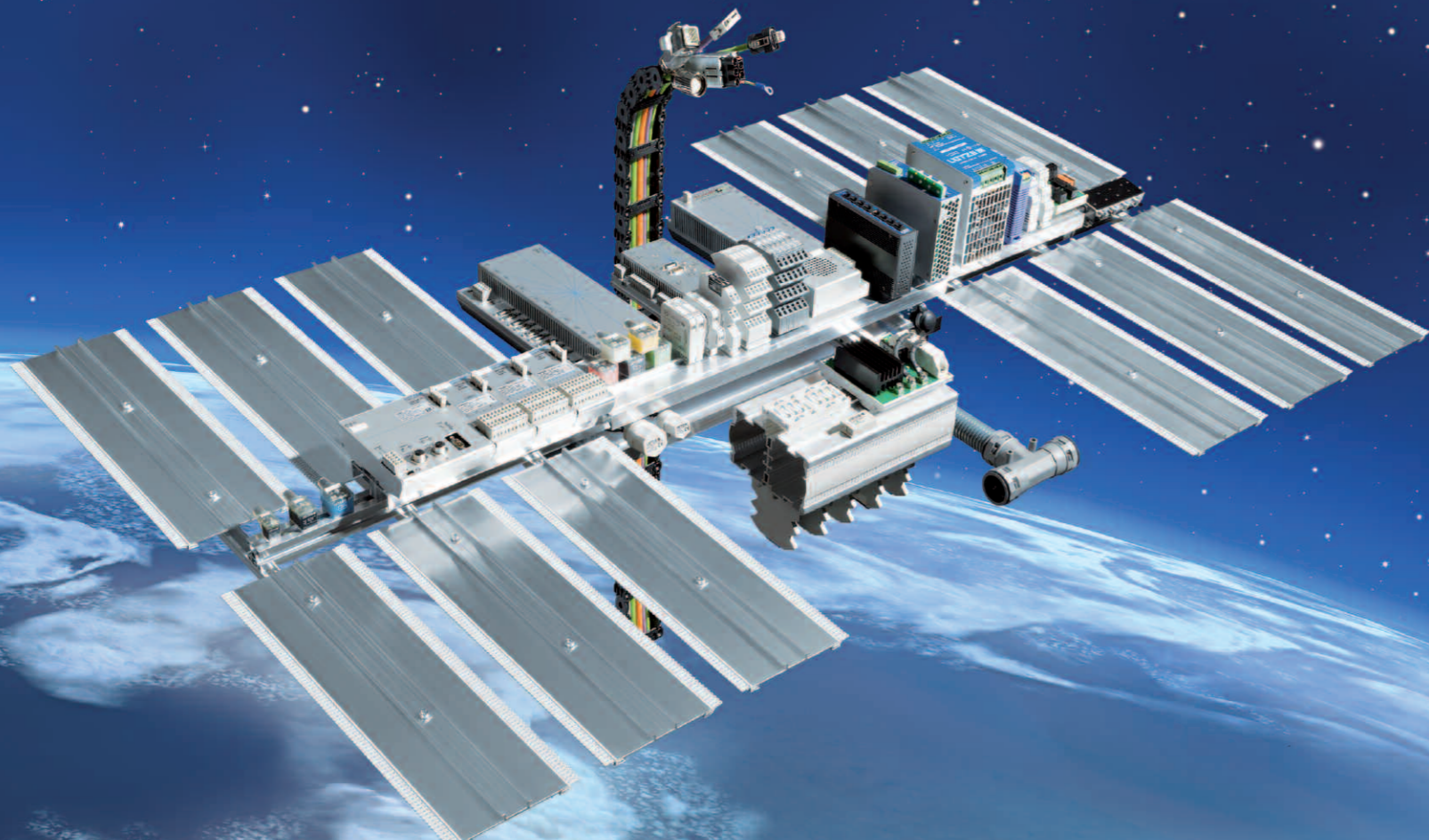


■ Cabinet Solutions

LSC *Air*STREAM Wiring System

From products to solutions!

Installation • Cabinet • Automation • OEM • Transportation



Welcome to LÜTZE

Installation Solutions



LÜTZE has been developing and manufacturing electronic and electrical engineering solutions for controls and installations for more than 50 years.

Our basic concept, as system suppliers providing a comprehensive and well-matched product range with which we can generate innovative and customised solutions, has stood the test of time.

Cabinet Solutions



The LSC system for cabinet wiring has been available since 1972. In the decades since then, numerous users have optimised their control cabinets in respect of space, time, cost and energy efficiency!

Automation Solutions



The new LSC *AirSTREAM* is one of the results of LÜTZE's involvement in the Innovation Alliance Green Carbody Technologies. Together with numerous well known project partners, LÜTZE has been engaged for many years in the basic research on the reduction of energy use in the automotive industry.

OEM Solutions



Transportation Solutions



Content :	
Basics LSC Wiring System	from P. 6
The new LSC <i>AirSTREAM</i> Wiring System	from P. 8
LSC Modular	from P. 12
Less cooling and less thermal stress with LSC	from P. 14
1. LSC <i>AirSTREAM</i> standard frames	
• for network and power distribution cabinets	P. 16
• for resource and drive cabinets	P. 17
• LSC <i>AirSTREAM</i> standard frames module sequence	from P. 18
2. LSC <i>AirSTREAM</i> standard frames and variations	P. 22
• pre-assembled LSC <i>AirSTREAM</i> standard modules	from P. 24
• EMC modules and cable clamp modules for LSC <i>AirSTREAM</i>	P. 28
• mounting equipment, wire management, accessories, screws	from P. 29
Airblades for targeted air conduction	P. 31
3. EMC rails and accessories	from P. 34
4. Installation instructions	from P. 36
5. Technical information	P. 39

More informations about
Innovationsallianz Green
Carbody Technologies:
<http://bit.ly/186qID6>





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 LÜTZE 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 SkyBLUE 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 LÜTZE is determined by its sustainable qualities. Every innovation is only successful in the future if it has a long-term positive effect. Therefore, we provide, for example, non-ageing components and those with extremely high efficiency. We are incorporating the necessary knowledge and manufacturing

head start in numerous joint projects with the objective of improving energy efficiency and sustainable technologies and industries. Thus, LÜTZE provides answers and shows ways to handle resources responsibly, with our environment and finally our future.



RoHS



LÜTZE LSC System: the best framework for potential savings

Components in the control cabinet are becoming ever more compact with an increasing number of switching functions. As a result it is inevitable that the heat dissipated is also increasing. LSC helps with the design of the construction so that the air circulates better and areas where heat builds up can be avoided. By means of separation into a mounting and wiring plane, the air flows past the components and wires almost unhindered and dissipated heat is removed. There is no transverse cable duct to impede the circulation. The cables are routed along the rear with plenty of space. This feature also aids the flow of heat.



1972 - 2012: 40 Years of LSC

LÜTZE's LSC Wiring System consists of a modular frame that allows for simple mounting of control components, including the wiring, and fits into all conventional control cabinets. Integrating the wiring plane into the frame dispenses with the need for cable trunking, as was traditionally the case, resulting in a highly compact system offering many advantages.

Your LSC potential savings:

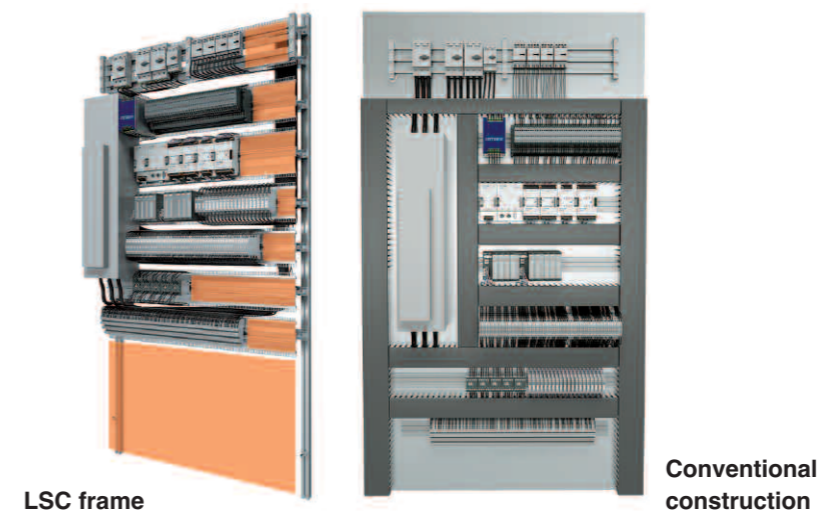
- In the design engineering stage –

No detail design-engineering work needed for assembly; the frame layout is carried out by LÜTZE or in our new LSC online configurator.

- For Purchasing – only one part number is needed for the whole frame, considerably simplifying the ordering procedure.
- LSC has excellent thermodynamic characteristics and therefore helps to reduce CO₂ emissions
- The service life of the components is increased by avoiding hotspots

in the control cabinet

- Prefabricated frames = wiring can start immediately, thus reducing installation time.
- Creation of extra space or a reduction in the size of the cabinet, easy to service from the front and good accessibility.



LSC frame

Conventional construction

Simply more space

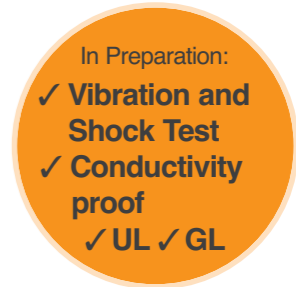
We manufacture each aluminium frame for your wiring system in line with your needs. This means you can mount all your control components efficiently and integrate your wiring easily: no longer any need for cable trunking, no need for individually drilled holes or the chore of lining up the components. Including reduced cabinet volume through optimised use of space.

Space savings



Modular, easy, strong: LSC *Air*STREAM

The wiring system of the future



Further plus points: all protruding screw heads "disappear" in the integrated screw channel - a sliding nut can move freely and without resistance. The new *Air*STREAM construction does not just offer fastening options at the front - that is via DIN rail profiles - but also at the rear, e.g. cable holders and clamps.



Curved elements in a two-dimensional world

The original concept has evolved over the last 40 years and has undergone development. The result is a system that sets a new standard for stability and modularity.

During several years of research and development, the principle of control cabinet wiring has been completely reconsidered at LÜTZE.

Lighter, thinner but nevertheless stronger and more robust:

A striking feature is the convex rails. The curving, which imitates the design principle of bridges and tunnels, offers significant technical advantages. Higher final strength is achieved with less material, and at the same time the weight is reduced.

The patented LSC-Core structure design is based on the principle of the honeycomb. For the first time it

offers a level of system stability and torsional strength as yet unmatched in wiring systems. The advantage: even heavier components can be fastened directly to the frame.

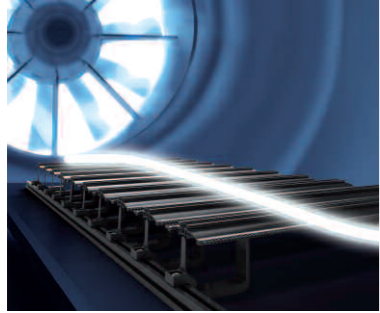
Quick control cabinet planning online

Only 5 steps to design an LSC *Air*STREAM frame.

Using the web-based control cabinet configurator for the LSC *Air*STREAM wiring system, the user can design a complete frame in a few steps.

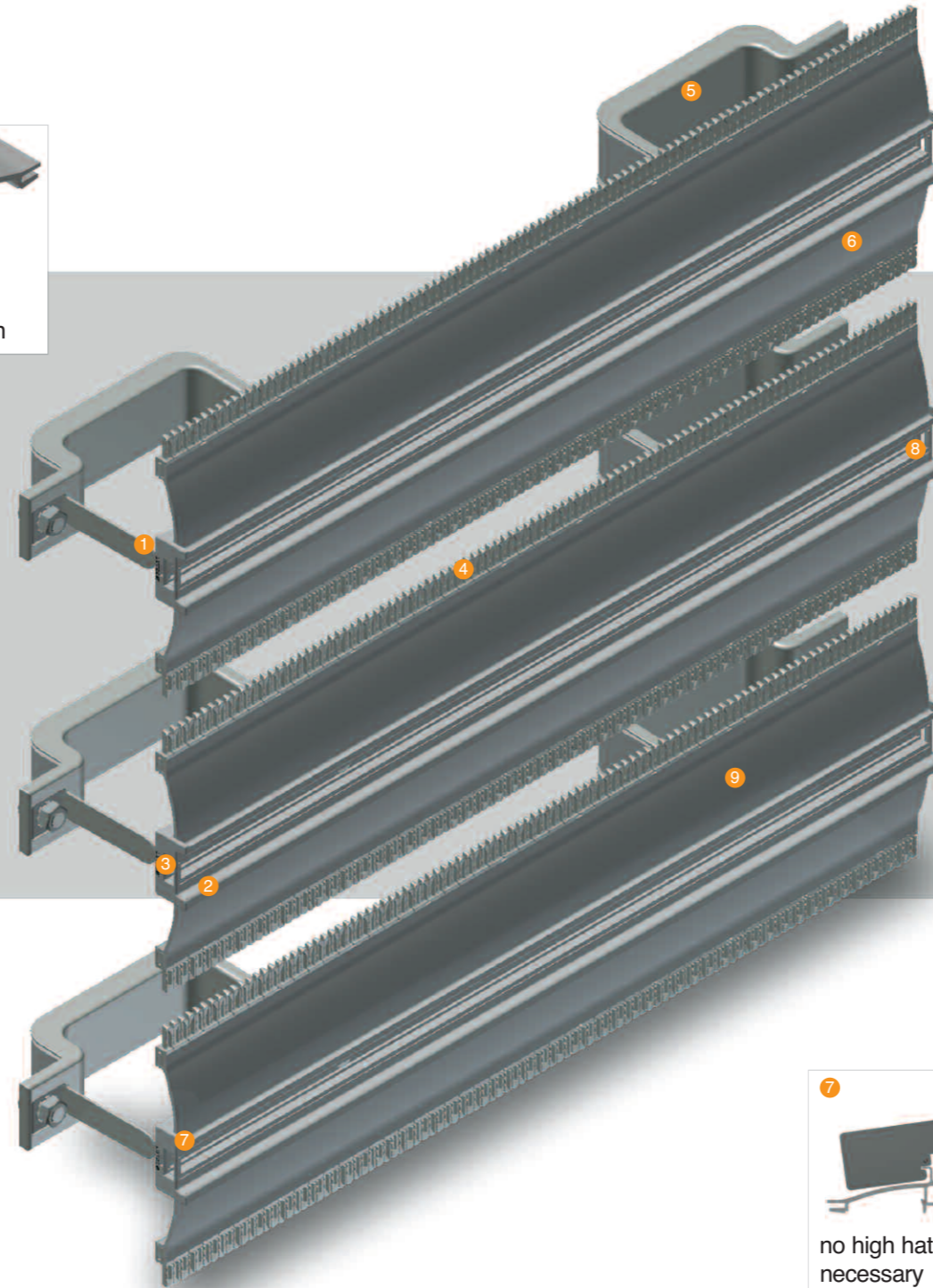
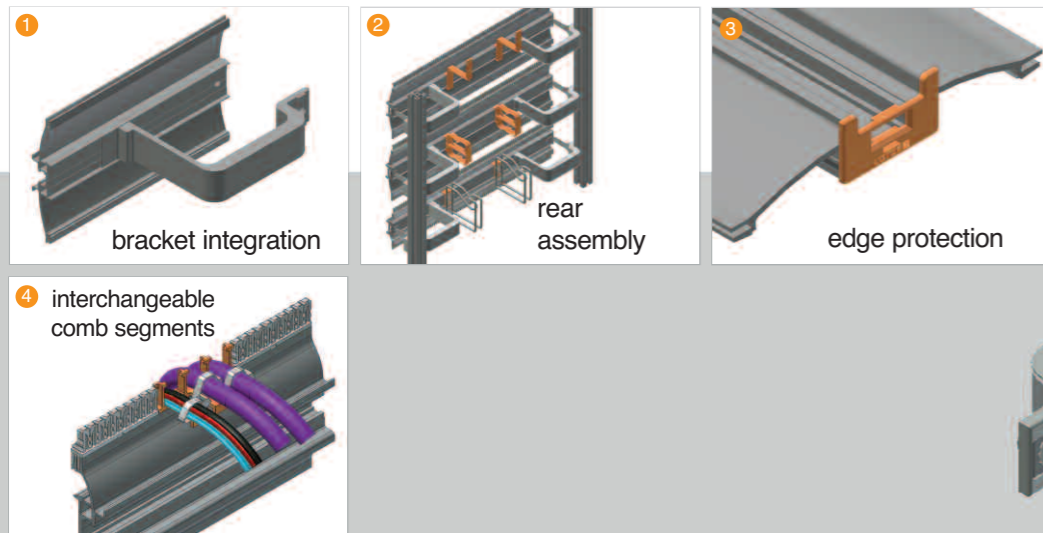
The resulting file can be further processed in any CAD program. You can use the LÜTZE Configurator free of charge at www.luetze.com. Additional software on the PC is no longer required.





Everything is possible.

The new LSC *AirSTREAM* from LÜTZE.



The new LSC *AirSTREAM* concept makes it possible to wire from the front without the need for access from the rear. For this purpose LÜTZE has optimised the bracket height. With the aid of a completely new construction, the space available for cables has been increased by approx. 40 % compared to the classic LSC.

Freedom and individualism through modules

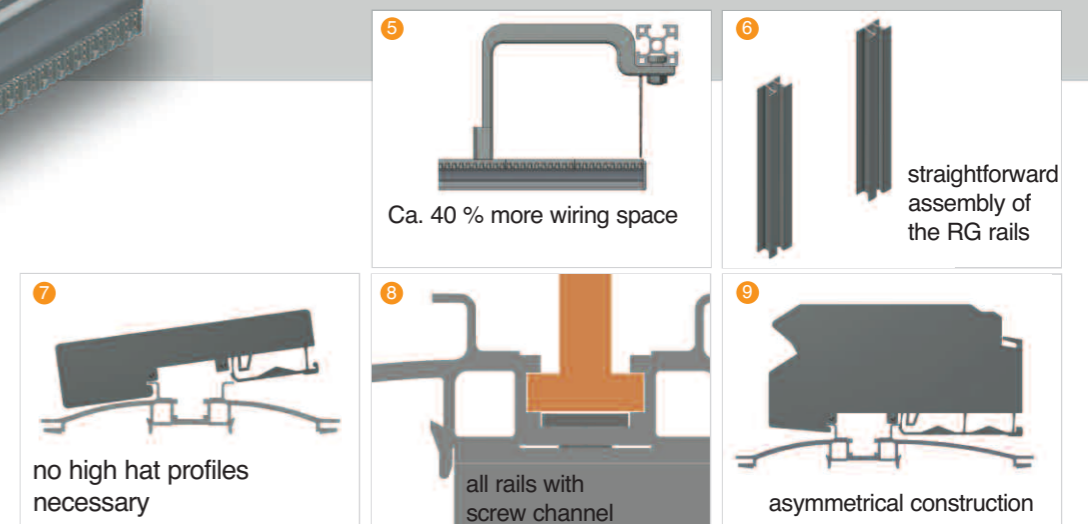
Replacing the old with the new!
The new LSC *AirSTREAM* is 100 % compatible with the old LSC-B, even existing design plans can be used.

The combs have also been completely revised: the standard 50 mm comb offers space for more wires and varying cable diameters. Additional optional combs offer space for larger cable diameters.

A decisive plus: the comb segments are simply pressed onto the profile, or lifted using a screwdriver for removal.

The new LSC is available in standard sizes or in 50 mm steps.

LSC *AirSTREAM* at a glance





LSC Modular: The most common frame models. Assembled and sent to you ready for component mounting and wiring.



The LSC wiring system is a modular framework and even more flexible

This is a system!

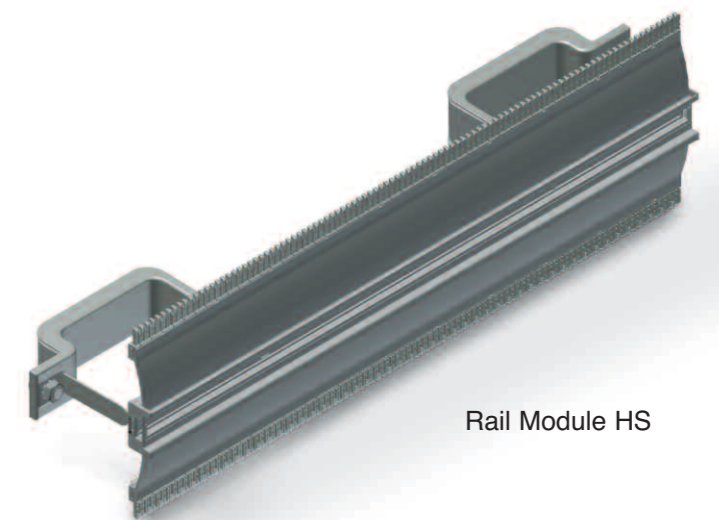
Normally, following the customer's specifications each LSC frame is made to order. But now there is LSC **AirSTREAM** with the new LSC Module parts to create frames which can be put together to form individual designs.

Endless possibilities!

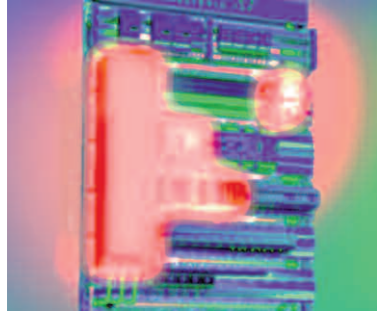
The new modular LSC **AirSTREAM** offers an endless number of possibilities.

The selected pre-assembled modules, opens up a great deal of flexibility and freedom in the control cabinet design -

all necessary accessories are included.



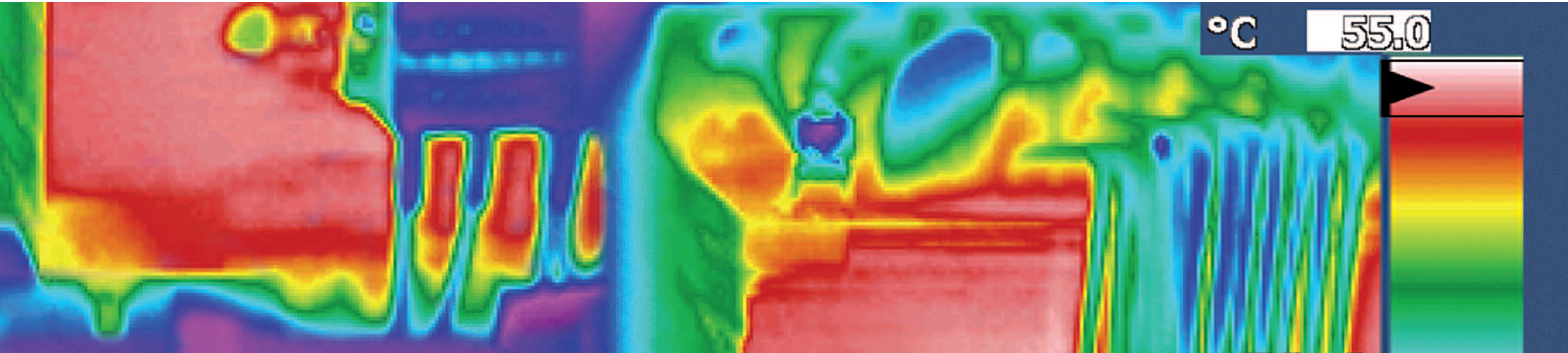
Rail Module HS



Better indoor climate with LSC *AirSTREAM*: Less Cooling, less thermal stress

Perfect climate: By separating the structure into a mounting plane and a wiring layer, the air flows freely passing the modules and wires - heat is efficiently removed, which means that less cooling power is needed which is good news for our environment.

SkyBLUE



Avoid thermal stress, reduce downtime, save costs

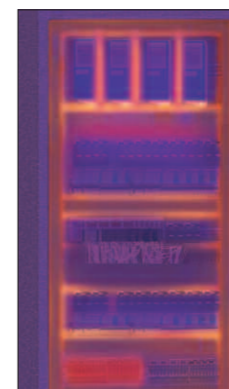
In every control cabinet, components are becoming more compact. This does not however lead to a reduction in heat dissipation capacity, as the switching functions remain more or less the same.

Also, the problem of so-called "hot spots" is getting more and more important. These are areas in which "heat generating components" add heat problems.

If you can't decouple these components for design reasons and there's a reduced airflow, then a local temperature level of about 45° C is possible. For components in the hot spot or in the close proximity, premature ageing can occur

With LSC *AirSTREAM*, the mounting plane and the wiring plane are separated, the air can freely circulate round the modules

and cables - dissipated heat is carried away. There is no transverse cable trunking to block the circulation. The cables are run on the backplane with plenty of clearance. This also promotes heat removal in that area.



Reduced air circulation efficiency when using the backplate



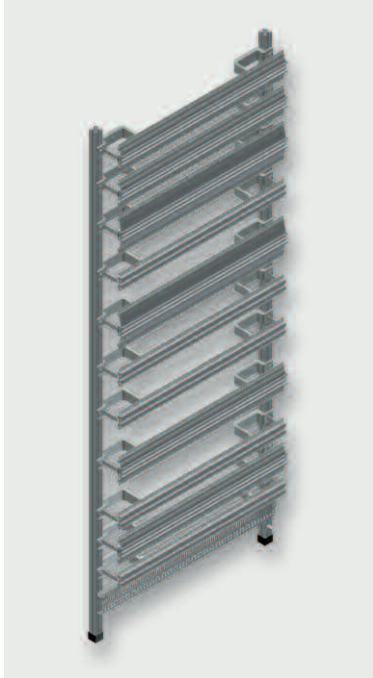
Improved heat exchange with LÜTZE LSC *AirSTREAM*



Look for yourself!
Almost complete airflow with LSC *AirSTREAM* System for a better climate in cabinet
<http://bit.ly/12g6h9f>

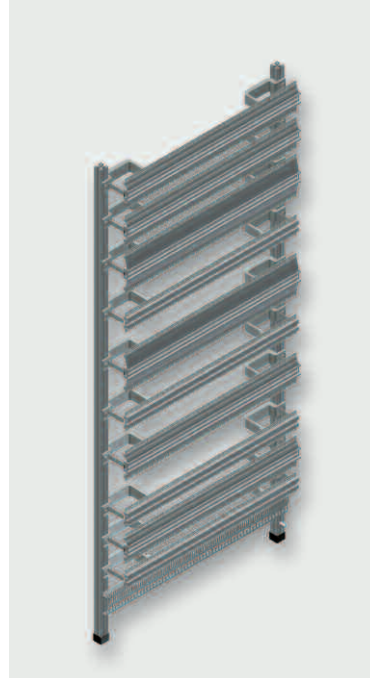
1. Standard Frames

1.1 Standard frames for network cabinets Cabinet height 2000 mm and 1800 mm



2000 mm
In this framework, network specific components can be installed very easily.

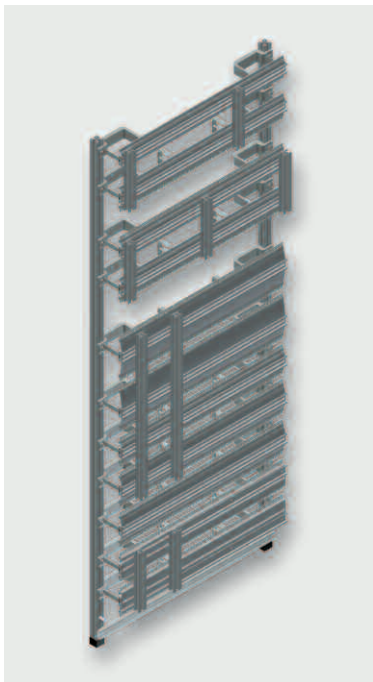
Network Cabinet	
Cabinet width (mm)	Part-No.
600	381004F0000
800	381005F0000
1000	381006F0000
1200	381007F0000



1800 mm
In this framework, network specific components can be installed very easily.

Network Cabinet	
Cabinet width (mm)	Part-No.
600	381000F0000
800	381001F0000
1000	381002F0000
1200	381003F0000

1.2 Standard frames for power distribution cabinets Cabinet height 2000 mm and 1800 mm

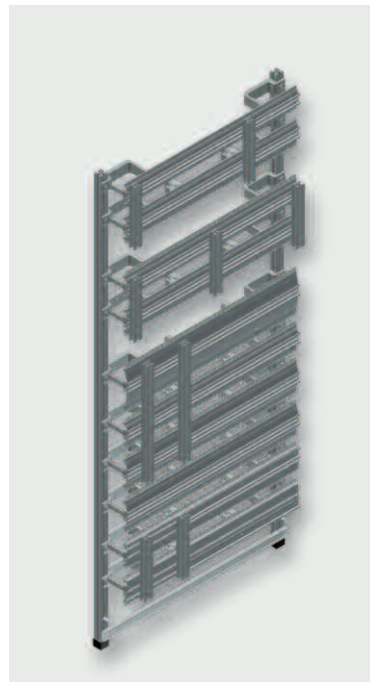


2000 mm
Conductor rails are at the top of the frame.

I/O modules and circuit breakers in the middle of the frame.

Mounting of terminals at the bottom of the frame. The cables are secured by cable clamps.

Distribution Cabinet	
Cabinet width (mm)	Part-No.
600	381012F0000
800	381013F0000
1000	381014F0000
1200	381015F0000



1800 mm
Conductor rails are at the top of the frame.

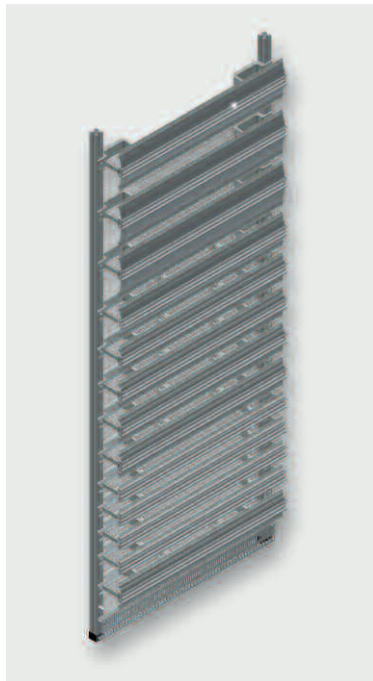
I/O modules and circuit breakers in the middle of the frame.

Mounting of terminals at the bottom of the frame. The cables are secured by cable clamps.

Distribution Cabinet	
Cabinet width (mm)	Part-No.
600	381008F0000
800	381009F0000
1000	381010F0000
1200	381011F0000

1. Standard Frames

1.3 Standard frames for resource cabinets Cabinet height 2000 mm and 1800 mm

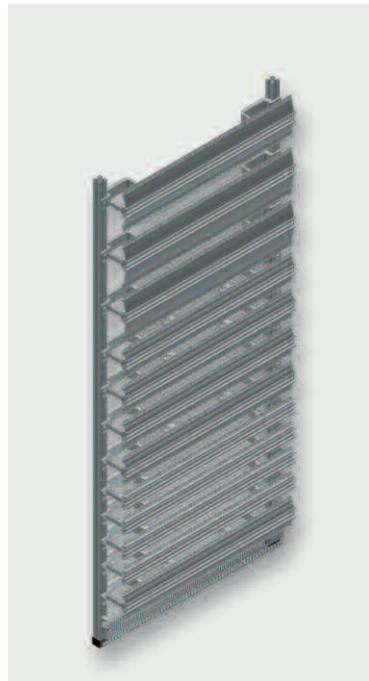


2000 mm
PLC's are at the top of the frame.

Relays, contactors and fuses are in the middle of the frame.

Bottom: Mounting of clamps. The EMC shield rail is used for the large-scale termination of cable screens.

Resource Cabinet	
Cabinet width (mm)	Part-No.
600	381028F0000
800	381029F0000
1000	381030F0000
1200	381031F0000



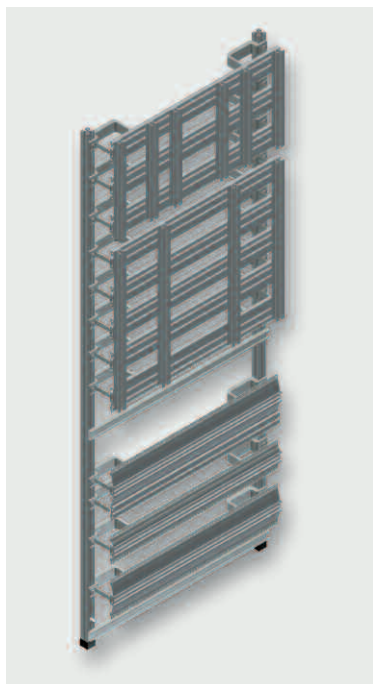
1800 mm
PLC's are at the top of the frame.

Relays, contactors and fuses are in the middle of the frame.

Bottom: Mounting of clamps. The EMC shield rail is used for the large-scale termination of cable screens.

Resource Cabinet	
Cabinet width (mm)	Part-No.
600	381024F0000
800	381025F0000
1000	381026F0000
1200	381027F0000

1.4 Standard frames for drive cabinets Cabinet height 2000 mm and 1800 mm

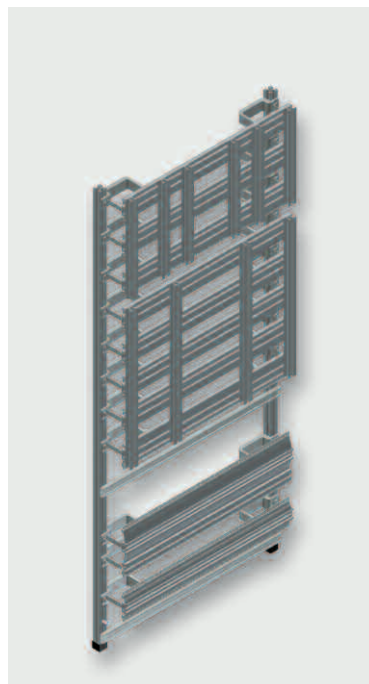


2000 mm
Line filters are at the top of the frame.

Frequency converters, load disconnectors and I/O modules are in the middle of the frame.

Mounting of Terminals and fuses at the bottom. The EMC shield rail is used for the large termination of cable screen.

Drive Cabinet	
Cabinet width (mm)	Part-No.
600	381036F0000
800	381037F0000
1000	381038F0000
1200	381039F0000



1800 mm
Line filters are at the top of the frame.

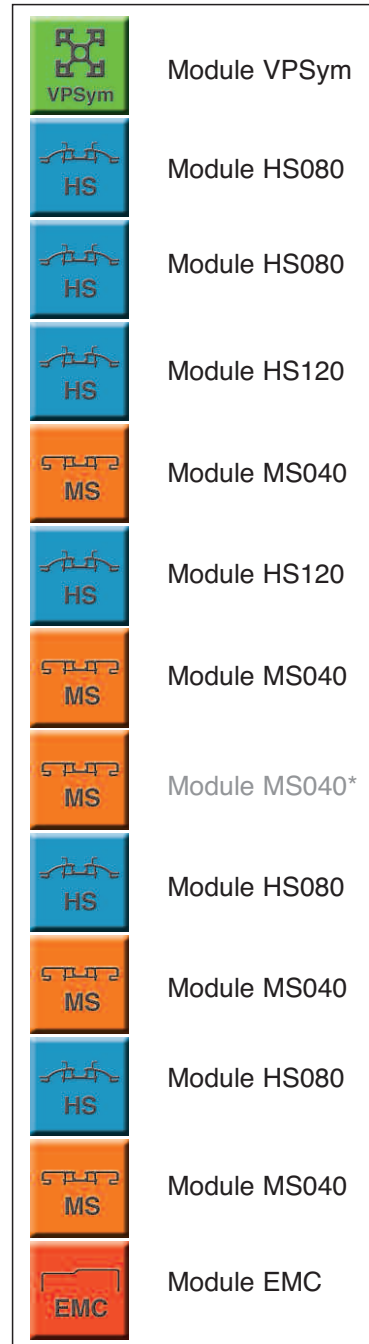
Frequency converter, load disconnectors and I/O modules are in the middle of the frame.

Mounting of Terminals and fuses at the bottom. The EMC shield rail is used for the large termination of cable screen.

Drive Cabinet	
Cabinet width (mm)	Part-No.
600	381032F0000
800	381033F0000
1000	381034F0000
1200	381035F0000

1. Standard Frames

1.5 Construction of a standard frame with pre-assembled Standard modules - example network cabinet 381005F0000



Module sequence

Pre-assembled standard modules make work easier!

The examples on the following pages show how simple a framework is created from the individual modules, or which standard modules a framework contains.

















Simply by changing or omitting a module LSC **AirSTREAM** framework can be easily modified or customised.

***Reference:**
Grey modules omitted in control cabinets with a height of 1800 mm

1. Standard Frames

1.6 Construction of a standard frame with pre-assembled Standard modules - example resource cabinet 381029F0000



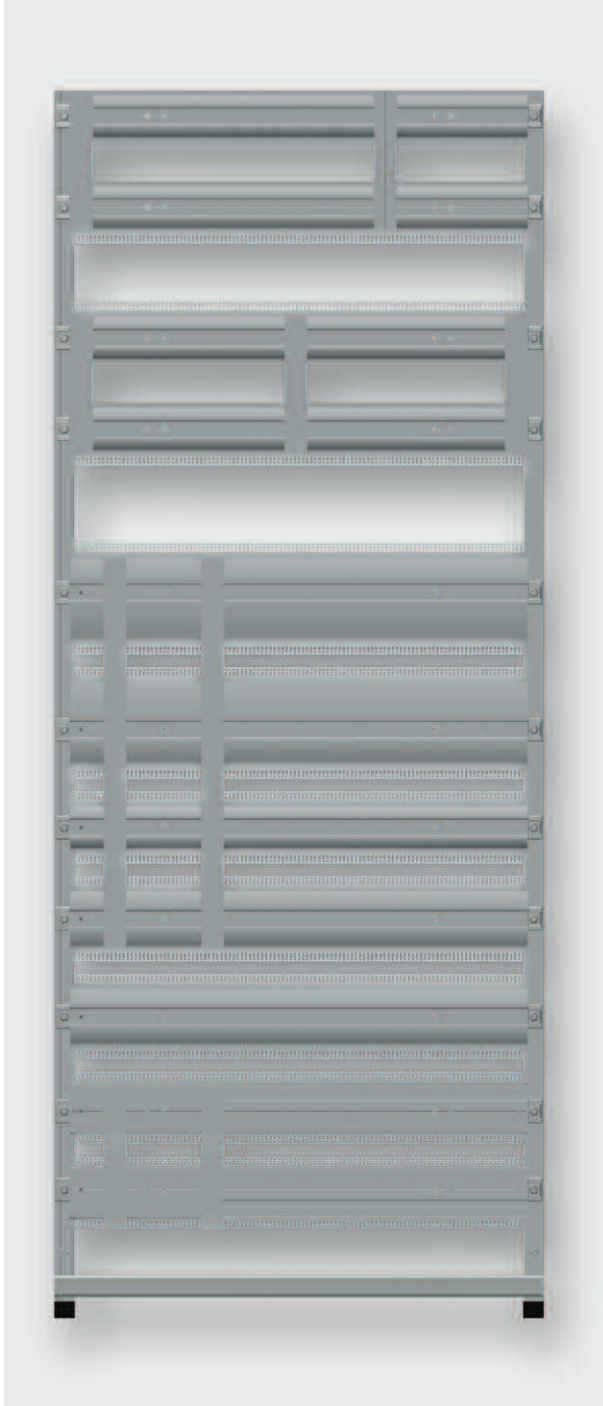
	Module VPSym
	Module HS120
	Module HA140
	Module HA140
	Module MS040
	Module HS120*
	Module HS080
	Module HS080
	Module HS080
	Module HS080
	Module HS040
	Module MS040
	Module HS040
	Module HS040
	Module HS080
	Module EMC

Module sequence

*Reference:
Grey modules omitted in control cabinets with a height of 1800 mm




















1. Standard Frames

1.7 Construction of a standard frame with pre-assembled Standard modules - example distribution cabinet 381013F0000



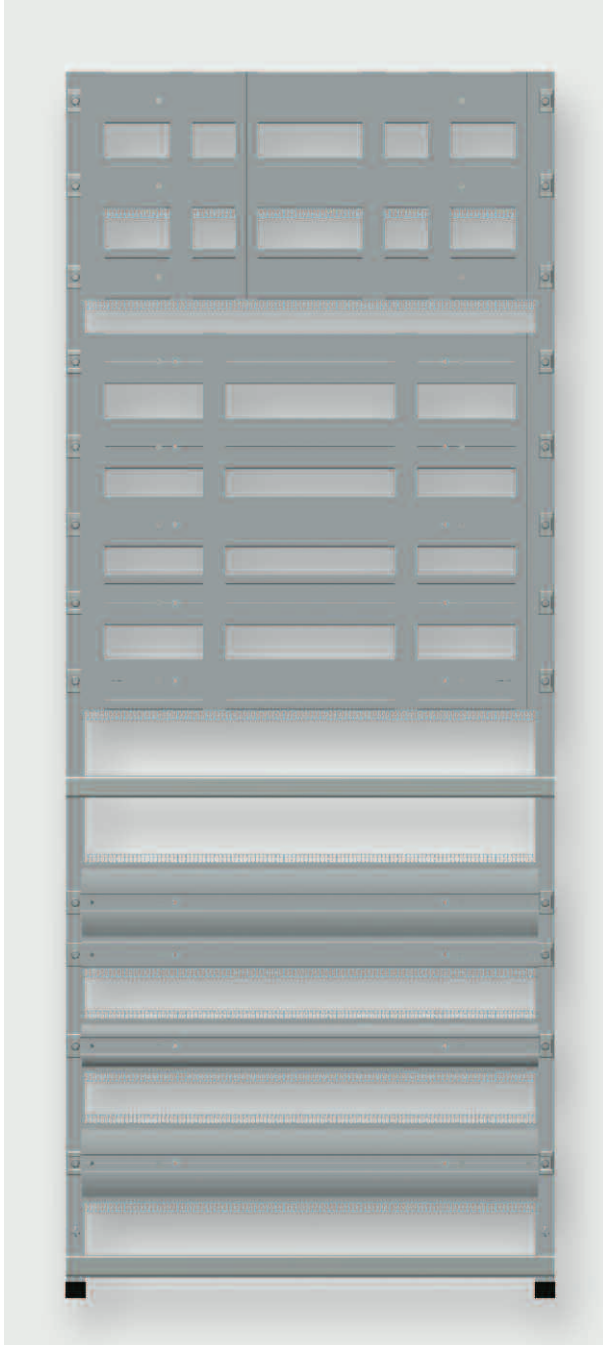
***Reference:**
Grey modules omitted in control cabinets with a height of 1800 mm





















Module sequence

	Module VPSym	
	Module HS080	
	Module HS100	
	Module HS080	
	Module HS100	
	Module HA140	
	Module HS120*	
	Module HS100	
	Module HS100	
	Module HS100	
	Module MA080	
	Module MA080	
	Module RG035 0220	
	Module RG035 0220	
	Module RG035 0210	
	Module RG035 0210	
	Module RG035 0610 Cabinet of 1800 mm height: Module will be replaced with RG035 580	
		Module RG035 0210
		Module Cable clamp rail

1. Standard Frames

1.8 Construction of a standard frame with pre-assembled Standard modules - example drive cabinet 381037F0000



	Module VPSym	
	Module MA080	
	Module MA080	
	Module MA080	
	Module MA080	
	Module MA080	
	Module MA080	
	Module MA080	
	Module MA080	
	Module Cable clamp rail	
	Module HS120	
	Module MS040	
	Module MA080	
	Module HS120*	
	Module RG035 350	
	Module RG035 350	
	Module RG035 350	

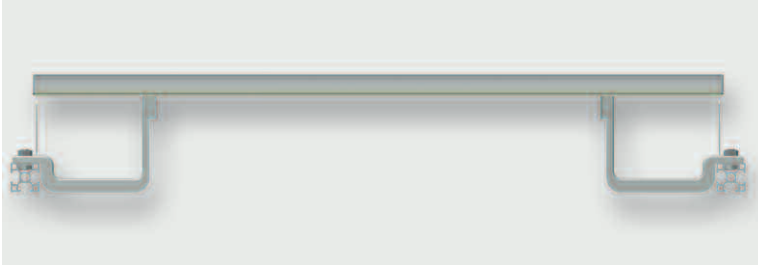
*Reference:
Grey modules omitted in control cabinets with a height of 1800 mm

Module sequence

2. Module Variations

2.1 Standard modules and its variations

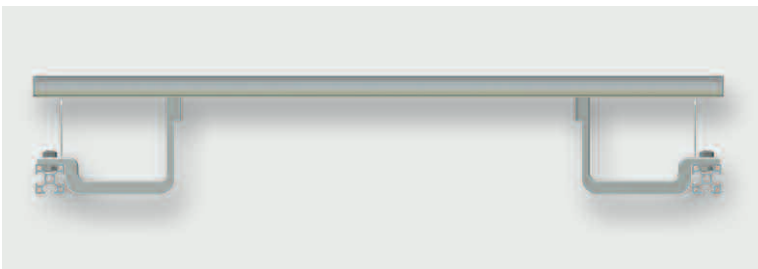
Example 800 mm cabinet



Standard			
Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm ²)
750	700	120	85

Standard module:

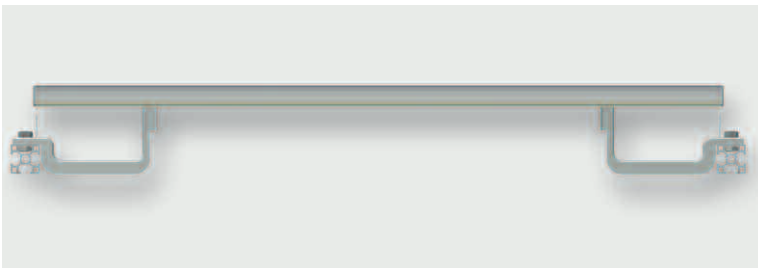
This option allows best wiring access and large capacity for wiring.



Option 1			
Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm ²)
700	700	120	85

Option 1:

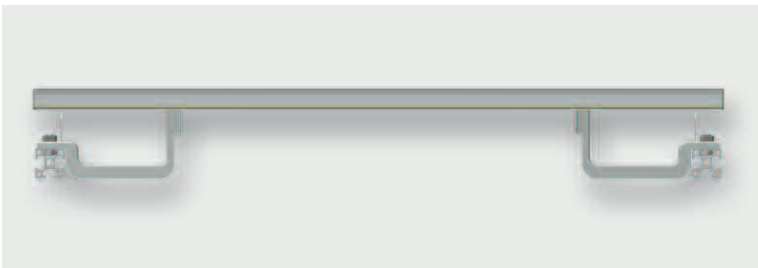
Offers reduced wiring access, same capacity but allows frame to be mounted at the back of the cabinet. The mounting position allows for larger components as it can be mounted directly at the rear.



Option 2			
Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm ²)
750	700	90	55

Option 2:

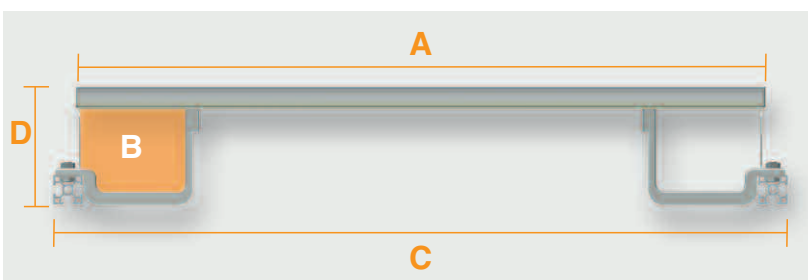
This option provides optimum wiring access but does have a reduced capacity for wiring.



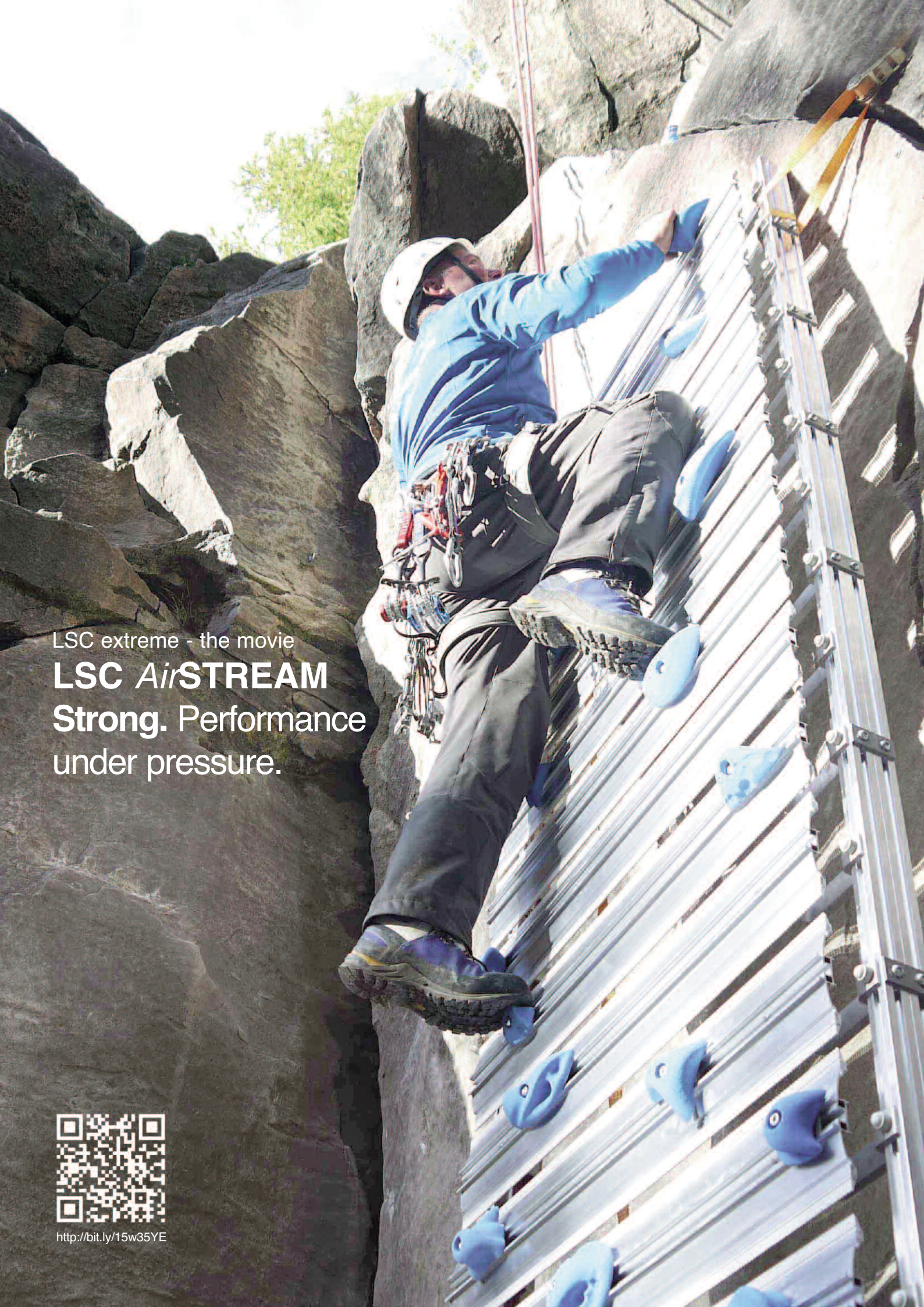
Option 3			
Frame width C (mm)	Rail length A (mm)	Frame depth D (mm)	Wiring space B (cm ²)
700	700	90	55

Option 3:

Final option offers reduced wiring access and reduced capacity for wiring. The mounting position allows for larger components as it can be mounted directly at the rear.



- A** = Rail length
- B** = Wiring space
- C** = Frame width
- D** = Frame depth



LSC extreme - the movie

LSC *Air*STREAM

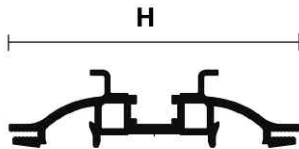
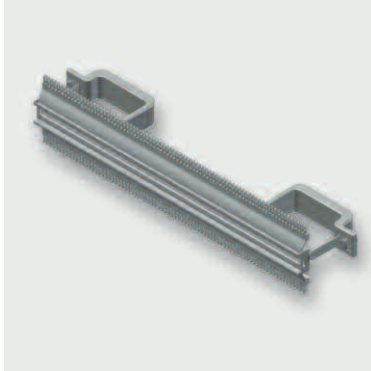
**Strong. Performance
under pressure.**



<http://bit.ly/15w35YE>

2. Standard Modules

2.2 Standard module, pre-assembled from rail type HS and brackets



DIN Rail Module HS:

The standard module HS is used for mounting of components which are suitable for mounting on DIN rails. The module contains a rail with a 7,5 mm high and 35 mm wide DIN rail with screw channel, standard combs, two mounting brackets with insulation and edge protection (except HS040).

Module HS is available in rail heights from 40 mm up to 160 mm.

Rail module	HS040	HS060	HS080	HS100	HS120	HS160
Rail length 500 mm						
Height H (mm)	40	60	80	100	120	160
	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380100M0012	380101M0012	380102M0012	380103M0012	380104M0012	380106M0012
Option 1	380100M0004	380101M0004	380102M0004	380103M0004	380104M0004	380106M0004
Option 2	380100M0008	380101M0008	380102M0008	380103M0008	380104M0008	380106M0008
Option 3	380100M0000	380101M0000	380102M0000	380103M0000	380104M0000	380106M0000

Rail module	HS040	HS060	HS080	HS100	HS120	HS160
Rail length 700 mm						
Height H (mm)	40	60	80	100	120	160
	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380100M0013	380101M0013	380102M0013	380103M0013	380104M0013	380106M0013
Option 1	380100M0005	380101M0005	380102M0005	380103M0005	380104M0005	380106M0005
Option 2	380100M0009	380101M0009	380102M0009	380103M0009	380104M0009	380106M0009
Option 3	380100M0001	380101M0001	380102M0001	380103M0001	380104M0001	380106M0001

Rail module	HS040	HS060	HS080	HS100	HS120	HS160
Rail length 900 mm						
Height H (mm)	40	60	80	100	120	160
	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380100M0014	380101M0014	380102M0014	380103M0014	380104M0014	380106M0014
Option 1	380100M0006	380101M0006	380102M0006	380103M0006	380104M0006	380106M0006
Option 2	380100M0010	380101M0010	380102M0010	380103M0010	380104M0010	380106M0010
Option 3	380100M0002	380101M0002	380102M0002	380103M0002	380104M0002	380106M0002

Rail module	HS040	HS060	HS080	HS100	HS120	HS160
Rail length 1100 mm						
Height H (mm)	40	60	80	100	120	160
	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380100M0015	380101M0015	380102M0015	380103M0015	380104M0015	380106M0015
Option 1	380100M0007	380101M0007	380102M0007	380103M0007	380104M0007	380106M0007
Option 2	380100M0011	380101M0011	380102M0011	380103M0011	380104M0011	380106M0011
Option 3	380100M0003	380101M0003	380102M0003	380103M0003	380104M0003	380106M0003

Standard: Rail length + 50 mm = Frame width with wiring space 85 mm²

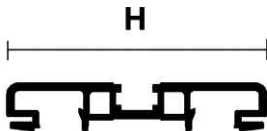
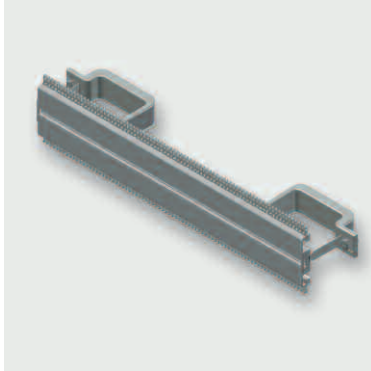
Option 1: Rail length = Frame width with wiring space 85 mm²

Option 2: Rail length + 50 mm = Frame width with wiring space 55 mm²

Option 3: Rail length = Frame width with wiring space 55 mm²

2. Standard Modules

2.3 Standard module, pre-assembled from rail type MS and brackets



Mounting Rail MS Module

The standard module MS is used for mounting of components with screw channel on a flat surface.

The module contains a symmetrically arranged screw channel, standard combs, two mounting brackets with insulation and edge protection (except MS040).

Module MS is available in rail heights of 40, 80, 100 and 180 mm

Rail module	MS040	MS080	MS100	MS180
Rail length 500 mm				
Height H (mm)	40	80	100	180
	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380120M0012	380122M0012	380123M0012	380127M0012
Option 1	380120M0004	380122M0004	380123M0004	380127M0004
Option 2	380120M0008	380122M0008	380123M0008	380127M0008
Option 3	380120M0000	380122M0000	380123M0000	380127M0000

Rail module	MS040	MS080	MS100	MS180
Rail length 700 mm				
Height H (mm)	40	80	100	
	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380120M0013	380122M0013	380123M0013	380127M0013
Option 1	380120M0005	380122M0005	380123M0005	380127M0005
Option 2	380120M0009	380122M0009	380123M0009	380127M0009
Option 3	380120M0001	380122M0001	380123M0001	380127M0001

Rail module	MS040	MS080	MS100	MS180
Rail length 900 mm				
Height H (mm)	40	80	100	
	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380120M0014	380122M0014	380123M0014	380127M0014
Option 1	380120M0006	380122M0006	380123M0006	380127M0006
Option 2	380120M0010	380122M0010	380123M0010	380127M0010
Option 3	380120M0002	380122M0002	380123M0002	380127M0002

Rail module	MS040	MS080	MS100	MS180
Rail length 1100 mm				
Height H (mm)	40	80	100	
	Part-No.	Part-No.	Part-No.	Part-No.
Standard	380120M0015	380122M0015	380123M0015	380127M0015
Option 1	380120M0007	380122M0007	380123M0007	380127M0007
Option 2	380120M0011	380122M0011	380123M0011	380127M0011
Option 3	380120M0003	380122M0003	380123M0003	380127M0003

Standard: Rail length + 50 mm = Frame width with wiring space 85 mm²

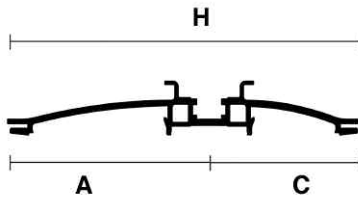
Option 1: Rail length = Frame width with wiring space 85 mm²

Option 2: Rail length + 50 mm = Frame width with wiring space 55 mm²

Option 3: Rail length = Frame width with wiring space 55 mm²

2. Standard Modules

2.4 Standard module, pre-assembled from rail type HA and brackets



DIN rail asymmetric HA Module

The standard module HA is used for mounting of components where DIN rail mountings are not symmetrical to the chassis.

The module contains a 7,5 mm high and 35 mm wide DIN rail with screw channel, standard combs, two mounting brackets with insulation and edge protection.

Module HA is available in rail heights of 140 and 160 mm.

Rail module	HA140	HA160
Rail length 500 mm		
Height H (mm)	140	160
A (mm)	80	90
C (mm)	60	70
	Part-No.	Part-No.
Standard	380140M0012	380141M0012
Option 1	380140M0004	380141M0004
Option 2	380140M0008	380141M0008
Option 3	380140M0000	380141M0000

Rail module	HA140	HA160
Rail length 700 mm		
Height H (mm)	140	160
A (mm)	80	90
C (mm)	60	70
	Part-No.	Part-No.
Standard	380140M0013	380141M0013
Option 1	380140M0005	380141M0005
Option 2	380140M0009	380141M0009
Option 3	380140M0001	380141M0001

Rail module	HA140	HA160
Rail length 900 mm		
Height H (mm)	140	160
A (mm)	80	90
C (mm)	60	70
	Part-No.	Part-No.
Standard	380140M0014	380141M0014
Option 1	380140M0006	380141M0006
Option 2	380140M0010	380141M0010
Option 3	380140M0002	380141M0002

Rail module	HA140	HA160
Rail length 1100 mm		
Height H (mm)	140	160
A (mm)	80	90
C (mm)	60	70
	Part-No.	Part-No.
Standard	380140M0015	380141M0015
Option 1	380140M0007	380141M0007
Option 2	380140M0011	380141M0011
Option 3	380140M0003	380141M0003

Standard: Rail length + 50 mm = Frame width with wiring space 85 mm²

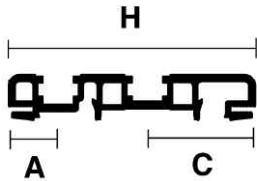
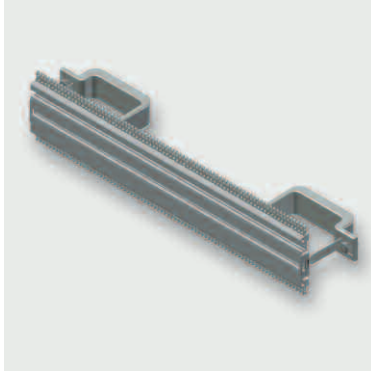
Option 1: Rail length = Frame width with wiring space 85 mm²

Option 2: Rail length + 50 mm = Frame width with wiring space 55 mm²

Option 3: Rail length = Frame width with wiring space 55 mm²

2. Standard Modules

2.5 Standard module, pre-assembled from rail type MA and brackets



Mounting Rail asymmetric MA Module

The standard module MA is used for mounting of components without DIN rails.

The module contains a flat rail with two asymmetric arranged screw channels, standard combs, two mounting brackets with insulation and edge protection.

Module MA ist available in a rail height of 80 mm.

Rail module	MA80
Rail length 500 mm	
Height H (mm)	80
A (mm)	16
C (mm)	35
Part-No.	
Standard	380160M0012
Option 1	380160M0004
Option 2	380160M0008
Option 3	380160M0000

Rail module	MA80
Rail length 700 mm	
Height H (mm)	80
A (mm)	16
C (mm)	35
Part-No.	
Standard	380160M0013
Option 1	380160M0005
Option 2	380160M0009
Option 3	380160M0001

Rail module	MA80
Rail length 900 mm	
Height H (mm)	80
A (mm)	16
C (mm)	35
Part-No.	
Standard	380160M0014
Option 1	380160M0006
Option 2	380160M0010
Option 3	380160M0002

Rail module	MA80
Rail length 1100 mm	
Height H (mm)	80
A (mm)	16
C (mm)	35
Part-No.	
Standard	380160M0015
Option 1	380160M0007
Option 2	380160M0011
Option 3	380160M0003

Standard: Rail length + 50 mm = Frame width with wiring space 85 mm²

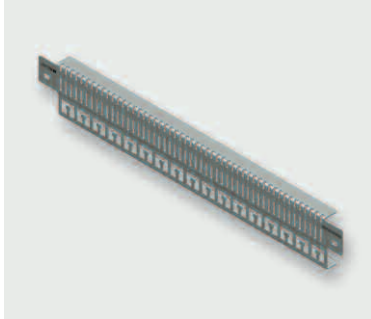
Option 1: Rail length = Frame width with wiring space 85 mm²

Option 2: Rail length + 50 mm = Frame width with wiring space 55 mm²

Option 3: Rail length = Frame width with wiring space 55 mm²

2. Standard Modules

2.6 EMC module, EMC rail



The EMC module is screwed to the module VPSym. In the contact area stripped shields are connected over a large area with metallic clips or metal cable ties. Cable ties can be used to provide support and strain relief to the clamped cables.

EMC Module 1 for standard and option 2				
Rahmenbreite (mm)	550	750	950	1150
	Part-No.	Part-No.	Part-No.	Part-No.
	380582M0004	380582M0005	380582M0006	380582M0007
EMC Module 1 for Option 1 and Option 3				
Rahmenbreite (mm)	500	700	900	1100
	Part-No.	Part-No.	Part-No.	Part-No.
	380582M0000	380582M0001	380582M0002	380582M0003

2.7 Cable Clamp Module

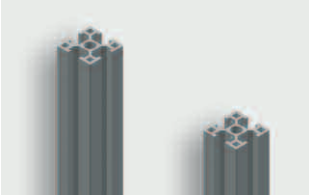

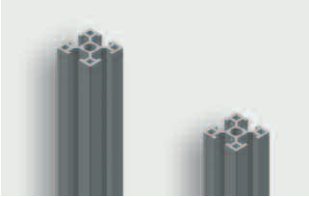




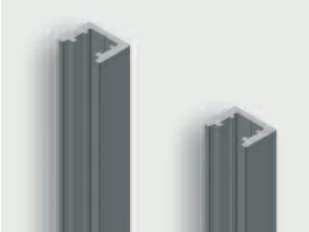

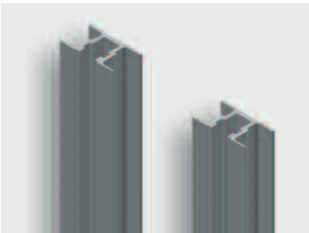



The Cable clamp module is screwed directly onto the VPSym module. It helps to support cables and cable clamps.

Cable clamp module 1 for Standard and Option 2				
Frame width (mm)	550	750	950	1150
	Part-No.	Part-No.	Part-No.	Part-No.
	380583M0004	380583M0005	380583M0006	380583M0007
Cable clamp module 1 for Option 1 and Option 3				
Frame width (mm)	500	700	900	1100
	Part-No.	Part-No.	Part-No.	Part-No.
	380583M0000	380583M0001	380583M0002	380583M0003

2. Standard Modules

2.8 VPSym module, mounting sets, Adapter Rail Module

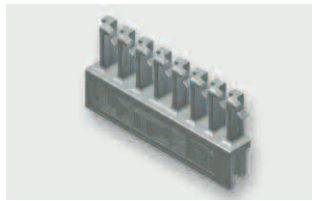
	VPSym Module for cabinets with a height of 1800 mm	Part-No. 380562M0000	Description The VPSym module serves as a mounting rail for the rail module of the LSC <i>AirSTREAM</i> . The module consists of two rails, a grounding screw and caps.	
	VPSym Module for cabinets with a height of 2000 mm	Part-No. 380563M0000	Description The VPSym module serves as a mounting rail for the rail module of the LSC <i>AirSTREAM</i> . The module consists of two rails, a grounding screw and caps.	
	Mounting kit Standard adaptation angle for frame width +50	Part-No. 380683	Description Adaptation angle for mounting of LSC <i>AirSTREAM</i> frames with frame width of +50 mm in Rittal TS and Lohmeier RS cabinets with cabinet widths of 600, 800, 1000 and 1200 mm. The mounting kit includes all screws to connect all 6 adaptation angles with the cabinet and the LSC framework.	
	Mounting kit Standard adaptation angle for frame width +00	Part-No. 380681	Description Adaptation angle for mounting of LSC <i>AirSTREAM</i> frames with frame width of +00 mm in Rittal TS and Lohmeier RS cabinets with cabinet widths of 600, 800, 1000 and 1200 mm. The mounting kit includes all screws to connect all 6 adaptation angles with the cabinet and the LSC framework.	
	Mounting kit Adaption angle for frame width +00 Mounting position rearmost level between cabinet rails	Part-No. 347552	Description Adaptation angle for mounting of LSC <i>AirSTREAM</i> frames with frame width of +00 mm in Rittal TS8 standard cabinets with cabinet widths of 600, 800, 1000 and 1200 mm. Mounting position rearmost level between cabinet rails. The mounting kit includes all screws to connect all 6 adaptation angles with the cabinet and the LSC framework.	
	Adapter Rail Module RG020 80 mm RG020 100 mm RG020 120 mm RG020 250 mm RG020 500 mm	Part-No. 380180M0000 380180M0001 380180M0002 380180M0005 380180M0007	Description Adapter rail module RG020 for easy vertical mounting of components via screw channel. RG rails with lengths of 80 mm, 100 mm and 120 mm have a central bore and can be mounted in the screw channel easily. RG020 consists of two rails of equal length. For installation glide nuts, glide nut retainer and screws as accessories are needed.	
	Adapter Rail Module RG035 100 mm RG035 210 mm RG035 220 mm RG035 250 mm RG035 350 mm RG035 500 mm RG035 580 mm RG035 610 mm	Part-No. 380181M0001 380181M0003 380181M0004 380181M0005 380181M0006 380181M0007 380181M0008 380181M0009	Description Adapter rail module RG035 for easy vertical mounting of components via screw channel. RG rails with length of 100 mm have a central bore and can be mounted in the screw channel easily. RG035 consists of two rails of equal length. Due to the larger contact area of RG35 rails a better EMC connection of the mounted components is given. For installation glide nuts, glide nut retainer and screws as accessories are needed.	

2. Standard Modules

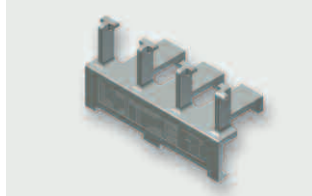
2.9 Wire Management - Wiring Combs and Wire Holder



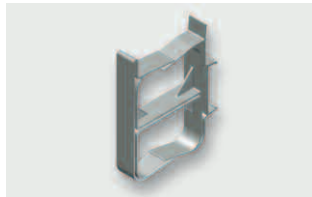
Combs	Part-No.	PU	
Comb with 10 chambers for wire cross-sections up to 4 mm ²	380242.0100	100	Comb which is standard on all rail modules placed at the factory. Comb for safe fixing, for wire cross sections from 0.5 mm ² up to 4 mm ² . The comb is marked by arrows on which wiring level the single conductor should be connected. This comb can be easily replaced by the following options with 50 mm grid.



Combs	Part-No.	PU	
Comb 8 chambers for wire cross-sections up to 10 mm ²	380243.0100	100	Optional comb with 8 chambers for safe fixing, for wire cross sections up to 10 mm ² . The comb is marked by arrows on which wiring level the single conductor should be connected. This comb can be easily replaced by 50 mm grid.



Combs	Part-No.	PU	
Comb 3 chambers	380241.0100	100	Optional comb with 3 chambers for big wire cross sections up to 10 mm. This comb can be easily replaced by 50 mm grid.



Wire Holder	Part-No.	PU	
Wire holder D	380260.0010	10	Wire holder to fix assembled wires on the backside of the rail module.



Air Conduction	Part-No.	PU	
AirBLADE	380281.0010	10	AirBLADES for targeted air conduction in cabinets. For installation by 50 mm grid instead of the combs. For a targeted air conduction AirBLADES directing the air flow from the back of the frame to the front.



Schematic view of the air flow at the back of the LSC *AirSTREAM* frame

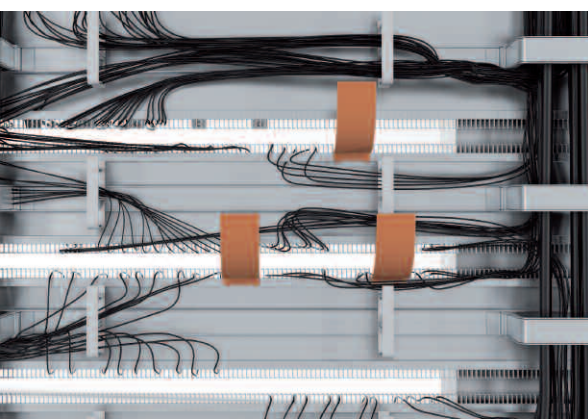
The *AirBLADES* - A clever idea for targeted air conduction.

Important: The air should be able to circulate continuously in the cabinet. An improvement in efficiency could be realised if the air could be led precisely to any potential hot spots. An improvement in efficiency could be realised if the air could be led. With LSC *AirSTREAM* a targeted air conduction is possible!

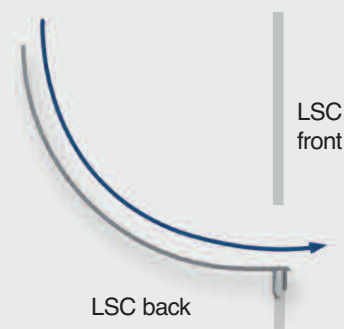
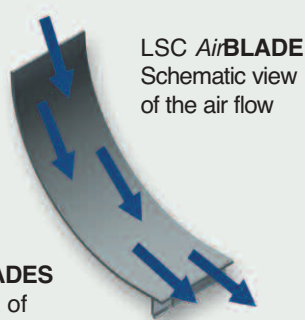
The so called *AirBLADES* can be fitted on a 50mm grid in place of wiring combs. The shape of the *AirBLADES* wings prevents the air beginning to swirl at the edges and ensures that the air-flow is not interrupted.

Air-flow can be precisely

controlled and individual hot spots are directly ventilated. Operational heat can be removed not only in general, but also selectively.



LSC *AirBLADES* on the back of the frame

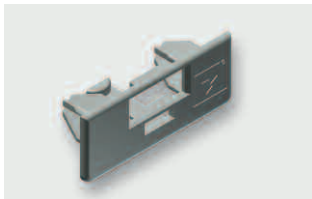


2. Standard Modules

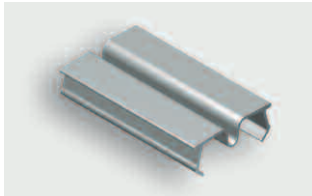
2.10 Accessories, Edge Protection and Comb Cover



Edge Protection	Part-No.	PU (pcs.)	
Edge protection H-Rails	380090.0010	10	Edge protection for DIN rails to avoid injuries on sharp edges. Glide nuts can be inserted through the opening in the edge protection.



Edge Protection	Part-No.	PU (pcs.)	
Edge protection M-Rails	380091.0010	10	Edge protection for mounting rails to avoid injuries on sharp edges. Glide nuts can be inserted through the opening in the edge protection.



Comb Cover	Part-No.	PU (m)	
KDF50	347420.2000	10	Comb covers for closing gaps between the comb profiles. A PU includes 5 comb covers with 2 m length.

2. Standard Modules

2.11 Accessories Screws



Hexagonal Bolts	Part-No.	PU	
Module fastening on VPSym	330901.0100	100	M8 x 16 hexagonal bolts for fastening of rail modules on VPSym-Module.



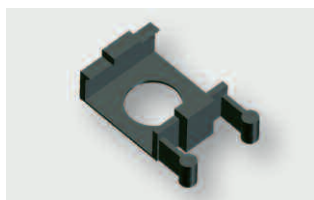
Toothed lock washer	Part-No.	PU	
Module fastening on VPSym	330903.0100	100	M8 Toothed lock washers for screw fastenings.



Hexagonal Nuts	Part-No.	PU	
Module fastening on VPSym	330902.0100	100	M8 hexagonal nuts for screw fastenings.



Glide Nut	Part-No.	PU	
RG Module fastening on rails			Glide nuts for use in the screw channel of <i>AirSTREAM</i> rail modules. All glide nuts fit in all slots.
GLM3	330940.0100	100	
GLM4	330941.0100	100	
GLM5	330942.0100	100	
GLM6	330943.0100	100	GL M6 for mounting of RG rails. All other glide nuts are for mounting of devices and components.
GLM8	330944.0100	100	



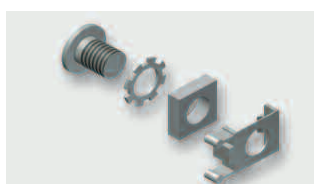
Glide Nut Retainer	Part-No.	PU	
RG Module fastening on rails	331023.0100	100	The glide nut retainer keeps the glide nut in the appropriate position, even when used vertically.



Flat Head Bolt	Part-No.	PU	
RG Module fastening on rails			
	332969.0100	100	M6x16 Flat-head bolt preferred for rail fastening on LSC <i>AirSTREAM</i> (HS Module, HA Module).
	332964.0100	100	M6x10 Flat-head bolt preferred for rail fastening on LSC <i>AirSTREAM</i> (MS Module, MA Module).
			The flat-head disappears in the slot base of the RG RAIL. The glide nut could freely be moved in the screw channel.



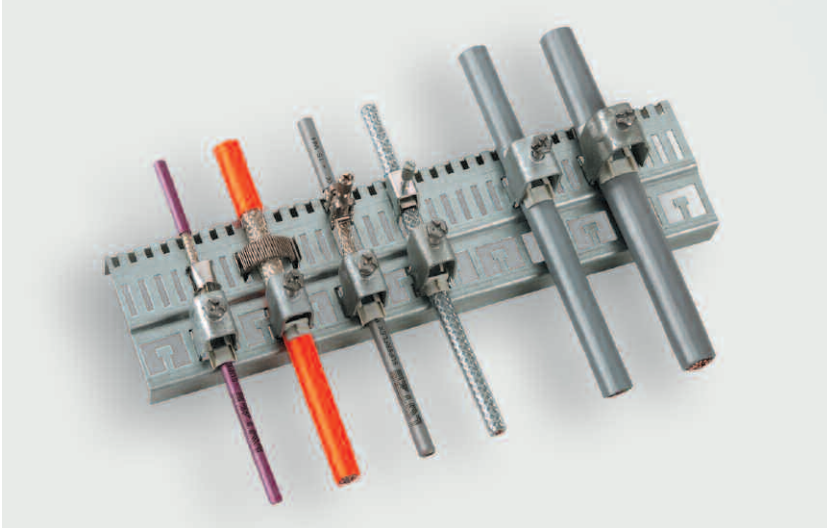
Fastening Kit	Part-No.	PU	
Rail fastening Module on VPSym	330907.0001	1	Fastening Kit for mounting rail modules on a VPSym. Content: 2 x hexagonal bolts M8x16, 2 x toothed lock washer M8, 2 x hexagonal nuts M8.



Fastening Kit	Art.-Nr.	PU	
Fastening EMC and CS Modules	345633.00011	1	Fastening Kit for EMC and CS modules on a VPSym. Content: 2 x flat head bolts M8x10, 2 x toothed lock washer M8, 2 x glide nuts M8, 2 x glide nut retainer.

3. EMC Accessories

3.1 EMC Shield Rails



EMC rails

For all kinds of shield brackets.

3.2 EMC Accessories



Ribbon Earth Strap

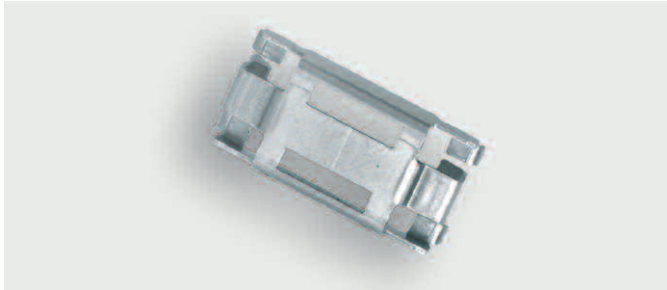
Tin-plated copper mesh, in various lengths and cross-sections with pressed on contact sleeves. Ribbon earth straps counteract the current displacement effective at high frequencies, thus offering extremely effective connection options.

Type	Cross-section mm ²	Length mm	Part-No.	PU
EMVMB 10/100/M6	16	100	346123.0010	10
EMVMB 10/200/M6	10	200	346112.0010	10
EMVMB 10/300/M6	10	300	346109.0010	10
EMVMB 16/200/M8	16	200	346113.0010	10
EMVMB 16/300/M8	16	300	346110.0010	10
EMVMB 16/500/M8	16	500	346114.0010	10
EMVMB 25/200/M8	25	200	346116.0010	10
EMVMB 25/300/M8	25	300	346111.0010	10

Matching earthing kit

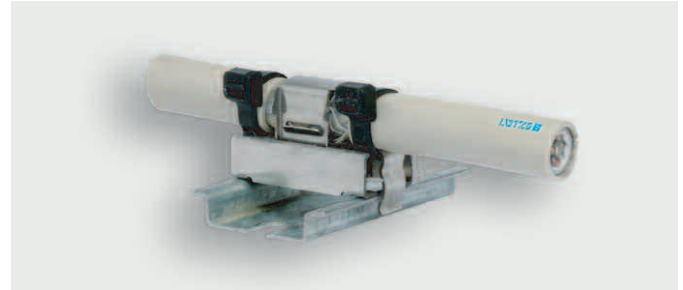
Type	Part-No.	PU
ES8	331805.0001	1
ES6	331816.0001	1

3. EMC Accessories



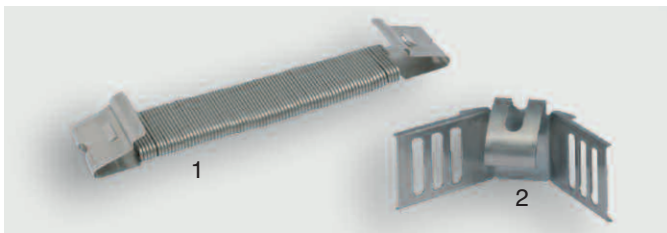
EMC shield contacting on the DIN rail TS 35.

The EMVRE H1 shielding contact was developed for large shielding contact areas on the DIN rail. It can easily be snapped onto the DIN rail. The cable jacketing is removed to the width of the base area and clipped on to provide a large

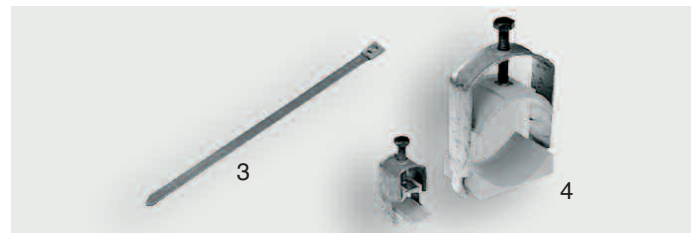


area contact with the shield clamp. The shielding contact also offers the option of strain relief at both ends using the cable's insulation jacket with the tie wraps.

Type	Part-No.	Material	Length mm	PU
EMVRE H 1	330088.0010	Spring steel	18	10



Spring shield clamps (1), shield clamps (2).

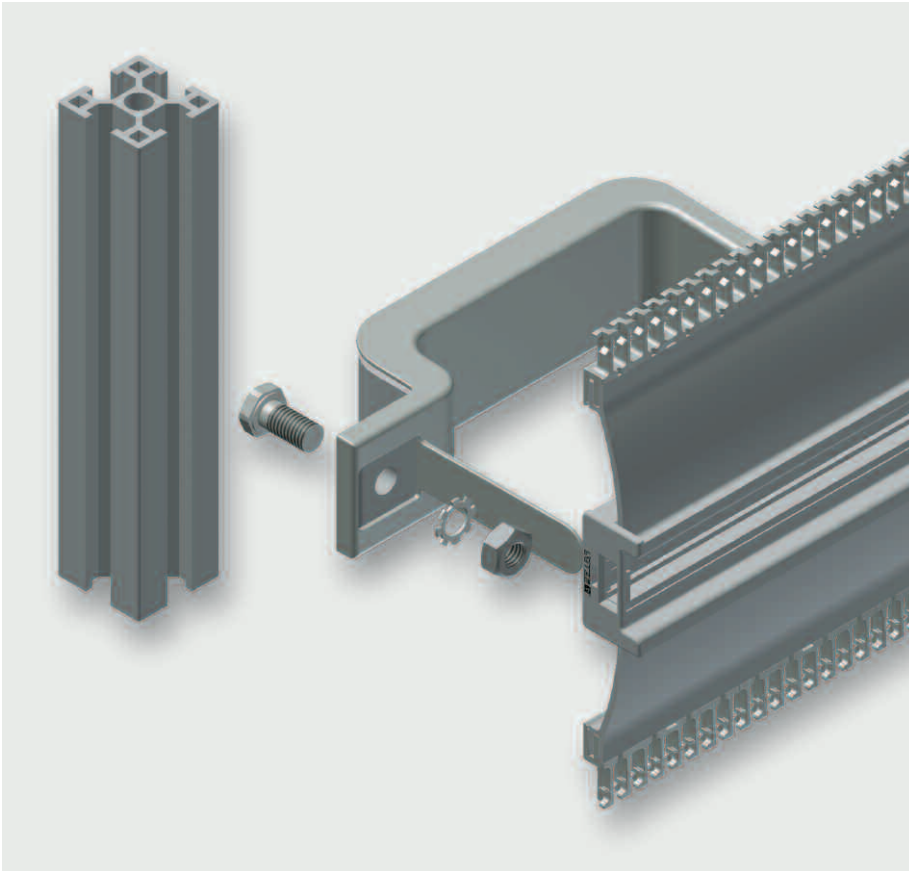


Metal tie wraps (3), cable clamps (4).

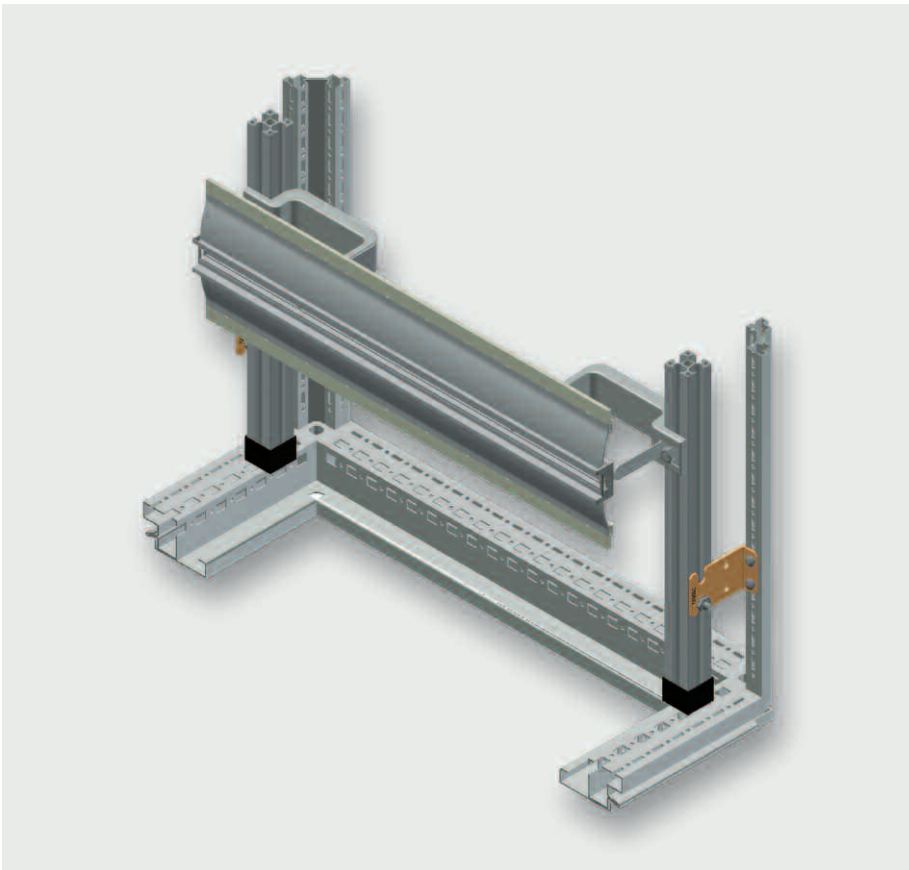
Accessories	Type	Part-No.	For cable Ø mm	Material	PU
Shield clamp (Fig. 2)	EMVSK 12	330089.0100	0 - 12	Spring steel	100
Spring clamp (Fig. 1)	EMVFSK 1	330071.0010	12 - 20	Spring steel	10
Spring clamp (Fig. 1)	EMVFSK 2	330072.0010	20 - 30	Spring steel	10
Spring clamp (Fig. 1)	EMVFSK 3	330073.0010	30 - 50	Spring steel	10
Metal tie wrap (Fig. 3)	(KSE)	330060.0010	200 mm Length	Spring steel	10
Cable clamp as support option (Fig. 4)					
Cable clamp*	KS 0	331000.0010	8 - 12	Galvanised	10
Cable clamp*	KS 1	331001.0010	12 - 16	Galvanised	10
Cable clamp*	KS 2	331002.0010	16 - 22	Galvanised	10
Cable clamp*	KS 3	331003.0010	34 - 40	Galvanised	10
Cable clamp*	KS 4	331004.0010	52 - 58	Galvanised	10

*incl. pressure and counter insert

4. Mounting - The LSC system in modular design



VPSym
Mounting of rail modules on VPSym



Installation of the frame in cabinet
Fastening of LSC Air**STREAM** standard frame in cabinet with fastening kit.



4. Installation - Wiring of components

Wiring with LSC

Find here our LSC Video tutorials for the correct wiring with LSC.



<http://bit.ly/13c71zB>

LSC AirSTREAM
mounting devices and components
on LSC frame

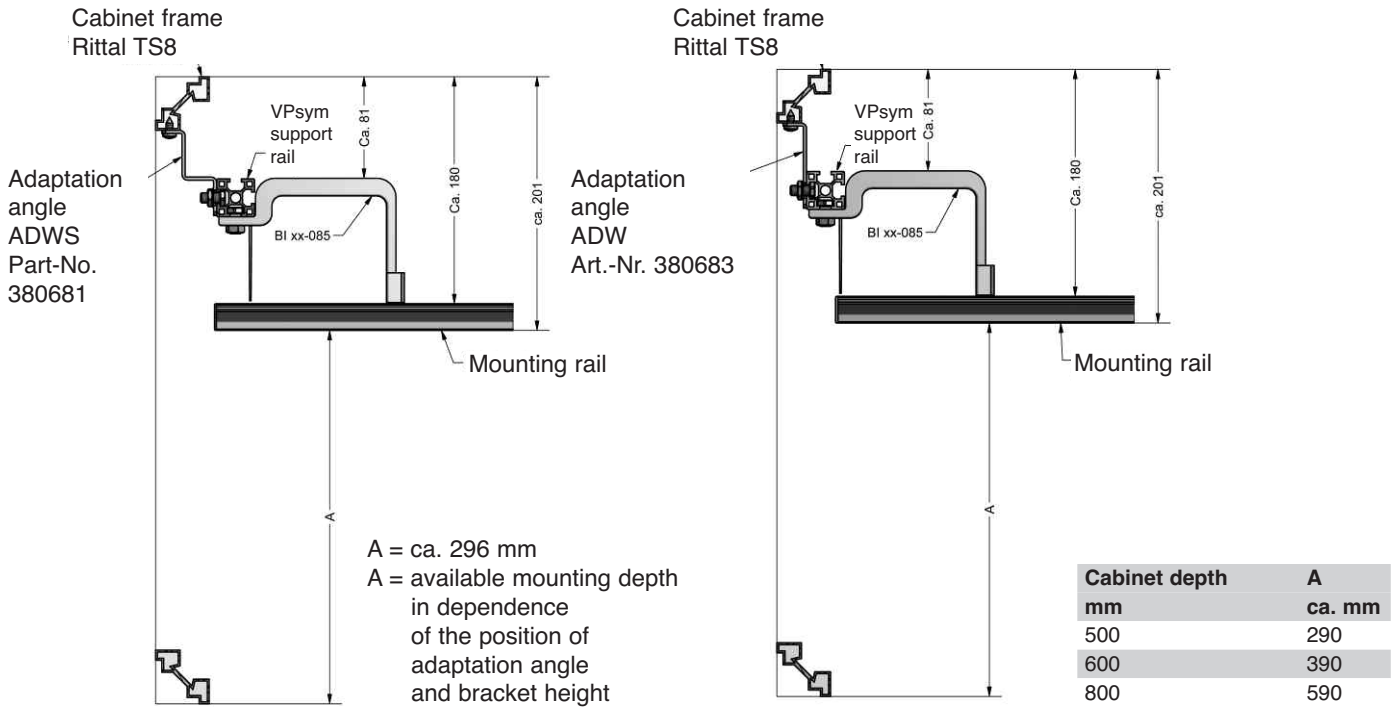


LSC AirBLADES and wire holder

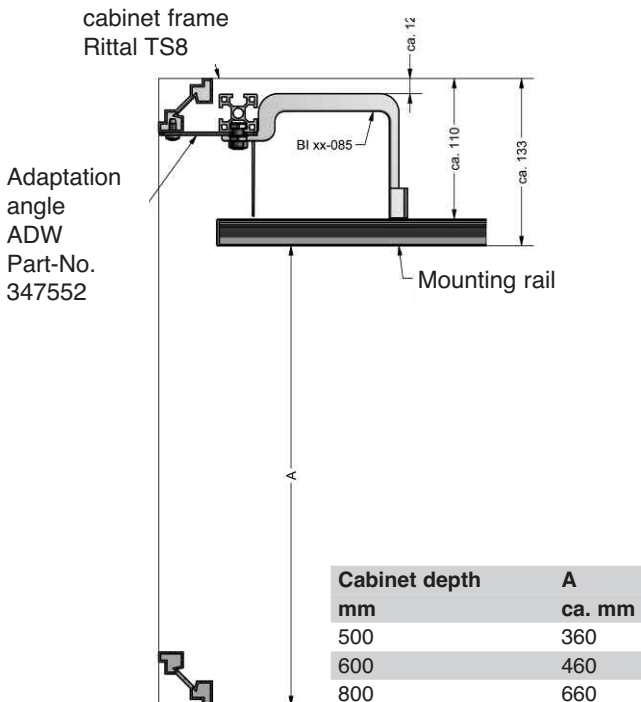
View of the rear of the LSC frame. Wiring from the front of the cabinet - access from the rear is not necessary!

4. Mounting - Dimensions

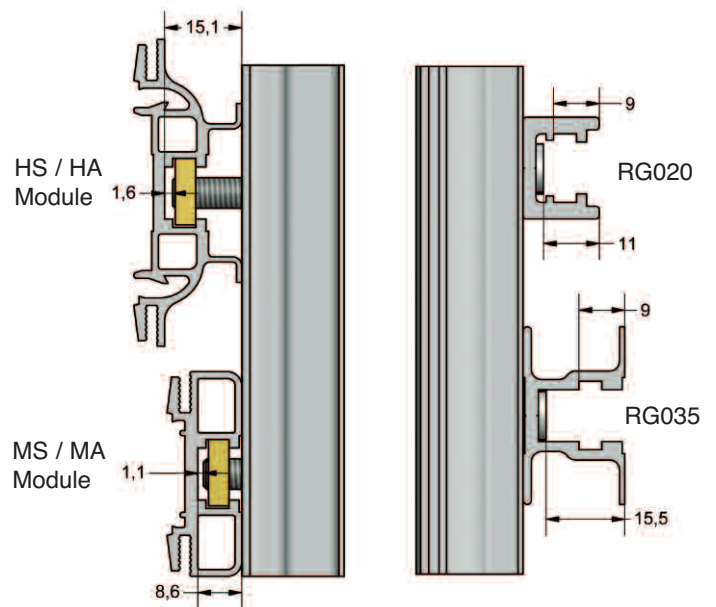
4.1 Installation Dimensions for Rittal/Lohmeier ADWS 380681/380683



4.2 Installation Dimensions for Rittal ADWS 347552



4.2 Dimensions Screw Channel



5. Technical information

5.1 Current capacity of the LSC *Air*STREAM profiles

For all LSC profiles:	
Material	Al Mg Si 0.5 F 25
Conductance in S	24

Type	Cross-section in mm ²	Type	Cross-section in mm ²
VPsym	342	RG 020	138
		RG 035	180
HS 040	231	B15-055	150
HS 060	276	B15-085	150
HS 080	308	B30-055	150
HS 100	351	B30-085	150
HS 120	390		
HS 160	468		
MS 040	202		
MS 080	349		
MS 100	389		
HA 140	433		
HA 160	477		
MA 080	385		

5.2 Tightening torques for threaded connections

Tightening torques for threaded connections	Nm
Hexagonal bolts with M8 nut	10
U bolt M6	8



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