

Electrical installation solutions for buildings

Automation boards

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Automation boards

Europa Series switchboards for industrial applications



Technical characteristics

- protection degree IP 65
- insulation class II 
- available in the versions with opaque and transparent, smoky vertically hinged doors
- available in RAL 7035 grey
- in polycarbonate material, self-extinguishing and resistant to abnormal heat and fire up to 960 °C (glow wire flammability index) in compliance with IEC 60695-2-11 Standard
- installation temperature from -25 °C to +60 °C
- resistant to heat: ball thermopressure up to +125 °C in compliance with EN 60695-10-2 Standard
- shock resistance 20 Joules (IK level 10)
- perfectly symmetrical switchboards with the possibility of attaching the door hinge onto the front (by means of the special articulated screws supplied) on the right or left with 140° opening
- doors designed to take lock with coded key, code 12 866
- designed for the insertion of an extractable frame with
- pre-drilled panelling for mounting 100, 125 and 160 A circuit breakers
- all models (except for code 12 764 and 12 784) are fitted with one rigid and one bi-material flange to facilitate insertion of conduits and cables
- switchboards made and produced in compliance with CEI 23-49 (1996) + V1 + V2, CB certificate IEC 60670-24 Standards
- switchboards are supplied complete with:
 - 4 screw-cover caps to guarantee 
 - accessories for hinging the front part
 - 1 self-adhesive indicator strip per row
 - 1 certification plate
 - instruction sheet
- use 3.5x9.5 self-tapping screws to fix the components on the back

IMQ mark



Europa Series switchboards for industrial applications obtained the IMQ mark of approval



Automation boards

Europa series switchboards for industrial applications – Switchboards

Opaque, vertically hinged door

RAL 7035 grey



FLC09146



FLC09145



FLC09143



FLC09144



FLC09141



FLC09142

Dimensions W × H × D [mm]	Order code	Box/pack No items
140 × 220 × 140	12 764	1/14
205 × 220 × 140	12 768	1/9
275 × 220 × 140	12 772	1/6
270 × 370 × 140	12 774	1/4
275 × 570 × 140	12 776	1/2
380 × 570 × 140	12 778	1/2



FLCO9138



FLCO9136



FLCO9137



FLCO9139



FLCO9140



FLCO9135

Transparent, smoky vertically hinged door
RAL 7035 grey

Dimensions W × H × D [mm]	Order code	Box/pack No items
140 × 220 × 140	12 784	1/14
205 × 220 × 140	12 788	1/9
275 × 220 × 140	12 792	1/6
140 × 220 × 140	12 794	1/4
205 × 220 × 140	12 796	1/2
275 × 220 × 140	12 798	1/2

Automation boards

Europa series switchboards for industrial applications – Accessories

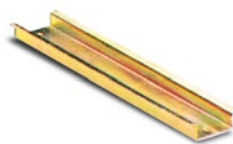


15LC001028F0001

Kit for modular circuit breakers

Circuit breakers 100, 125 160 A on DIN rail

For switchboards type	No modules	Order code	Box/pack No items
12 774 – 12 794	12 for 1 rows	12 820	1/8
12 776 – 12 796	24 for 2 rows	12 821	1/5
12 778 – 12 798	36 for 2 rows	12 822	1/5



FLC09850

DIN section bars

Completed with screws

For switchboards type	Order code	Box/pack No items
12 764 – 12 784	12 852	50/600
12 768 – 12 788	12 854	30/360
12 772 – 12 792	12 855	50/200
12 774 – 12 794		
12 776 – 12 796		
12 778 – 12 798	12 856	50/200



FLC09849

Base plates

In aluminium-plated metal

For switchboards type	Order code	Box/pack No items
12 764 – 12 784	12 842	10/120
12 768 – 12 788	12 844	10/10
12 772 – 12 792	12 845	10/10
12 774 – 12 794	12 846	5/5
12 776 – 12 796	12 847	5/5
12 778 – 12 798	12 848	5/5



FLC09848

Base plates

In insulating material

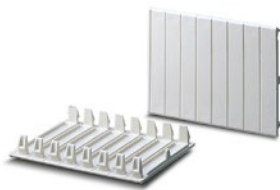
For switchboards type	Order code	Box/pack No items
12 764 – 12 784	12 832	10/10
12 768 – 12 788	12 834	10/10
12 772 – 12 792	12 835	10/10
12 774 – 12 794	12 836	5/5
12 776 – 12 796	12 837	5/5
12 778 – 12 798	12 838	5/5



FLC09247

Inner doors

For switchboards type	Order code	Box/pack No items
12 774 – 12 794	12 825	1/10
12 776 – 12 796	12 826	1/10
12 778 – 12 798	12 827	1/10



FLCO928

Module covers

No modules	Colour	Order code	Box/pack No items
1	RAL 7035 grey	12 861	50/1500
4	RAL 7035 grey	12 863	25/300



FLCO935

Wall brackets

Description	Order code	Box/pack No items
In insulating material	12 858	20/240



FLCO9240

Key lock

Description	Order code	Box/pack No items
Coded type	12 866	10/300



FLCO9254

Universal cutter

Description	Order code	Box/pack No items
For drill	12 894	1/30

To use for side branch connections.

Automation boards

Europa series switchboards for industrial applications – Accessories



FLC09245

Spare doors

For switchboards type	Order code		Box/pack No items
	Opaque RAL 7035 grey	Transparent smoky	
12 764 – 12 784	12 568	12 578	8/32
12 768 – 12 788	12 569	12 579	10/20
12 772 – 12 792	12 570	12 580	8/16
12 774 – 12 794	12 571	12 581	5/10
12 776 – 12 796	12 572	12 582	10/10
12 778 – 12 798	12 573	12 583	8/8



FLC09236

Semi-flush-mounting frames

For switchboards type	Order code	Box/pack No items
12 764 – 12 784	12 590	5/20
12 768 – 12 788	12 591	5/20
12 772 – 12 792	12 592	5/20
12 774 – 12 794	12 593	5/20
12 776 – 12 796	12 594	5/5
12 778 – 12 798	12 595	5/5



FLC09253

Plastic spacer

Dimensions [mm]	Order code	Box/pack
20 modules H30	12 851	10/60



FLC09237

Spare flanges

For switchboards type	Order code	Box/pack No items
12 768 – 12 788, bi-material	12 600	30/120
12 772 – 12 792, bi-material	12 601	20/80
12 774 – 12 794, bi-material		
12 776 – 12 796, bi-material		
12 778 – 12 798, bi-material	12 602	20/80
12 768 - 12 788, rigid flange	1SL0550A00	30/120
12 772 - 12 792, rigid flange	1SL0551A00	20/80
12 774 - 12 794, rigid flange		
12 776 - 12 796, rigid flange		
12 778 - 12 798, rigid flange	1SL0552A00	20/80



1SLC001017F0001



15LC0001013F0001

Terminal blocks

The complete terminal blocks are composed of a combination of terminal holders and terminal bars as indicated in the description, with the terminal bars already mounted on terminal holders. Configuration of the complete terminal block is standard. For different requirements (customized terminal block), the terminal holders and bars must be procured separately in the versions indicated in the table.

Description	Order code	Box/pack No items
for switchboards 12764 e 12784 – composed of 12538x2 + 12531x2	12 490	10/60
for switchboards 12768 e 12788 – composed of 12539x2 + 12531x2	12 491	10/60
for switchboards 12772 e 12792 – composed of 12540x1 + 12531x1 + 12532x1	12 492	10/40
for switchboards 12774 e 12794 – composed of 12540x2 + 12533x2	12 494	10/40
for switchboards 12776 e 12796 – composed of 12540x2 + 12534x2	12 493	10/40
for switchboards 12778 e 12798 – composed of 12543x2 + 12535x2	12 497	10/40



FLC09234

Terminal holders

The terminal block is completed by combining the necessary terminal bars to the terminal holders, taking care to keep the terminal bars separate from each other.

For switchboards type	Order code	Box/pack No items
12764 - 12784	12 538	12/360
12768 - 12788	12 539	12/360
12772 - 12774 - 12776 - 12792 12794 - 12796	12 540	12/144
12778 - 12798	12 543	12/108



FLC09226

Terminal bars

The terminal bars can be installed on any kind of terminal holder; they are snapped onto these with 2 clips for bar, through two holes made at the ends of the bar itself.

Description No of holes × Ø holes (mm) + No of holes × mm ²	Order code	Box/pack No items
5×16	12 531	20/240
10×16 + 3×25	12 532	20/240
16×16 + 3×25	12 533	20/240
15×16 + 6×25	12 534	20/240
19×16 + 6×25	12 535	20/240

Terminal holders and terminal bars are supplied separately. In this way, by inserting one or two terminal bars into the terminal holder you can create the best terminal for your requirements, with the advantage of obtaining a terminal block that is cheap as well as personalised, due to the fact that you only need to use material that is really necessary. Some standard configurations are illustrated in the table.



All the possible configurations that can be created for each type of consumer unit are given in the technical details.

Automation boards

Switchboards for industrial applications
with blank front



Technical characteristics

- protection degree IP 65
- insulation class II 
- available in RAL 7035 grey
- available in the versions with transparent, smoky doors
- in polycarbonate material, self-extinguishing and resistant to abnormal heat and fire up to 960 °C (glow wire flammability index) in compliance with IEC 60695-2-11 Standard
- installation temperature from -25 °C to +60 °C
- resistant to heat: ball thermopressure up to +125 °C in compliance with EN 60695-10-2 Standard
- shock resistance 20 Joules (IK level 10)
- perfectly symmetrical switchboards with possibility of hinging the door onto the front (by means of the special articulated screws supplied) on the right or left with 140° opening
- doors designed to take lock with coded key, code 12 866 all models (except for code 13 200) are fitted with one rigid and one bi-material flange for the facilitated insertion of conduits and cables
- switchboards made and produced in compliance with CEI 23-49 (1996) + V1 + V2, CB certificate IEC 60670-24 Standards
- switchboards are supplied complete with:
 - 4 screw-cover caps to guarantee 
 - accessories for hinging the front part
 - 1 self-adhesive indicator strip per row
 - 1 certification plate
 - instruction sheet
- use 3.5x9.5 self-tapping screws to fix the components on the back



Automation boards

Switchboards for industrial applications with blank front



FLC09147

Transparent, smoky door – 4 modules

RAL 7035 grey

Dimensions W × H × D [mm]	Order code	Box/pack No items
136x540x110	13 200	1/8



FLC09156

Transparent, smoky door – 12 modules

RAL 7035 grey

Dimensions W × H × D [mm]	Order code	Box/pack No items
275x370x140	13 204	1/4



FLC09105

Transparent, smoky door – 12 modules

RAL 7035 grey

Dimensions W × H × D [mm]	Order code	Box/pack No items
275x455x140	13 205	1/3



FLC09295

Transparent, smoky door – 12 modules

RAL 7035 grey

Dimensions W × H × D [mm]	Order code	Box/pack No items
275x570x140	13 206	1/3



FLC09296

Transparent, smoky door – 18 modules

RAL 7035 grey

Dimensions W × H × D [mm]	Order code	Box/pack No items
380x570x140	13 208	1/2

Automation boards

Switchboards for industrial applications with blank front – Accessories



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Terminal blocks

The complete terminal blocks are composed of a combination of terminal holders and terminal bars as indicated in the description, with the terminal bars already mounted on terminal holders.

Configuration of the complete terminal block is standard. For different requirements (customized terminal block), the terminal holders and bars must be procured separately in the versions indicated in the table.

Description	Order code	Box/pack No items
for 12 modules – composed of 12540×1 + 12531×1 + 12532×1	12 492	10/40
for 18 modules – composed of 12543×1 + 12531×1 + 12535×1	12 498	10/40



FLC09227

Terminal holders

The terminal block is completed by combining the necessary terminal bars to the terminal holders, taking care to keep the terminal bars separate from each other.

For switchboards type	Description	Order code	Box/pack No items
13 204 - 13 205 - 13 206	for 12 modules	12 540	12/144
13 208	for 18 modules	12 543	12/108



FLC09226

Terminal bars

The terminal bars can be installed on any kind of terminal holder; they are snapped onto these with 2 clips for bar, through two holes made at the ends of the bar itself.

Description No of holes × Ø holes (mm) + No of holes × mm ²	Order code	Box/pack No items
5×16	12 531	20/240
10×16 + 3×25	12 532	20/240
16×16 + 3×25	12 533	20/240
15×16 + 6×25	12 534	20/240
19×16 + 6×25	12 535	20/240

Terminal holders and terminal bars are supplied separately. In this way, by inserting one or two terminal bars into the terminal holder you can create the best terminal for your requirements, with the advantage of obtaining a terminal block that is cheap as well as personalised, due to the fact that you only need to use material that is really necessary. Some standard configurations are illustrated in the table.

All the possible configurations that can be created for each type of consumer unit are given in the technical details.

Automation boards

Switchboards for industrial applications with blank front – Accessories



FLCO98236

Semi-flush-mounting frames

For switchboards	Order code	Box/pack No items
13 200	12 598	5/20
13 204	12 593	5/20
13 205	12 599	5/5
13 206	12 594	5/5
13 208	12 595	5/5



FLCO98235

Wall brackets

Description	Order code	Box/pack No items
In insulating material	12 858	20/240

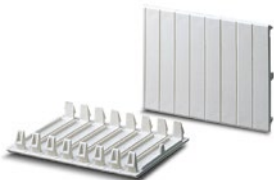


FLCO98254

Universal cutter

Description	Order code	Box/pack No items
For drill	12 894	1/30

To use for side branch connections.



FLC09228

Module covers

No modules	Colour	Order code	Box/pack No items
1	RAL 7035 grey	12 861	50/1500
4	RAL 7035 grey	12 863	25/300



FLC09293

Spare flanges

For switchboards type	Order code	Box/pack No items
13 204 – 13 205 – 13 206, bi-material	12 601	20/80
13 208, bi-material	12 602	20/80
13 204 - 13 205 - 13 206, rigid flange	1SL0551A00	20/80
13 208, rigid flange	1SL0552A00	20/80



1SLC00101TF0001

Key lock

Description	Order code	Box/pack No items
Coded type	12 866	10/300

FLC09240

Automation boards

Characteristics of Gemini switchboards

Gemini, something completely different in switchboards

Gemini range is revolutionizing the market of low voltage electric insulating switchboards. The reason for this is that it is the first switchboard made in thermoplastic material, to which the co-injection molding technique gives the same mechanical characteristics as polyester. This means that it is extremely sturdy, with its rigid covering and expanded internal core. Moreover, it contains no fiberglass, a material that with time rises to the surface, jeopardizing the functioning and safety of switchboards made in polyester with which it is usually mixed. Gemini switchboards have an IP66 protection degree (IP30 with the door open and with the appropriate components installed) and a very high resistance to chemical and atmospheric agents. This is the reason why Gemini guarantees excellent performances even in particularly severe operating conditions.

Strong outside and versatile inside, Gemini fits to any application

There are as many configurations as ABB devices for low voltage automation and distribution: moulded-case circuit breakers, modular circuit breakers, monitoring, control and signaling devices, wiring ducts and electrical connection systems. All of these components give to “Gemini system” an enormous range of specific solutions that are easy to assemble with the snap-on system. Nothing can be compared to Gemini, even when they reach the end of their life cycle because they are totally ecologically compatible. The material used to manufacture Gemini is 100% recyclable. Polyester, on the other hand, cannot be recovered. Moreover, to make sure that correct disposal procedures are followed, instructions are provided about how to identify materials and what to do with the product once it has served its useful purpose.



Gemini switchboards are made through co-injection, technology and ABB is the first manufacturer to use it as a molding technique. This process obtains a “sandwich” of two materials with a compact external covering and an expanded core, guaranteeing the highest level of mechanical protection against impacts (IK10) without the need to add hardening substances. Competitors products are usually made in polyester that is usually mixed with fiberglass; passing the time, it rises to the surface and become a risk factor for skin burns that may occur during installation and maintenance

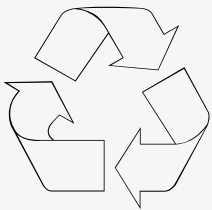
through accidental contact. Moreover, it causes deterioration of the technical strength and lasting characteristics of the material to which it is added. Gemini, on the other hand, keeps its mechanical characteristics in the long term. The co-injection technique makes the manufacturing operations themselves safe because the products are completely finished when they come out of the mold without any flash or other surface irregularities.

Quality and safety

Gemini is designed and built in compliance with reference Standards that define its constructional and functional characteristics. In particular, the IP66 degree certifies that Gemini is totally protected against the infiltration of solid bodies and is resistant to the penetration of jets of water similar to sea waves. Absolute protection is provided by double insulation even in the event of indirect contact. Even in very difficult application circumstances, Gemini gives high-level performances, with resistance to fire and abnormal heat up to a temperature of 750 °C and a functioning temperature from -25 °C to 100 °C. Moreover, the material with which it is manufactured retains its characteristics for a long time since it is not subject to corrosion by chemical or atmospheric agents. Also it does not turn yellow when exposed to UV rays.

Photovoltaic

In a typical photovoltaic plant the direct current section comprises a generator consisting of strings composed of photovoltaic modules connected in series. The Gemini series of IP65 sealed switchboards are ideal for use as field combiners or as parallel switchboards, i.e. for outdoor installation near the modules. ABB has a range which is currently unique on the market, and has developed a family of plug & operate solutions, i.e. a series of finished, wired and certified switchboards to meet the needs of a huge range of plant types: from single string for residential applications to large-scale solar fields.



Gemini is made in thermoplastic material that is 100% recyclable. The environmental compatibility of Gemini is an important objective right from the design phase where the Life Cycle Assessment (LCA) procedure, defined in 1990 during the Society of Environmental Toxicology and Chemistry Conference (Vermont, USA), is followed. Life Cycle Assessment is an objective method for analyzing the energy and environmental loads

relating to a product, process or activity, carried out by identifying and quantifying energy, the materials used and emissions released into the environment. Divided into four phases, the assessment covers the entire life cycle of the product, process or activity, from the extraction and transformation of raw materials, to manufacturing and distribution, and from usage to recycling and decommissioning.

Automation boards

Characteristics of Gemini switchboards

A switchboard that is not just one system, but three

Gemini is the result of design work conducted by ABB with the direct collaboration of switchboard manufacturers, installers and designers who considered versatility to be the discriminating element when purchasing a switchboard, equally important as sturdiness and reliability. Gemini fulfils this requirement by providing a product that can be used for three different purposes: in addition to the basic configuration, it also provides the components necessary to be equipped as an automation switchboard or as a distribution and mixed switchboard. In any application, compatibility with ABB protection, control and monitoring portfolio of products means that a real system of integrated and complementary functions can be configured. Typical examples of some Gemini applications can be seen in industrial production departments and on board machines, in galvanization plants and varnishing cabins, in petrol stations and carwashing plants, boiler-rooms, car parks, shopping malls and in any other environments where distribution and automation demand specific safety requirements and service continuity.

Gemini is also flexible with six different box sizes and internal space to accommodate from 24 to 216 DIN modules. To respect safety standards, all the switchboard components can be fixed to the base plate or to the box frame without using any tool; wiring is carried out from the front followed by snapping the base plate or the frame onto the box.

The patented frame is fitted with the cable duct incorporated in the uprights.

In its design, Gemini repeats the shapes and RAL 7035 grey color of ABB switchboards with which it can be configured as a main protection switchboard.

Experience and innovation

Gemini has two central aspects. It is both the result of years of work in the production of installation material and the expression of the most advanced technology, from design to distribution. In ABB laboratories, computer aided design programs simulate all types of application conditions, translating virtual checks into a process to improve the Gemini performances so that it will be able to respond more accurately to market requirements.

Through Internet at URL www.abb.com/edesign-software you could download free of charge ABB “e-design” software; it includes softwares for the configuration and budgeting of Gemini in distribution and automation mixed applications.



Distribution switchboards
System pro E power



Automation boards

Basic configuration - Gemini switchboards

In the basic configuration, Gemini switchboards are composed of boxes in six different sizes ranging from 335x400x210 mm to 840x1005x360 mm (WxHxD, external measurements) and with opaque or transparent doors. In both versions, the doors are reversible and clip onto the hinges without the need to use tools; the fact that they open at an angle of more than 180° means that it is easy to work on the components installed inside the switchboard. The seal applied by extrusion along the sides of the doors guarantees IP66 degree of protection. Access to the inside of the switchboard is protected by a standard double bit

lock that can be replaced by locks of another type available in the accessories. Boxes and doors can be requested either separately or as combined “box + door” codes, to make filling out the order form more flexible. Inside the packages, the door is always wrapped separately and inserted inside a pocket that protects it from accidental damage until wiring is completed and the switchboard is installed. Hole-cover plugs to guarantee IP protection and double insulation for wall mounting are also supplied with the pack together with the instruction sheet.

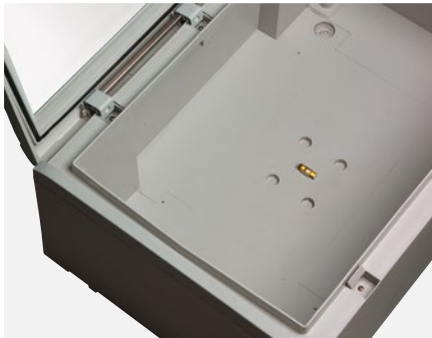
Specifications	
Protection	IP66 (IEC EN 60529) Class II insulation
Strength	Thermoplastic material moulded in co-injection Resistance to abnormal heat and fire up to a temperature of 750 °C (IEC EN 60695-2-11) IK10 (IEC EN 50102) degree of resistance to impacts Protection against chemical and atmospheric agents (water, saline solutions, acids, basic agents, mineral oils, UV rays) Operating temperature -25 °C ÷ +100 °C
Performances	Rated service voltage up to 1000 V Rated insulating DC voltage up to 1000 V Rated insulating AC voltage up to 1500 V
Flexibility of use	6 sizes from 335x400x210 mm to 840x1005x360 mm (WxHxD, external dimensions) DIN 24 to 216 modules
Installation	Snap-on mounting of all components in compliance with safety Standards
Quality and environment	Compliance with CEI EN 62208 international reference Standard, qualification for the requirements of CEI EN 61439-1 Standard, IMQ mark according to EN 62208 Standard. 100% recyclable EN 60068-2-52 resistance to marine environments EN60068-2-5 resistance direct sun exposure UL Listed: UL508A, UL50, UL50E Nema: Type 4x



Gemini doors open at an angle of more than 180° giving easy access to the devices installed inside the switchboard.



No tools are needed for installation. The doors hook onto the hinges with special hinge pins and are reversible.



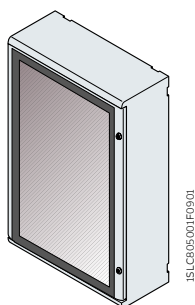
The special structure of the inner perimeter of the box ensures further protection against the penetration of water. The box is supplied with a spirit level.

Boxes and doors

- Available in 6 sizes
- Single order code combined with box and transparent and opaque door
- Pack with door dismounted and wrapped separately
- Door designed so that it can be hooked onto hinges at both vertical sides and mounted without the use of tools
- To be mounted to the wall using internal holes or fixing brackets supplied as accessories
- Door opening at an angle of more than 180°
- RAL 7035 grey color
- Doors supplied with 2 standard double bit locks (3 for sizes 5 and 6) that can be replaced with locks for ciphered key or with square/triangular impression (the standard triplex key is suitable for use with three types of impressions).

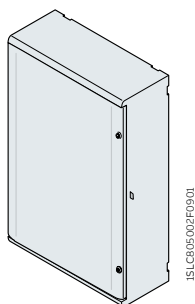
Transparent door

Size	External Dimensions WxHxD (mm)	Internal WxHxD (mm)	Modules Max No. DIN mod.	No. vertical mod. (H=150 mm)	Code	Unit/Pack
1	335x400x210	250x300x180	24 (12x2)	2	1SL0211A00	1/1
2	460x550x260	375x450x230	54 (18x3)	3	1SL0212A00	1/1
3	460x700x260	375x600x230	72 (18x4)	4	1SL0213A00	1/1
4	590x700x260	500x600x230	96 (24x4)	4	1SL0214A00	1/1
5	590x855x360	500x750x330	120 (24x5)	5	1SL0215A00	1/1
6	840x1005x360	750x900x330	216 (36x6)	6	1SL0216A00	1/1



1SLCB05.001F0901

Transparent door switchboard



1SLCB05.002F0901

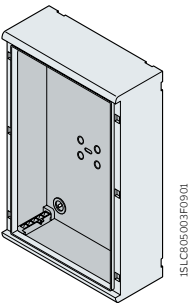
Opaque door switchboard

Opaque door

Size	External Dimensions WxHxD (mm)	Internal WxHxD (mm)	Modules Max No. DIN mod.	No. vertical mod. (H=150 mm)	Code	Unit/Pack
1	335x400x210	250x300x180	24 (12x2)	2	1SL0201A00	1/1
2	460x550x260	375x450x230	54 (18x3)	3	1SL0202A00	1/1
3	460x700x260	375x600x230	72 (18x4)	4	1SL0203A00	1/1
4	590x700x260	500x600x230	96 (24x4)	4	1SL0204A00	1/1
5	590x855x360	500x750x330	120 (24x5)	5	1SL0205A00	1/1
6	840x1005x360	750x900x330	216 (36x6)	6	1SL0206A00	1/1

Automation boards

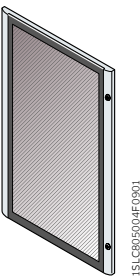
Basic configuration - Gemini switchboards



Single box

Single boxes

Size	External dimensions WxHxD (mm)	Internal WxHxD (mm)	Code	Unit/Pack
1	335x400x210	250x300x180	1SL0221A00	1/1
2	460x550x260	375x450x230	1SL0222A00	1/1
3	460x700x260	375x600x230	1SL0223A00	1/1
4	590x700x260	500x600x230	1SL0224A00	1/1
5	590x855x360	500x750x330	1SL0225A00	1/1
6	840x1005x360	750x900x330	1SL0226A00	1/1

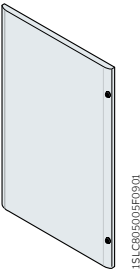


Transparent door

Single doors

Transparent door

Size	Box dimensions WxHxD (mm)	Code	Unit/Pack
1	335x400x210	1SL0241A00	1/1
2	460x550x260	1SL0242A00	1/1
3	460x700x260	1SL0243A00	1/1
4	590x700x260	1SL0244A00	1/1
5	590x855x360	1SL0245A00	1/1
6	840x1005x360	1SL0246A00	1/1



Opaque door

Opaque door

Size	Box dimensions WxHxD (mm)	Code	Unit/Pack
1	335x400x210	1SL0231A00	1/1
2	460x550x260	1SL0232A00	1/1
3	460x700x260	1SL0233A00	1/1
4	590x700x260	1SL0234A00	1/1
5	590x855x360	1SL0235A00	1/1
6	840x1005x360	1SL0236A00	1/1

Automation boards

Components for automation applications

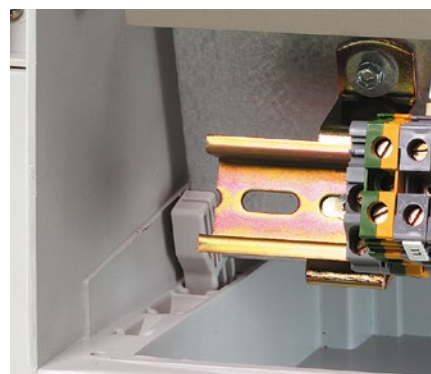
Gemini switchboards are designed to be perfectly compatible with ABB components for low voltage control and monitoring. For these applications they can be equipped with modular devices belonging to the System pro M range, with Tmax moulded-case circuit-breakers and control and signalling devices, creating a truly integrated automation system. When deciding the Gemini layout for control and monitoring applications, not only is it possible to select the box and door in the required size, but you can also select the base plate in one of the three versions in the range.

After wiring with the ducts and the Fix-O-Rapid device, the special standard adjustable feet and hooks must be fitted onto the base plate, allowing it to be inserted inside the box at up to seven different depths and three further levels of adjustment: no tools need to be used to carry out these operations. To finish the job, the inner door can be mounted (reversible and in insulating material), guaranteeing IP30 degree of protection when the switchboard door is open. No tools are needed unless the inner door is equipped with buttons, warning lights, etc.



The fixing hooks and feet supplied in the standard versions are applied without having to use tools, making it possible to install the base plate at seven different depths inside the switchboard. They can also be adjusted at three further positions.

Application of the inner door guarantees IP40 degree of protection when the switchboard door is open.



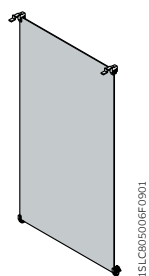
Example of the configuration of a switchboard for an automation application: some ABB control and protection devices are installed on the plate. The inner door is fitted with light-signaling devices.

Automation boards

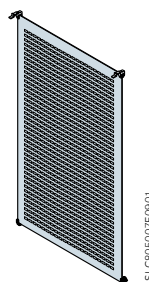
Components for automation applications

Base plates

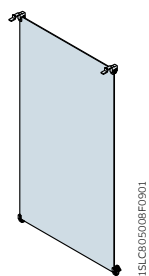
- Available in three versions in blank or drilled metal and insulating material
- Positioning at 3 different depths for size 1, 4 different depths for sizes 2-3-4 and 7 different depths for sizes 5-6 (adjustments with 30 mm pitch)
- Supplied with feet and hooks adjustable at three further positions (with 7.5 mm pitch)
- Snap-on mounting
- Plates can also be mounted directly on the base with the special kit.



Blank metal base plate



Drilled metal base plate



Insulating material base plate

Blank metal

Size of the switchboard	Code	Unit/Pack
1	1SL0259A00	1/6
2	1SL0260A00	1/6
3	1SL0261A00	1/4
4	1SL0262A00	1/4
5	1SL0263A00	1/4
6	1SL0264A00	1/2

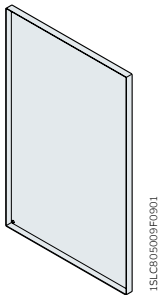
Drilled metal

Size of the switchboard	Code	Unit/Pack
1	1SL0275A00	1/6
2	1SL0276A00	1/6
3	1SL0277A00	1/4
4	1SL0278A00	1/4
5	1SL0279A00	1/4
6	1SL0280A00	1/2

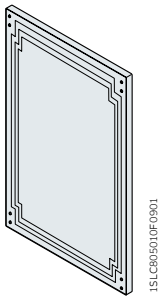
Insulating material

Size of the switchboard	Code	Unit/Pack
1	1SL0267A00	1/6
2	1SL0268A00	1/6
3	1SL0269A00	1/4
4	1SL0270A00	1/4
5	1SL0271A00	1/4
6	1SL0272A00	1/2

Description	Code	Unit/Pack
Base mounting kit for metal plate	1SL0383A00	1/10



Inner door, sizes 1-2



Inner door, sizes 3-4-5-6

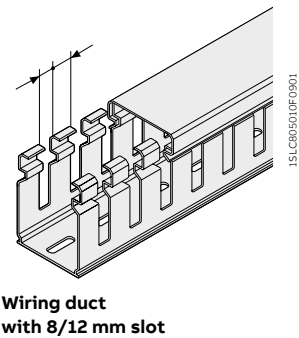
Inner doors

- Made in insulating material
- IP30 degree of protection with door open
- Designed so that door can be hinged onto both vertical sides
- Snap-on mounting and fixing

Size of the switchboard	Code	Unit/Pack
1	1SL0251A00	1/4
2	1SL0252A00	1/4
3	1SL0253A00	1/2
4	1SL0254A00	1/2
5	1SL0255A00	1/2
6	1SL0256A00	1/1

Automation boards

Components for automation applications

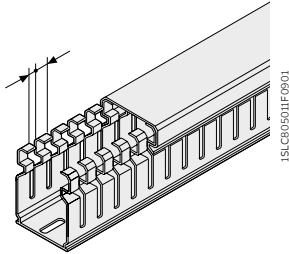


Wiring ducts

- Made in self-extinguishing thermoplastic material (UL 94 V0), resistant to abnormal heat and fire up to 960 °C (IEC 695-2-1)
- RAL 7030 grey color
- Available in version with 8/12 mm and 4/6 mm slots
- Base strip designed to snap onto Fix-O-Rapid
- Available in standard lengths of 2 m

With 8/12 mm slots

Dimensions WxH (mm)	Code	Weight (kg/m)	Unit/ Pack- meters
15x17	05 019	0,06	46
25x30	05 033	0,21	58
25x40	05 043	0,25	48
25x60	05 063	0,24	34
25x80	05 083	0,29	28
25x100	05 094	0,46	20
40x30	05 035	0,27	40
40x40	05 045	0,31	30
40x60	05 065	0,34	22
40x80	05 085	0,38	36
40x100	05 095	0,53	28
60x30	05 037	0,38	52
60x40	05 047	0,46	40
60x60	05 067	0,47	32
60x80	05 087	0,50	24
60x100	05 096	0,73	20
80x40	05 049	0,47	32
80x60	05 069	0,52	24
80x80	05 089	0,59	16
80x100	05 097	0,91	14
100x40	05 051	0,55	24
100x60	05 071	0,59	20
100x80	05 091	0,68	16
100x100	05 098	1,06	8
120x40	05 053	0,65	20
120x60	05 073	0,73	14
120x80	05 093	0,89	12
150x100	05 099	1,37	8



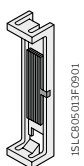
Wiring duct
with 4/6 mm slot

With 4/6 mm slots

Dimensions WxH (mm)	Code	Weight (kg/m)	Unit/ Pack- meters
15x17	05 119	0,06	46
25x30	05 133	0,21	58
25x40	05 143	0,25	48
25x60	05 163	0,24	34
25x80	05 183	0,29	28
25x100	05 194	0,46	20
40x30	05 135	0,27	40
40x40	05 145	0,31	30
40x60	05 165	0,34	22
40x80	05 185	0,38	36
40x100	05 195	0,53	28
60x30	05 137	0,38	52
60x40	05 147	0,46	40
60x60	05 167	0,47	32
60x80	05 187	0,50	24
60x100	05 196	0,73	20
80x40	05 149	0,47	32
80x60	05 169	0,52	24
80x80	05 189	0,59	16
80x100	05 197	0,91	14
100x40	05 151	0,55	24
100x60	05 171	0,59	20
100x80	05 191	0,68	16
100x100	05 198	1,06	8
120x40	05 153	0,65	20
120x60	05 173	0,73	14
120x80	05 193	0,89	12
150x100	05 199	1,37	8

Fix-O-Rapid

Rapid mounting device for attaching wiring ducts to the base plate: it snaps onto the plate after drilling a $\varnothing 7$ mm hole. Two Fix-O-Rapid devices are enough for each wiring duct section. Fix-O-Rapid guarantees maximum insulation since it does not involve the use of any metal component inside the wiring duct. If the wrong wiring duct is selected, it can be dismounted and a version with the same base and a different height can be attached to the Fix-O-Rapid.



Fix-O-Rapid

Description	Code	Unit/ Pack-no. pieces
Rapid mounting device for wiring duct, W 25 mm	05 270	20/600
Rapid mounting device for wiring duct, W 40 mm	05 272	20/600
Rapid mounting device for wiring duct, W 60 mm	05 274	20/600
Rapid mounting device for wiring duct, W 80 mm	05 276	20/240
Rapid mounting device for wiring duct, W 100 mm	05 278	20/240
Rapid mounting device for wiring duct, W 120 mm	05 280	20/240
Rapid mounting device for wiring duct, W 150 mm	05 282	20/240

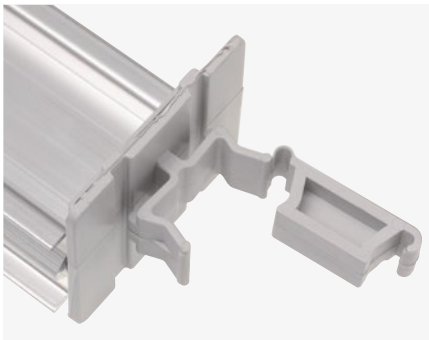
Automation boards

Components for distribution and mixed applications

In distribution and mixed applications, the Gemini switch-board is designed to be fitted with System pro M modular devices and Tmax moulded-case circuit breakers. The frame is the load-bearing element of the configuration: DIN rails, partial modular plates and the special Tmax mounting and cabling kits are snapped onto the uprights.

All the components can be adjusted to six different depths with a pitch of 12.5 mm and arranged at heights with standard installation pitch of 150, 225 and 300 mm and a distance of 75 mm between the rows.

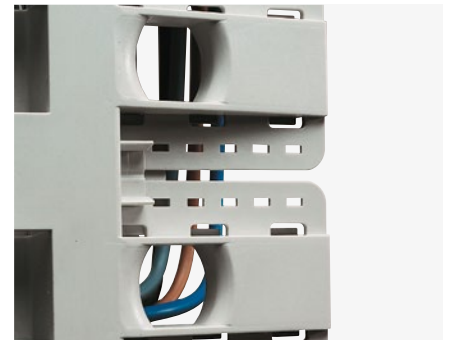
Blank or drilled front panels are applied to protect the equipment and these can be hinged onto both sides; the cables are housed inside the vertical wiring duct integrated in the uprights according to an exclusive ABB patent. Wiring is carried out by pulling out the frame and working from the front; the ergonomic grip and the standard feet and snap-on hooks supplied make it easy to insert it inside the switchboard after the job is finished.



The DIN rail is supplied with special hooks already in position for attaching to the uprights.



The upright with the incorporated wiring duct is an exclusive ABB patent that rationalizes the path of cables inside the switchboard.



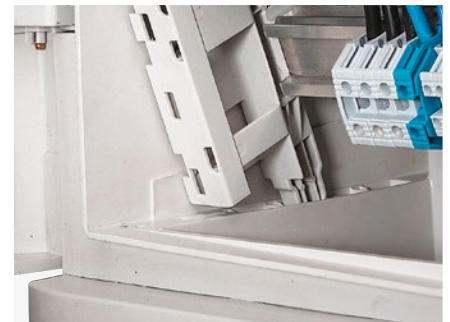
The depth at which the DIN rail, the modular plates, the kit for fixing the Tmax circuit breakers and the wiring duct are positioned can be adjusted with a simple sliding movement.



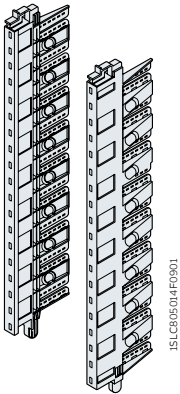
The frame can be extracted to make wiring operations easier at the workbench.



The blank and drilled panels are hinged onto both sides; the description of the installed components can be kept in the special compartment protected by a transparent, hinged flange.



Fixing hooks and feet allow the frame to be snap-mounted inside the box.

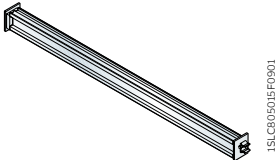


Uprights

Uprights

- Incorporated vertical wiring duct (ABB patent)
- Snap-on mounting of all components (installation pitch of 75 mm)
- Snap-on insertion into box
- Depth of installed components adjusted at a pitch of 12.5 mm
(4 positions for uprights of size 1 and 6 positions for the remaining ones)
- Ergonomic grip to make it easy to insert and extract

Size of the switchboard	Code	Unit/Pack
1	1SL0283A00	1/4
2	1SL0284A00	1/4
3	1SL0285A00	1/4
4	1SL0285A00	1/4
5	1SL0286A00	1/2
6	1SL0287A00	1/1



DIN rail

DIN rails

- Two-sided version
- Supplied with mounting supports that snap onto uprights
- Depth adjustment on uprights
- Designed so that rapid Unifix L mounting bars can be snapped on

Size of the switchboard	Modules per row	Code	Unit/Pack
1	12	1SL0290A00	1/10
2	18	1SL0291A00	1/10
3	18	1SL0291A00	1/10
4	24	1SL0292A00	1/10
5	24	1SL0292A00	1/10
6	36	1SL0293A00	1/10

Automation boards

Components for distribution and mixed applications

Drilled panels

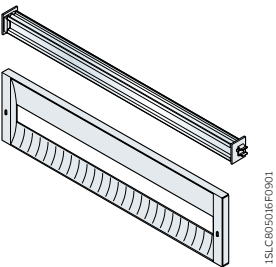
- Supplied with DIN rail complete with supports to snap onto uprights and adjustable in depth
- Available in 1 module (H 150 mm) and 1+1/2 module (H 225 mm, sizes 2-6) dimensions
- Designed to be hinged onto both vertical sides
- Snap-on mounting onto uprights (in compliance with reference Standards a tool must be used for removing the panel)
- Document pocket for storing descriptions of installed devices

1 module

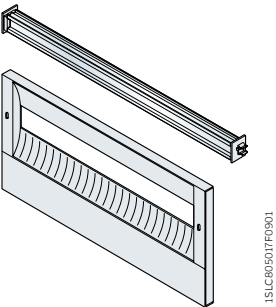
Size of the switchboard	Code	Unit/Pack
1	1SL0307A00	1/8
2	1SL0308A00	1/8
3	1SL0308A00	1/8
4	1SL0309A00	1/4
5	1SL0309A00	1/4
6	1SL0310A00	1/2

1 + 1/2 module

Size of the switchboard	Code	Unit/Pack
2	1SL0313A00	1/8
3	1SL0313A00	1/8
4	1SL0314A00	1/4
5	1SL0314A00	1/4
6	1SL0315A00	1/2



Drilled panel, 1 module



Drilled panel, 1 + 1/2 module

Blank panels

- Available in 1/2 module (H 75 mm), 1 module (H 150 mm) and 2 modules (H 300 mm) dimensions
- H 150 mm and H 300 panels designed to be hinged onto both vertical sides
- Snap-on mounting onto uprights (in compliance with reference Standards a tool must be used for removing the panel)

1/2 module

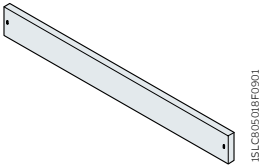
Size of the switchboard	Code	Unit/Pack
1	1SL0318A00	1/10
2	1SL0319A00	1/10
3	1SL0319A00	1/10
4	1SL0320A00	1/6
5	1SL0320A00	1/6
6	1SL0321A00	1/4

1 module

Size of the switchboard	Code	Unit/Pack
1	1SL0324A00	1/8
2	1SL0325A00	1/8
3	1SL0325A00	1/8
4	1SL0326A00	1/4
5	1SL0326A00	1/4
6	1SL0327A00	1/4

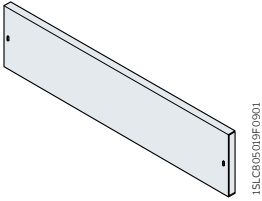
2 modules

Size of the switchboard	Code	Unit/Pack
1	1SL0330A00	1/6
2	1SL0331A00	1/6
3	1SL0331A00	1/6
4	1SL0332A00	1/4
5	1SL0332A00	1/4
6	1SL0333A00	1/4



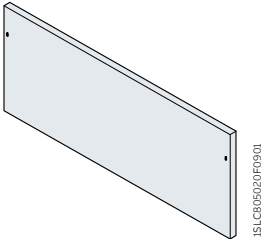
Blank panel, 1/2 module

1SL0305018F0901



Blank panel, 1 module

1SL0305019F0901



Blank panel, 2 modules

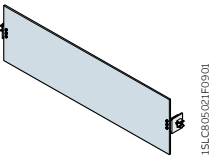
1SL0305020F0901

Automation boards

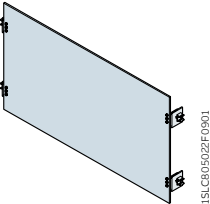
Components for distribution and mixed applications

Partial modular plates

- Available in 1 module (H 150 mm) and 2 module (H 300 mm, sizes 2-6) dimensions
- Snap-on mounting onto uprights with depth adjustment.



Partial modular plate,
1 module



Partial modular plate,
2 modules

1 module

Size of the switchboard	Code	Unit/Pack
1	1SL0296A00	1/6
2	1SL0297A00	1/4
3	1SL0297A00	1/4
4	1SL0298A00	1/4
5	1SL0298A00	1/4
6	1SL0299A00	1/2

2 modules

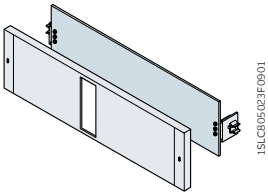
Size of the switchboard	Code	Unit/Pack
2	1SL0302A00	1/4
3	1SL0302A00	1/4
4	1SL0303A00	1/4
5	1SL0303A00	1/4
6	1SL0304A00	1/2

Kit for installing Tmax XT moulded-case circuit breakers

- For installing Tmax XT moulded-case circuit breakers in fixed version with front terminals
- Composed of a plate with special drilled holes and a protection panel with vertical slots that can be hinged on both sides and snap-on mounted (in compliance with reference Standards a tool must be used for removing the panel)
- Available for sizes 2-6
- Snap-on mounting onto uprights with the possibility of adjusting the plate depth

H 150 mm

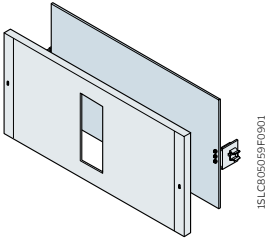
Size of the switchboard	Code	Unit/Pack
2	1SL0373A00	1/4
3	1SL0373A00	1/4
4	1SL0374A00	1/4
5	1SL0374A00	1/4
6	1SL0375A00	1/2



H 150 mm

H 300 mm

Size of the switchboard	Code	Unit/Pack
2	1SL0376A00	1/4
3	1SL0376A00	1/4
4	1SL0377A00	1/4
5	1SL0377A00	1/4
6	1SL0378A00	1/2



H 300 mm

Automation boards

Components for distribution and mixed applications

Kit selection

Size	Installation	XT1				XT2				XT3				XT4			
		3p	4p	3p D	4p D	3p	4p	3p D	4p D	3p	4p	3p D	4p D	3p	4p	3p D	4p D
1	D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	O1	■	■	■	■	■	■	■	■	■	■			■	■		
	T	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	K1	■	■	■													
	K2		■	■	■					■	■	■	■				
	O1	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■
	O2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	T	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3	D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	K1	■	■	■													
	K2		■	■	■					■	■	■	■				
	O1	■	■	■	■	■	■	■	■	■	■	■		■	■	■	
	O2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	T	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
4	D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	K1	■	■	■													
	K2		■	■	■					■	■	■	■				
	O1	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■
	O2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	T	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
5	D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	K1	■	■	■													
	K2		■	■	■					■	■	■	■				
	O1	■	■	■	■	■	■	■	■	■	■	■		■	■	■	
	O2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	T	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6	D	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	K1	■	■	■													
	K2		■	■	■					■	■	■	■				
	O1	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■
	O2	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	T	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Caption

- D, installation on DIN rail
- K1, installation with Tmax kit H = 150 (holes made)
- K2, installation with Tmax kit H = 300 (holes made)
- O1, installation on modular plate (1 module, H = 150 mm)
- O2, installation on modular plate (2 modules, H = 300 mm)
- T, installation on total base plate

Wiring kits

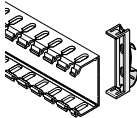
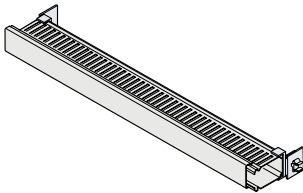
- composed of wiring duct in versions 25x60 mm and 40x60 mm (WxH, 8-12 mm slots) and Fix-O-Rapid
- Snap-on mounting on uprights with depth adjustment

Wiring duct 25x60 mm

Size of the switchboard	Code	Unit/Pack
1	1SL0353A00	1/4
2	1SL0354A00	1/4
3	1SL0354A00	1/4
4	1SL0355A00	1/4
5	1SL0355A00	1/4
6	1SL0356A00	1/4

Wiring duct 40x60 mm

Size of the switchboard	Code	Unit/Pack
1	1SL0360A00	1/4
2	1SL0361A00	1/4
3	1SL0361A00	1/4
4	1SL0362A00	1/4
5	1SL0362A00	1/4
6	1SL0363A00	1/4



Wiring kit

1SLC8015015F0901

Automation boards

Accessories

Gemini switchboards have the same accessories for both automation and distribution applications, ensuring maximum versatility and integration of functions. In particular, the ventilation and anti-condensation kits make it even safer for the devices to run, protecting them from the effects of heat and humidity while the wall brackets, pole mounting kit and pedestal make it easier to install the switchboards in any context.

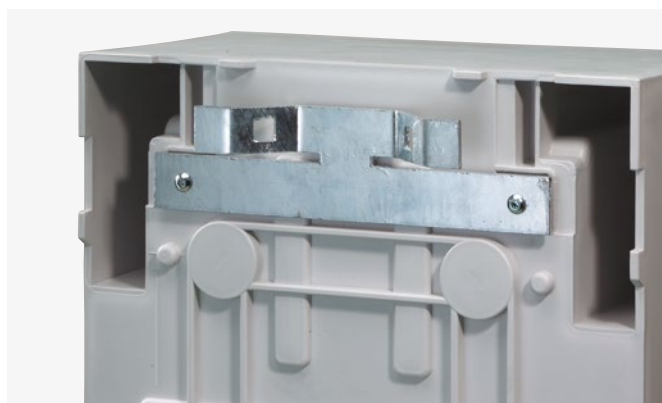
Three different kinds of locks are supplied for the doors with which it is possible to replace the standard double bit model. The universal drill bit can be used to open the side branch connections. Module covers hide the unused modules of the DIN rail guaranteeing IP40 protection when the door is open in distribution and mixed configurations.



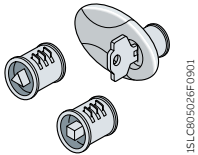
The standard locks supplied can be replaced by the version with ciphered key and handle or with square or triangular impression.



Gemini wall-mounted installation using the special mounting brackets.



The fact that Gemini switchboards can also be pole-mounted (see photo above) or mounted on a special pedestal (see photo at the side) makes them suitable for any application situation.

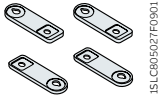


Locks

Locks

Available in three versions with ciphered key and handle, with triangular and square impressions.

Description	Code	Unit/Pack
Lock with Yale type ciphered key and handle	1SL0340A00	1/10
Lock with triangular impression	1SL0341A00	1/10
Lock with square impression	1SL0339A00	1/10
Tamper-proof locking kit (code 1SLO340A00 included)	1SL0458A00	1/10
Gemini standard lock	1SL0459A00	1/10

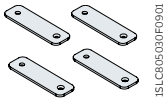


Plastic wall brackets

Mounting elements

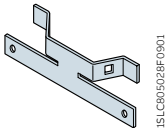
Guarantee optimum wall, pole and floor mounting conditions.

Description	Code	Unit/Pack
Horizontal and vertical plastic wall brackets (4 pieces)*	1SL0342A00	1/10
Horizontal and vertical plastic wall brackets UL listed (4 pieces)	1SLM006600A0342	1/10
Horizontal and vertical stainless steel wall brackets (4 pieces)	1SL0401A00	1/10
Pole mounting kit for sizes 1 switchboards**	1SL0343A00	1/4
Pole mounting kit for sizes 2-3 switchboards**	1SL0344A00	1/4
Pole mounting kit for sizes 4-5 switchboards**	1SL0345A00	1/2
Pole mounting kit for size 6 switchboards**	1SL0346A00	1/2
IP43 Floor mounting pedestal for sizes 1-4	1SL0352A00	1/1

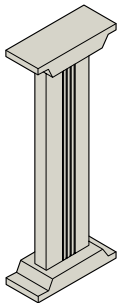


Stainless steel wall brackets

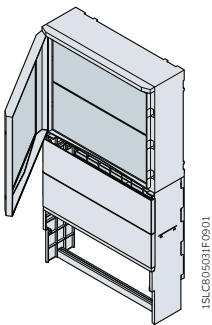
* There are two types of inserts for adapting brackets to ø 6 e 8 mm fixing devices.
** The kit includes two elements for fixing the upper and the lower part of the switchboard.



Pole mounting kit



Floor mounting pedestal



Pedestal

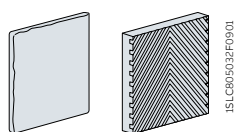
Pedestals

Allows the application of the Gemini switchboard to the ground without the need to prepare the construction of concrete footings or foundations when the pedestal is buried.

Description	Code	Unit/Pack
Pedestal Gemini size 4	1SL0464A00	1/1
Pedestal Gemini size 5	1SL0465A00	1/1
Pedestal Gemini size 6	1SL0466A00	1/1

Automation boards

Accessories



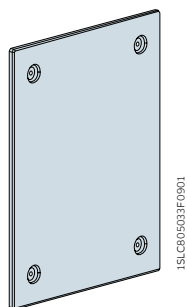
Ventilation kit

IP21/54 ventilation kits

- Composed of plastic grills and filter to ensure switchboard ventilation.
- Degree of protection without filter: IP21.
- Degree of protection with filter: IP54.
- Preassembled seal.

Description	Dimensions (mm)	Code	Unit/Pack
Grid + air flow kit	105x105	EN0105K	1/1
Grid + air flow kit (not suitable for size. 1)	150x150	EN0150K	1/1
Grid + air flow kit (not suitable for size. 1)	204x204	EN0204K	1/1

Note: screws not included; use 4 self lock screws 2,9x13 or ask for order code 1SL0384A00.

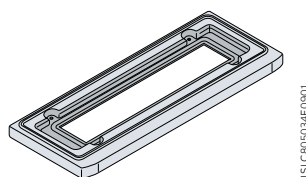


Base cover

Base covers

For aesthetic as well as functional purposes, in particular for pedestal installations.

Size of the switchboard	Code	Unit/Pack
1	1SL0385A00	1/4
2	1SL0386A00	1/4
3	1SL0387A00	1/2
4	1SL0388A00	1/2
5	1SL0389A00	1/2
6	1SL0390A00	1/2

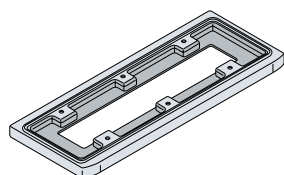


Coupling kit

Coupling kits

It follows the aesthetic outline of the boxes.

Description	Code	Unit/Pack
Vertical coupling kit for sizes 2-3 switchboards	1SL0413A00	1/2
Vertical coupling kit for sizes 4 switchboards	1SL0414A00	1/2
Vertical coupling kit for sizes 5 switchboards	1SL0415A00	1/2
Vertical coupling kit for sizes 6 switchboards	1SL0416A00	1/2

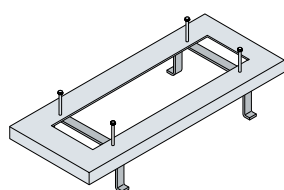


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Bottom base**Bottom bases H 30**

For fixing the Gemini switchboard directly to the floor.

Description	Code	Unit/Pack
Bottom base for size 2-3 switchboards	1SL0423A00	1/2
Bottom base for size 4 switchboards	1SL0424A00	1/2
Bottom base for size 5 switchboards	1SL0425A00	1/2
Bottom base for size 6 switchboards	1SL0426A00	1/2

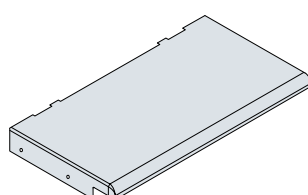


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Fixed frame**Fixed frames**

- In combination with bottom base H 30
- For fixing onto poured concrete floors and bases.

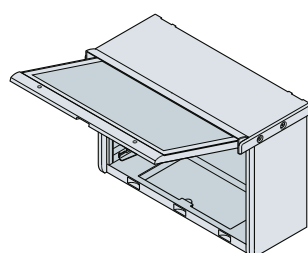
Description	Code	Unit/Pack
Fixed frame for size 2-3 switchboards	1SL0433A00	1/2
Fixed frame for size 4 switchboards	1SL0434A00	1/2
Fixed frame for size 5 switchboards	1SL0435A00	1/2
Fixed frame for size 6 switchboards	1SL0436A00	1/2



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Integral cover**Integral covers**

Description	Code	Unit/Pack
Integral cover for size 1 switchboard	1SL0451A00	1/1
Integral cover for size 2-3 switchboard	1SL0452A00	1/1
Integral cover for size 4 switchboard	1SL0454A00	1/1
Integral cover for size 5 switchboard	1SL0455A00	1/1
Integral cover for size 6 switchboard	1SL0456A00	1/1



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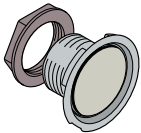
Horizontal Kit Gemini**Horizontal Kits**

Kit for a proper opening of switchboard upward.

Description	Code	Unit/Pack
Horizontal Kit Gemini size 3	1SL0470A00	1/1
Horizontal Kit Gemini size 4	1SL0471A00	1/1
Horizontal Kit Gemini size 5	1SL0472A00	1/1
Horizontal Kit Gemini size 6	1SL0473A00	1/1

Automation boards

Accessories



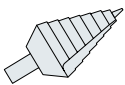
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Base socket

Anti-condensation kits

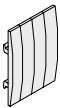
- Kit in special material to prevent condensation from forming inside the switchboard:
it include **GORE™** MEMBRANE VENTING
- Impermeable to water (pressure): 0.6 bar / 60 sec.
- Air flow: 400 ml/min. (dp = 70 mbar)
- 1 kit for sizes 1-2, 2 kits for sizes 3-4 and 3 kits for sizes 5-6 are recommended to guarantee adequate dissipation; in any case the number of kits to be installed depend on the number and type of devices installed inside the switchboard.
- IP66

Description	Code	Unit/Pack
Anti-condensation kit	1SL0351A00	1/6



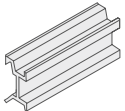
1SLC805040F0901

Universal drill bit



1SLC805041F0901

Module covers



1SLC805042F0901

Spacer

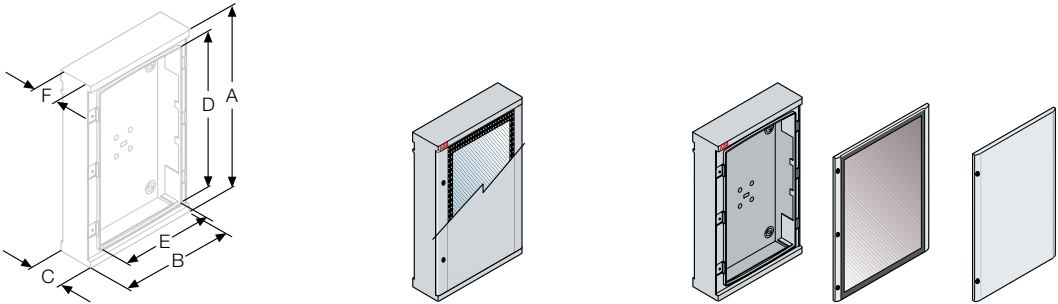
Other accessories

Description	Code	Unit/Pack
Universal drill bit	12894	1/30
Module covers in RAL 7035 grey, 4 modules	12863	25/300
Plastic spacer for installing modular devices and moulded-case circuit breakers at the same depth	12851	10/60
Small bag plate mounting kit	1SL0383A00	1/10
Small bag for ventilation kit	1SL0384A00	10/50

Automation boards

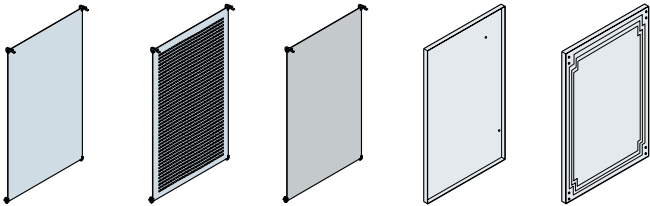
Fast selection table

Basic configuration

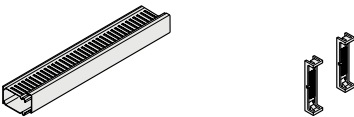


Size	No. of installable DIN modules (mod. x row)	No. of vertical mod. (H=150 mm)	External dimensions			Internal dimensions			Complete switchboard		Box	Door	
			A	B	C	D	E	F	Transparent door	Opaque door		Transparent	Opaque
1	24 (12x2)	2	400	335	210	300	250	180	1SL0211A00	1SL0201A00	1SL0221A00	1SL0241A00	1SL0231A00
2	54 (18x3)	3	550	460	260	450	375	230	1SL0212A00	1SL0202A00	1SL0222A00	1SL0242A00	1SL0232A00
3	72 (18x4)	4	700	460	260	600	375	230	1SL0213A00	1SL0203A00	1SL0223A00	1SL0243A00	1SL0233A00
4	96 (24x4)	4	700	590	260	600	500	230	1SL0214A00	1SL0204A00	1SL0224A00	1SL0244A00	1SL0234A00
5	120 (24x5)	5	855	590	360	750	500	330	1SL0215A00	1SL0205A00	1SL0225A00	1SL0245A00	1SL0235A00
6	216 (36x6)	6	1005	840	360	900	750	330	1SL0216A00	1SL0206A00	1SL0226A00	1SL0246A00	1SL0236A00

Components for automation



Size	Base plate			Inner door	
	Blank	Drilled	Insulating	Former version	New version
1	1SL0259A00	1SL0275A00	1SL0267A00	1SL0251A00	-
2	1SL0260A00	1SL0276A00	1SL0268A00	1SL0252A00	-
3	1SL0261A00	1SL0277A00	1SL0269A00	-	1SL0253A00
4	1SL0262A00	1SL0278A00	1SL0270A00	-	1SL0254A00
5	1SL0263A00	1SL0279A00	1SL0271A00	-	1SL0255A00
6	1SL0264A00	1SL0280A00	1SL0272A00	-	1SL0256A00



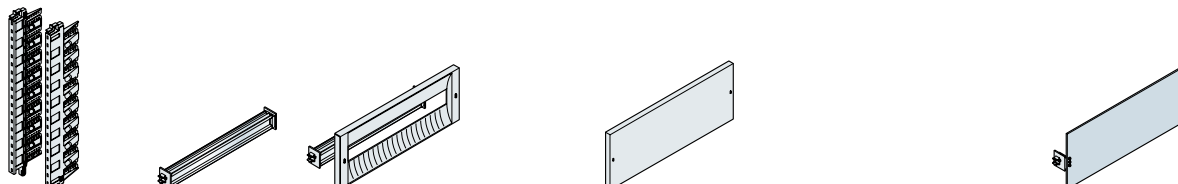
Accessories for distribution

Wiring ducts	Fix-O-Rapid
See pag. 2/8-2/9	See pag. 2/9

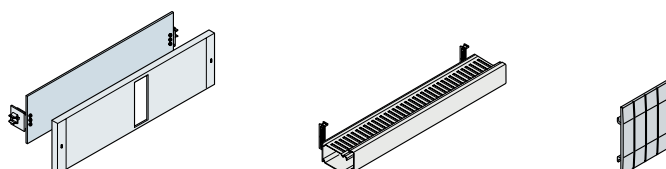
Automation boards

Fast selection table

Components for automation



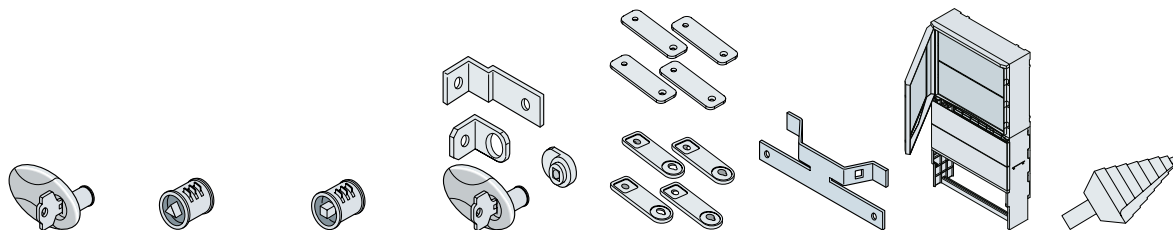
Size	Uprights	DIN rail	Drilled panel		Blank panel			Modular plate	
			H=150 mm	H=225 mm	H=75 mm	H=150mm	H=300 mm	H=150 mm	H=300 mm
1	1SL0283A00	1SL0290A00	1SL0307A00	-	1SL0318A00	1SL0324A00	1SL0330A00	1SL0296A00	-
2	1SL0284A00	1SL0291A00	1SL0308A00	1SL0313A00	1SL0319A00	1SL0325A00	1SL0331A00	1SL0297A00	1SL0302A00
3	1SL0285A00	1SL0291A00	1SL0308A00	1SL0313A00	1SL0319A00	1SL0325A00	1SL0331A00	1SL0297A00	1SL0302A00
4	1SL0285A00	1SL0292A00	1SL0309A00	1SL0314A00	1SL0320A00	1SL0326A00	1SL0332A00	1SL0298A00	1SL0303A00
5	1SL0286A00	1SL0292A00	1SL0309A00	1SL0314A00	1SL0320A00	1SL0326A00	1SL0332A00	1SL0298A00	1SL0303A00
6	1SL0287A00	1SL0293A00	1SL0310A00	1SL0315A00	1SL0321A00	1SL0327A00	1SL0333A00	1SL0299A00	1SL0304A00



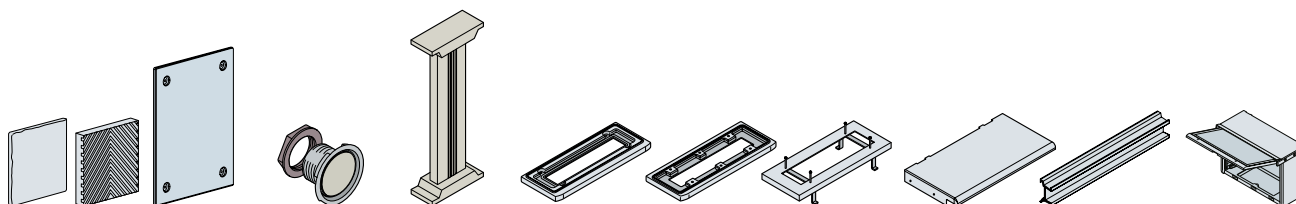
Accessories for distribution

Size	Kit for Tmax XT		x-O-Rapid kit with wiring duct		Module covers RAL 7035
	H. 150 mm	H. 300 mm	25x60 mm	40x60 mm	
1	-	-	1SL0353A00	1SL0360A00	12863
2	1SL0373A00	1SL0376A00	1SL0354A00	1SL0361A00	
3	1SL0373A00	1SL0376A00	1SL0354A00	1SL0361A00	
4	1SL0374A00	1SL0377A00	1SL0355A00	1SL0362A00	
5	1SL0374A00	1SL0377A00	1SL0355A00	1SL0362A00	
6	1SL0375A00	1SL0378A00	1SL0356A00	1SL0363A00	

Accessories common to the whole range



Size	Lock with handle	Lock with triangular impression	Lock with square impression	Anti tampering locking kit	Mounting brackets	Pole installation kit	Pedestal	Universal drill bit	Base mounting kit for metal plate
1	1SL0340A00	1SL0341A00	1SL0339A00	1SL0458A00	See pag. 2/20	1SL0343A00	-	12894	1SL0383A00
2						1SL0344A00	-		
3						1SL0344A00	-		
4						1SL0345A00	1SL0464A00		
5						1SL0345A00	1SL0465A00		
6						1SL0346A00	1SL0466A00		



Size	Ventilation kit	Base cover	Anti condensation kit	Floor pedestal	Coupling kit	Bottom base H 30	Fixed frame	Integral cover	Depth adapter	Horizontal kit
1	See pag. 2/21	1SL0385A00	1SL0351A00	1SL0352A00	-	-	-	1SL0451A00	12851	-
2		1SL0386A00			1SL0413A00	1SL0423A00	1SL0433A00	1SL0452A00		1SL0470A00
3		1SL0387A00			1SL0413A00	1SL0423A00	1SL0433A00	1SL0452A00		1SL0471A00
4		1SL0388A00			1SL0414A00	1SL0424A00	1SL0434A00	1SL0454A00		
5		1SL0389A00	-	-	1SL0415A00	1SL0425A00	1SL0435A00	1SL0455A00		1SL0472A00
6		1SL0390A00	-	-	1SL0416A00	1SL0426A00	1SL0436A00	1SL0456A00		1SL0473A00

Automation boards

General characteristics of SR2 Enclosures

The range of SR2 enclosures is a complete offer of monobloc enclosures for constructing small and medium-sized electric automation, switching and control switchboards.

The SR2 enclosures come from the experience ABB has gained over the years in building IP65 metal structures (in accordance with the IEC 60529 Standard), together with the innovative new production process used for construction and patented by ABB.

The typical use of SR2 Enclosures is to make switchgear and controlgear switchboards for a very wide variety of industrial machines: from large machinery with automated production lines or parts of these, down to the typical installations of on-board machine switchboards, boilers, heating plants and so on.

They conform to the EN 62208 Standard "Empty enclosures for low voltage protection switchgear and controlgear assemblies" and allow realization of electrical equipment conforming to the prescriptions of the IEC 60204-1 Standard "Safety of machinery. Electrical equipment of machines" and of the EN 60439-1 Standard and the new EN 61439-1-2 Standard "Low voltage protection switchgear and controlgear for assemblies". The degree of protection, in accordance with the IEC 60529 Standard "Degrees of protection of enclosures (IP Code)", is IP65.

The SR2 enclosures have also passed the control required to obtain the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) Type 12 marks.

The SR2 enclosures also allow secondary distribution switchboards to be made, thanks to the possibility, in the 400, 600 and 800 mm widths, of installing the whole range of apparatus and modular circuit-breakers on DIN rails combined with special pre-drilled and hinged modular front panels, thereby allowing construction of AS/ANS type electrical switchgear conforming to the IEC 60439-1 Standard and the new EN

61439-1-2 Standard. A single line of metalwork structures therefore allows construction of automation and secondary and end distribution electrical switchboards thanks to the availability of a series of accessories (modular panels, DIN rails) and to the possibility of stacking the enclosures.



The SR2 enclosures are available in two versions (blind door or glazed door) and in 23 different dimensions, as well as a further 19 combinations obtained by stacking the enclosures, up to a maximum height of 2000 mm, which guarantee ample selection possibilities for the various end applications.

The SR2 enclosures have been designed to fulfil all the typical needs of the builder or installer of switchgear in the best way possible and the user is presented with a unique ensemble of functional characteristics:

- wide dimensional range
- certified IP65 degree of protection
- internal galvanised sheet mounting plate with 20/10 thickness (made to allow threaded holes to be made easily), adjustable in depth by using a special accessory
- fairlead plate screwed on (at top and bottom) made of 15/10 thick galvanised sheet, with a sealing gasket applied inside
- complete reversibility of the enclosure, so the door can open either on the right or on the lefthand side
- possibility of installing all the apparatus and modular circuit-breakers on a DIN rail combined with a hinged modular panel

The standard colour is RAL 7035 orange peel. On request, the SR2 enclosures can be ordered in a wide range of RAL colours (see page 7/12).

Both the enclosures with glazed door or blind door can be stacked:

stacking is done simply by removing the fairlead plates and inserting the IP65 sealing gasket (GZ....), made of neoprene with closed cells.

Assembly of the stacked enclosures is carried out by means of the same holes used for the fairlead plates.

The door is supplied with the enclosure (single code) so as to reduce the number of articles and assembly times.





Automation boards

General characteristics of SR2 Enclosures

The range is completed with a series of accessories: brackets for wall assembly, rain shield top cover, locks of various types, internal document pocket, spacers, and spray paint for touching up. It is possible floor fixing by means plinth.



Plastic document pocket, RAL 7035, size A4, the pocket is apply within the solid doors wider than 400 mm, with stickers provided.





Many closure systems can replace the standard closures of the external doors. The inserts are interchangeable and easily replaced by loosening a nut.



The brackets for wall mounting allows installation of the boxes on the wall using the holes located on the back of the enclosure.



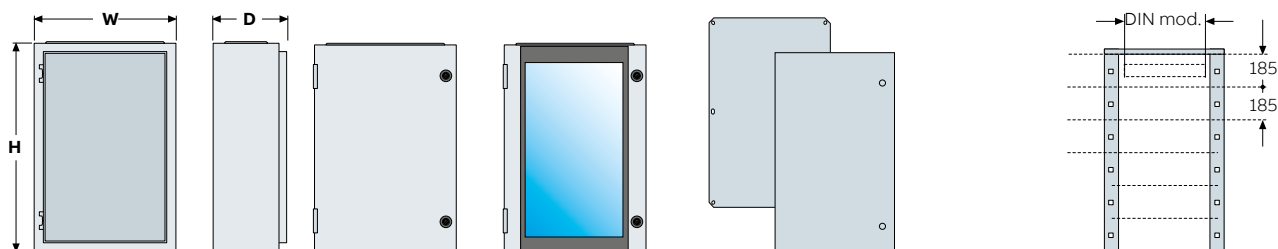
The bars, made of electrolytic copper with M6 threaded holes in 25 mm, can be mounted on mounting plates using the appropriate supports.

Technical characteristics		
Conformity with Standard	IEC 62208, IEC 61439-1-2	
Degree of protection	IP65 (IEC 60529) TYPE 12 (UL standard) Nema 3R (UL standard)	
Degree of mechanical strength	IK10 blind door	
	IK09 glazed door	
	(IEC 62262)	
Certifications	 	
Type of material	Metallic	
Installation site	Indoors	
Fixing method	floor/wall	
Normal service conditions - ambient temperature	from -5 up to +40°C	
Operating climate (t°/Ur%)	costant	23°C/83% - 40°C/93%
	variable	23°C/98% - 40°C/98%

Automation boards

Selection table - SR2 enclosures

Quick selection table

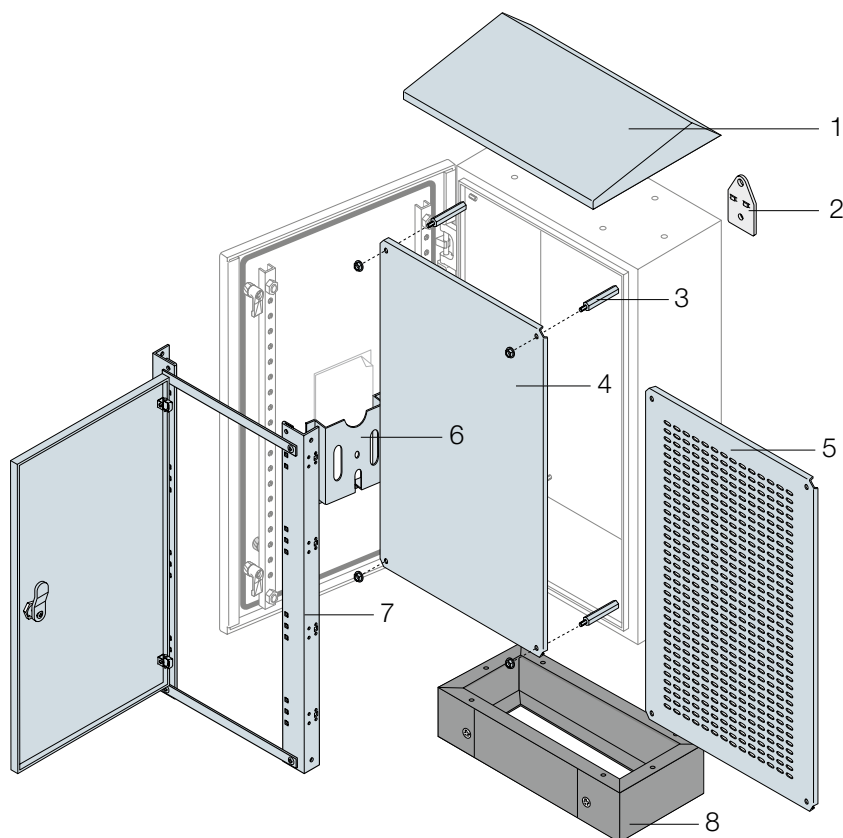


Overall dimensions			Enclosures	Kit for automation			Kit for distribution Supports for mounting modular panels			
H mm	W mm	D mm	Enclosures with blind door + back plate	with glazed door *	Blind counterdoor	Back plate	No. vertical mod. H=185mm	No. DIN mod. per row	Total modules	DIN Supports
300	200	150	SRN3215K							
	300		SRN3315K							
	400		SRN3415K							
400	300	150	SRN4315K							
	300	200	SRN4320K							
	400		SRN4420K							
	600		SRN4620K							
500	300	200	SRN5320K							
	400		SRN5420K	SRN5420VK*	KC5040K	PF5040	2	14	28	KD5040K
	400	250	SRN5425K	SRN5425VK*	KC5040K	PF5040	2	14	28	KD5040K
600	400	200	SRN6420K	SRN6420VK*	KC6040K	PF6040	3	14	42	KD6040K
	400	250	SRN6425K	SRN6425VK*	KC6040K	PF6040	3	14	42	KD6040K
	600		SRN6625K							
700	500	200	SRN7520K	SRN7520VK*	KC7050K	PF7050				
	500	250	SRN7525K	SRN7525VK*	KC7050K	PF7050				
800	600	250	SRN8625K	SRN8625VK*	KC8060K	PF8060	4	25	100	KD8060K
	600	300	SRN8630K	SRN8630VK*	KC8060K	PF8060	4	25	100	KD8060K
	800		SRN8830K							
1000	600	250	SRN10625K	SRN10625VK*	KC1060K	PF1060	5	25	125	KD1060K
	600	300	SRN10630K	SRN10630VK*	KC1060K	PF1060	5	25	125	KD1060K
	800		SRN10830K	SRN10830VK*	KC1080K	PF1080	5	36	180	KD1080K
1200	600	300	SRN12630K	SRN12630VK*	KC1260K	PF1260	6	25	150	KD1260K
	800		SRN12830K	SRN12830VK*	KC1280K	PF1280	6	36	216	KD1280K

* The mounting plate must be ordered separately.

Automation boards

Ordering codes - SR2 enclosures



1 - Spray protection roof
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2 - Wall-mounting brackets
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3 - Spacers for back plates
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4 - Blind internal plate
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5 - Slotted internal plate
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6 - Document pocket
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7 - Counterdoor
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8 - Plinth
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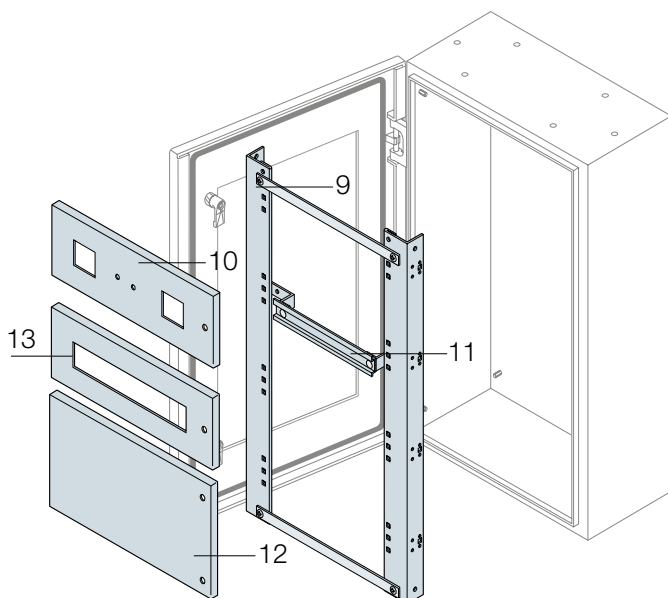
9 - Frame for DIN rail
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10 - Modular panels for apparatuses
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11 - DIN rail
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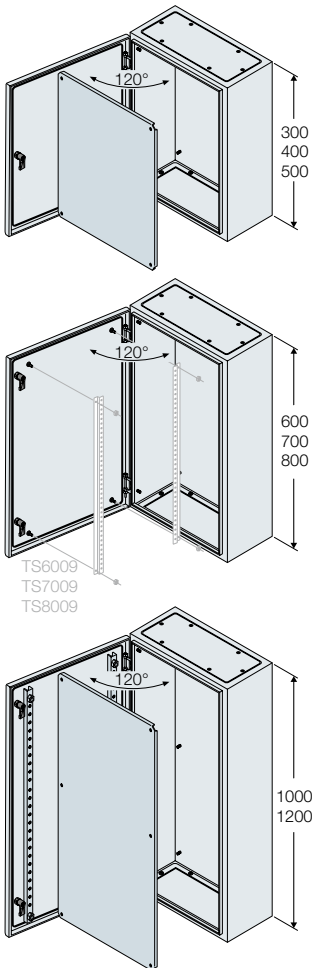
12 - Blind modular panels
Page 19/56

13 - Modular panel for DIN rail
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SR2 Enclosures with blind door (internal plate included)

The enclosures with blind door, typically for making automation switchgear, are already fitted with the internal galvanised sheet mounting plate.



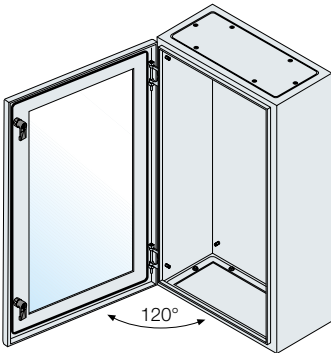
Enclosures with blind door (internal plate included)				
Dimensions (mm)			Code	Package/ No. of pieces
H	W	D		
300 ⁽¹⁾	200	150	SRN3215K	1/1
	300	150	SRN3315K	1/1
	400	150	SRN3415K	1/1
400 ⁽¹⁾	300	150	SRN4315K	1/1
	300	200	SRN4320K	1/1
	400	200	SRN4420K	1/1
	600	200	SRN4620K	1/1
500 ⁽¹⁾	300	200	SRN5320K	1/1
	400	200	SRN5420K	1/1
	400	250	SRN5425K	1/1
600	400	200	SRN6420K	1/1
	400	250	SRN6425K	1/1
	600	250	SRN6625K	1/1
700	500	200	SRN7520K	1/1
	500	250	SRN7525K	1/1
800	600	250	SRN8625K	1/1
	600	300	SRN8630K	1/1
	800	300	SRN8830K	1/1
1000*	600	250	SRN10625K	1/1
	600	300	SRN10630K	1/1
	800	300	SRN10830K	1/1
1200*	600	300	SRN12630K	1/1
	800	300	SRN12830K	1/1

⁽¹⁾ The enclosures with height less or equal to 500mm have only a closing box.

* Plates height 1000 / 1200mm have six mounting points .

Automation boards

Ordering codes - SR2 enclosures



Enclosures with glazed door

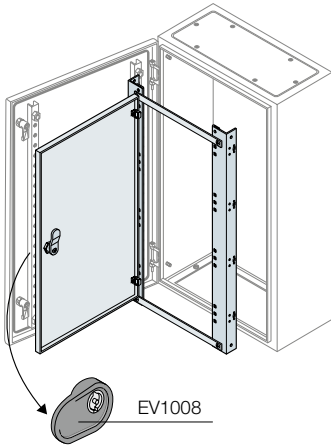
The enclosures with glazed door are also used for distribution configurations. The internal equipment is made, alternatively, by selecting the special kits:

- KD... (Distribution Kit) consisting of a pair of functional uprights for assembly of the modular panels (to be ordered separately) and of any compensation panel.

The modular panels, which can also be installed on the enclosures with blind door with the help of the KD.. kit itself, are all hinged and have vertical modularity of 185 mm.

Enclosures with glazed door				
Dimensions (mm)			Code	Package/ No. of pieces
H	W	D		
500 ⁽¹⁾	400	200	SRN5420VK	1/1
	400	250	SRN5425VK	1/1
600	400	200	SRN6420VK	1/1
	400	250	SRN6425VK	1/1
700	500	200	SRN7520VK	1/1
	500	250	SRN7525VK	1/1
800	600	250	SRN8625VK	1/1
	600	300	SRN8630VK	1/1
1000	600	250	SRN10625VK	1/1
	600	300	SRN10630VK	1/1
	800	300	SRN10830VK	1/1
1200	600	300	SRN12630VK	1/1
	800	300	SRN12830VK	1/1

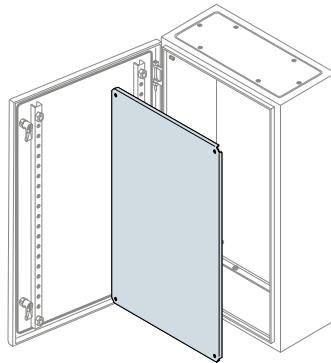
⁽¹⁾ The enclosures with height less or equal to 500mm hare only a closing box.



Blind counterdoor

The internal counterdoor guarantees IP20 degree of protection. Made of steel sheet 15/10mm thick, galvanized and painted orange peel RAL 7035 colour, complete with the EV1008 ergonomic box and insert with double tongue.

Blind counterdoor			
Dimensions (mm)			Package/ No. of pieces
H	W	Code	
500	400	KC5040K	1/1
600	400	KC6040K	1/1
700	500	KC7050K	1/1
800	600	KC8060K	1/1
1000	600	KC1060K	1/1
1000	800	KC1080K	1/1
1200	600	KC1260K	1/1
1200	800	KC1280K	1/1



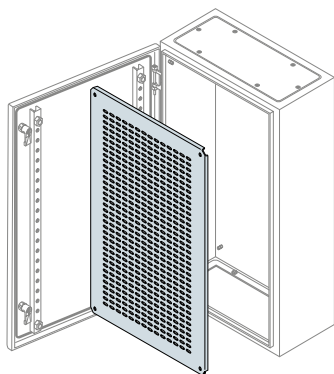
Blind internal mounting plate

Internal galvanised sheet mounting plate 20/10mm thick complete with fixing with small items provided. Possibility of adjusting the depth with the help of a special spacer kit (to be ordered separately).

Blind back plate for enclosure			
Dimensions (mm)			Package/ No. of pieces
H	W	Code	
300	200	PF3020	1/1
300	300	PF3030	1/1
300	400	PF3040	1/1
400	300	PF4030	1/1
400	400	PF4040	1/1
400	600	PF4060	1/1
500	300	PF5030	1/1
500	400	PF5040	1/1
600	400	PF6040	1/1
600	600	PF6060	1/1
700	500	PF7050	1/1
800	600	PF8060	1/1
800	800	PF8080	1/1
1000	600	PF1060	1/1
1000	800	PF1080	1/1
1200	600	PF1260	1/1
1200	800	PF1280	1/1

Automation boards

Ordering codes - SR2 enclosures

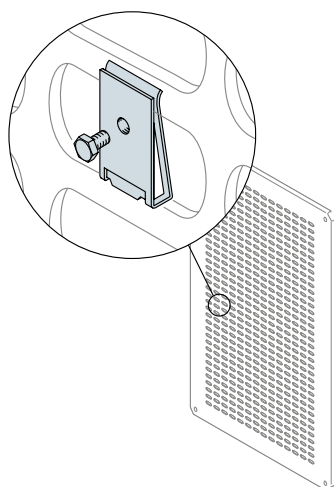


Slotted internal mounting plate

Fixing with small items provided. Possibility of adjusting the depth with the help of a special spacer kit (to be ordered separately).

Back plate for enclosure

Dimensions (mm)			Package/ No. of pieces
W	H	Code	
200	300	TQ3020	1/1
300	300	TQ3030	1/1
400	300	TQ3040	1/1
300	400	TQ4030	1/1
400	400	TQ4040	1/1
600	400	TQ4060	1/1
300	500	TQ5030	1/1
400	500	TQ5040	1/1
400	600	TQ6040	1/1
600	600	TQ6060	1/1
500	700	TQ7050	1/1
600	800	TQ8060	1/1
800	800	TQ8080	1/1
600	1000	TQ1060	1/1
800	1000	TQ1080	1/1
600	1200	TQ1260	1/1
800	1200	TQ1280	1/1



Clip nuts

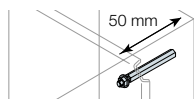
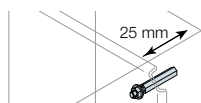
For slotted plates with M6x10mm hexagonal head screws.

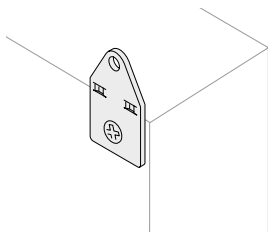
Description	Code	Package/ No. of pieces
No.20 clip nuts	TQ6610	1/20

Spacer Kit for adjusting the depth of the back plates

Kit consisting of 12 spacers for fixing the back plate with the possibility of adjusting the depth with 25 mm pitch.

Description	Code	Package/ No. of pieces
Spacers 25mm long	AA8025	1/12
Spacers 50mm long	AA8050	1/12

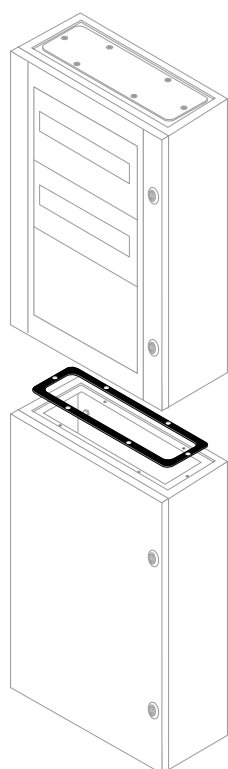




Brackets for wall fixing

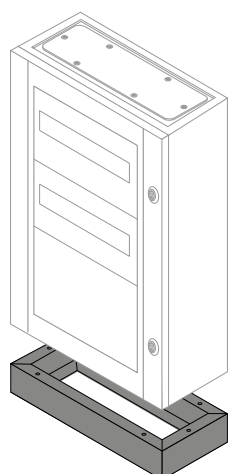
These allow wall installation of the enclosures and are mounted by using the special holes positioned on the rear of the enclosures.

Description	Code	Package/ No. of pieces
Brackets for wall fixing	AA1206	1/4



Accessories for stacking

Dimensions (mm)			Package/ No. of pieces
W	D	Code	
IP65 gasket			
400	200	GZ4020	1/1
	250	GZ4025	1/1
600	200	GZ6020	1/1
	250	GZ6025	1/1
	300	GZ6030	1/1
800	300	GZ8030	1/1



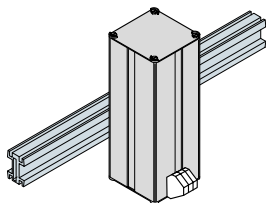
Plinth

Steel plinth 25/10 thick grey RAL7012 color.

Plinth				
Dimensions (mm)				Package/ No. of pieces
W	D	H	Code	
400	200	100	ZA4020	1/1
	250	100	ZA4025	1/1
600	250	100	ZA6025	1/1
	300	100	ZA6030	1/1
800	300	100	ZA8030	1/1

Automation boards

Ordering codes - SR2 enclosures



Temperature management

Heater for IP20 electrical switchboards

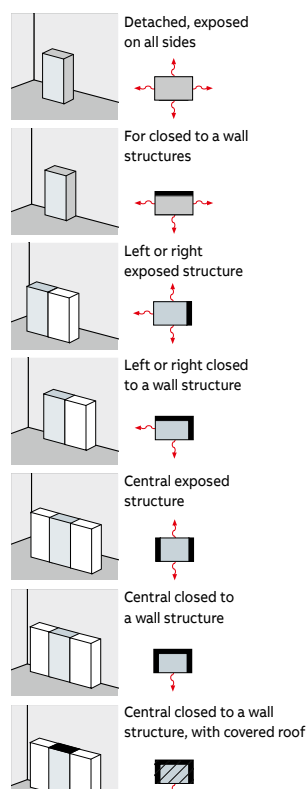
Their use prevents condensation in the electric cabinets. They consist of a heating element (PTC thermistor) inserted in an aluminium alloy ground plate. The PTC thermistor is a component which modifies its impedance according to the operating temperature. It is intrinsically stable and ensures primary safety features for the heater and service stability.

The main qualities of the heaters using PTC are:

- electrical absorption (or dissipated power) which is almost constant in
- the range of power supply voltage between 100 and 250V;
- electrical absorption bound by inverse law to the trend of the ambient temperature.

The special tubular geometry of the ground plate allows efficient thermal exchange with the heating element. This allows high powers and limited overall dimensions (especially in width and depth); Snap-on assembly on 35 mm DIN rail. Requires a thermostat.

Description	Dimensions (mm)			Code	Package/ No. of pieces
	H	W	D		
Anti-condensation heater 30W, 110-240 Vac-dc	115	42	42	VA7930	1/1
Anti-condensation heater 50W, 110-240 Vac-dcc	165	42	42	VA7950	1/1
Anti-condensation heater 75W, 110-240 Vac-dc	210	42	42	VA7975	1/1
Anti-condensation heater 100W, 110-240 Vac-dc	165	42	51	VA7910	1/1
Anti-condensation heater 150W, 110-240 Vac-dc	146	82	51	VA7915	1/1
Anti-condensation heater with fan 300W, 230 Vac-dc	148	82	91	VA8300	1/1



All the heaters with PTC absorb a higher power than the rated one on inrush according to a transitory which lasts a few tenths of a second.

If the heaters are to be supplied by means of an auxiliary transformer, its apparent power must be sized taking 1.5 times the rated power of the heaters with natural aeration and twice those with forced ventilation into consideration.

IEC 890 method for calculating the effective cooling surface (CEI 17-43 method)

The total power dissipation P of an enclosure is linked to the exchange effective dissipating surface S , the ΔT difference between the inner and outer temperature and the k coefficient of heat exchange relative to the material of the enclosure:

$$P = k * \Delta T * S$$

$$k = 5,5 \text{ for painted steel}$$

$$\Delta T = T_1 - T_2;$$

$$T_1 = \text{dew point temperature (on average } 25^\circ\text{C)}$$

$$T_2 = \text{minimum ambient temperature.}$$

The exchange surface S can be calculated using the following table taken from the CEI 17-43

Disposition of the cabinet	Calculating the enclosure surface S (mm ²)	Dimensions (m)
Detached, exposed on all sides	$S = 1,8 \times H \times (L+P) + 1,4 \times L \times P$	L = width H = height P = depth
For closed to a wall structures	$S = 1,4 \times L \times (H+P) + 1,8 \times P \times H$	
Left or right exposed structure	$S = 1,4 \times P \times (H+L) + 1,8 \times L \times H$	
Left or right closed to a wall structure	$S = 1,4 \times H \times (P+L) + 1,4 \times L \times P$	
Central exposed structure	$S = 1,8 \times L \times H + 1,4 \times L \times P + P \times H$	
Central closed to a wall structure	$S = 1,4 \times L \times (H+P) + P \times H$	
Central closed to a wall structure, with covered roof	$S = 1,4 \times L \times H + 0,7 \times L \times P + P \times H$	

Using a SRN8630K box, in “for closed to a wall structures” case we will obtain:

$$T_1 = 25\text{ °C}; T_2 = 20\text{ °C}; K = 5,5; \Delta T = (25-20) = 5\text{ °C}; S = 1,4\text{m}^2$$

The total power dissipation P obtained will be:

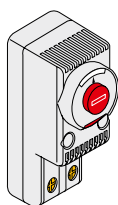
$$P = k \times \Delta T \times S = 38,5\text{ W}$$

The recommended heater is VA7950 (50W).

Temperature management

IP20 Thermostat

Conforms to EN 60730-1, CE and cURus standards, IP20 degree of protection. Grey RAL 7035 colour; electrical life 100,000 cycles. Dimensions (HxWxD) 68x29x45mm, can be mounted on DIN rail. The version with NO (normally open) contact allows closure of a circuit activating ventilation, air conditioning, or alarms. The version with NC (normally closed) contact allows opening of a circuit, disconnecting any anti-condensation resistances.

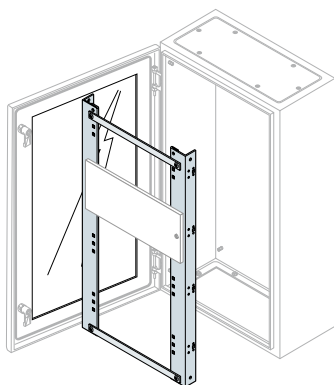


Description	Standard power supply V~/50-60Hz	Code	Package/ No. of pieces
NO ventilation thermostat	12-60 V d.c.; 110-250V a.c.	EN0101K	1/1
NC heating thermostat	12-60 V d.c.; 110-250V a.c.	EN0102K	1/1

Code	Standard power supply V~/50-60Hz	Contact capacity		Temperature scale	Type of contact	Weight
		Load Ω	Load L			
EN0101K	12-60 V d.c.; 110-250V a.c.	10A	2A	-10 +80 °C	NO	54g
EN0102K	12-60 V d.c.; 110-250V a.c.	10A	2A	-10 +80 °C	NC	54g

Frame for DIN rail

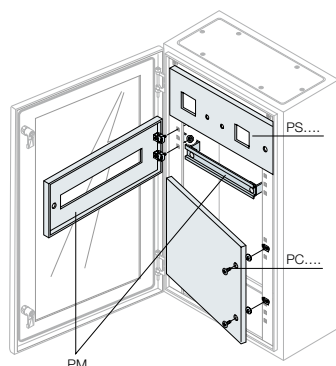
Internal supports for fixing modular panels and DIN rails, colour RAL 7035 orange peel.



Description	Dimensions (mm)		Code	Package/ No. of pieces
	H	W		
Supports 14 mod. DIN x 2 rows	500	400	KD5040K	1/1
Supports 14 mod. DIN x 3 rows	600	400	KD6040K	1/1
Supports 25 mod. DIN x 4 rows	800	600	KD8060K	1/1
Supports 25 mod. DIN x 5 rows	1000	600	KD1060K	1/1
Supports 36 mod. DIN x 5 rows	1000	800	KD1080K	1/1
Supports 25 mod. DIN x 6 rows	1200	600	KD1260K	1/1
Supports 36 mod. DIN x 6 rows	1200	800	KD1280K	1/1

Automation boards

Ordering codes - SR2 enclosures



Modular panels

Modular panels made of 12/10mm thick sheet steel painted RAL 7035 colour orange peel. The modular hinged panels can be mounted on the enclosures by using the special kit (KD...) consisting of functional uprights and compensation panel. The hinges patented by ABB, allow automatic earthing for panel contact when it is closed and are also suitable conventional earthing (with a cable). Each modular panel (PM) has a DIN rail provided (adjustable in depth), the fixing brackets and the relative small items. Modular and circuit-breakers and Tmax moulded-case circuit-breakers up to T3 can be placed side by side on the same DIN rail using the special depth adapter AP6001. To install moulded-case circuit-breakers, it is necessary to fix the DIN rail in a position towards the back. The fixing brackets of the DIN rail allow the wiring duct to be mounted up to a maximum size of 60 x 60 mm.

Modular hinged panels for modular apparatus (DIN rail and fixing brackets included)

Description	Dimensions (mm)			Package/ No. of pieces
	H	W	Code	
14 mod. DIN + fixing bracket	185	400	PM1414K	1/1
25 mod. DIN + fixing bracket	185	600	PM1625K	1/1
36 mod. DIN + fixing bracket	185	800	PM1836K	1/1

Modular hinged panels for measuring instruments

Description	Dimensions (mm)			Package/ No. of pieces
	H	W	Code	
2 instruments 72 x 72mm	185	400	PS2476K	1/1
2 instruments 72 x 72mm	185	600	PS2676K	1/1
2 instruments 72 x 72mm	185	800	PS2876K	1/1

Modular hinged blind panels

Description	Dimensions (mm)			Package/ No. of pieces
	H	W	Code	
Blind panel	185	400	PC1406K	1/1
Blind panel	185	600	PC1606K	1/1
Blind panel	185	800	PC1806K	1/1
Blind panel	370	600	PC2606K	1/1
Blind panel	370	800	PC2806K	1/1

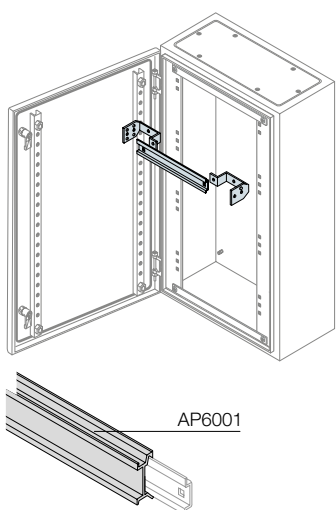
DIN rail and fixing brackets

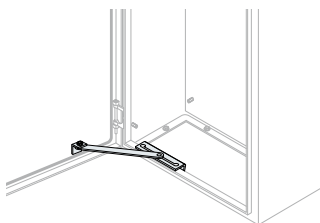
Description	No. of modules	W (mm)	Code	Package/ No. of pieces
DIN rail and fixing brackets	14	400	GD4006	1/1
DIN rail and fixing brackets	25	600	GD6006	1/1
DIN rail and fixing brackets	36	800	GD8006	1/1
Depth adapter				
No.1 depth adapter for Tmax T1-T2-T3-XT1-XT3 W=600mm			AP6001	1/4

Polished flange for DIN-Rail mounting

Description	Code	Package/ No. of pieces
Polished flange for XT1 3P mounted on DIN rail	AD3301	1/1
Polished flange for XT1 4P mounted on DIN rail	AD3302	1/1
Polished flange for XT3 3P mounted on DIN rail	AD3303	1/1
Polished flange for XT3 4P mounted on DIN rail	AD3304	1/1

Already supplied in the DIN-Rail mounting kit for breakers in MCCBs catalogue

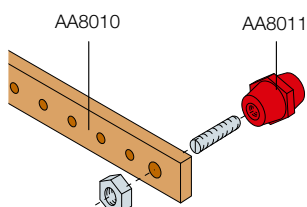




Door anti-closure device

It can't be mounted with the inner-door or with modular/blind panels mounted down in structure and hinged.

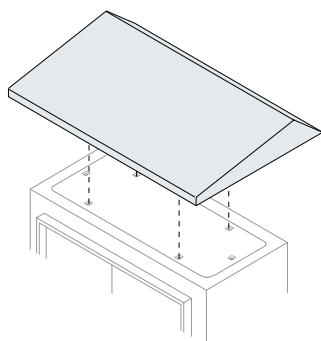
Description	Code	Package/ No. of pieces
Door anti-closure device	EV0015	1/4



Neutral or earthing busbars

The busbars, made of electrolytic copper with M6 threaded holes with 25 mm pitch, can be mounted on the back plates by means of the special supports. They must be sized according to the enclosure and the position they are installed in.

Description	W (mm)	Code	Package/ No. of pieces
No. 4 busbars sect. 20x5mm	1000	AA8010	1/4
No.5 support for busbar		AA8011	1/5



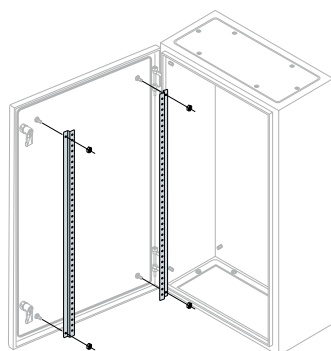
Spray protection roofs

To improve protection against entry of liquids and rain. Made of 15/10mm thick sheet steel, painted RAL 7035 colour orange peel.

Spray protection roof			Package/ No. of pieces
Dimensions (mm)			
W	D	Code	
200	150	TT2015K	1/1
300	150	TT3015K	1/1
400	150	TT4015K	1/1
300	200	TT3020K	1/1
400	200	TT4020K	1/1
500	200	TT5020K	1/1
600	200	TT6020K	1/1
400	250	TT4025K	1/1
500	250	TT5025K	1/1
600	250	TT6025K	1/1
600	300	TT6030K	1/1
800	300	TT8030K	1/1

Shaped sections for accessories

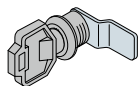
These allow fixing of accessories (e.g. wiring ducts) inside the blind doors. They consist of a pair of vertical crosspieces made of 15/10mm thick white galvanised sheet, pre-drilled with 25 mm pitch. In the enclosures with 1000 and 1200 mm height with blind door, the shaped sections are already provided.



Description	Dimensions (mm)		Package/ No. of pieces
	H	Code	
No. 2 shaped sections for door	600	TS6009	1/1
No. 2 shaped sections for door	700	TS7009	1/1
No. 2 shaped sections for door	800	TS8009	1/1
No. 2 shaped sections for door	1000	1SLM400000A9000	1/1

Automation boards

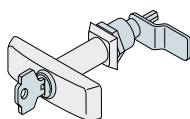
Ordering codes - SR2 enclosures



AA8001



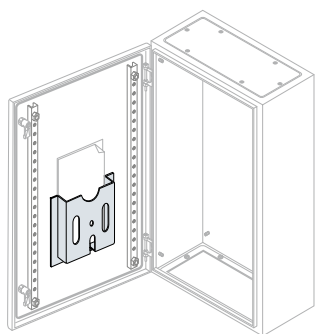
AA8002



AA8003



EV1008



Closing systems

These can replace the standard closures of the external doors.

The inserts are interchangeable and easily replaced by loosening a single nut.

Description	Code	Package/ No. of pieces
Box Ø 19 mm double tongue and plastic key (spare part)	AA8001	1/1
Box Ø 19 mm with security insert and Yale type key	AA8002	1/1
Box Ø 19 mm with handle and Yale type key	AA8003	1/1
Box Ø 19 mm with triangular insert	AA5200	1/1
Plastic key for triangular insert AA5200	AA5190	1/1
Ergonomic box complete with double tongue insert (without tongue)	EV1008	1/1
Single code Yale insert	EV1036	1/1
Ronis 455 insert for	EV1037	1/1
3mm Double tongue insert	EV1039	1/1

Document pocket RAL 7035

Made of plastic, RAL 7035 colour, A4 size. The pocket can be glued inside the blind door with a width of more than 400 mm, using the adhesives provided.

Description	Code	Package/ No. of pieces
Plastic document pocket for A4	EV1075K	1/1

Special Painting Service

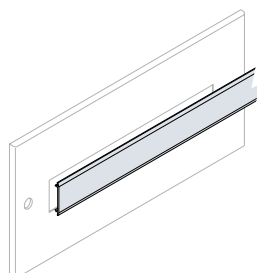
Special painting service has to manage with code of enclosure SRN....SPEC (e.g. SRN4320SPEC VERNSR + note about color required). It is necessary specify the color required in the order. Minimum order quantity 4 pieces. For any other component or further information, please contact you local sales network.

Description	Code	Package/ No. of pieces
Extra cost for special SR painting	VERNSR	

Accessories for DIN panel

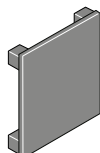
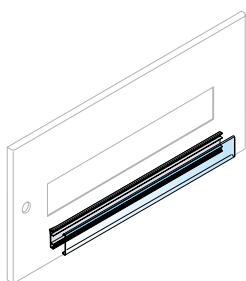
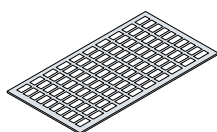
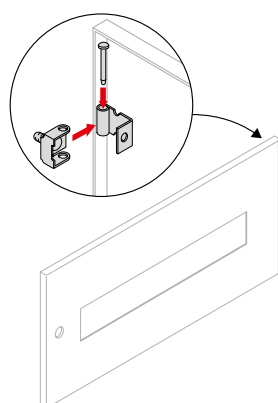
Hole covering strip RAL7035 colour

Description	Code	Package/ No. of pieces
No.10 hole covers W=2000mm, grey	AD1086	1/10
No.3 hole covers 24 DIN modules W=600mm	AD1088	1/3
No.3 hole covers 36 DIN modules W=800mm	AD1089	1/3





EV1137

EV1135
EV1136AD1101-AD1102
AD1103-AD1104EH2118-EH2129
AD1600-AD1800

Closing plug for instrument holder panels

Description	Code	Package/ No. of pieces
No.10 closing plug for instrument holder panels 72x72mm	EV1135	1/10
No.5 closing plug for instrument holder panels 96x96mm	EV1136	1/5
No.50 tappi di chiusura per pulsanti Ø22 mm	EV1137	1/50

Adhesive name label holders

Description	Dimensions (mm)		Package/ No. of pieces
	W	Code	
No. 20 label holders 18 DIN mod	325	EH2118	1/20
No. 20 label holders 29 DIN mod	525	EH2129	1/20
No. 20 label holders 24 DIN mod	432	AD1600	1/20
No. 20 label holders 36 DIN mod	634	AD1800	1/20

Etichette scrivibili con sistema Grafoplast compatibile

Description	No. of DIN mod.	Code	Package/ No. of pieces
No. 288 labels 1 DIN mod.	1	AD1101	1/288
No. 192 labels 2 DIN mod.	2	AD1102	1/192
No. 96 labels 3 DIN mod.	3	AD1103	1/96
No. 96 labels 4 DIN mod.	4	AD1104	1/96

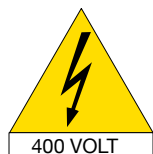
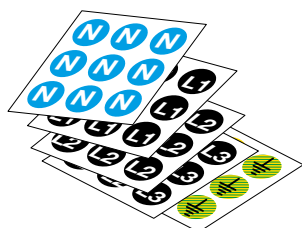
Hinges and quick closures for panels

Description	Code	Package/ No. of pieces
No. 10 hinges for panels	EH1889 ⁽¹⁾	1/10
No. 5 quick closures for front panels	EH1890	1/5

⁽¹⁾ Use No.2 hinges for panel H=150/200/300/400mm, No.3 hinges for panel H=500/600mm.

Automation boards

Ordering codes - SR2 enclosures



Marking

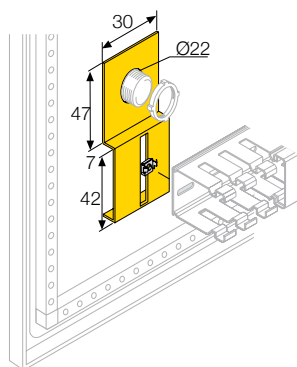
Description	Code	Package/ No. of pieces
No.5 adhesive labels ABB-IS2 W=1000mm	EV1157	1/5
No.490 adhesive labels Ø 12mm N symbol	EV1150	1/490
No.490 adhesive labels Ø 12mm L1symbol	EV1151	1/490
No.490 adhesive labels Ø 12mm L2 symbol	EV1152	1/490
No.490 adhesive labels Ø 12mm L3 symbol	EV1153	1/490
No.490 adhesive labels Ø 12mm T symbol	EV1154	1/490
No.10 triangular adhesive labels 125mm with 400V lightning arrow symbol	EV1155	1/10
No.100 triangular adhesive labels 50mm with lightning arrow symbol	EV1156	1/100

Screws for apparatus

Description	Code	Package/ No. of pieces
No.1000 perforating screws 4.2x13mm cross slotted head	EV1100	1/1000
No.1000 perforating screws 4.2x19mm cross slotted head	EV1101	1/1000
No.50 trilobed screws M6 L=10mm	AD1033	1/50

Wiring duct support brackets

Description	Code	Package/ No. of pieces
No. 100 wiring duct support brackets on upright structure	EV1131	1/100



Spare parts

Description	Code	Package/ No. of pieces
Ergonomic box complete with double tongue insert (without tongue)	EV1008	1/1
N. 10 hinges for SR2 enclosures + countersunk rivets	AA1204	1/1
N. 16 screws and nuts M6x14 for flange	AA1203	1/2
N. 2 fairlead plates for SRN3215K	FLN3215K	1/2
N. 2 fairlead plates for SRN3315K-SRN4315K	FLN3315K	1/2
N. 2 fairlead plates for SRN3415K	FLN3415K	1/2
N. 2 fairlead plates for SRN4320K-SRN5320K	FLN4320K	1/2
N. 2 fairlead plates for SRN4420K-SRN5420K-SRN6420K	FLN4420K	1/2
N. 2 fairlead plates for SRN5425K-SRN6425K	FLN4425K	1/2
N. 2 fairlead plates for SRN4620K	FLN4620K	1/2
N. 2 fairlead plates for SRN6625K-SRN8625K-SRN10625K	FLN6625K	1/2
N. 2 fairlead plates for SRN7520K	FLN7520K	1/2
N. 2 fairlead plates for SRN7525K	FLN7525K	1/2
N. 2 fairlead plates for SRN8630K-SRN10630K-SRN12630K	FLN8630K	1/2
N. 2 fairlead plates for SRN8830K-SRN10830-SRN12830K	FLN8830K	1/2
Blind door 1000x600mm (hxl)	PRN1066K	1/1
Blind door 1000x800mm (hxl)	PRN1086K	1/1
Blind door 1200x600mm (hxl)	PRN1266K	1/1
Blind door 1200x800mm (hxl)	PRN1286K	1/1
Blind door 300x200mm (hxl)	PRN3026K	1/1
Blind door 300x300mm (hxl)	PRN3006K	1/1
Blind door 300x400mm (hxl)	PRN3046K	1/1
Blind door 400x300mm (hxl)	PRN4036K	1/1
Blind door 400x400mm (hxl)	PRN4046K	1/1
Blind door 400x600mm (hxl)	PRN4066K	1/1
Blind door 500x300mm (hxl)	PRN5036K	1/1
Blind door 500x400mm (hxl)	PRN5046K	1/1
Blind door 600x400mm (hxl)	PRN6046K	1/1
Blind door 600x600mm (hxl)	PRN6066K	1/1
Blind door 700x500mm (hxl)	PRN7056K	1/1
Blind door 800x600mm (hxl)	PRN8066K	1/1
Blind door 800x800mm (hxl)	PRN8086K	1/1
Glazed door 1000x600mm (hxl)	PTN1066K	1/1
Glazed door 1000x800mm (hxl)	PTN1086K	1/1
Glazed door 1200x600mm (hxl)	PTN1266K	1/1
Glazed door 1200x800mm (hxl)	PTN1286K	1/1
Glazed door 500x400mm (hxl)	PTN5046K	1/1
Glazed door 600x400mm (hxl)	PTN6046K	1/1
Glazed door 700x500mm (hxl)	PTN7056K	1/1
Glazed door 800x600mm (hxl)	PTN8066K	1/1
Spray paint color grey RAL7035 for structure	VB7035	1/1
Spray paint color grey RAL7012 for plinth	VB7012	1/1

Automation boards

Ordering codes - SR2 enclosures



Painting Special Service

Description	Code
Extra cost for special SR painting	VERNSR

Standard size enclosures, standard colour

Special painting service with standard colour (see on the next page) for standard size enclosures in quantities equal to or greater than 4 units with single code to be managed with code SRN ... SPEC + VERNSR overprice equal to the number of enclosures + colour note to be specified in the order.

Example: SRN4320SPEC 4
VERNSR 4
COLOUR NOTE

Standard size enclosures, non-standard colour

Request feasibility of implementation by completing the relevant Form for special quotations and send it to the R&D ECS office.

Management is per offer.

If the offer is accepted and after having received it, it will be possible to place the order with the codes indicated in the offer with the following features:

Example: SRN4320SPEC 4
VERNSR 4
OFFER REFERENCE IN THE ORDER

Non-standard size enclosures, standard colour

Request feasibility of implementation by completing the relevant Form for special quotations and send it to the R&D ECS office.

Management is per offer.

If the offer is accepted and after having received it, it will be possible to place the order with the codes indicated in the offer, that will not be SRN...SPEC, but dummy ones:

Always remember to indicate the offer reference in the order.

Non-standard size enclosures, non-standard colour

Request feasibility of implementation by completing the relevant Form for special quotations and send it to the R&D ECS office.

Management is per offer.

If the offer is accepted and after having received it, it will be possible to place the order with the codes indicated in the offer, that will not be SRN...SPEC, but dummy ones:

Always remember to indicate the offer reference in the order.

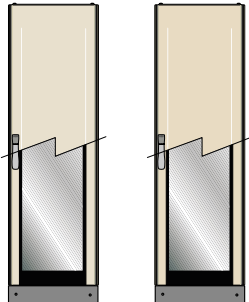
Please note that the minimum quantity is four pieces with a single code.

Automation boards

Standardised RAL colours (on request)

On request, colours other than the standard RAL 7035 orange peel one are available, using the same painting cycle (for other types of colours or paints, please contact ABB).

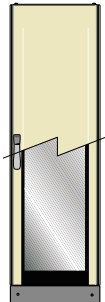
Beige



RAL 1013

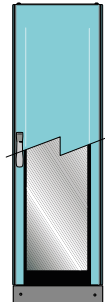
RAL 1015

Ivory

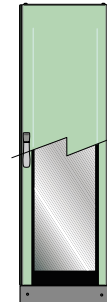


RAL 1014

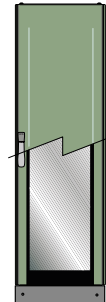
Green



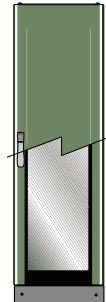
RAL 6027



RAL 6019

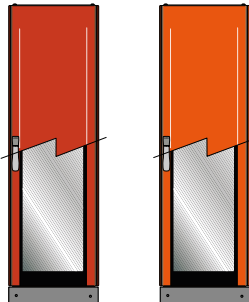


RAL 6021



RAL 6011

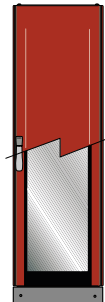
Orange



RAL 2002

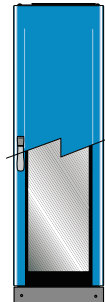
RAL 2004

Red

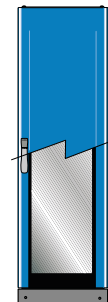


RAL 3000

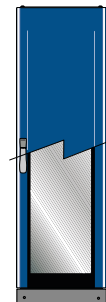
Blue



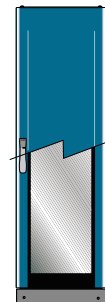
RAL 5012



RAL 5015

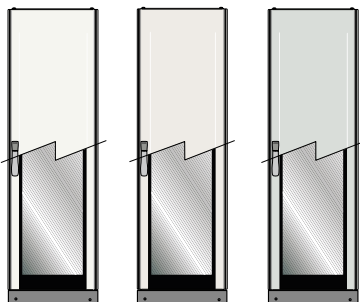


RAL 5010



RAL 5009

White

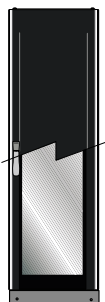


RAL 9010

RAL 9001

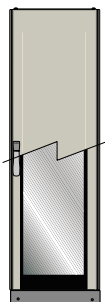
RAL 9002

Black

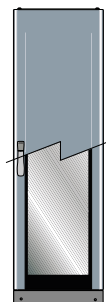


RAL 9005

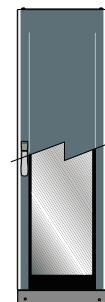
Grey



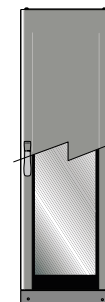
RAL 7032



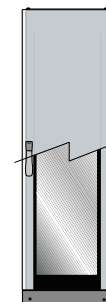
RAL 7001



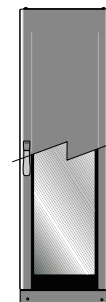
RAL 7031



RAL 7030



RAL 7035



RAL 7012

RAL	1013	1015	1014	6027	6019	6021	6011	2002	2004	3000	5012	5015
Smooth			●	●	●		●		●	●	●	●
Orange p.	●	●			●	●	●	●			●	●

RAL	5010	5009	9010	9001	9002	9005	7032	7001	7031	7030	7035	7012
Smooth	●		●		●				●		●	
Orange p.	●	●	●	●	●	●	●	●		●		●

Other types of colours are available on request.

Corrosion test in saline mist

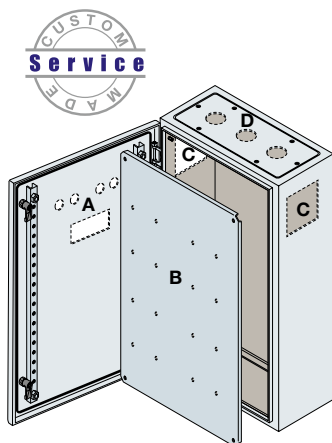
(Ref. Standard UNI ISO 9227, CEI50-5/4, IEC 60068-2-30)

Treatment time (hours)	24	48	72	96	120	144	168	192
Rust penetration	no	no	no	no	no	no	no	193 ⁽¹⁾
Blistering	no	no	no	no	no	no	no	no

⁽¹⁾ When a tearing test with adhesive tape is carried out after 193 hours of exposure, about 3 mm of paint detachment can be noted from the notch area with 1–1.5 mm rust penetration.

Automation boards

Ordering codes - SR2 enclosures



Special Drilling Service

The overprice amount depends on the number of individual drilled parts and not on the number of holes.

For single part it means: A-door B-plate; C-housing; D-top/bottom part.

Please note that the minimum quantity is 4 pieces with a single code.

The price of the special drilling service depends on the number of parts to be drilled and on the amount of enclosures to be drilled.

Description	Code	No. of enclosures to be drilled
Extra cost for drilling service per individual drilled part (A-B-C-D)	FORSR1	4-5-6
Extra cost for drilling service per individual drilled part (A-B-C-D)	FORSR2	7-8-9
Extra cost for drilling service per individual drilled part (A-B-C-D)	FORSR	≥ 10

Standard size enclosures with special drilling

The special drilling service for standard size enclosures in quantities equal to or greater than 4 units with a single code has to be managed with code SRN ... SPEC + overprice FORSR/ FORSR1/FORSR2 (see table) equal to the number of enclosures and the number of parts to be drilled + hole layout to be attached to the order (see on the next page).

Example: Enclosure (4 pcs) with door to be drilled (1 part)

Example: Enclosure (4 pcs) with door and plate to be drilled (1 parts)

SRN4320SPEC 4

FORSR1 4

DRAWINGS TO BE ATTACHED

Example: Enclosure (4 pcs) with door and plate to be drilled (2 parts)

SRN4320SPEC 4

FORSR1 8

DRAWINGS TO BE ATTACHED

Non-standard enclosure sizes, special drilling

Request feasibility of implementation by completing the relevant Form for special quotations and send it together with the drill layout to the R&D ECS office.

Management is per offer.

If the offer is accepted and after having received it, it will be possible to place the order with the codes indicated in the offer, that will not be SRN...SPEC, but dummy ones.

Always remember to indicate the offer reference in the order.

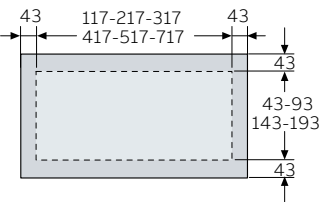
Automation boards

Overall dimensions - Drillings SR2

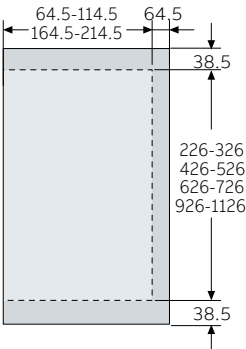
Drillings SR2

Maximum useful overall dimensions for the drillings.

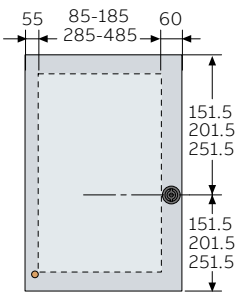
Flanges



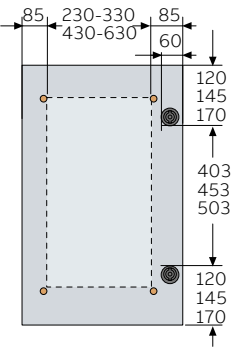
Side



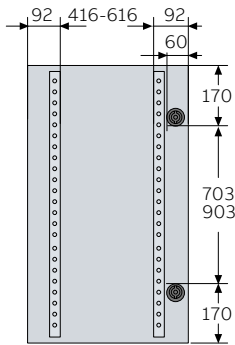
Doors H = 300-400-500



Doors H = 600-700-800



Doors H = 1000-1200



Automation boards

General characteristics and ordering codes - SR2 EMC enclosures

The range of SR2 Enclosures EMC (Electromagnetic Compatibility) version has undergone shielding efficiency tests with success according to the MIL STD 285: 1956 Standard.

This series of products is suitable for making small and medium-sized electric switchboards for automation, operation and control.

The electromagnetic compatibility problem also requires attention when selecting enclosures and cabinets.

The increased number of components in the operation and regulation electronics and the high processing speeds of signals increasingly often leave a possibility of introducing errors which can be attributed to electromagnetic interference.


These interferences may be caused continuously, periodically or at random, from internal or external sources, which generate electric, magnetic or electromagnetic fields.

The suitability tests according to MIL STD 285: 1956 ("Attenuation measurements for enclosures, electromagnetic shielding, for electronic test purposes, method of") have confirmed conformity of the SR2 EMC enclosure with the requirements of the standard.

The attenuation level (measured in dB) remains at high levels for a wide spectrum of frequencies (from 30MHz to 10GHz).

The SR2 EMC galvanized sheet enclosures are painted externally with orange peel RAL 7035 colour.

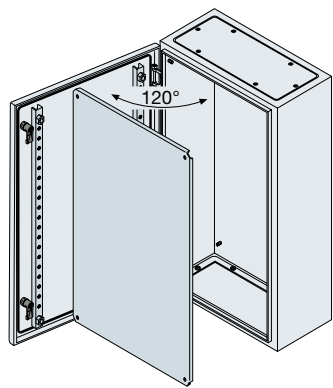
Furthermore, they do not have cable entry flanges on the roof and on the base.

Technical characteristics		
Conformity with the Standard		IEC 62208
Degree of protection		IP54 (IEC 60529)
Degree of mechanical strength		IK10 blind door (IEC 62262)
Certifications		
Type of material		Metallic
Installation site		Indoors
Fixing method		floor/wall
Normal service conditions ambient temperature		from -5 up to +40°C
Operating climate (t°/Ur%)	constant	23°C/83% - 40°C/93%
	variable	23°C/98% - 40°C/98%



Automation boards

Ordering codes - SR2 EMC enclosures



IP54 - EMC Enclosures with blind door

The enclosures with blind door, typically destined for making automation switchboards, are already provided with the internal galvanized sheet plate.

Enclosures with blind door and mounting plate

Dimensions (mm)				Package/ No. of pieces
H	W	D	Code	
400	600	200	SR4620EMCK	1/1
600	600	250	SR6625EMCK	1/1
1000	800	300	SR10830EMCK	1/1

For completion of the structure, see accessories on page 3/6



Automation boards

General characteristics and applications - SRX enclosures

The AISI 304 stainless steel used allows the cabinets to be installed either indoors or outdoors, by fixing to the floor or a wall. AISI 304 stainless steel enclosures with opaque door, usually intended for making enclosures for automation, are supplied with the galvanised sheet metal internal plate and do not have cable entry flanges.

SRX enclosures always conform to IEC EN 62208 and to IEC 61439-1-2, have a degree of protection IP66 (IEC EN 60529); NEMA 4X and NEMA 3R (UL standard). The degree of protection against external mechanical impacts is IK10 for the version with opaque door and IK09 for the version with glass door (IEC 62262).

AISI 304 stainless steel enclosures with glass door can also be used for distribution configurations. Alternatively, the

internal equipment is made by selecting special kits (Distribution Kit) consisting of a pair of functional uprights for assembly of the AISI 304 stainless steel modular panels (to be ordered separately) and any compensation panels. The modular panels, which can also be installed on the enclosures with opaque door using the same KD Kit....X, are all hinged and have vertical modularity of 185 mm.



SRX enclosures can be equipped with: standard plates, clip nuts, spacers, slotted internal plate, accessories for stacking, DIN rails and fixing brackets, shaped sections for accessories on doors, closing systems.



Spray protection roof
Improves protection against infiltration by liquids and accidental sprays. Made of AISI 304 stainless steel.





Distribution kit
All apparatuses and modular circuit breakers can be installed on a DIN rail combined with a modular panel.



Stacking
SRX enclosures can be stacked using the special kit. The plinth with removable flanges is made of 25/10 thick AISI 304 stainless steel.



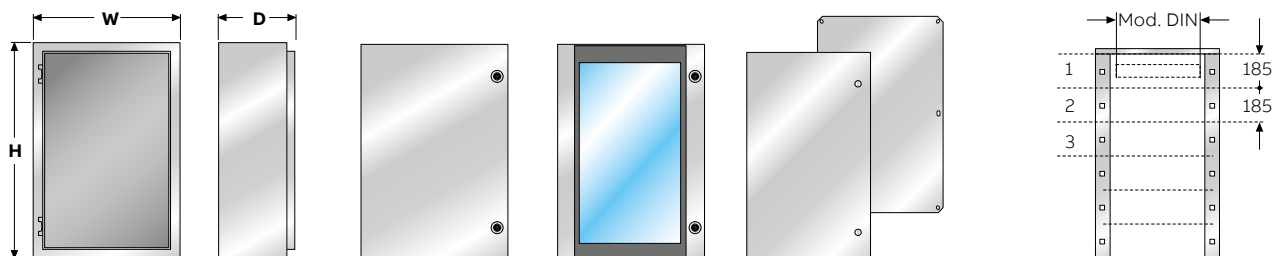
Closing box
A new Ø19 mm closing box made of chrome-finished plastic with double tongue key.

Technical characteristics	
Conforms to	CEI EN 62208, IEC 61439-1-2
Degree of protection	IP66 (CEI EN 60529) NEMA 4X (UL standard) NEMA 3R (UL standard)
Degree of mechanical protection	IK10 opaque door IK09 glass door (IEC 62262)
Certifications	  II 3 G D
Type of material	AISI 304
Installation site	indoors/outdoors
Fixing method	floor/wall
Normal operating conditions - ambient temperature	from -5 to +55°C

Automation boards

Selection of the structure - SRX enclosures

Rapid selection table

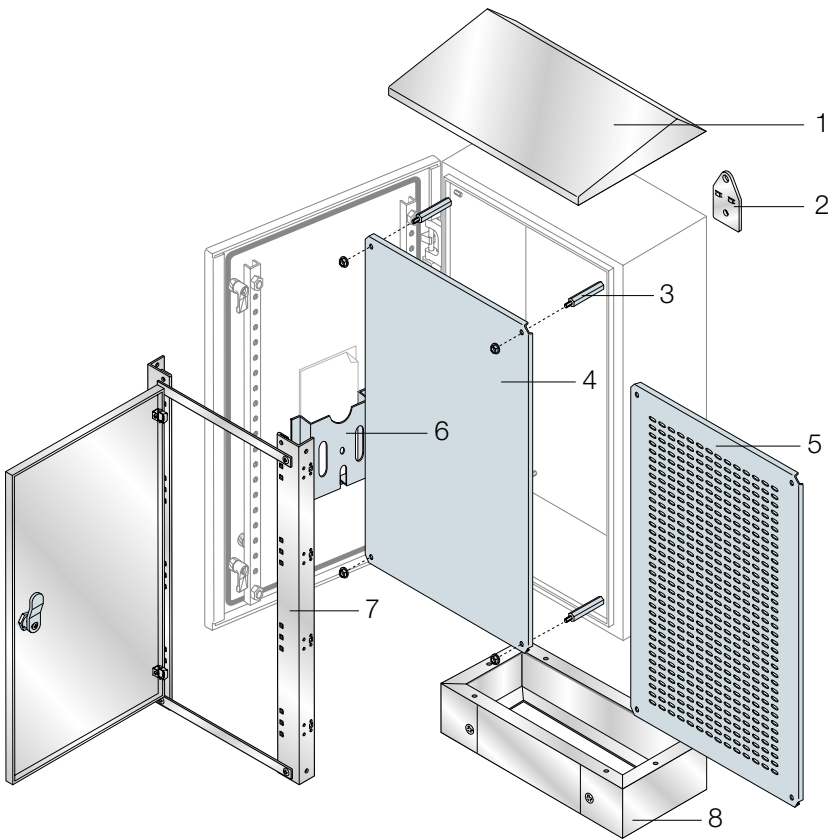


Overall dimensions					Automation kit		Distribution kit Supports for mounting modular panels			
H mm	W mm	D mm	Enclosures with opaque door + mounting plate	Enclosures with transparent door ¹	Opaque inner door IP20	Opaque plate	No. of vertical mod. H=185mm	No. of DIN mod. per row	Total modules	DIN supports
300	200	150	SRN3215X			PF3020				
	400	150	SRN3415X			PF3040				
400	300	150	SRN4315X		KC4030X	PF4030				
		200	SRN4320X							
	400	200	SRN4420X			PF4040				
	600	200	SRN4620X			PF4060				
500	400	200	SRN5420X	SRN5420VX	KC5040X	PF5040	2	14	28	KD5040X
	500	200	SRN5520X			PF5050				
600	400	200	SRN6420X	SRN6420VX	KC6040X	PF6040	3	14	42	KD6040X
		200	SRN6620X			PF6060				
	300	SRN6630X								
700	500	250	SRN7525X	SRN7525VX	KC7050X	PF7050				
800	600	200	SRN8620X		KC8060X	PF8060	4	25	100	KD8060X
		250		SRN8625VX				25	100	
		300	SRN8630X					25	100	
	800	300	SRN8830X			PF8080				
1000	800	300	SRN10830X	SRN10830VX	KC1080X	PF1080	5	36	180	KD1080X
1200	600	300	SRN12630X			PF1260				
	800	300	SRN12830X			PF1280				

¹ Mounting plate to be ordered separately.

Automation boards

Ordering codes - SRX enclosures



1 - Spray protection roof	
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2 - Wall-mounting brackets	
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3 - Spacers for back plates	
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4 - Opaque internal plate	
Page	19/73

5 - Slotted internal plate	
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6 - Document pocket	
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7 - Opaque inner door	
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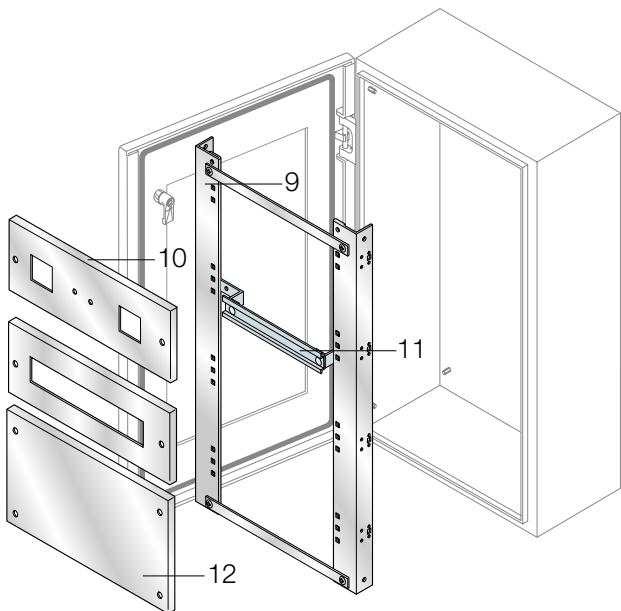
8 - Plinth	
Page	19/76

9 - Frame for DIN rail	
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10 - Modular panels for apparatuses	
Page	19/77

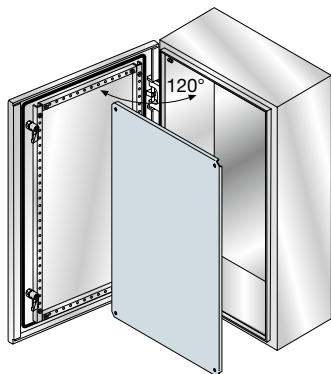
11 - DIN rail	
Page	19/78

12 - Opaque modular panels	
Page	19/77



Automation boards

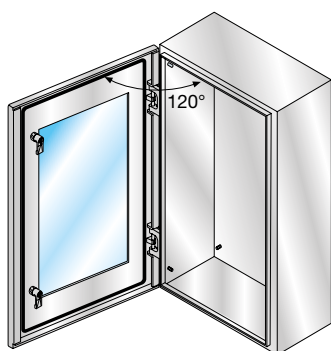
Ordering codes - SRX enclosures



SRX series enclosures with opaque door (internal plate included)

Enclosures with an opaque door, made of AISI 304 stainless steel, usually intended for producing enclosures for automation, come supplied with the galvanised sheet metal internal plate and do not have cable entry flanges.

Enclosures with opaque door complete with internal mounting plate				
Dimensions (mm)				Package/ No. of pieces
H	W	D	Code	
300	200	150	SRN3215X	1/1
	400		SRN3415X	1/1
400	300	150	SRN4315X	1/1
	300	200	SRN4320X	1/1
	400		SRN4420X	1/1
	600		SRN4620X	1/1
500	400	200	SRN5420X	1/1
	500		SRN5520X	1/1
600	400	200	SRN6420X	1/1
	600		SRN6620X	1/1
	600	300	SRN6630X	1/1
700	500	250	SRN7525X	1/1
800	600	200	SRN8620X	1/1
	600	300	SRN8630X	1/1
	800		SRN8830X	1/1
1000	800	300	SRN10830X	1/1
1200	600	300	SRN12630X	1/1
	800		SRN12830X	1/1

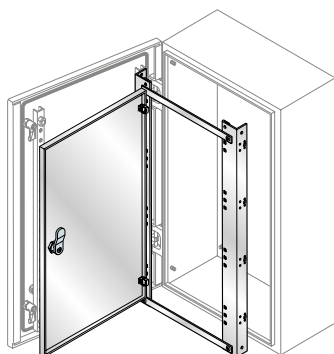


SRX series stainless steel enclosures with transparent door

AISI 304 stainless steel enclosures with a glass door can also be used for distribution configurations. The internal equipment is set up using the relevant kits:

- KD...X (Distribution Kit) consisting of a pair of functional uprights for assembly of the modular panels made of AISI 304 stainless steel (to be ordered separately) and of any compensation panels. The modular panels, which can also be installed on the enclosures with opaque door using the KD kit, are all hinged and have vertical modularity of 185 mm. The enclosures with see-through door are provided without mounting plate.

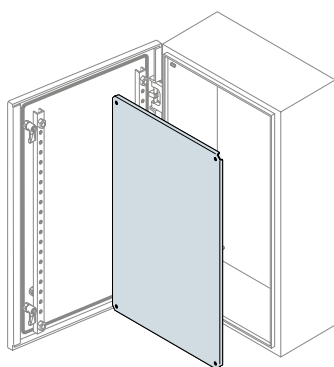
Enclosures with transparent door				
Dimensions (mm)				Package/ No. of pieces
H	W	D	Code	
500	400	200	SRN5420VX	1/1
600	400		SRN6420VX	1/1
700	500	250	SRN7525VX	1/1
800	600		SRN8625VX	1/1
1000	800	300	SRN10830VX	1/1



Opaque inner door

The inner door guarantees a degree of protection of IP20. Made of 15/10 thick AISI 304 stainless steel, complete with box and double tongue insert.

Opaque inner door			
Dimensions (mm)			Package/ No. of pieces
H	W	Code	
400	300	KC4030X	1/1
500	400	KC5040X	1/1
600		KC6040X	1/1
700	500	KC7050X	1/1
800	600	KC8060X	1/1
1000	800	KC1080X	1/1



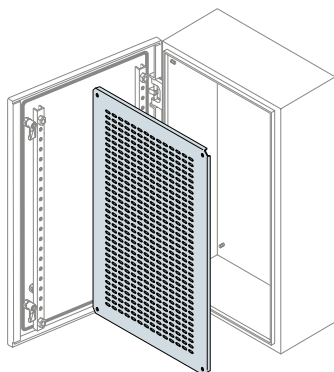
Opaque internal mounting plate

20/10 thick galvanised sheet metal internal plate, complete with fixing with small parts supplied. Depth-adjustable using a special spacer kit (to be ordered separately).

Opaque internal mounting plate			
Dimensions (mm)			Package/ No. of pieces
H	W	Code	
300	200	PF3020	1/1
300	400	PF3040	1/1
400	300	PF4030	1/1
400	400	PF4040	1/1
400	600	PF4060	1/1
500	400	PF5040	1/1
500	500	PF5050	1/1
600	400	PF6040	1/1
600	600	PF6060	1/1
700	500	PF7050	1/1
800	600	PF8060	1/1
800	800	PF8080	1/1
1000	800	PF1080	1/1
1200	600	PF1260	1/1
1200	800	PF1280	1/1

Automation boards

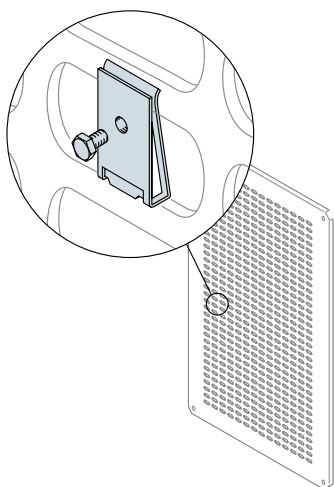
Ordering codes - SRX enclosures



Slotted internal plate

Fixing with small parts supplied. Depth-adjustable using a special spacer kit (to be ordered separately).

Piastra interna asolata			
Dimensions (mm)			Package/ No. of pieces
H	W	Code	
300	200	TQ3020	1/1
300	400	TQ3040	1/1
400	300	TQ4030	1/1
400	400	TQ4040	1/1
400	600	TQ4060	1/1
500	400	TQ5040	1/1
600	400	TQ6040	1/1
600	600	TQ6060	1/1
700	500	TQ7050	1/1
800	600	TQ8060	1/1
800	800	TQ8080	1/1
1000	800	TQ1080	1/1
1200	600	TQ1260	1/1
1200	800	TQ1280	1/1



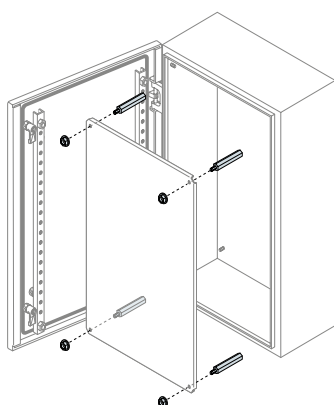
Clip nuts

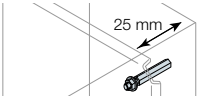
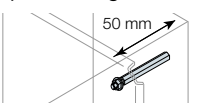
For slotted plates with M6x10mm hexagonal head screws.

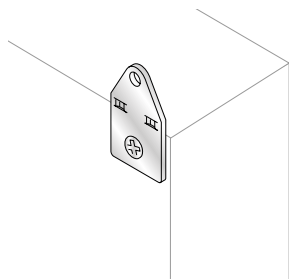
Description	Code	Package/ No. of pieces
Clip nuts	TQ6610	1/20

Spacer kit for adjusting back plate depth

Kit made up of 12 spacers for fixing the mounting plate. Allows depth adjustment in 25 mm steps.



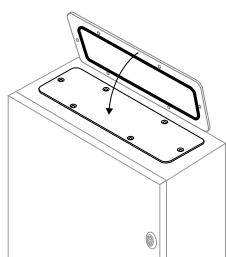
Description	Code	Package/ No. of pieces
Spacers, length 25 mm 	AA8025	1/12
Spacers, length 50 mm 	AA8050	1/12



Wall-mounting brackets

Allow enclosures to be wall-mounted and are fitted using the special holes located on the back of the enclosures. Made of 30/10 thick AISI 304 stainless steel.

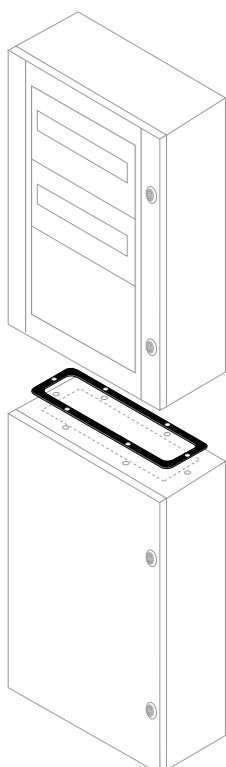
Description	Code	Package/ No. of pieces
No. 4 wall-mounting brackets	AA1206X	1/4



Fairlead plates

Fairlead plates in 25/10 thick AISI 304 stainless steel with polyurethane gasket.

Description	Dimensions (mm)		Code	Package/ No. of pieces
	W	D		
Fairlead plate) for SRN3215X	200	150	FLN3215X	1/1
Fairlead plate for SRN4315X	300	150	FLN4315X	1/1
Fairlead plate for SRN3415X	400	150	FLN3415X	1/1
Fairlead plate for SRN4320X, SRN4320VX	300	200	FLN4320X	1/1
Fairlead plate for SRN4420X, SRN5420X, SRN6420X, SRN5420VX, SRN6420VX	400	200	FLN4420X	1/1
Fairlead plate 500x200mm for SRN5520X	500	200	FLN5520X	1/1
Fairlead plate) for SRN4620X, SRN6620X, SRN8620X	600	200	FLN4620X	1/1
Fairlead plate for SRN7525X, SRN7525VX	500	250	FLN7525X	1/1
Fairlead plate for SRN8625VX	600	250	FLN8625X	1/1
Fairlead plate for SRN6630X, SRN8630X, SRN12630X	600	300	FLN6630X	1/1
Fairlead plate for SRN6830X, SRN8830X, SRN10830X, SRN12830X, SRN10830VX	800	300	FLN6830X	1/1

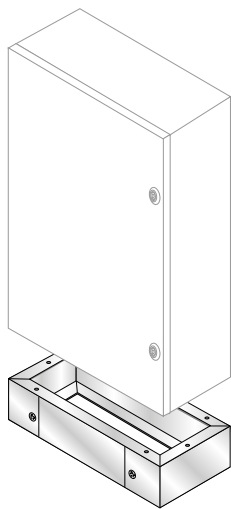


Accessories for stacking

Dimensions (mm)			Package/ No. of pieces
W	D	Code	
IP65 gasket			
400	200	GZ4020	1/1
500	200	GZ5020	1/1
	250	GZ5025	1/1
600	200	GZ6020	1/1
	250	GZ6025	1/1
	300	GZ6030	1/1
800	300	GZ8030	1/1

Automation boards

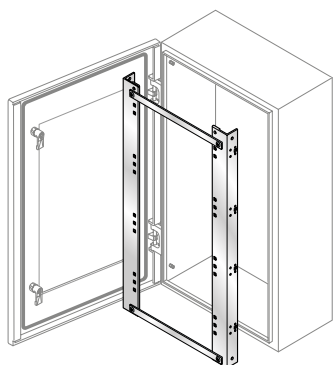
Ordering codes - SRX enclosures



Plinth

25/10 thick AISI 304 stainless steel plinth.

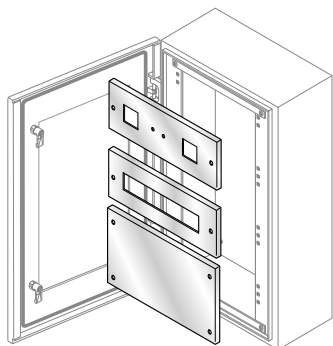
Plinth				
Dimensions (mm)				Package/ No. of pieces
H	W	D	Code	
100	400	200	ZA4020X	1/1
100	500	200	ZA5020X	1/1
100		250	ZA5025X	1/1
100	600	200	ZA6020X	1/1
100		300	ZA6030X	1/1
100	800	300	ZA8030X	1/1



Frame for DIN rail

Internal supports for fixing modular panels and DIN rails, with compensation panels, made of AISI 304 stainless steel.

Description	Dimensions (mm)		Code	Package/ No. of pieces
	H	W		
Supports for 14 DIN mod. x 2 rows	500	400	KD5040X	1/1
Supports for 14 DIN mod. x 3 rows	600	400	KD6040X	1/1
Supports for 25 DIN mod. x 4 rows	800	600	KD8060X	1/1
Supports for 36 DIN mod. x 5 rows	1000	800	KD1080X	1/1



Screwed modular panels

12/10 mm thick AISI 304 stainless steel modular panels. The screwed modular panels can be fitted on the enclosures using the special kit (KD...) consisting of functional uprights and a compensation panel.

Each modular panel (PM) comes equipped with a DIN rail (depth-adjustable), fixing brackets and the relative small parts. Tmax modular and moulded-case circuit breakers up to T3 can be positioned side by side on the same DIN rail using the special depth adapter AP 6001. To install MCCBs, fix the DIN rail in the recessed position. The DIN rail fixing brackets allow mounting of the wiring duct up to a maximum size of 60 x 60 mm.

Stainless steel screwed modular panels for DIN rail (including DIN rail and fixing brackets)

Description	Dimensions (mm)		Code	Package/ No. of pieces
	H	W		
14 DIN mod. + fixing bracket	185	400	PM1414X	1/1
25 DIN mod. + fixing bracket	185	600	PM1625X	1/1
36 DIN mod. + fixing bracket	185	800	PM1836X	1/1

Stainless steel screwed modular panels for measuring instruments

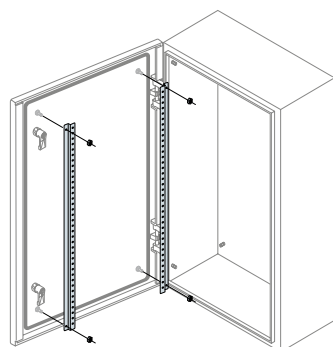
Description	Dimensions (mm)		Code	Package/ No. of pieces
	H	W		
2 instruments 72 x 72mm	185	400	PS2476X	1/1
2 instruments 72 x 72mm	185	600	PS2676X	1/1
2 instruments 72 x 72mm	185	800	PS2876X	1/1

Stainless steel opaque screwed modular panels

Description	Dimensions (mm)		Code	Package/ No. of pieces
	H	W		
Opaque panel	185	400	PC1406X	1/1
Opaque panel	185	600	PC1606X	1/1
Opaque panel	185	800	PC1806X	1/1
Opaque panel	370	600	PC2606X	1/1
Opaque panel	370	800	PC2806X	1/1

Shaped sections for accessories

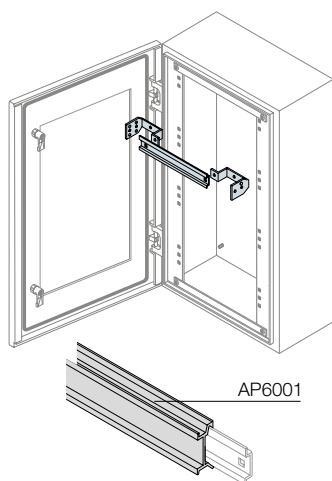
Allow fixing of accessories (e.g.: wiring ducts) inside the blind doors. Consist of a pair of vertical crosspieces made of 15/10 thick white galvanised sheet metal, pre-drilled with 25 mm pitch. In enclosures with height 1000 and 1200 mm with a blind door, the shaped sections are already supplied.



Description	Dimensions (mm)		Code	Package/ No. of pieces
	H	W		
Shaped sections for door	600		TS6009	1/2
Shaped sections for door	700		TS7009	1/2
Shaped sections for door	800		TS8009	1/2

Automation boards

Ordering codes - SRX enclosures

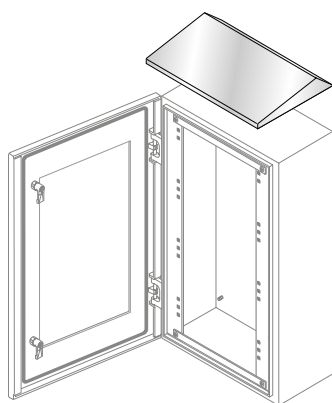


DIN rail and fixing brackets

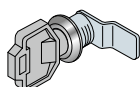
Description	No. modules	W (mm)	Code	Package/ No. of pieces
DIN rail and fixing brackets	14	400	GD4006	1/1
DIN rail and fixing brackets	25	600	GD6006	1/1
DIN rail and fixing brackets	36	800	GD8006	1/1
Depth adapter				
No.1 depth adapter for Tmax T1-T2-T3-XT1-XT3 W = 600 mm			AP6001	1/4

Spray protection roof

Improves protection against infiltration by liquids and accidental sprays.
Made of 15/10 thick AISI 304 stainless steel.



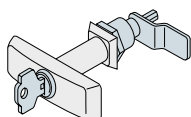
Spray protection roof			
Dimensions (mm)			Package/ No. of pieces
W	D	Code	
200	150	TT2015X	1/1
300	150	TT3015X	1/1
400	150	TT4015X	1/1
300	200	TT3020X	1/1
400	200	TT4020X	1/1
500	200	TT5020X	1/1
600	200	TT6020X	1/1
500	250	TT5025X	1/1
600	250	TT6025X	1/1
600	300	TT6030X	1/1
800	300	TT8030X	1/1



AA8001X



AA8002



AA8003



EV1008

Closing systems

May substitute standard fasteners for the external doors.

Description	Code	Package/ No. of pieces
Box Ø 19 mm double tongue made of chrome-finished plastic and key for external door	AA8001X	1/1
Box Ø 19 mm with safety insert and Yale type key for external door	AA8002 ⁽¹⁾	1/1
Box Ø 19 mm with handle and Yale type key for external door	AA8003 ⁽¹⁾	1/1
Box Ø 19 mm with triangular insert for external door	AA5200 ⁽¹⁾	1/1
Plastic key for triangular insert AA5200 for external door	AA5190	1/1
Box with double tongue insert made of plastic with key for inner door (without tongue)	EV1008	1/1
Single code Yale insert for inner door	EV1036	1/1
Ronis 455 insert for inner door	EV1037	1/1
3mm double tongue insert for inner door	EV1039	1/1

⁽¹⁾ Only for external door

Automation boards

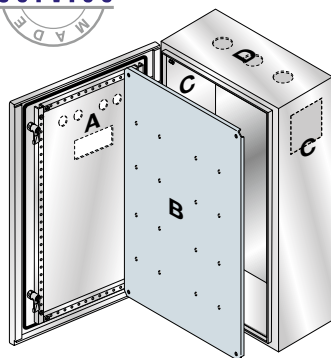
Ordering codes - SRX enclosures

Spare parts

Description	Code	Package/ No. of pieces
Stainless steel screws (No. 16 screws, flanged nuts and nylon washers M6)	AA1203X	1/1
Opaque door 300x200 mm (HxW)	PRN3026X	1/1
Opaque door 300x400 mm (HxW)	PRN3046X	1/1
Opaque door 400x300 mm (HxW)	PRN4036X	1/1
Opaque door 400x400 mm (HxW)	PRN4046X	1/1
Opaque door 400x600 mm (HxW)	PRN4066X	1/1
Opaque door 500x400 mm (HxW)	PRN5046X	1/1
Opaque door 500x500 mm (HxW)	PRN5056X	1/1
Opaque door 600x400 mm (HxW)	PRN6046X	1/1
Opaque door 600x600 mm (HxW)	PRN6066X	1/1
Opaque door 600x800 mm (HxW)	PRN6086X	1/1
Opaque door 700x500 mm (HxW)	PRN7056X	1/1
Opaque door 800x600 mm (HxW)	PRN8066X	1/1
Opaque door 800x800 mm (HxW)	PRN8086X	1/1
Opaque door 1000x800 mm (HxW)	PRN1086X	1/1
Opaque door 1200x600 mm (HxW)	PRN1266X	1/1
Opaque door 1200x800 mm (HxW)	PRN1286X	1/1
Glass door 400x300 mm (HxW)	PTN4036X	1/1
Glass door 500x400 mm (HxW)	PTN5046X	1/1
Glass door 600x400 mm (HxW)	PTN6046X	1/1
Glass door 700x500 mm (HxW)	PTN7056X	1/1
Glass door 800x600 mm (HxW)	PTN8066X	1/1
Glass door 1000x800 mm (HxW)	PTN1086X	1/1

Automation boards

Ordering codes - SRX enclosures



Special Drilling Service

The overprice amount depends on the number of individual drilled parts and not on the number of holes.

For single part it means: A-door B-plate; C-housing; D-top/bottom part.

Please note that the minimum quantity is 10 pieces with a single code. The price of the special drilling service depends on the number of parts to be drilled and on the amount of enclosures to be drilled.

Description	Code	No. of enclosures to be drilled
Extra cost for drilling service per individual drilled part (A-B-C-D)	FORSRX	≥ 10

The special drilling service for standard size enclosures in quantities equal to or greater than 10 units with a single code has to be managed with code SRN ... SPEC + overprice FORSR/ FORSR1/FORSSR2 (see table) equal to the number of enclosures and the number of parts to be drilled + hole layout to be attached to the order.

Example: SRN4320XSPEC 10
FORSRX 10

Example: Enclosure (10 pcs) with door and plate to be drilled (2 parts)
SRN4320XSPEC 10
FORSRX 20
DRAWINGS TO BE ATTACHED

Non-standard enclosure sizes, special drilling

Request feasibility of implementation by completing the relevant Form for special quotations and send it together with the drill layout to the R&D ECS office. Management is per offer.

If the offer is accepted and after having received it, it will be possible to place the order with the codes indicated in the offer.



Painting Special Service

Request feasibility of implementation by completing the relevant Form for special quotations and send it to the R&D ECS office. Management is per offer.

If the offer is accepted and after having received it, it will be possible to place the order with the codes indicated in the offer.

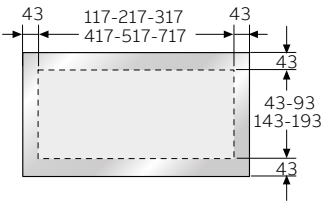
Automation boards

Overall dimensions - Drillings SRX

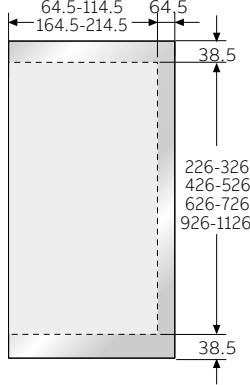
SRX enclosure drilling

Maximum working dimensions for drilling.

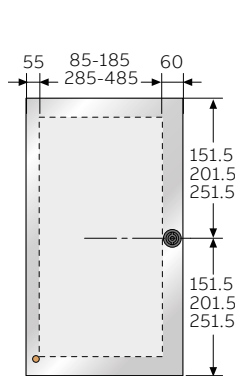
Flanges



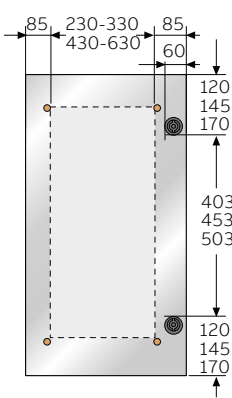
Side



Doors H = 300-400-500



Doors H = 600-700-800



Doors H = 1000-1200

