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# Introduction

## Characteristics of Gemini switchboards

### *Gemini, something completely different in switchboards*

ABB SACE's 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 IP66 degree of protection (IP40 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 is fit for all applications*

There are as many configurations as there are 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 the "Gemini system" an enormous range of ad hoc solutions that are easy to assemble with the snap-on system.



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*Gemini switchboards are made with co-injection, which ABB SACE is the first manufacturer in the electric field to use 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.*

*Polyester is usually mixed with fiberglass, which, with wear, rises to the surface and can become a risk factor for skin burns that may occur during installation and maintenance and 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.*



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# Introduction

## Characteristics of Gemini switchboards

Nothing can be compared with Gemini, even when the switchboards have reached the end of their life cycle: they are totally ecologically compatible. The material used to manufacture them 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.

### *Quality and safety*

ABB's 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. Rated uninterrupted current can reach a threshold of 400 A.

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.



*Gemini is made in a thermoplastic material that has a very low halogen content and 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.*



# Introduction

## 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 as 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 for equipping it as an automation switchboard or as a distribution and mixed switchboard.

In all applications, compatibility with ABB protection, control and monitoring products means that a real system of integrated and complementary functions can be configured.

Typical examples of some Gemini applications can be seen in installations in industrial production departments and on board machines, in galvanization plants and varnishing cabins, in petrol stations and car-washing plants, boiler-rooms, car parks, shopping malls and in any other environments where distribution and automation demand specific safety requirements and service continuity. Gemini also has flexible measurements, with six different box sizes and internal space to accommodate from 24 to 216 DIN modules.

To respect safety standards, all the switchboard's components can be fixed to the base plate or to the box frame without ha-



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*Written in full, its name "Protect IT Multipurpose Box Gemini" says that no switchboard is more reliable. Integration of Gemini with other ABB low voltage protection, monitoring and control products fulfils the objective of offering the market a complete range of products and systems.*

*In particular, IndustrialIT is the solution ABB has developed for integrating company activities at all levels, in which each product is seen as one element of a single solution. Products and technologies are grouped into functional suites, each of which measures, monitors, optimizes and supports a specific*

*"block" of activities, interacting in a coordinated manner thanks to the platform created by ABB (AIP: Aspect Integrator Platform).*

*Not only are all the certified products interactive, but they also ensure that all the information needed to operate them is readily available in the latest edition: technical characteristics, installation, user and maintenance instructions, environmental certificates and declarations.*

*More information is given in the section entitled Products and services/IndustrialIT on the ABB website [www.abb.com](http://www.abb.com)*

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ving to use any tools; 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 the ArTu 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 the laboratory, computer-

aided design programs simulate all types of application conditions translating virtual checks into a process to improve the performances of Gemini so that it will be able to respond more accurately to market requirements.



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## Characteristics



**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 60695-2-1)  
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



**PERFORMANCE** ▶ Rated uninterrupted current up to 400 A  
Rated service voltage up to 690 V



**FLEXIBILITY OF USE** ▶ 6 sizes from 335x400x210 mm to 840x1005x360 mm (WxHxD, external dimensions)  
DIN 24 to 216 modules



**INSTALLATION-FRIENDLY** ▶ Snap-on mounting of all components in compliance with safety Standards



**QUALITY AND ENVIRONMENT** ▶ Compliance with international reference Standards EN 50298, EN 60670, EN 60439-1  
IMQ mark according to Standard EN 50298  
100% recyclable



## Order codes

### Basic configurations

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.



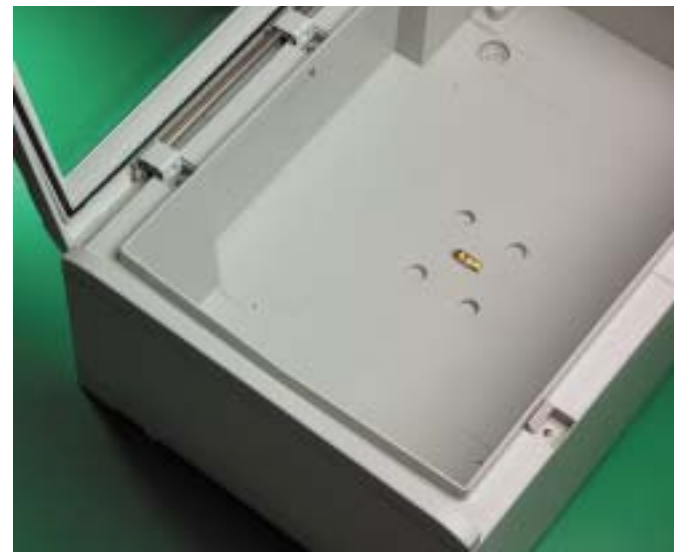
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Gemini doors open at an angle of more than 180° giving easy access to the devices installed inside the switchboard.



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

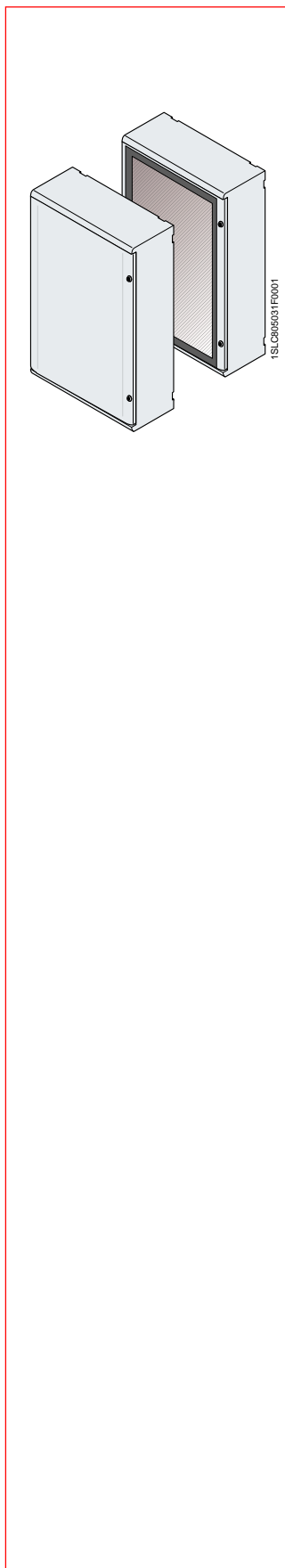


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The special structure of the inner perimeter of the box ensures further protection against the penetration of water. The box is supplied with a spirit level.

# Order codes / el.nummer

## Basic configurations



| Size | Dimensions | Modules | Codes / el.nummer |
|------|------------|---------|-------------------|
|------|------------|---------|-------------------|

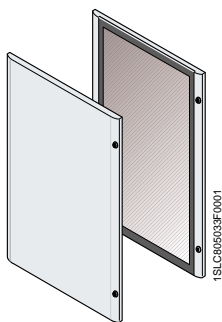
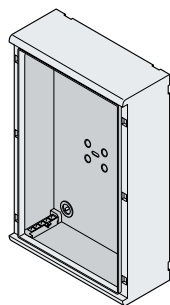
### Boxes and doors

- 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).

|   | External<br>WxHxD (mm) | Internal<br>WxHxD (mm) | Max no.<br>DIN mod. | No. vertical mod.<br>(H=150 mm) | With transparent<br>door | With opaque<br>door  |
|---|------------------------|------------------------|---------------------|---------------------------------|--------------------------|----------------------|
| 1 | 335x400x210            | 250x300x180            | 24 (12x2)           | 2                               | 1SL0211A00 / 2444310     | 1SL0201A00 / 2444304 |
| 2 | 460x550x260            | 375x450x230            | 54 (18x3)           | 3                               | 1SL0212A00 / 2444311     | 1SL0202A00 / 2444305 |
| 3 | 460x700x260            | 375x600x230            | 72 (18x4)           | 4                               | 1SL0213A00 / 2444312     | 1SL0203A00 / 2444306 |
| 4 | 590x700x260            | 500x600x230            | 96 (24x4)           | 4                               | 1SL0214A00 / 2444313     | 1SL0204A00 / 2444307 |
| 5 | 590x855x360            | 500x750x330            | 120 (24x5)          | 5                               | 1SL0215A00 / 2444314     | 1SL0205A00 / 2444308 |
| 6 | 840x1005x360           | 750x900x330            | 216 (36x6)          | 6                               | 1SL0216A00 / 2444315     | 1SL0206A00 / 2444309 |

# Order codes / el.nummer

## Basic configurations



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| Size | Internal dimensions | External dimensions | Codes | Unit/Pack |
|------|---------------------|---------------------|-------|-----------|
|------|---------------------|---------------------|-------|-----------|

### Single box

|   | WxHxD (mm)   | WxHxD (mm)  | Codes      | 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       |

| Size | Box dimensions | Codes / el.nummer |
|------|----------------|-------------------|
|------|----------------|-------------------|

### Single doors

|   | WxHxD (mm)   | Transparent door     | Opaque door          |
|---|--------------|----------------------|----------------------|
| 1 | 335x400x210  | 1SL0241A00 / 2444322 | 1SL0231A00 / 2444316 |
| 2 | 460x550x260  | 1SL0242A00 / 2444323 | 1SL0232A00 / 2444317 |
| 3 | 460x700x260  | 1SL0243A00 / 2444324 | 1SL0233A00 / 2444318 |
| 4 | 590x700x260  | 1SL0244A00 / 2444325 | 1SL0234A00 / 2444319 |
| 5 | 590x855x360  | 1SL0245A00 / 2444326 | 1SL0235A00 / 2444320 |
| 6 | 840x1005x360 | 1SL0246A00 / 2444327 | 1SL0236A00 / 2444321 |



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## Order codes

### 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 signaling 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 IP40 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.



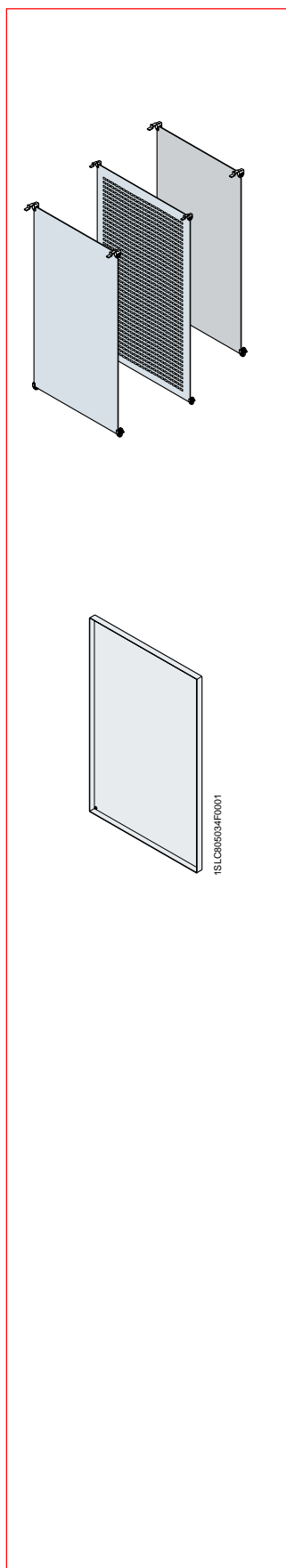
The base plate can be snap-mounted inside the switchboard.



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.

# Order codes / el.nummer

## Components for automation applications



| Size of the switchboard | Code / el.nummer |
|-------------------------|------------------|
|-------------------------|------------------|

### 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

|   | In blank metal       | In drilled metal     | Insulating material  |     |
|---|----------------------|----------------------|----------------------|-----|
| 1 | 1SL0259A00 / 2444333 | 1SL0275A00 / 2444345 | 1SL0267A00 / 2444339 | 1/6 |
| 2 | 1SL0260A00 / 2444334 | 1SL0276A00 / 2444346 | 1SL0268A00 / 2444340 | 1/6 |
| 3 | 1SL0261A00 / 2444335 | 1SL0277A00 / 2444347 | 1SL0269A00 / 2444341 | 1/4 |
| 4 | 1SL0262A00 / 2444336 | 1SL0278A00 / 2444348 | 1SL0270A00 / 2444342 | 1/4 |
| 5 | 1SL0263A00 / 2444337 | 1SL0279A00 / 2444349 | 1SL0271A00 / 2444343 | 1/4 |
| 6 | 1SL0264A00 / 2444338 | 1SL0280A00 / 2444350 | 1SL0272A00 / 2444344 | 1/2 |

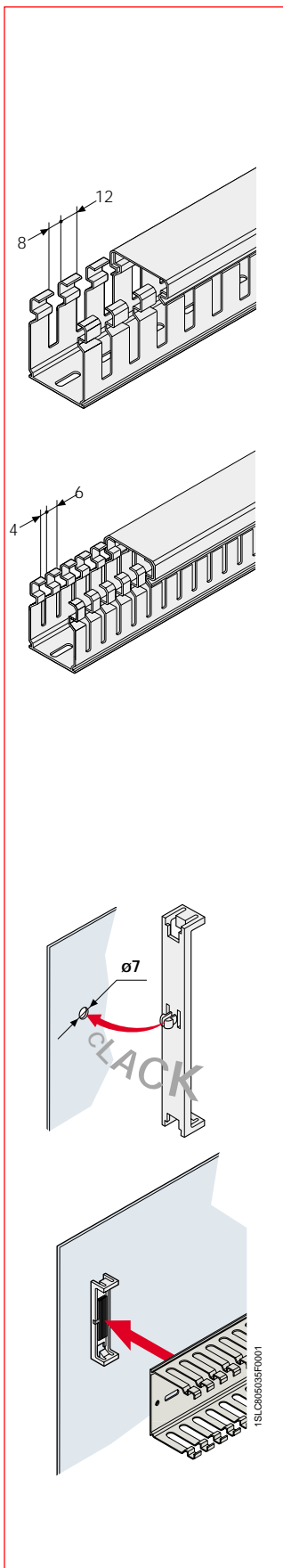
### Inner doors

- Available for size 2 to size 6 boxes
- Made in insulating material
- IP40 degree of protection with door open
- Designed so that door can be hinged onto both vertical sides
- Snap-on mounting and fixing

|   |                      |     |
|---|----------------------|-----|
| 1 | -                    | -   |
| 2 | 1SL0252A00 / 2444328 | 1/4 |
| 3 | 1SL0253A00 / 2444329 | 1/2 |
| 4 | 1SL0254A00 / 2444330 | 1/2 |
| 5 | 1SL0255A00 / 2444331 | 1/2 |
| 6 | 1SL0256A00 / 2444332 | 1/1 |

# Order codes

## Components for automation applications



| Code | Dimensions | Weight (kg/m) | Unit/Pack-meters |
|------|------------|---------------|------------------|
|------|------------|---------------|------------------|

### 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 7035 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 | With 4/6 mm slots | WxH (mm) | Weight (kg/m) | Unit/Pack-meters |
|--------------------|-------------------|----------|---------------|------------------|
| 05 019             | 05 119            | 15x17    | 0.06          | 46               |
| 05 033             | 05 133            | 25x30    | 0.21          | 58               |
| 05 043             | 05 143            | 25x40    | 0.25          | 48               |
| 05 063             | 05 163            | 25x60    | 0.24          | 34               |
| 05 083             | 05 183            | 25x80    | 0.29          | 28               |
| 05 094             | 05 194            | 25x100   | 0.46          | 20               |
| 05 035             | 05 135            | 40x30    | 0.27          | 40               |
| 05 045             | 05 145            | 40x40    | 0.31          | 30               |
| 05 065             | 05 165            | 40x60    | 0.34          | 22               |
| 05 085             | 05 185            | 40x80    | 0.38          | 36               |
| 05 095             | 05 195            | 40x100   | 0.53          | 28               |
| 05 037             | 05 137            | 60x30    | 0.38          | 52               |
| 05 047             | 05 147            | 60x40    | 0.46          | 40               |
| 05 067             | 05 167            | 60x60    | 0.47          | 32               |
| 05 087             | 05 187            | 60x80    | 0.50          | 24               |
| 05 096             | 05 196            | 60x100   | 0.73          | 20               |
| 05 049             | 05 149            | 80x40    | 0.47          | 32               |
| 05 069             | 05 169            | 80x60    | 0.52          | 24               |
| 05 089             | 05 189            | 80x80    | 0.59          | 16               |
| 05 097             | 05 197            | 80x100   | 0.91          | 14               |
| 05 051             | 05 151            | 100x40   | 0.55          | 24               |
| 05 071             | 05 171            | 100x60   | 0.59          | 20               |
| 05 091             | 05 191            | 100x80   | 0.68          | 16               |
| 05 098             | 05 198            | 100x100  | 1.06          | 8                |
| 05 053             | 05 153            | 120x40   | 0.65          | 20               |
| 05 073             | 05 173            | 120x60   | 0.73          | 14               |
| 05 093             | 05 193            | 120x80   | 0.89          | 12               |
| 05 099             | 05 199            | 150x100  | 1.37          | 8                |

| Code | Description | Unit/Pack-no. pieces |
|------|-------------|----------------------|
|------|-------------|----------------------|

### 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 dismantled and a version with the same base and a different height can be attached to the Fix-O-Rapid.

|        |   |        |
|--------|---|--------|
| 05 270 | Rapid mounting device for wiring duct, W 25 mm  | 20/600 |
| 05 272 | Rapid mounting device for wiring duct, W 40 mm  | 20/600 |
| 05 274 | Rapid mounting device for wiring duct, W 60 mm  | 20/600 |
| 05 276 | Rapid mounting device for wiring duct, W 80 mm  | 20/240 |
| 05 278 | Rapid mounting device for wiring duct, W 100 mm | 20/240 |
| 05 280 | Rapid mounting device for wiring duct, W 120 mm | 20/240 |
| 05 282 | Rapid mounting device for wiring duct, W 150 mm | 20/240 |



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## Order codes

### Components for distribution and mixed applications

In distribution and mixed applications, the Gemini switchboard 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 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 frame can be extracted to make wiring operations easier at the workbench.



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



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.



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



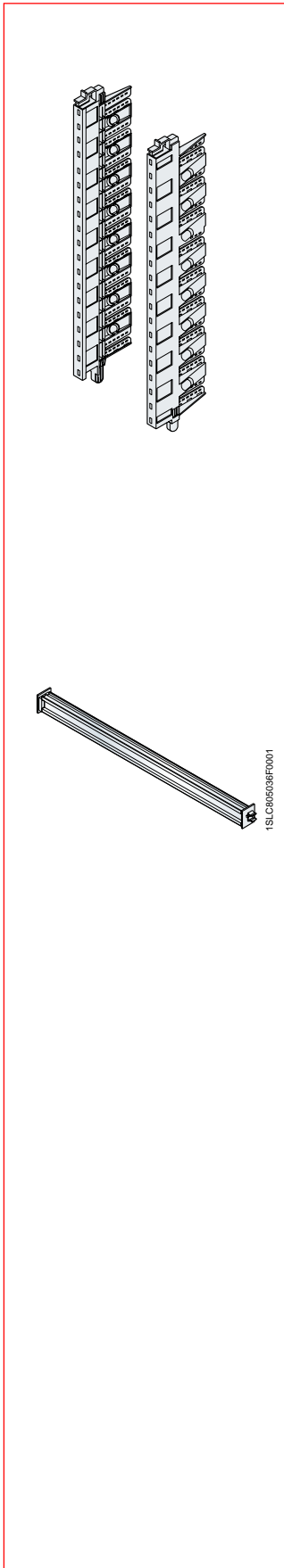
The blank and drilled panels are hinged onto both sides; the description of the installed components can be kept in the special compartment protected by a transparent, hinged flange.



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

# Order codes / el.nummer

## Components for distribution and mixed applications



| Size of the switchboard | Code / el.nummer | Unit/Pack |
|-------------------------|------------------|-----------|
|-------------------------|------------------|-----------|

### 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

|   |                      |     |
|---|----------------------|-----|
| 1 | 1SL0283A00 / 2444351 | 1/4 |
| 2 | 1SL0284A00 / 2444352 | 1/4 |
| 3 | 1SL0285A00 / 2444353 | 1/4 |
| 4 | 1SL0285A00 / 2444353 | 1/4 |
| 5 | 1SL0286A00 / 2444354 | 1/2 |
| 6 | 1SL0287A00 / 2444355 | 1/1 |

| Size of the switchboard | Modules per row | Code / el.nummer | Unit/Pack |
|-------------------------|-----------------|------------------|-----------|
|-------------------------|-----------------|------------------|-----------|

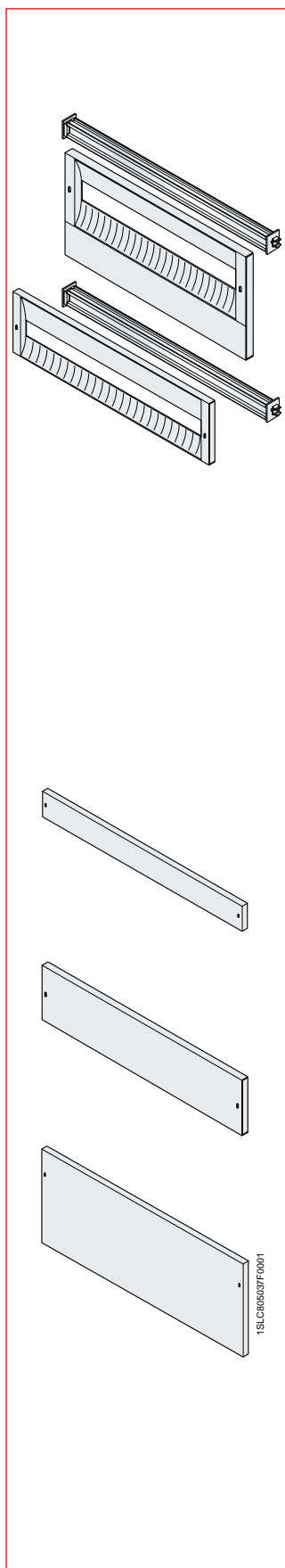
### DIN rail

- 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

|   |    |                      |      |
|---|----|----------------------|------|
| 1 | 12 | 1SL0290A00 / 2444356 | 1/10 |
| 2 | 18 | 1SL0291A00 / 2444357 | 1/10 |
| 3 | 18 | 1SL0291A00 / 2444357 | 1/10 |
| 4 | 24 | 1SL0292A00 / 2444358 | 1/10 |
| 5 | 24 | 1SL0292A00 / 2444358 | 1/10 |
| 6 | 36 | 1SL0293A00 / 2444359 | 1/10 |

# Order codes / el.nummer

## Components for distribution and mixed applications



| Size of the switchboard | Code / el.nummer | Unit/Pack |
|-------------------------|------------------|-----------|
|-------------------------|------------------|-----------|

### 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             | 1 + 1/2 module       |     |
|---|----------------------|----------------------|-----|
| 1 | 1SL0307A00 / 2444367 | -                    | 1/8 |
| 2 | 1SL0308A00 / 2444368 | 1SL0313A00 / 2444371 | 1/8 |
| 3 | 1SL0308A00 / 2444368 | 1SL0313A00 / 2444371 | 1/8 |
| 4 | 1SL0309A00 / 2444369 | 1SL0314A00 / 2444372 | 1/4 |
| 5 | 1SL0309A00 / 2444369 | 1SL0314A00 / 2444372 | 1/4 |
| 6 | 1SL0310A00 / 2444370 | 1SL0315A00 / 2444373 | 1/2 |

### 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           |      |
|---|----------------------|------|
| 1 | 1SL0318A00 / 2444374 | 1/10 |
| 2 | 1SL0319A00 / 2444375 | 1/10 |
| 3 | 1SL0319A00 / 2444375 | 1/10 |
| 4 | 1SL0320A00 / 2444376 | 1/6  |
| 5 | 1SL0320A00 / 2444376 | 1/6  |
| 6 | 1SL0321A00 / 2444377 | 1/4  |

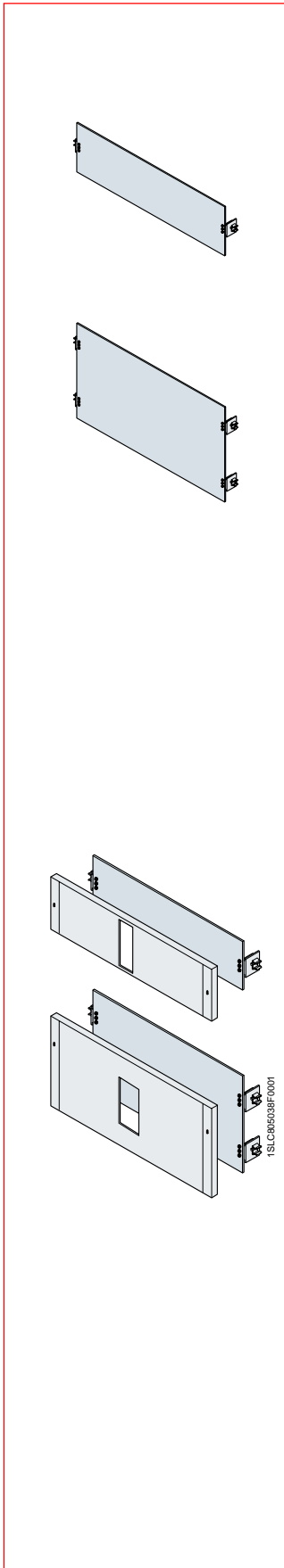
|   | 1 module             |     |
|---|----------------------|-----|
| 1 | 1SL0324A00 / 2444378 | 1/8 |
| 2 | 1SL0325A00 / 2444379 | 1/8 |
| 3 | 1SL0325A00 / 2444379 | 1/8 |
| 4 | 1SL0326A00 / 2444380 | 1/4 |
| 5 | 1SL0326A00 / 2444380 | 1/4 |
| 6 | 1SL0327A00 / 2444381 | 1/4 |

|   | 2 modules            |     |
|---|----------------------|-----|
| 1 | 1SL0330A00 / 2444382 | 1/6 |
| 2 | 1SL0331A00 / 2444383 | 1/6 |
| 3 | 1SL0331A00 / 2444383 | 1/6 |
| 4 | 1SL0332A00 / 2444384 | 1/4 |
| 5 | 1SL0332A00 / 2444384 | 1/4 |
| 6 | 1SL0333A00 / 2444385 | 1/4 |

## Order codes / el.nummer

### Components for distribution and mixed applications



| Size of the switchboard | Code / el.nummer | Unit/Pack |
|-------------------------|------------------|-----------|
|-------------------------|------------------|-----------|

#### 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

| 1 module  |                      |     |
|-----------|----------------------|-----|
| 1         | 1SL0296A00 / 2444360 | 1/6 |
| 2         | 1SL0297A00 / 2444361 | 1/4 |
| 3         | 1SL0297A00 / 2444361 | 1/4 |
| 4         | 1SL0298A00 / 2444362 | 1/4 |
| 5         | 1SL0298A00 / 2444362 | 1/4 |
| 6         | 1SL0299A00 / 2444363 | 1/2 |
| 2 modules |                      |     |
| 1         | -                    | -   |
| 2         | 1SL0302A00 / 2444364 | 1/4 |
| 3         | 1SL0302A00 / 2444364 | 1/4 |
| 4         | 1SL0303A00 / 2444365 | 1/4 |
| 5         | 1SL0303A00 / 2444365 | 1/4 |
| 6         | 1SL0304A00 / 2444366 | 1/2 |

#### Kit for installing Tmax moulded-case circuit breakers

- For installing Tmax 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
- Version H 150 with drillings for Tmax T1 3 poles (with and without residual current releaser), Tmax T1 4 poles (with and without residual current releaser), Tmax T2 3 poles (with and without residual current releaser), Tmax T2 4 poles (without residual current releaser)
- Version H 300 with drillings for Tmax T2 4 poles (with residual current releaser), Tmax T3 3 poles (with and without residual current releaser), Tmax T3 4 poles (with and without residual current releaser)
- Snap-on mounting onto uprights with the possibility of adjusting the plate depth

|   | H 150 mm             | H 300 mm   |     |
|---|----------------------|------------|-----|
| 1 | -                    | -          | -   |
| 2 | 1SL0336A00 / 2444386 | 1SL0370A00 | 1/4 |
| 3 | 1SL0336A00 / 2444386 | 1SL0370A00 | 1/4 |
| 4 | 1SL0337A00 / 2444387 | 1SL0371A00 | 1/4 |
| 5 | 1SL0337A00 / 2444387 | 1SL0371A00 | 1/4 |
| 6 | 1SL0338A00 / 2444388 | 1SL0372A00 | 1/2 |

## Order codes

### Components for distribution and mixed applications



| Size of the switchboard | Code | Unit/Pack |
|-------------------------|------|-----------|
|-------------------------|------|-----------|

#### Wiring kit

- 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 | Wiring duct 40x60 mm |     |
|---|----------------------|----------------------|-----|
| 1 | 1SL0353A00           | 1SL0360A00           | 1/4 |
| 2 | 1SL0354A00           | 1SL0361A00           | 1/4 |
| 3 | 1SL0354A00           | 1SL0361A00           | 1/4 |
| 4 | 1SL0355A00           | 1SL0362A00           | 1/4 |
| 5 | 1SL0355A00           | 1SL0362A00           | 1/4 |
| 6 | 1SL0356A00           | 1SL0363A00           | 1/4 |



grunnenhet  
automasjon  
distribusjon  
tilbehør



## Order codes

### 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.



1SLC865027F0001



1SLC865028F0001

Gemini wall-mounted installation using the special mounting brackets.



1SLC865029F0001



1SLC865056F0001

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

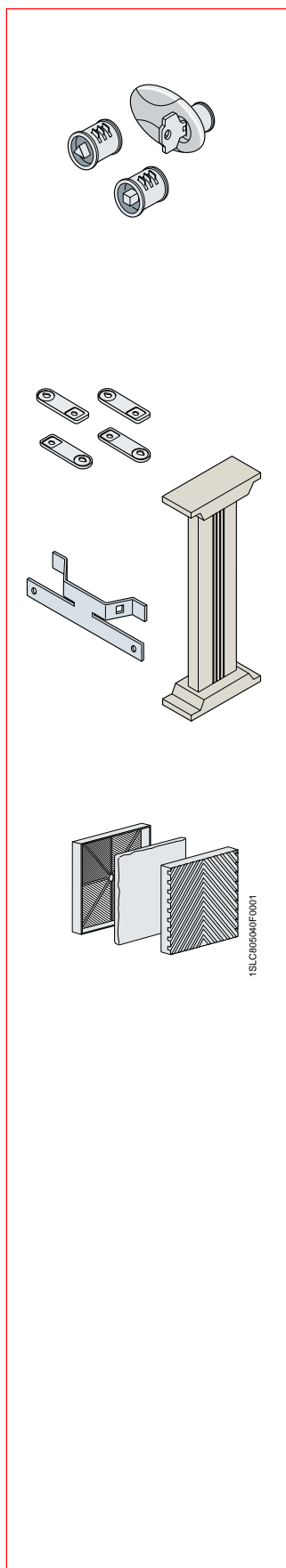


1SLC865066F0001

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.

# Order codes / el.nummer

## Accessories



| Code / el.nummer | Description | Unit/Pack |
|------------------|-------------|-----------|
|------------------|-------------|-----------|

### Locks

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

|                      |   |      |
|----------------------|---|------|
| 1SL0340A00 / 2444390 | Lock with Yale type ciphered key and handle | 1/10 |
| 1SL0341A00 / 2444391 | Lock with triangular impression             | 1/10 |
| 1SL0339A00 / 2444389 | Lock with square impression                 | 1/10 |

### Mounting elements

- Guarantee optimum wall, pole and floor mounting conditions

|                      |  |      |
|----------------------|--|------|
| 1SL0342A00 / 2444392 | Horizontal and vertical wall brackets        | 1/10 |
| 1SL0343A00 / 2444393 | Pole mounting kit for sizes 1 switchboards   | 1/4  |
| 1SL0344A00 / 2444394 | Pole mounting kit for sizes 2-3 switchboards | 1/4  |
| 1SL0345A00 / 2444395 | Pole mounting kit for sizes 4-5 switchboards | 1/2  |
| 1SL0346A00 / 2444396 | Pole mounting kit for size 6 switchboards    | 1/2  |
| 1SL0352A00 / 2444399 | Floor mounting pedestal for sizes 1-4        | 1/1  |

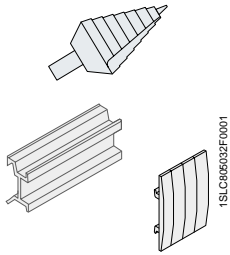
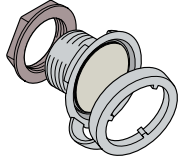
### Ventilation kit

- Composed of plastic grills and filter to ensure switchboard ventilation
- IP42
- The filter must be cleaned periodically

|                      |                 |     |
|----------------------|-----------------|-----|
| 1SL0350A00 / 2444397 | Ventilation kit | 1/1 |
|----------------------|-----------------|-----|

## Order codes

### Accessories



| Code / el.nummer | Description | Unit/Pack |
|------------------|-------------|-----------|
|------------------|-------------|-----------|

#### Anti-condensation kit

- Kit in special material to prevent condensation from forming inside the switchboard: it include  **Gore™ MEMBRANE VENTING**
- Impermeable to water (pressure): 1 bar
- Air flow: 68/h (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.

|                      |                       |     |
|----------------------|-----------------------|-----|
| 1SL0351A00 / 2444398 | Anti-condensation kit | 1/6 |
|----------------------|-----------------------|-----|

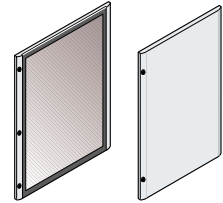
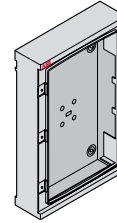
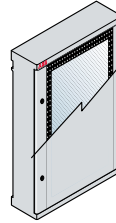
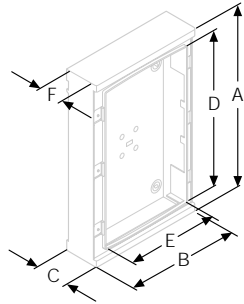
#### Other accessories

|       |   |        |
|-------|---|--------|
| 12894 | Universal drill bit   | 1/30   |
| 12863 | Module covers in RAL 7035 grey, 4 modules   | 50/600 |
| 12851 | Plastic spacer for installing modular devices and moulded-case circuit breakers at the same depth | 10/60  |

# Order codes

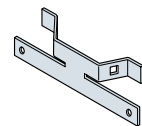
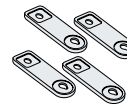
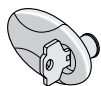
## Rapid selection table

### 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 |

### Accessories common to the whole range



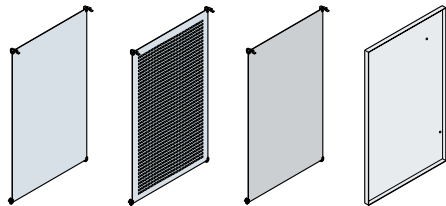
| Size | Lock with handle | Lock with triangular impression | Lock with square impression | Installation brackets | Pole installation kit |
|------|------------------|---------------------------------|-----------------------------|-----------------------|-----------------------|
| 1    | 1SL0340A00       | 1SL0341A00                      | 1SL0339A00                  | 1SL0342A00            | 1SL0343A00            |
| 2    |                  |                                 |                             |                       | 1SL0344A00            |
| 3    |                  |                                 |                             |                       | 1SL0344A00            |
| 4    |                  |                                 |                             |                       | 1SL0345A00            |
| 5    |                  |                                 |                             |                       | 1SL0345A00            |
| 6    |                  |                                 |                             |                       | 1SL0346A00            |



# Order codes

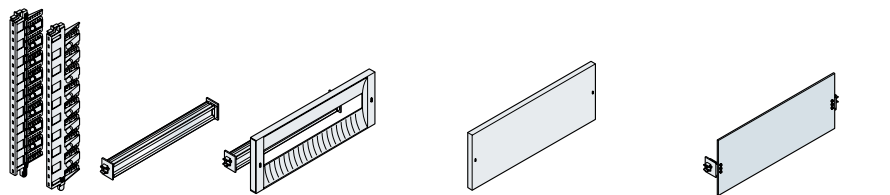
## Rapid selection table

### Components for automation



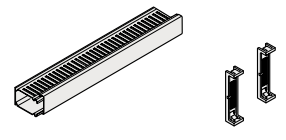
| Blank      | Drilled    | Insulating | Inner door |
|------------|------------|------------|------------|
| 1SL0259A00 | 1SL0275A00 | 1SL0267A00 | -          |
| 1SL0260A00 | 1SL0276A00 | 1SL0268A00 | 1SL0252A00 |
| 1SL0261A00 | 1SL0277A00 | 1SL0269A00 | 1SL0253A00 |
| 1SL0262A00 | 1SL0278A00 | 1SL0270A00 | 1SL0254A00 |
| 1SL0263A00 | 1SL0279A00 | 1SL0271A00 | 1SL0255A00 |
| 1SL0264A00 | 1SL0280A00 | 1SL0272A00 | 1SL0256A00 |

### Components for distribution



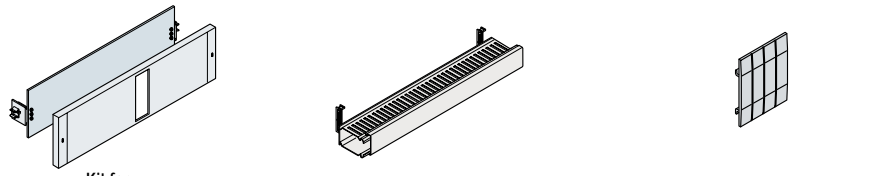
| Uprights   | DIN rail   | Drilled panel |            | Blank panel |            |            | Modular plate |            |
|------------|------------|---------------|------------|-------------|------------|------------|---------------|------------|
|            |            | H=150 mm      | H=225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

### Accessories for automation

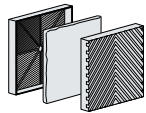


| Size | Wiring ducts | Fix-O-Rapid  |
|------|--------------|--------------|
| 1    | See page 2/9 | See page 2/9 |
| 2    |              |              |
| 3    |              |              |
| 4    |              |              |
| 5    |              |              |
| 6    |              |              |

### Accessories for distribution



| Kit for Tmax |            | Fix-O-Rapid kit with wiring duct |            | Module covers RAL 7035 |
|--------------|------------|----------------------------------|------------|------------------------|
| H=150 mm     | H= 300 mm  | 25x60 mm                         | 40x60 mm   |                        |
| -            | -          | 1SL0353A00                       | 1SL0360A00 | 12863                  |
| 1SL0336A00   | 1SL0370A00 | 1SL0354A00                       | 1SL0361A00 |                        |
| 1SL0336A00   | 1SL0370A00 | 1SL0354A00                       | 1SL0361A00 |                        |
| 1SL0337A00   | 1SL0371A00 | 1SL0355A00                       | 1SL0362A00 |                        |
| 1SL0337A00   | 1SL0371A00 | 1SL0355A00                       | 1SL0362A00 |                        |
| 1SL0338A00   | 1SL0372A00 | 1SL0356A00                       | 1SL0363A00 |                        |



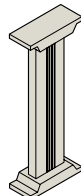
Ventilation kit

1SL0350A00



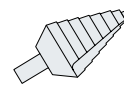
Anti-condensation kit

1SL0351A00



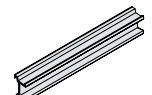
Pedestal

1SL0352A00



Universal drill bit

12894



Depth adapter

12851

# Technical information

## Technical characteristics

**Table of Gemini switchboards' technical characteristics**

| Size  | 1                | 2                | 3                | 4                | 5                | 6                |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Gemini with transparent door</b>                     | 1SL0211A00       | 1SL0212A00       | 1SL0213A00       | 1SL0214A00       | 1SL0215A00       | 1SL0216A00       |
| <b>Gemini with opaque door</b>                          | 1SL0201A00       | 1SL0202A00       | 1SL0203A00       | 1SL0204A00       | 1SL0205A00       | 1SL0206A00       |
| <b>External dimensions WxHxD (mm)</b>                   | 335x400x210      | 460x550x260      | 460x700x260      | 590x700x260      | 590x855x360      | 840x1005x360     |
| <b>Internal dimensions WxHxD (mm)</b>                   | 250x300x180      | 375x450x230      | 375x600x230      | 500x600x230      | 500x750x330      | 750x900x330      |
| <b>IP degree</b>  | IP66             | IP66             | IP66             | IP66             | IP66             | IP66             |
| <b>Double isolation</b>                                 | Yes              | Yes              | Yes              | Yes              | Yes              | Yes              |
| <b>IK degree</b>  | 10               | 10               | 10               | 10               | 10               | 10               |
| <b>GWT (°C)</b>   | 750              | 750              | 750              | 750              | 750              | 750              |
| <b>Operating temperature</b>                            | -25 °C ÷ +100 °C | -25 °C ÷ +100 °C | -25 °C ÷ +100 °C | -25 °C ÷ +100 °C | -25 °C ÷ +100 °C | -25 °C ÷ +100 °C |
| <b>No. of DIN modules</b>                               | 24 (12x2)        | 54 (18x3)        | 72 (18x4)        | 96 (24x4)        | 120 (24x5)       | 216 (36x6)       |
| <b>No. of vertical modules (H=150 mm)</b>               | 2                | 3                | 4                | 4                | 5                | 6                |
| <b>Material</b>   | Thermoplastic    | Thermoplastic    | Thermoplastic    | Thermoplastic    | Thermoplastic    | Thermoplastic    |
| <b>Color</b>  | Grey RAL7035     | Grey RAL7035     | Grey RAL7035     | Grey RAL7035     | Grey RAL7035     | Grey RAL7035     |
| <b>Fast wiring system</b>                               | Unifix L         | Unifix L         | Unifix L         | Unifix L         | Unifix L         | Unifix L         |
| <b>No. of locks</b>                                     | 2                | 2                | 2                | 2                | 3                | 3                |
| <b>Rated current I<sub>n</sub></b>                      | ≤ 400 A          | ≤ 400 A          | ≤ 400 A          | ≤ 400 A          | ≤ 400 A          | ≤ 400 A          |
| <b>Rated frequency</b>                                  | 50-60 Hz         | 50-60 Hz         | 50-60 Hz         | 50-60 Hz         | 50-60 Hz         | 50-60 Hz         |
| <b>Maximum dissipation power <sup>(1)</sup></b>         | 45 W             | 72 W             | 85 W             | 102 W            | 156 W            | 248 W            |
| <b>STANDARD CEI EN 60439-1</b>                          |                  |                  |                  |                  |                  |                  |
| <b>Over-temperature (par. 8.2.1) <sup>(2)</sup></b>     |                  |                  |                  |                  |                  |                  |
| - Max. dispersible power with over-temperature of 25 °C | 40 W             | 65 W             | 77 W             | 91 W             | 133 W            | 205 W            |
| - Max. dispersible power with over-temperature of 30 °C | 45 W             | 72 W             | 85 W             | 102 W            | 156 W            | 248 W            |
| - Max. dispersible power with over-temperature of 35 °C | 52 W             | 85 W             | 100 W            | 121 W            | 187 W            | 299 W            |
| - Max. dispersible power with over-temperature of 40 °C | 62 W             | 100 W            | 118 W            | 143 W            | 221 W            | 355 W            |
| <b>Impulse withstand (par. 8.2.2)</b>                   |                  |                  |                  |                  |                  |                  |
| - Rated service voltage                                 | ≤ 690 V          | ≤ 690 V          | ≤ 690 V          | ≤ 690 V          | ≤ 690 V          | ≤ 690 V          |
| - Rated insulation voltage                              | ≤ 800 V          | ≤ 800 V          | ≤ 800 V          | ≤ 800 V          | ≤ 800 V          | ≤ 800 V          |
| - Rated impulse withstand voltage                       | 8 kV             | 8 kV             | 8 kV             | 8 kV             | 8 kV             | 8 kV             |
| <b>Short circuit withstand (par. 8.2.3)</b>             |                  |                  |                  |                  |                  |                  |
| - Rated peak short-circuit current                      | -                | -                | -                | -                | -                | -                |

<sup>(1)</sup> Maximum dissipation power data was obtained following the indications of **Standard CEI 23-49**, with a temperature difference of  $Dt=30$  °C.

<sup>(2)</sup> **Note to paragraph 8.2.1 of Standard CEI EN 60439-1**

The table gives the thermal dissipation values of Gemini switchboards when they are wall-mounted. The dispersible power figures (in Watts) vary according to the overtemperature allowed in the accessible parts of the switchboard and must be compared with the total amount of power dissipated by all the components installed inside the switchboard taking into due account the factor of contemporaneity.



UNI EN ISO 9001

Due to possible developments of standards as well as of materials, the characteristics and dimensions specified in the this document may only be considered binding after confirmation by ABB.

1SEC800010C2101

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