Cable management
Cable entries

Key features when selecting a cable entry


PB500023-38

Multiple


PB502701-58

Single

1 - Multiple cable entries or single cable entries

Your choice depends on:

■ The amount of cables going through the cable entry: generally for 3 or more cables, choose a multiple cable entry. It will make your installation faster and more economical.
In other words, your final bill will not necessarily be lower with single cable entries!

■ Flexibility of installation: for high flexibility, the multiple cable entry is the right choice.

2 - Entry cable material

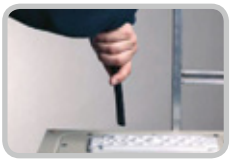
■ **Soft membranes** allow cables to be easily pushed through, but still offer a good IP rating, protecting from moisture as well as physical intrusions. Cable retention force, however, is lower than with other alternatives.


PB502702

Push the membrane into a standard hole.


PB502703

Make a small hole in the membrane.


PB502704

Push the cable or tube through the guide hole.


PB502705

Pull the cable or tube back some 20 mm to lock it.

■ **Hard plastic** needs specific tools to create the opening (drill or knife) but, thanks to the cable gland, offers a very high retention force. Another use of this solution is for public places, since the hard surface prevents objects being pushed in.
■ **Combined:** the material of the cable entry plate is hard plastic, but the cable is pushed through a soft membrane. In this case you have the advantages both of soft membranes (easy and fast installation, flexibility) and hard plastic membranes (high retention force, when using specific cable clamps).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PB502706-68

3 - Cable glands to be fitted

■ Some multiple cable entries require a cable gland to be able to retain the cables and ensure the degree of protection.

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4 - Installation possibilities

There are 4 ways to install your cable entries on the enclosure:

■ **By replacing the cable gland plate:** the standard cable gland plate of your S3D wall-mounting enclosure is unscrewed and replaced by the cable entry.
A gasket between enclosure and cable entry will provide full water and dust tightness.

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■ **On modified cable gland plate:** the standard cable gland plate is unscrewed and machined. A cut-out is created in it.

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■ **On cable gland plate adapter:** this plate, which has the outer dimensions of a standard cable gland plate, has one or more pre-cut cut-outs of standard dimensions (FL13 and FL21).
On steel wall-mounting enclosures, the plate can replace the standard cable gland plate once the cable entry is fitted into it. On polyester enclosures, a cut-out must be created. Schneider Electric provides this service: a precise laser cut-out is factory-created upon request.
On steel floor-standing enclosures, you may either use the specific cable gland roof or create a cut-out (see expert's tip 1, page 247).

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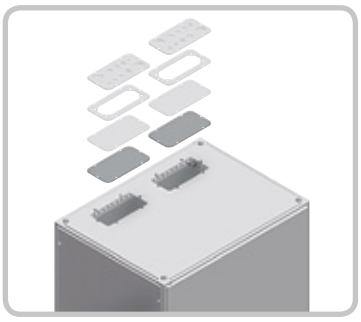
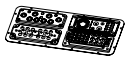
PB500599-37



Cable gland plate adapters

Enclosure range	1 membrane	2 membranes	3 membranes	4 membranes
Spacial S3D	PB500604-16  **NSYTL•FL**	PB500604-15  **NSYTL•2FL**	-	DB300718-15  **NSYTLG4FL**
Spacial SF	PB502708-10  **NSYSFLR••** **NSYSFLR•••**	PB502709-12  **NSYSFLR••** **NSYSFLR•••**	PB500597-15  **NSYSFLR•••**	-

■ **Directly on the enclosure:** a cut-out is created on the enclosure's side according to the cable entry's dimensions (see expert's tip 1, page 247).

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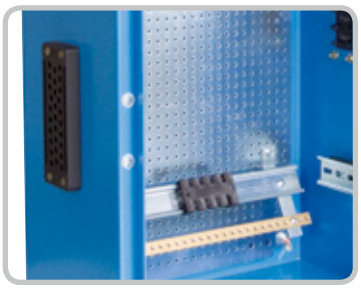

Zoom on…

FL13 and FL21 are standard cut-out dimensions frequently used in northern European countries and also used by our enclosures for several years now.

Cable management
Cable entries

PB502710-32

Full flexibility

PB500946-35

Medium flexibility

5 - Flexibility of the installation

■ **Full flexibility:** this means that cables can be added/removed easily, changing:
□ quantity
□ diameter
□ position
(see expert's tip 2, page 247)
■ **Medium flexibility:**
□ the amount, diameter or position of cables can be changed to a limited extent.
■ **Low flexibility:**
□ it is not possible to change the above parameters.

6 - Reversibility

■ **Full reversibility: this means that cables can be added/ removed easily** without losing their initial characteristics, such as water tightness.
■ **Medium reversibility:** for soft membranes, once the cable has been removed, there may be a loss of IP depending on the size of the cable and the cut. For hard plastic entries or combined material entries, initial characteristics are regained by adding plugs.
■ **Low reversibility:** the cable entry must be completely replaced in order to regain the initial characteristics.

7 - Degree of protection (IP)

If an enclosure is to be used in a clean, dry and well insulated environment, lower levels of IP may be acceptable (IP54 or IP55).
In a dusty environment you may require higher IP levels, such as IP65 or IP68 (see expert's tip 4, page 247).

8 - Cable retention

Choose the right level of cable retention according to your needs. For locations accessible to the public, preferably choose a high level of cable retention.

9 - Cable diameter

Choose the cable entry seal according to the cable diameter.
Take into account cable diameter tolerances.

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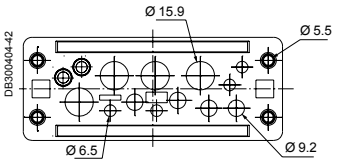
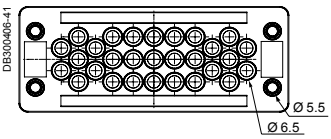


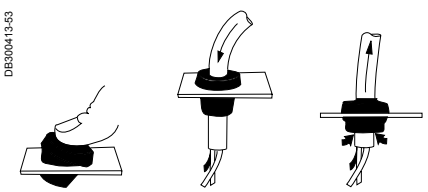
DB300406-41



10 - Cable installation time

Each cable entry has different installation characteristics. Some can be installed easily and quickly thanks to the soft membrane. Take this into account depending on labour costs in your region.

DB300413-53



Cable management
Cable entries

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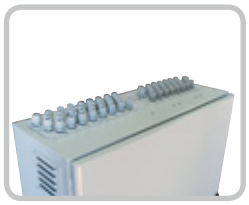
PB502712-31



11 - Quantity of cables to be fitted for a given surface

For some installations, a large quantity of cables must go through the cable entry.
Some cable entries can receive a high density of cables, which can result in more economical installation (fewer cable entries to be bought).
For small enclosures, it may simply be impossible to install too many cable entries due to the available space on the enclosure's wall (see expert's tip 3, page 247).

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12 - Cable entries for cables with connectors

Some cables have large connectors which cannot be pushed through tight cable clamps or cable seals.
These cable entries have the unique advantage of not requiring the cable to be cut, thanks to the snap-fitting system.

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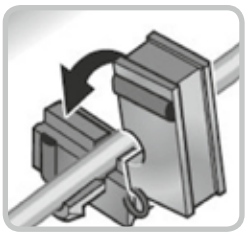

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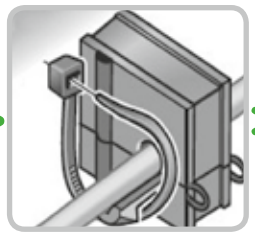

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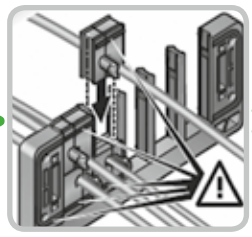

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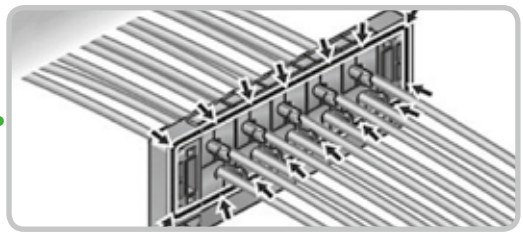
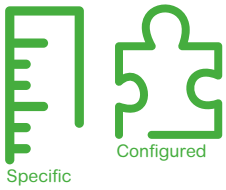


A high cable retention force is provided thanks to the integrated cable fastener.

Expert's tip



❶ Some cable entries require cut-outs to be machined on the enclosure or cable gland plate.
Our customized offer provides this service.
The quality of your enclosure will therefore be guaranteed since the painting operation is performed after creating the cut-outs.

❷ Installing a cable entry with full flexibility is **the** solution when a large series of enclosures is being prepared for different types of installations.
By using one combination of enclosure-cable entry, you can cover a large variety of installations!

❸ When the cable entry has been defined, the next step is cable management inside the enclosure. For correct thermal management, all wires must be fitted and attached so as not to create an obstacle for correct air flow.
Consult our Universal Enclosures catalogue for cable management accessories (such as cable ducts) and consumables (such as cable ties).

❹ When your environment requires a high level of IP for your installation, make sure you have an appropriate thermal management system to avoid condensation or overheating problems.
Consult our Thermal Management offer in our Universal Enclosures catalogue and our Control Panel Technical Guide related to this issue.

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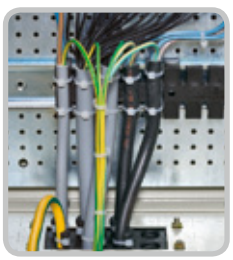
PB500966-50



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