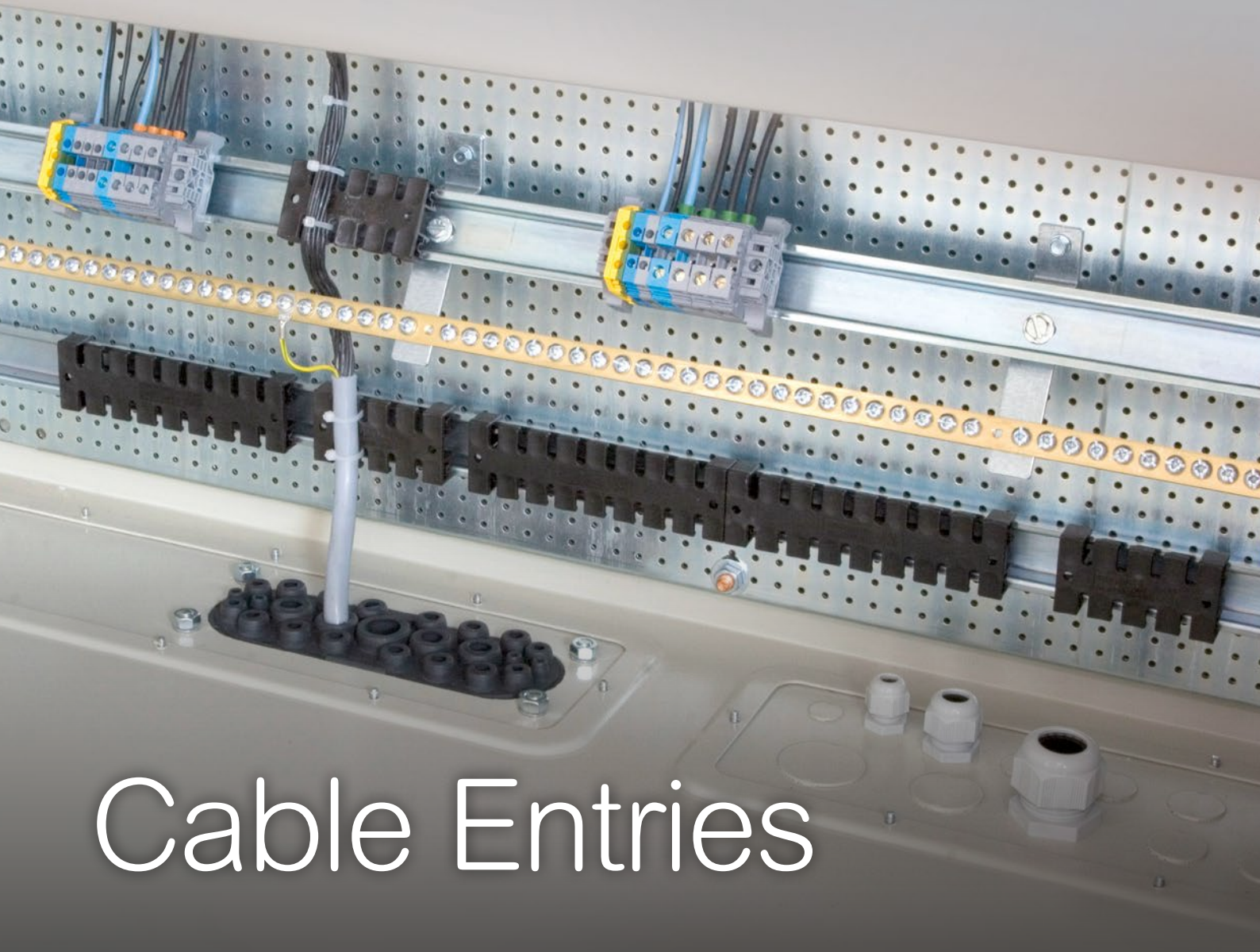




Cable Entries

Universal Enclosures
Selection Guide



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Life Is On

Schneider
Electric

New Cable Management Products

New

Cable Entries

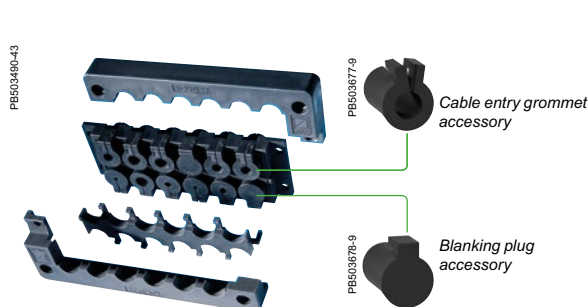
Advantages of these new cable entry plates:

- Different cable diameters can be used in the same installation.
- Can be mounted on any side of the enclosure.
- Helps saving Panel Builders and Installers time during the cabling stage.



> Cable Entry Multi-CS

Enables entry and lead through of pre-assembled cables for **easy and quick installation** in the control cabinet and clamping box. The cable entry Multi-CS can accommodate up to **48 pre-assembled cables** with a very high packing density. Cable grommets enable use of a **wide variety of cables**.



IP65

Operating temperature
-30 °C / +100 °C

Clamping range
2 to 22 mm

- Cable installation without interruption.
- Standard cut-out dimensions.
- Easy assembly.
- Protection class IP65.
- Stable construction.
- Integrated strain relief.
- Operating temperature: -30 °C / +100 °C.
- Flammability: V0.



> Cable Entry Multi-CF

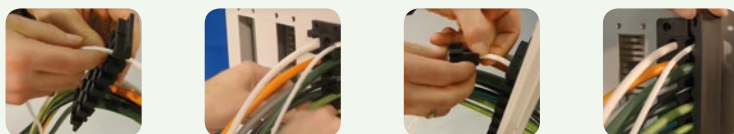
Cable entry Multi-CF is made of **special modified polypropylene**.

This entry plate is used wherever **quick mounting with a high packing density** is required and cables must be protected.



- Significant time savings in assembly.
- High packing density.
- Cables can be combined within a single entry.
- Wide range of cable diameters can be used.
- Very slim design.
- Protection class IP65.
- Operating temperature: -30 °C / +70 °C.
- Flammability: V0.

How it Works



New Cable Management Products

New

Industrial Cable Glands

These new cable glands extend our range of cable management accessories for different applications.

> EMC Cable Glands

Simple application and fast installation, with the patented contact system, make this gland unique among armoured cable glands.

PB503027-19



IP68

Long-lasting contact

- Long-lasting contact thanks to high-definition contact spring.
- Moving spring contact helps reduce the risk of sheath damage.
- Easy assembly.
- Strain relief and sealing performance for EMC applications.
- IP68 and UL approved (in accordance with UL514).

> Snap-In Cable Glands

Specially designed for **easy assembly** to housings **without threaded holes**.

PB503094-17



IP68

Quick fixing

Smart and ergonomic

- Can be housed without threaded holes.
- Easy assembly.
- Easy disassembly by means of a "disassembling tool".
- Peace of mind and time saving.
- Fits in a wide range of wall thickness: 0.5 mm to 4.0 mm.
- Smart and ergonomic.
- UV-resistant.

> Stainless-Steel Cable Glands

This type of stainless-steel is for **use in high quality machines and housing and in corrosive environments**.

PB503071-18



IP68

Corrosion resistance

- Easy assembly.
- High quality strain relief and sealing.
- High level of performance for standard industrial applications, both indoors and outdoors.
- Manufactured according to DIN EN 62444/50262 standard.
- Resistance to extreme high and low temperatures.
- Same quality of stainless-steel as the enclosures.

> Disassembling Tool

PB503538



PB503539



Specially designed for **easy disassembly** snap in glands **without threaded holes**.

FlexiCable

The Revolutionary Cable Entry Plate!

IP55

Max Ø
26 mm

Fire
resistant
650°C

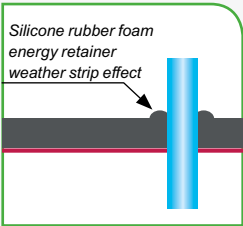
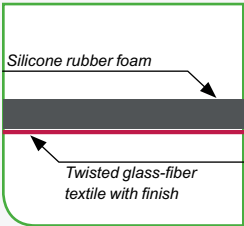
Short
circuit
validated
250 A, 25 kA

- For cable diameters up to 26 mm.
- Number of cables limited only by the size of the plate.
- Copper or aluminium.
- Rigid or multiwire.
- Power, control or IT.

No Marking,
No Drilling,
No Tools... It Just Works!



Exclusive, patented technology: composite material, made of reticulated silicone rubber foam combined with high-performance glass-fiber textile (Siltop® by Ferrari SA).



Round cables

> Elevator Solution



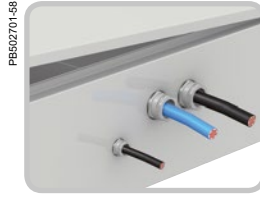
> Repair Kit



Cable Management



Multiple.



Single.

Key Features When Selecting a Cable Entry (1/4)

1 Multiple Cable Entries Or Single Cable Entries?

This choice depends on the number of cables going through the cable entry: generally for 3 or more cables, choose a multiple cable entry. This will make your installation faster and more economical.

In other words, your final bill will not necessarily be lower if you use single cable entries!

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

2 Cable Entry Material

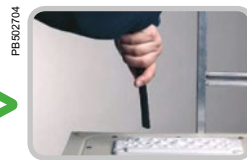
- **Soft membranes** allow cables to be easily pushed through, but still offer a good IP rating and protection from moisture and physical intrusions. Cable retention force, however, is lower than with other alternatives.



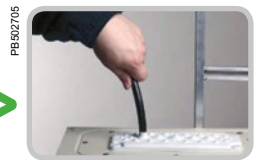
Push the membrane into a standard hole.



Make a small hole in the membrane.



Push the cable or tube through the guide hole.



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

- **Hard plastic cable entry plates** require tools to create the opening (drill or knife) but, thanks to the cable gland, they offer a very high retention force. Another use of this solution is for public places, since the hard surface helps prevent 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 of both soft membranes (easy and fast installation, flexibility) and hard plastic membranes (high retention force, when using specific cable clamps).



3 Cable Glands

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

Cable Management

Key Features When Selecting a Cable Entry (2/4)

4 Installation Possibilities

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

- **Using a cable entry:** 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 help ensure good water and dust tightness.
- **Modifying the standard cable gland plate:** the standard cable gland plate is unscrewed and machined. A cut-out is created in it.
- **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 can be 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 8*).

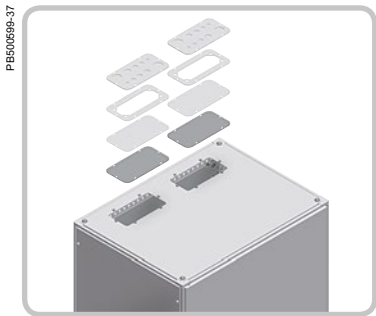
Cable gland plate adapters				
Enclosure range	1 membrane	2 membranes	3 membranes	4 membranes
Spacial S3D	PB500604-18  NSYTL•FL	PB500604-15  NSYTL•2FL	-	DB300718-15  NSYTLG4FL
Spacial SF	PB502708-10  NSYSFLR•• NSYSFLR•••	PB502708-12  NSYSFLR•• NSYSFLR•••	PB500697-15  NSYSFLR•••	-

- **Drilling directly 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 8*).



Spotlight 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



Full flexibility.



Medium flexibility.

Key Features When Selecting a Cable Entry (3/4)

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 8](#)).
- **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)

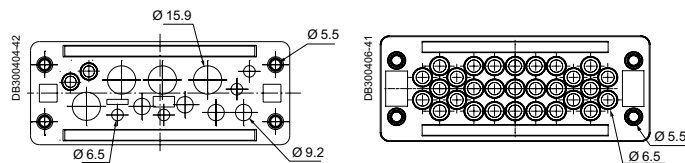
If an enclosure is to be used in a clean, dry and well insulated environment, lower levels of IP may be acceptable (IP54 or IP55). In a dusty environment you may require higher IP levels, such as IP65 or IP68 (see expert's tip 4 - [page 8](#)).

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.

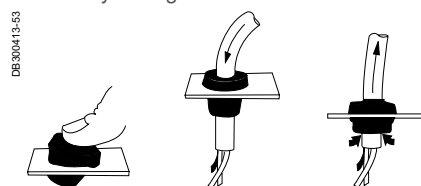
9 Cable Diameter

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



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.



Cable Management

Key Features When Selecting a Cable Entry (4/4)

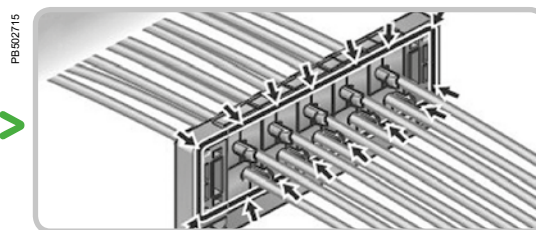
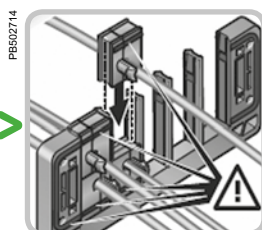
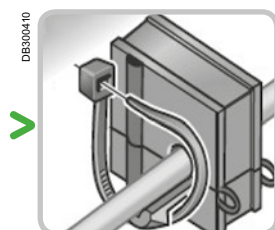
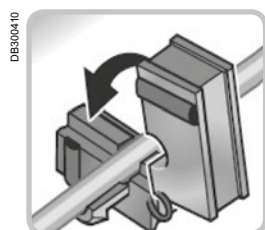
11 Quantity Of Cables To Be Fitted For a Given Surface

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 below*).

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.



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

[!] Expert's Tips



Specific

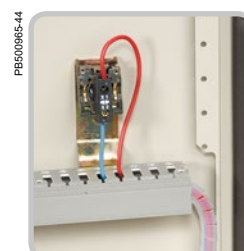
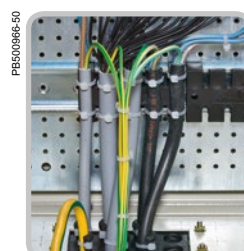
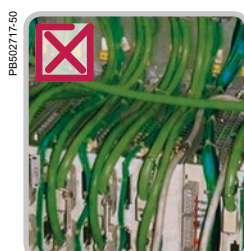
Configured

1 • 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 improved since the painting operation is performed after creating the cut-outs.

3 • 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).

2 • 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!

4 • 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.



Selection Guide

1

Look for these numbers on pages 5 to 8 for more detailed information

Simple Cable Entries



Characteristics	Simple-1		Simple-2	Simple-3	Simple-4	Simple-5
Description	Mixed membrane entries for enclosure thickness 20/10" - 32/10" mm.		PVC adjustable cone-shaped entries for enclosure thickness 30/10" - 32/10" mm.	Quick cable entries for enclosure thickness 10/10" - 40/10" mm (5/10" - 20/10" mm for ref. IMT36179).	PVC adjustable cone-shaped entries for PG tubes or for enclosure thickness 12/10" - 15/10" mm.	ISO cable gland.
Material	SBS		PVC	EPDM	PVC	PA6, neoprene gasket
Colour	RAL 7035 light grey or RAL 9003 white		-	Grey: NCS 5500	-	RAL 7035 grey
2 Cable entry material	Soft membrane			Combined		
3 Cable glands to be fitted	Not applicable					
4 Cable entry installation	On cable gland plate or directly on enclosure					
5 Flexibility of the installation	Low					
6 Reversibility	Medium					
7 Ingress protection rating	IP55		IP55	IP67	IP55	IP68
8 Cable retention	Low		Low	Medium	Low	High
9 Cable diameter (mm)	From 20 to 40		From 5 to 87	From 12 to 50	From 16 to 44	From 12 to 40
10 Cable Installation time	Fast		Fast	Fast	Fast	Slow
11 Quantity (max. number of cables)	+		+	+	+	+
12 Cables with connectors	No		No	No	No	No
Cut-out dimensions (mm)	Various circular hole diameters to fit cable diameter					
External dimensions (mm)	Ø 23 to 44		Ø 25 to 98	-	Ø 25 to 52	Ø 15 to 46
Certificates	-		-	-	-	Glow wire resistance: 960°C
Standard	-		-	-	-	Compliance with VDE, UL and CSA
Flame resistance	750°C		-	750°C	-	750°C
Temperature range	-		-	-	-	-
References	RAL 9003 IMT36130 IMT36131	RAL 7035 ISM71071 ISM71072 ISM71073 ISM71074	NSYECPC3 NSYECPC5 NSYECPC6 NSYECPC9 NSYECPC15	IMT36179 IMT36180 IMT36181 IMT36182 IMT36183 IMT36184 IMT36185	NSYEC1 NSYEC3 NSYEC4 NSYEC5 NSYEC7	ISM71501 ISM71502 ISM71503 ISM71504 ISM71505 ISM71506 IMT36150 (1)

(1) Cable gland with high resistance to fire.

For details, type the reference in the search engine at se.com/enclosures.

Selection Guide

1

Look for these numbers on pages 5 to 8 for more detailed information

New



New



New



Multiple Cable Entries



Characteristics	Synthetic snap-in cable gland	Stainless-steel cable gland with lamellar insert	EMC cable gland	Flexicable	Multi-A	Multi-C	Multi-R
Description	Threadless. Easy assembly and disassembly. Suitable for walls from 0.5 to 4 mm thick.	Lamellar technology provides excellent resistance to traction as well as excellent torsional protection. For outdoor use, or for aggressive environments.	EMC cable gland with contact spring. Thread type: ■ Metric EN 60423 ■ Other types are available on request	Full membrane cable gland plate for wall-mounted enclosures S3D.	FL13 & FL21 type membranes.	Circular connector-free entries.	Rectangular connector-free entries.
Material	PA6 Polyamide, neoprene gasket	Stainless-steel AISI 304L or AISI 316L, neoprene gasket	Nickel-plated brass, neoprene gasket	HCE for membrane - Steel for frame	TPE, SBS, SEBS and PP co-polymer - Halogen-free	Polyamide	Polyamide
Colour	RAL 7035, RAL 7001, RAL 9005. Other colours on demand	-	-	-	RAL 7035	-	-
2 Cable entry material	Non-armoured	Non-armoured	-	Soft membrane	Combined	Soft membrane	Soft membrane
3 Cable glands to be fitted	-	-	-	No	Optional: specific cable clamp ref. NSYAECPFLACA to be used	No	No
4 Cable entry installation	On cable gland plate or directly on enclosure	-	-	Replaces cable gland plate (S3D) or directly on enclosure	On cable gland plate adapter or directly on enclosure	On modified cable gland plate or directly on enclosure	On cable gland plate with special cut-out or directly on enclosure
5 Flexibility of the installation	Low	-	-	Full	Medium	Medium	Medium
6 Reversibility	Medium	-	-	Medium	Medium	Full	Full
7 Ingress protection rating	IP68	IP68	IP68	IP55	IP65	IP65	IP65
8 Cable retention	High	High	-	Low	High with cable clamp, (up to 18 daN)	Medium	Medium
9 Cable diameter (mm)	From 16 to 40	From 12 to 40	From 3/6.5 to 19/28	Up to 26	From 13 to 30	From 3 to 15.9	From 4.3 to 15.9
10 Cable Installation time	Slow	Slow	-	Fast	Medium	Fast	Fast
11 Quantity (max. number of cables)	+	+	-	+++	++	++	++
12 Cables with connectors	No	No	-	No	No	No	No
Cut-out dimensions (mm)	Various circular hole diameters to fit cable diameter	-	-	178 x 63 to 478 x 63	FL13 and FL21	Ø 50.5 Ø 63.5	112 x 36
External dimensions (mm)	From Ø 22 to 46	From Ø 14 to 43	Ø 12 to 40	245 x 130 to 545 x 130 or 495 x 220	216 x 84	Ø 58 Ø 71	146 x 14 x 58
Certificates	UL 94 V-2 (except for the size M40)	UL 94 V-2	Standards: UL 514	Tested on short-circuit effect 250 A, 25 kA in accordance with IEC 61439-1	Cable anchorage pull test: EN 50262. Long term UV-resistance: ASTM G 154-06	■ UL 94 V-0 ■ Fire resistance: V0	■ UL 94 V-0 ■ Fire resistance: V0
Standard	DIN EN 62444, UL 514B, UL 514B§8.26.7	DIN EN 62444, UL 514	-	-	-	-	-
Flame resistance	-	-	V2 depending on UL94	650°C	750°C	650°C	650°C
Temperature range	-20°C to + 100°C	-20°C to + 100°C	-20°C to + 100°C	-	-40 to +85°C	-	-
References	NSYCGSP16 NSYCGSP20 NSYCGSP25 NSYCGSP32 NSYCGSP40	AISI 304L NSYCGX12 NSYCGX16 NSYCGX20 NSYCGX25 NSYCGX32 NSYCGX40	AISI 316L NSYCGX12H NSYCGX16H NSYCGX20H NSYCGX25H NSYCGX32H NSYCGX40H	NSYTLCEME NSYTLDEME NSYTLFME NSYTLGME Repair kit NSYTLREP	FL13 NSYAECPFLA7 NSYAECPFLA10 FL21 NSYAECPFLA25 NSYAECPFLA33	NSYTSAM504SE NSYTSAM508SE NSYTSAM638SE NSYTSAM6313SE	NSYSA2414SE NSYSA2417SE NSYSA2422SE NSYSA2423SE NSYSA2429SE

(1) "Pop-out" membranes only.
(2) Metallic plate.

For details, type the reference in the search engine at se.com/enclosures.

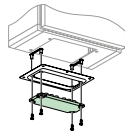
Cable Gland Snap-In Accessories



Characteristics	Disassembling tool				
Material	PA6 Polyamide, neoprene gasket				
For cable gland	M16	M20	M25	M32	M40
	NSYDT16	NSYDT20	NSYDT25	NSYDT32	NSYDT40

Selection Guide

New



New



Look for these numbers on pages 5 to 8 for more detailed information

Multi-CS	Multi-T	Prisma	Multi-F	Multi-CF	Multi-CR	Multi-H	Characteristics
Modular entry with room for up to 48 pre-assembled cables.	FL21-type membranes.	FL21-type membranes or rectangular.	FL13 & FL21 pre-configured flanges.	Cable entry for protected cables.	Cable entries with gasket for cables equipped with connectors.	FL21 insulated flange with ISO knockouts.	Description
Reinforced polypropylene and TPE. Halogen-free	TPE	Insulating material	Fibreglass-reinforced polypropylene and TPE - Halogen-free	Reinforced polypropylene and TPE. Halogen-free	Polyamide	Polycarbonate glass-fiber reinforced	Material
Black	RAL 7035	RAL 9001	RAL 7035	Black	-	RAL 7035	Colour
Soft membrane	Soft membrane	Soft membrane	Soft membrane	Soft membrane	Hard plastic	Hard plastic	Cable entry material
No	No	No	No	No	Yes	Yes	Cable glands to be fitted
On cable gland plate adapter or directly on enclosure	On cable gland plate adapter or directly on enclosure						Cable entry installation
Full	Medium	Medium	Medium	Full	Low	Low	Flexibility of the installation
Full	Medium	Medium	Medium	Full	Medium	Medium	Reversibility
IP65	IP66	IP55	IP65	IP65	IP54	IP65	Ingress protection rating
Medium	Low	Low	Low	Medium	High (with fastener)	High (with cable clamp)	Cable retention
Up to 22	From 5 to 60	From 28 to 60 (FL21) From 7 to 72 (rectangular)	From 16 to 50	From 9 to 30	From 3 to 31	From 12 to 25	Cable diameter (mm)
Fast	Fast	Fast	Fast	Fast	Slow	Slow	Cable Installation time
+++	++	++	++	+++	++	++	Quantity (max. number of cables)
Yes	No	No	No	Yes	Yes	No	Cables with connectors
112 x 36	FL21	FL21	134 x 52 (FL13) 214 x 90 (FL21)	112 x 36	36 x 91 (NSYDCE168) 36 x 112 (NSYDCE240)	FL21	Cut-out dimensions (mm)
148 x 58 x 15 148 x 58 x 18 ■ UL 94 V-0 ■ Fire resistance: V0	214 x 88	216 x 84	134 x 52 214 x 90 ■ UL 94-HB ■ UL-approved materials	148 x 60 x 10 ■ UL 94-HB ■ Fire resistance: V0	146 x 58	215 x 85 UL94-V1	External dimensions (mm) Certificates
-	-	-	■ EN 60529:1991 ■ EN 60670-1:2005/A1 ■ EN 50262:1998 EMKO-TUI (03-SEC) FI001/84 ■ Semko report 816003	-	-	-	Standard
-	650°C	-	-	-	650°C	750°C	Flame resistance
-30°C to +100°C	-40°C to +100°C	-	-20°C to +125°C (1)	-30°C to +70°C	-40°C to +80°C	■ For normal operation: -40°C to +80°C ■ For short durations: -40°C to +120°C	Temperature range
NSYDCD2412 NSYDCD244 NSYDCD248 NSYDCD249	NSYAECPFLBP (2) NSYAECPFLT7 NSYAECPFLT25 NSYAECPFLT35	FL13 08898 08899 FL21 08881 08892 08895 08897	FL13 NSYAECPKFL11 FL21 NSYAECPKFL7A NSYAECPKFL10	NSYTLK2414 NSYTLK2422 NSYTLK2428 NSYTLK2446 NSYTLK244M	NSYDCE168 NSYDCE240 NSYDCE244 NSYDCE2410	NSYTSKFL	References

Multi-CS Accessories



Characteristics	Cable gland	Blanking plug
	Ø 2-3 to 21-22 mm	For cables 2-12 to 12-22 mm
Material	Reinforced polypropylene and TPE. Halogen-free	
For cable gland	Size of cable gland	References
	Small	NSYCEJDS**
	Large	NSYCEJDL**
	For cable (Ø)	References
	2-12 mm	NSYCEJDS0
	12-22 mm	NSYCEJDL0



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05-2020
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