

Quick guide

# INDUSTRIAL COMPONENTS FOR OUTDOOR CABINETS



**Outdoor cabinets have specific requirements to stand up to the elements and the threat of vandalism or theft. This goes for whatever cabinet you're designing, whether an industrial cabinet, outdoor electrical enclosure, telecom cabinet or cable junction box.**

To help make your job easier, we've put together this guide to help you design your cabinet. We've made free CADs of our solutions available for [download](#). You can also try before you buy on most products by requesting [free samples](#).

Keep in mind that just as outdoor enclosures vary, so too can the location of components within the

enclosure. This is a general guide for the electrical panel box parts that outdoor cabinets typically require. For example, an outdoor telecom cabinet will often have a rear door, so you might need to mount some solutions on the roof or side panels to allow the door to open with ease.

## PROTECTING YOUR OUTDOOR CABINETS

Outdoor cabinets can be vulnerable to tampering and vandalism, so it's good to know that we offer solutions that meet DIN V 1630:1999-04. Some of our access hardware components are also certified to WK2 standard. This means they're tested for protection against physical force and the use of small tools, such as screwdrivers.

Environmental factors are another concern. We're addressed these issues with our own internal testing facilities, ensuring that components are robust and durable enough to resist the corrosive effects of salt spray.

## NEMA AND IP RATINGS

The first issue you need to be aware of is [NEMA](#) or IP ratings. Both of these are standards that tell you the level of protection against dust, dirt, moisture, water and other foreign objects, such as tools or fingers. If you want an outdoor NEMA cabinet, or one that is IP rated, then some of your components need to carry this rating as well. This will maintain your cabinet's rating. You can learn more and how they compare [here](#).

## FIBER-OPTIC CABINETS

If your application is a fiber street cabinet, the components shown here are suitable, from outdoor cabinet hinges to electrical enclosure locks and latches. However, you'll also need fiber-optic cable management, designed specifically for optimizing network performance and enabling easy access for maintenance.

## IDEAL COMPONENTS

Let's look at the different parts attached to the frame, and what components you need to consider.



## FRONT OR REAR DOOR

If you want to access your electric cabinet design from both sides, then these components work for either front or rear doors.

## HINGES

There are many different types of cabinet hinges. For an outdoor cabinet, your priority should be to prevent tampering. These outdoor cabinet hinges will help keep the equipment housed in your outdoor cabinet safe and sound.



### CONCEALED HINGES

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Concealed hinges are installed inside telecom street cabinets and other enclosures, which provides extra security. [Screw-on concealed hinges](#) are ideal as electrical cabinet hinges, and come in three different materials: nylon, steel and stainless-steel hinges. The steel versions offer handed, pin, removable pin and spring-loaded options. If you need heavy-duty steel hinges, choose the pin version which has a 110° rotation angle and high mechanical strength. The handed versions with a 90° rotation angle are also great for heavy-duty applications as well as lightweight needs. [Weld-on concealed hinges](#) are also available.



### POSITION-CONTROL HINGE

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A position-control hinge is a type of adjustable torque hinge and ideal for telecom roadside cabinets and other electrical panel enclosure designs. Made of nylon, it comes in a variety of different external mounting versions. These adjustable torque hinges have internal resistance and restrict movement of your panel or door. Adjustable torque position-control hinges are especially helpful for an outdoor electrical box enclosure, where frequent access is needed.



### WELD-ON BULLET HINGES

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Weld-on bullet hinges are ideal industrial cabinet hinges. They offer a high degree of security and strength, which is why they're popular for outdoor applications, from industrial storage cabinets to specialty vehicles. Weld-on bullet hinges provide a fluid opening action, making this another option if frequent access to the cabinet is needed.



**LIFT-OFF SCREW MOUNT HINGES**

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Lift-off screw mount hinges, also known as rising butt hinges, have a rotation angle of 180° and lift off to remove flush-mounted doors. Ideally suited as electric meter box door hinges – or as any electrical box hinge – they come in a range of materials, including corrosion-resistant stainless steel – an ideal material for external telecom cabinets. These stainless-steel rising butt hinges are drilled and then screwed into the frame.



**METAL CORNER HINGES**

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Metal corner hinges, like concealed hinges, are mounted inside the cabinet and make perfect electrical enclosure hinges with a 180° rotational angle. A cabinet corner door hinge contains a pin, which you can remove when the doors are open. This enables you to take off the doors for easier access when maintenance is required.

**LOCKS AND LATCHES**

If you’re designing a NEMA or IP cabinet, choose electrical enclosure locks and latches with the same rating. Your choice will also act as your handle, with either the key allowing you to open panel doors or a handle as part of your industrial cabinet lock or latch.



**IP65 QUARTER-TURN SPRING LATCHES**

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IP65 quarter-turn spring latches are dust tight and help protect the equipment within the cabinet from jets of water. With six different head styles and seven grip ranges to choose from, these quarter-turn latches provide a rubber gasket for better sealing. Ideal as an electric meter-box spring latch.



**ADJUSTABLE COMPRESSION LATCHES**

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Adjustable compression latches are also rated IP65, making them suitable for as an electric meter-box door latch. This compression latch is ideal not only for sealing against ingress, but also for noise isolation and vibration reduction. This adjustable compression latch is available with an offset cam lock, or you can choose flat or deep cam styles.







### CYLINDER LOCKING QUARTER TURN LATCHES

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Cylinder locking quarter turn latches, another IP65 alternative, moves into the locking position when the key is turned 90°. Turn the key 180°, and the cam moves into the fixing position. This quarter-turn latch also serves as a compression latch, isolating noise. An ideal choice for outside electrical box locks.



### NEMA RATED ADJUSTABLE T-HANDLE WITH COMPRESSION

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The NEMA rated adjustable T-handle with compression is also [available keyed](#), and ideal for cabinets containing equipment that vibrates. This quarter-turn cam latch compresses to provide an excellent seal. The T-handle shape offers an ergonomic grip, which makes it a great choice if the user has to frequently access an electrical cable box or cabinet.



### PUSH-BUTTON SWING HANDLES

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Push-button swing handles with slam-action spring-loaded handle consists of a low profile that tucks away when not in use. IP and NEMA rated to work extremely well outside or inside. Ideal as a heavy-duty compression latch for anything from console enclosures to machinery covers.

## DOOR GASKETS AND SEALS



### SEALING GASKETS

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Sealing gaskets create a compression seal for your cabinet door. They clip onto the panel edges to provide additional sealing to fill the space where surfaces mate. Opt for EPDM or PVC material. Both are outstanding as outdoor electrical box gaskets, protecting against the effects of weather and the shock of vibrations.



### WEATHERSTRIPPING TAPE

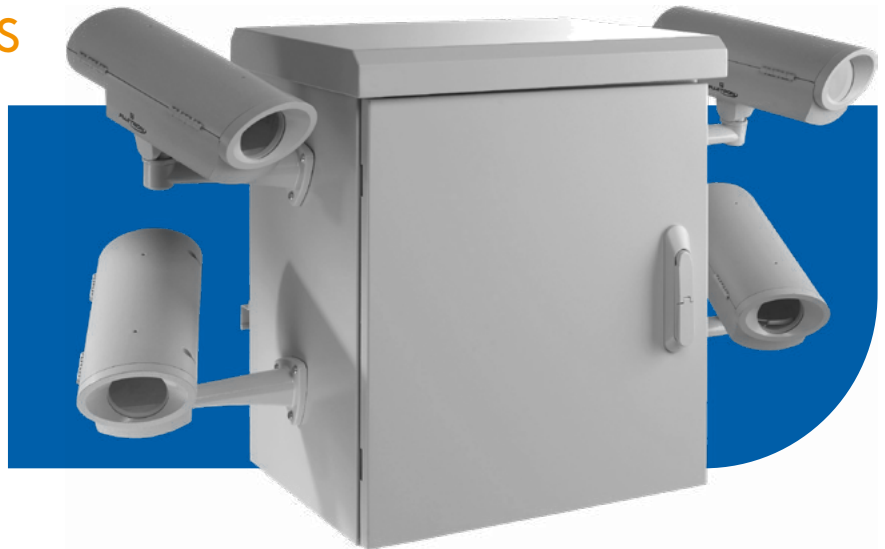
[View online](#)

Weatherstripping tape can also help seal gaps between irregular surfaces. The [gasket tape](#) made of EPDM creates superior barrier protection from moisture and air. EPDM is an excellent electrical-enclosure gasket material. It resists weather and oxidation resistance and offers conformability and flexibility at low temperatures.



## TOP AND SIDE PANELS

If you're designing an outdoor wall-mounted data rack cabinet, you'll only have access through the front door. Instances like these give you the rear panel to work with. You can place the components below on either the top, side or rear panels.



## FAN ACCESSORIES FOR SMALL CABINETS



### FAN FILTERS

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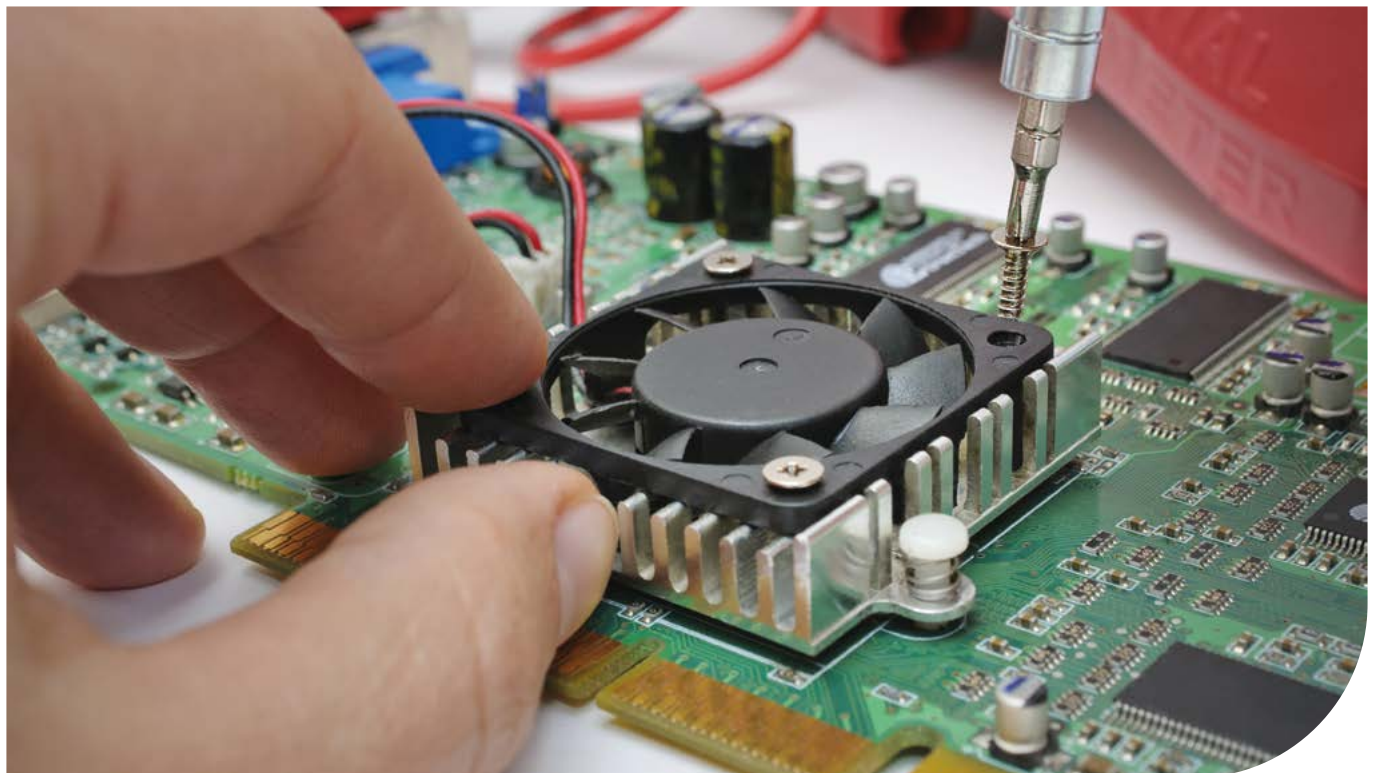
You'll need an electrical cabinet fan. Fan filters ensure that clean, filtered air cools the electronics housed by your cabinet. They keep airflow unrestricted by removing harmful particles. Stainless steel is an ideal material for a fan filter mesh sheet in outdoor applications, as it contains corrosion-resistant properties. Metal fan filters are also [available](#).



### FAN GUARDS

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To prevent debris from falling into your electrical-enclosure fan and causing obstruction, consider this metal fan guard made of steel. Fan guards are essential for protecting the equipment that your cabinet will house. The fan guard shown here is simple to install with a screw mount application.





# FASTENERS

### MINI SNAP RIVETS

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Mini snap rivets are sold separately as male and female versions. Made of nylon 6/6, they're ideal for outdoor applications, including electrical cabinets or any plastic enclosure. These snap rivets are quick to install by pushing them together.

### PLASTIC PAN HEAD SCREWS

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Plastic pan head screws are a strong, lightweight replacement for metal screws. These slotted, Phillips style pan head machine screws are made of nylon 6/6, resisting corrosion, oil, abrasions, most chemicals, electricity and vibrations. An ideal choice for your electrical-box screws and network cabinet screws.

### NYLON HEX NUTS

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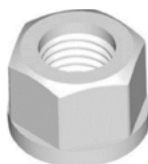
Nylon hex nuts are another alternative to metal. Perfect for outdoor enclosures, these hex nuts are available in nylon 6/6. They are strong, but lightweight, and resist corrosion, oil, abrasion and most chemicals. They're easy to grip, install and remove.



### NYLON FLANGE NUTS

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Nylon flange nuts are designed to be used with steel bolts. Also known as a flange and lock nut, its base evenly distributes pressure over the surface area. Made of nylon 6/6, these electrical-box nuts stand up to vibrations or movement, while resisting corrosion, oil, abrasions and most chemicals.



### RETAINING WASHERS

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Retaining washers are designed to grip the outside of a screw shank. Reducing assembly time and cost, the retaining washer slides onto the screw and is retained by its anti-loss lip. Available in nylon 6/6, making it ideal for the outdoors. Resists corrosion, oil, abrasions and most chemicals. A must-have as one of your electrical-box parts.





# CABLE CLAMPS AND CLIPS

## P-CLAMPS FOR CABLES

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Screw-mount cable clamp provides a secure application. Ideal for electrical panel box designs, this nylon loop clamp's bundle may not be removed without the screw being removed. UL94 V-2.

## SCREW-MOUNTED CABLE CLAMP

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Screw-mounted cable clamp features pressure grips to accommodate seven cable bundles. If larger cable bundles are needed, the cable grips can easily be removed. This cable clamp is made of HDPE with a TPE insert.

## WIRE CLIPS

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Wire clips should be part of your network-cabinet cable management. They come in two pieces to hold wires securely in place. The keeper bar can be adjusted to accommodate wires or removed to allow access for maintenance. Made of nylon 6/6, these wire clips are fastened to your panel using a Philips flat head machine screw.

## CABLE CLIPS FOR EXTRUDED METAL RAIL

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Cable clips for extruded metal rail are lightweight and don't require tools for installation. These cable clips are available in different styles and are made of nylon 6/6 to resist corrosion, oil, abrasions and most chemicals. Choose between two types of mounting: quarter turn or push in.

## FIR-TREE CABLE CLAMPS

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Fir-tree cable clamps with a hinged locking top have an internal rib spanning the diameter for a tight, secure grip. The releasable latch enables easy access for maintenance, while the fir-tree mount suits a range of panel thicknesses. Made of heat-stabilized nylon 6/6, this cable clamp performs in temperatures ranging from -40°F to 257°F (-40°C to 125°C).

# CABLE TIE MOUNTS

## EDGE MOUNT CABLE TIE HOLDERS

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Edge mount cable tie holders push on plastic or metal sheet edges as a permanent fixture to anchor cable ties. Available in top or side mounting options, with different bundle orientations. Also available as a clip with pre-installed cable ties.





## GROMMETS



### GROMMETS

[View online](#)

IP67 sealing grommets protect your application from dust and water. They're ideal for an electrical cable junction box or an outdoor power socket. Made of EPDM, these [IP67 Sealing grommets](#) stand up to weather and vibrations. As electrical junction box grommets, they also serve as blanking plugs until cable is installed.

## CORD GRIPS



### STRAIN-RELIEF CORD GRIPS

[View online](#)

Strain-relief cord grips are designed for superior sealing and strain relief to prolong the life of your cables. IP68 rating for excellent protection against the environment, making it ideal for your outdoor electrical enclosure box. Nylon. UV94 V-2.

## CABLE TIES



### HOOK AND LOOP CABLE TIES

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The hook and loop material easily mates together without crushing the cables being bundled. Ideal for fragile cables, such as fiber optics. Operating temperature range: 0 to 220°F. Made of LDPE and nylon.



### RELEASABLE STANDARD CABLE TIES

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Releasable standard cable ties contain a built-in locking system to prevent accidental release. Tough and durable, these black nylon cable ties include a release clip, which also enables them to be reused.



### STAINLESS STEEL CABLE TIES

[View online](#)

Stainless steel cable ties resist corrosion and extreme temperatures. Installed by hand with ease, these self-locking cable ties offer strength and durability.



### HEAT-STABILIZED CABLE TIES

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Think about locking heat-stabilized cable ties if heat is generated within your cabinet or a threat from your cabinet's outside environment. Rated UL94 V-2, our heat-stabilized cable ties perform in harsh environments with a service temperature range of -40°F to 221°F (-40°C to 105°C).

## COVER STAYS



### COVER STAYS

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Cover stays are heavy-duty solutions that lock the door of your outdoor electrical enclosure cabinet. In the wide-open position, preventing the door from hitting operator, for example, in windy weather. They allow a full range of motion and come in pre-set mounting orientations. Stainless steel with a natural finish.

## REAR PANEL

Typically, the components that can go on your side panels can also be placed on your rear panel, as long as that panel is inaccessible. You can also consider these components:



### ARROWHEAD CABLE TIE MOUNTS

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Arrowhead cable tie mounts are ideal to use on rear panels when space is limited. No mounting hardware is needed. They snap into place and come in different styles. Made of nylon 6/6.



### SPRING CLIPS

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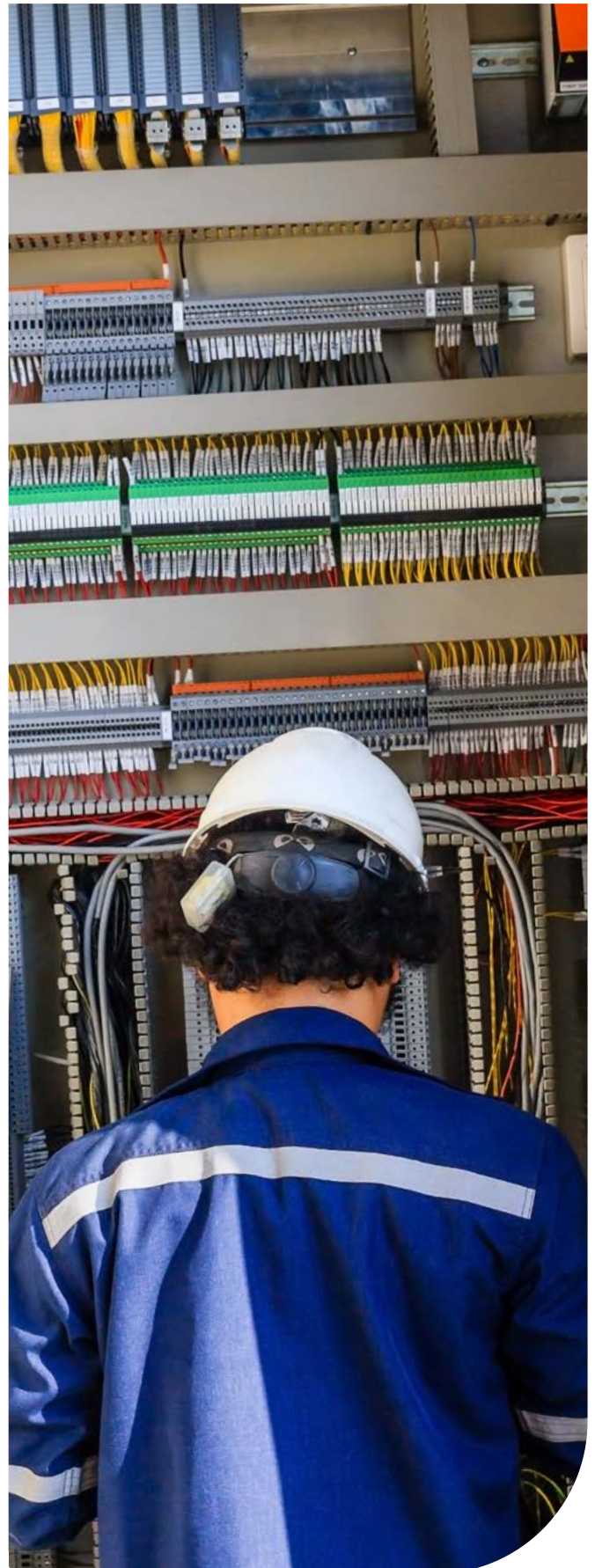
Plastic cable clips are flexible enough to allow the cable to be removed without removing the clip. Rounded contact edges provide product protection. Made of nylon. UL94 V-2.



### BODY PLUGS

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Available in silicone, TPE and TPR, body plugs close panel cavities while protecting against sharp edges. The [silicone](#) version is rated IP67 to give you a liquid-tight plug and will help your IP67 electrical enclosure maintain its standard.



# BASE



### SPIRAL CABLE WRAP

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Spiral cable wrap organizes cables and wires into one bundle. The spiral design enables cables to be routed into different directions at any point in the bundle. Available in heat-stabilized nylon and PE, this flexible cable wrap provides cost-effective protection for cables.



### BRAIDED CABLE SLEEVES

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These cable sleeves are typically used to bundle cables or wires and can be cut with scissors and still maintain a frayless end. Made of polyester. UL94 V-2. Also available in [quick-apply hook and loop version](#).



### PLASTIC CABLE CONDUIT

[View online](#)

Cable conduit tested to the most demanding quality standards. The flexible plastic conduit for cables has a high fatigue life and high impact strength to aid in recovery if crushed. Ideal as your electrical-box sleeve. Available in nylon, PP, PE and HDPE, it is flame retardant and self-extinguishing, while resisting UV rays, solvents and oils.



### CABLE TIE MOUNTS

[View online](#)

Cable tie mounts accommodate multi cable bundles that need to be installed in rows. Also known as a screw mount wire harness. Made of nylon 6/6.



## FIBER-OPTIC CABINETS

A fiber-optic cabling installation provides better and faster data than installations that rely on standard copper cables. The only issue here is that fiber-optic cables are more fragile than copper cables. This is why, for example, reducing bend radius is critical. And it's why you need good fiber cable management in place. But it's not only about bend-radius protection or fiber-optic cable protection. Running fiber-optic cable also means you have to think about cable routing paths and ease of cable access.

Here are the components you'll need for effective fiber-optic cable management.



## INTERNAL PANELS



### FIBER BEND LIMITING TUBING

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Good fiber-optic cable management keeps costs under control. Use fiber bend limiting tubing to protect cable bend radius by eliminating problems such as crushing, kinking and micro-bending, while supplying an entire self-managing solution for fiber-routing management. Available in PP with excellent stability and PBT, which provides outstanding insulation. To mount, use easy-to-install [snap-in clips](#).



### FIBER SPLICE TRAYS – SYSTEM, STORAGE

[View online](#)

These lightweight fiber cable trays and protectors eliminate the potential hazard of macro and micro bends which can occur during the mishandling of optical fibers. The trays are stackable to any number and inter-tray fiber routing is possible. Use with [splice holders](#), splice protectors and [bend limiting tubing](#). The molded-in features of the trays maintain the fiber bend radius at 30mm. Nylon 6/6.



### 4- OR 12-FIBER SPLICE TRAY HOLDERS

[View online](#)

Holds twelve 2.7 mm splices or four 4.2 mm splices. Fastens with either an adhesive pad or #4 screw. Nylon 6/6. Flammability rating UL94 V-0.



### FIBER REELS

[View online](#)

Our low-profile fiber reel enables you to spool excess fiber onto a printed circuit board design. Some reels can be broken apart to form a controlled bend around a 90° or 180° turn. Your choice of screw mount or for faster installation, adhesive backed. Nylon 6/6. Flammability rating UL94 V-0.



**FIBER CLIPS – 24-SLOT, SPLICE HOLDER**

[View online](#)

Holds up to 24 components/splice protectors. The flexible wings grip components up to 1.6 mm in diameter, while the low profile saves space. Nylon 6/6. Flammability rating UL94 V-0. Also available: fiber clips with [16 slots](#). [Fiber clips with fewer slots are also available.](#)



**WIRE SADDLES**

[View online](#)

Protects fragile fiber wires from damage. Pushes into place for fast installation, making it ideal for routing fiber. The adhesive mount provides a strong, secure hold for your outdoor fiber cabinet. Nylon. UL94 V-0.



**900-MICRON STRAIN RELIEF BOOTS**

[View online](#)

Provides added protection and reduces strain and tension for 900-micron fiber-optic cable while routing through a hole. Usually used in a connector or fiber terminator. If using a connector, prevent dust and other contaminants with [connector dust caps](#). Made of TPE.



**FIBER GUIDES – CORNER**

[View online](#)

Fiber guides are used to assist with reeling, enabling faster fiber-cable installation. Corner guides maintain a cable bend radius through a 90° turn, helping to prevent costly errors and downtime. Nylon 6/6. Also available: [guides for straight fiber applications.](#)



**FIBER COILING CLIPS**

[View online](#)

Optical fiber coiling clips include two extruded clips which snap into each other to form a clip with a smooth, curved surface to accommodate fiber optic bundles. PVC. UL94 V-0.



**SLOTTED MULTI BRACKETS**

[View online](#)

Designed using miniflex technology and used at distribution points where orderly fiber management, protection and strain relief are required. An additional security feature allows fitting of a cable tie around the part which prevents removal of any retained tubes. Nylon. UL94 V-0.

**DON'T FORGET: MASKING SOLUTIONS**

You'll also need to consider masking solutions to protect your cabinet during manufacturing. We can help with this, too, with a complete range of solutions. Check out our [wire hooks](#), which support hanging loads during paint or powder finishing, surface treatments, and material handling. Also, masking caps for painting and other treatments, and high-temperature [masking pull plugs](#). We also offer a popular range of [masking tape](#).





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