ESSENTRA COMPONENTS

PRODUCT GUIDE

THE **ULTIMATE GUIDE** TO **LOCKS LATCHES & HINGES**

EVERYTHING YOU SHOULD KNOW TO HELP YOU CHOOSE LOCKS LATCHES & HINGES

Access hardware plays a critical role in the life and function of your application, whether you're designing an industrial cabinet, electrical cabinet or data cabinet. Your choice should provide easy, secure access for authorized personnel, while restricting access to anyone who doesn't belong there.

Consider locks, latches, hinges and handles. Each come with its own benefits. Different types of locks, such as a cam lock for cabinets, are a great choice for security. Latches, meanwhile, offer ease of use if security isn't an issue. Hinges, particularly stainless-steel hinges, are long-lasting, with a high resistance to rust corrosion. Finally, handles make for a convenient way to access your equipment while offering an ergonomic design.

We can provide 3D models (CAD files) upon request or offer our single-pack option so you can verify form, fit and function.

BEFORE YOU GET STARTED

Your application might mean that you should choose access hardware around one or both of these two issues:

1 SHOCK AND VIBRATIONS

Vibrations can wreak havoc on applications, causing components to fail over time. Take every precaution available, and that includes choosing vibration-resistant access hardware. An example is sliding snap latches, which resists opening under vibration and shock load. An adjustable T-handle with compression is another smart choice, as it compresses for better sealing to resist vibrations.

2 NEMA AND IP RATINGS

These are two different standards that measure electrical enclosures and their resistance to dirt, debris, moisture and water ingress. NEMA (North Electrical Manufacturers Association) is used in the U.S., while IP (International or Ingress Protection) is favored in Europe. However, IP ratings are becoming more common in North America. Some access hardware also has NEMA or IP ratings, which ensures the enclosure's rating. An IP65 electrical enclosure is approximately the same as a NEMA 4 electrical enclosure. Learn more about these ratings and how they convert in our guide, The outdoor enclosure latch and lock: IP and NEMA ratings.

LET'S GET STARTED

HINGES

The right hinges enhance the performance, lifespan and appearance of your application. External hinges afford you more space inside your enclosure or cabinet, a helpful feature for a server data cabinet or indoor telecom cabinet. Concealed hinges are easy to install and prevent tampering, which makes them essential for applications such as an outdoor electrical cabinet or any outdoor enclosure.

You can learn more with our guide, Types of hinges and where to use them.

EXAMPLES OF HINGES INCLUDE:

Need: Permanent, non-obtrusive and long-lasting solution

Solution: BULLET HINGES

Why?

- Weld-on bullet hinges operate by a very simple design
- Extremely versatile in terms of application uses
- Available with or without a grease nipple and in two different types
- Steel, aluminum and stainless steel
- Allows for easy removal of your panel or door

Need: Holds large doors securely in place

Solution: 3D ADJUSTABLE HINGE

Why?

- A type of butt hinge ideal for large flush-fitting doors in units such as air conditioning, electrical panels and machinery covers
- Allows for tolerance adjustments
- Right- and left-hand options available
- Adjustable torque position control hinges also available
- Die-cast zinc alloy for strength and durability

Need: Easy lift off functionality

Solution: LIFT OFF SCREW MOUNT HINGE

Why?

- Also known as rising butt hinges or lift-off leaf hinges
- Available in stainless-steel and steel with either a zinc-plated or black powder coated finish
- Hinge rotation angle of 180°

Need: Tamper evident solution

Solution: SCREW ON CONCEALED HINGE

Why?

- Concealed hinges suited to both light and heavy-duty applications
- Requires fastener and welding technique for mounting
- Both left-hand and right-hand application possible and with a high mechanical strength
- Concealed door hinges with removable pin options for easy door removal
- Nylon option also available

Need: Strong chemical resistance to oil, solvents and seawater

Solution: CONTINUOUS HINGES

Why?

- Continuous hinge also known as piano hinge
- Can be fastened with rivets, screws, nails or clamps
- Modified Polyolefin Copolymer
- Available as a continuous black hinge, gray or white

Need: For large applications

Solution: METAL CORNER HINGES

Why?

- Internal door hinge used for large steel panels
- Hinge rotational angle of 180°
- Die-cast zinc alloy with different type of finishes

LOCKS

Security is the job one of any lock, whether it's for an electrical enclosure box, server rack cabinet, or anything else. Make sure your choice is robust to prevent vandalism and theft of your critical components. That's when you need a heavy-duty cam lock. If your application is in a controlled environment, look at an easy-to-open quarter-turn lock. Your choices are vast, offering features perfect for your application.

Also see our guide on how to choose the right lock.

EXAMPLES OF LOCKS INCLUDE:

Need: **Ease of installation and security for heavy-duty steel cabinets**

Solution: **FURNITURE LOCKS**

Why?

- Steel heavy-duty cabinet lock with plastic body
- Suitable for steel cabinets
- Easy rod assembly thanks to special fastening plate
- Clip-on body also aids assembly
- Includes stainless-steel dust cap
- Keyed alike or keyed different

Need: **Flush design to protect users from snagging clothing or skin in area with limited space**

Solution: **CAM LATCHES LIFT & TURN**

Why?

- Lift-and-turn cam lock latch consists of low-profile handle that stows away when not in use
- 90° rotation
- Easy to install
- Slam action spring-loaded handle
- For indoor or outdoor applications
- Ideal for cabinets, enclosures and machinery covers
- Keyed alike, keyed to differ or press button

Need: **Easy to use**

Solution: **HANDLE TURN CAM LATCHES - L-HANDLE**

Why?

- L-handle keyed cam lock deal for electric panels and machinery covers
- Available in black or chrome finish
- Keyed alike or Keyed different

Need: **Withstands vibrations**

Solution: **NEMA RATED ADJUSTABLE T-HANDLE**

Why?

- Adjustable T-Handle cam lock with compression
- For cabinets that require better sealing under vibration conditions
- Style: T-Handle cylinder latch
- Nylon, zinc alloy, stainless steel
- Keyed alike, different, CH751 or keyless option

Need: **Easy to fit**

Solution: **CYLINDER LOCKING CAM LATCHES**

Why?

- Cam lock latch
- Available in variety of types, key rotation angle and grip ranges
- Type 1: keyed different
- Type 2: non-removable key
- Type 3, keyed alike (5333) and key can only be removed in the lock position

Need: **Secure off-road transportation or industrial generator parts**

Solution: **LOCKING PADDLE LATCH**

Why?

- IP54 Heavy-duty paddle handle locking latch
- Also referred to push-to-close or slam-shut latches
- Push lock can be opened from inside by moving cam
- Available in stainless steel zinc alloy and nylon

LATCHES

From the spring-loaded latch to the lever latch, latches are safe locking systems, ideal for data or telecom cabinet doors and panel covers in machines. You can also get latches rated IP65 to ensure your application is protected from dirt and moisture ingress.

Check out our Guide to latches.

EXAMPLES OF LATCHES INCLUDE:

Need: Sealing under vibration

Solution: COMPRESSION LATCHES - ADJUSTABLE/WING KNOB

Why?

- Wing knob latch
- Adjustable compression latch provides better sealing under vibration
- Choice of finish
- Available in locking versions
- Zinc alloy

Need: Good seal

Solution: QUARTER TURN LATCHES - WING KNOB

Why?

- Quarter-turn latch with wing knob supplied with rubber gasket for tight seal
- Three different types available in grip ranges
- Available with extra-long housing
- Available in nylon, die-cast zinc alloy and stainless steel
- Key operated and padlockable versions available

Need: Maintain IP65 electrical enclosure rating or protect against dust and water ingress

Solution: QUARTER TURN SPRING LATCH

Why?

- IP65 Quarter-turn enclosure latch ideal for electrical cabinets and enclosures
- Six head styles and seven grip ranges available
- Die-cast zinc alloy, nylon or stainless steel

Need: Pleasing aesthetics

Solution: OFFSET COMPRESSION LEVER LATCHES

Why?

- Attractive raised trigger handle
- Compression lever latch available in either a 0-24mm or 24-26mm adjustable grip range
- Keyed alike, keyed different or no lock

Need: Securely pull and lock two components together

Solution: ADJUSTABLE DRAW LATCHES

Why?

- Operated by hand
- Designed for flexibility and security
- Secondary locking button prevents accidental opening
- Keeper supplied with latch
- Steel and stainless-steel options

CATCHES & CATCH PLATES

Magnetic catches are usually used for high-end furniture in place of knobs and industrial applications. If your use is industrial, consider a vibration-resistant catch. Magnetic catches are available in different styles and for different panel thicknesses, and all are easy to install and use. Catch plates aren't limited to catches, either – you can use latches with them too.

EXAMPLES OF CATCHES & CATCH PLATES INCLUDE:

Need: Robust latching device

Solution: PANEL CATCHES

Why?

- Cabinet hardware catches mounted onto cabinet doors or access panels
- Works with a striker to keep application closed tightly
- Audible lock and release
- Effective latching devices for enclosure
- Nylon

Need: Simple mechanism for keeping a door or panel closed

Solution: SNAP IN MAGNETIC CATCHES

Why?

- Cabinet hardware magnetic catches are quick to install
- Snap fit directly into a hole
- Range suitable for different panel thickness
- Polypropylene

Need: Effective latching for enclosures

Solution: PANEL STRIKERS

Why?

- Mounted onto cabinet doors or access panels
- Work with a catch to keep application closed
- Audible lock and release
- Acetol, nylon or plated steel

HANDLES

Cabinet pull handles, bridge handles, flush handles, crank handles – these are just a few of the styles available. Handles come with different mounting options, in different materials, or even as hand grips for health and safety applications. Choose an ergonomic handle for comfort. If you want a handle that doubles as security, a T-Handle cam lock or L-Handle keyed cam lock are good choices, which you can find under locks within this guide. Both offer easy hand gripping and actuation.

When choosing your handle, consider your application's environment. For example, if there's a lot of traffic, or space is limited, go with a recessed door handle to prevent obstruction. You can learn more in our Guide to handle design.

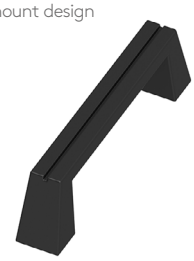
EXAMPLES OF HANDLES INCLUDE:

Need: Lightweight

Solution: PLASTIC PULL HANDLES - FEMALE ARCH

Why?

- Arch cabinet handle pull
- Lightweight and clean finish
- Different sizes and styles to suit variety of applications from electrical cabinets and enclosures to display equipment
- Front mount design



Need: Comfort and pleasing aesthetics

Solution: PULL HANDLE THROUGH HOLE ANGLED ARCH

Why?

- Industrial and clean look
- Extensive range of designs and materials for various applications and environments
- Nylon, black nylon, steel, aluminum and stainless steel

Need: Compact and ergonomic design

Solution: RECESSED HANDLE - SNAP IN

Why?

- Recessed handle
- Easy hand gripping
- Easy installation
- ABS plastic with matt finish

Need: Clean and aesthetic finish

Solution: PULL HANDLES - PLASTIC

Why?

- Pull handle design
- Lightweight
- Different sizes and styles
- Nylon or ABS

Need: Impact resistant

Solution: BRIDGE PULL HANDLE

Why?

- Industrial pull handles
- Ideal as machine handles for covers
- Front mounted with a rectangular grab handle
- Polyamide PA6 GFR30

GASKET SEALS & EDGE TRIM

Door gaskets and seals can have different applications. Edge trim is designed to allow for an easy installation on your fabricated edged for a finished look that seals and protects against sharp surfaces, impact and weather damage. Bubble gaskets and seals offer a flexible and protective seal against weather and irregularities between two surfaces to allow protection against vibrations, dirt and moisture ingress. It can also help reduce noise. Some can even help prevent electromagnetic interference in electrical cabinets and enclosures.

If your application is outdoors, EPDM is a good material choice for your gasketing. It withstands the aging effects of UV rays and resists heat, oxidation and extreme weather conditions and has very good compression set properties. Neoprene provides an excellent watertight seal and resistance to oils and chemicals, while PVC gasketing is tough and resilient.

EXAMPLES OF GASKETS INCLUDE:

Need: Protection and sealing for sheet metal

Solution: SIDE BUBBLE GASKET

Why?

- EPDM side bubble gasket seal
- Clip-on profile provides protection from vibrations, ingress of humidity and dirt
- Provides an additional seal to enclosure boxes

Need: Easy fitting protection

Solution: PUSH ON SEAL TRIMS

Why?

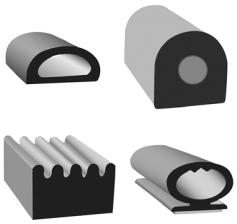
- Available in EPDM and PVC
- 250ft-roll offering edge protection and sealing
- Other push-on trims available in neoprene

Need: Protection for outdoor use

Solution: WEATHER STRIPPING AND GASKETING TAPE

Why?

- Weather stripping tape and gasket tape with closed cell foam offers great barrier protection from moisture and air
- Excellent weather and oxidation resistance
- Excellent conformability and flexibility at low temperatures
- Adhesive gasket tape



APPLICATIONS FOR ACCESS HARDWARE

If you're still not sure which access hardware to use for your application, we've put together recommendations. If you have questions about any solutions and how they might work with your specific application, we invite you to contact us.

HVAC

HVAC components include access hardware, which needs to be robust enough to stand up to vibrations and frequent use.

BUTT HINGE

- Heavy-duty butt hinges
- Sustains heavy weight
- Hinge rotation 180°
- Nylon

HVAC HANDLE

- Removable handle for easy assembly on site
- Roller cam requires less force to lock
- Can be used for both left- and right-hand doors
- Internal handle available for opening door from inside
- Adjustable T-handle compression latch for better sealing under vibration conditions available here
- Nylon

HVAC LOCK

- Compression latch to withstand vibrations and reduce noise
- 90° rotation
- Outside locking system provides safety for pressurized doors
- Zinc alloy

ADJUSTABLE COMPRESSION LATCH

- Adjustable compression latch with cam for noise dampening and better sealing under vibration conditions
- Wide Grip with adjustable screw
- Provides 6mm pre-set compression

PLASTIC PULL HANDLE

- Industrial pull handles
- Front mounted
- Rectangular grab handle
- Nylon

INDOOR AND OUTDOOR CABINETS

From a cable junction box and outdoor utility cabinet to an industrial computer cabinet and rack mount cabinet, easy access is an important part of its design. Here are recommendations for access hardware for cabinets and drawers.

QUARTER TURN LATCH - WING KNOB

- Quarter-turn latch with wing knob
- Supplied with a rubber gasket for a good seal
- Cam lock latch
- IP65, NEMA 4, DIN-EN 1774, RoHS
- Die-cast chrome plated latch with a zinc plated steel cams

LIFT & TURN CAM LATCH

- Lift and turn compression latch
- Low-profile handle stows away when not in use
- Slam action, push lock
- Maximum rotation of 90°
- Nylon

CORNER HINGE

- Cabinet corner door hinge
- Ideal for cabinets and machinery covers
- Maximum rotation of 180°
- Die-cast zinc alloy and steel

L-HANDLE

- Quarter-turn latch
- Zinc alloy chrome plated
- Suitable for left- or right-hand operations
- Keyless or cylinder key-operated are available

MAGNETIC CATCH

- Cabinet hardware magnetic catches
- Snap-in design for quick installation
- Fits panel thickness of 0.020in (0.5mm) to 0.080in (2mm)
- Polypropylene shell

GENERATORS

When thinking about the industrial generator parts you need, don't leave access hardware to the last minute. For instance, your hinge can make access easier – it can even function as an additional security measure if that's relevant. Take a look at our recommendations:

PADDLE LATCH

- IP54 Heavy-duty paddle handle locking latch
- Push lock can be opened from inside by moving cam
- Available in Eurokey for exports to European markets
- Available in die-cast zinc alloy and nylon

LEAF HINGE

- Type of heavy-duty butt hinge
- For flush-mounted heavy doors
- Maximum hinge rotation of 270°
- Suitable for left- and right-hand applications
- Zinc alloy

SEALING GASKET

- EPDM side bubble gasket door seal
- Supplied in 50m roll
- Flexible profile, press on by hand

RECESSED HANDLE - SNAP IN

- Recessed pull handle
- Snap-in easy assembly
- Flush design
- Nylon 6

QUARTER TURN LATCH WING KNOB EXTRA LONG HOUSING

- Quarter turn latch with wing knob
- Spring loaded latch
- Ideal for sound-proof or isolated doors
- Supplied with a rubber gasket for additional sealing properties
- Die-cast zinc alloy with chrome plating, steel cam

INDUSTRIAL MACHINERY

Industrial machinery is complex to design. You can make your choice of access hardware easy with components that perfectly suit your application. Here's a few suggestions to get you started.

CAM LATCH L HANDLE

- L-Handle keyed cam lock
- Includes rubber gasket
- Quarter-turn latch
- Zinc alloy, stainless steel, nylon black options available

CONCEALED HINGE

- Strong concealed hinges
- Removable pin for easy panel and door removal
- Maximum rotation of 120°
- Concealed door hinges' frame part screwed on and door part can be welded or screwed on
- Steel with zinc and copper plating
- Mounting by fastener and welding options
- Stainless steel option also available

SLIDE LATCH

- Easy to install
- Push-to-close feature
- Non-obtrusive flush design
- Ideal for small metal machinery covers
- ABS with stainless steel spring
- Economical latching solution

CYLINDER LOCKING CAM LATCH

- Cam lock latch
- Variable key-locking solutions
- Ideal for steel doors and machinery covers
- 90° key rotation
- Die-cast zinc alloy with chrome plating

DRAW LATCHES

- Compression draw latch & keeper
- Hood latch option
- Low-profile design
- Keeper concealed and fastened under latch
- Black-rubber handle withstands corrosion
- Black powder-coated die-cast zinc

RAIL TRANSPORTATION/SPECIALIST VEHICLES

Form meets function in these access-hardware recommendations. Solutions are designed to high standards to help ensure the quality of your finished product.

SCREW-ON CONCEALED HINGES

- Concealed hinges for preventing tampering
- Easy to install
- Maximum rotation of 120°
- Stainless steel

WEATHER STRIPPING & GASKET TAPE - EPDM

- Acts as both weather stripping tape and gasket tape
- Cell foam offers great barrier protection from moisture and air
- Excellent weather and oxidation resistance
- Adhesive gasket tape with superior conformability
- Flexibility at low temperatures
- EPDM

FLUSH CUP RECESSED T-HANDLE LATCH

- Heavy-duty panel latch
- Rugged design, recessed door handle
- Ideal for commercial vehicles and railways where flush mounting is required
- Stainless steel
- Comes keyless, keyed and padlockable

COMPRESSION LATCHES - ADJUSTABLE

- IP65 adjustable compression latch
- Good compression and noise isolation
- Offset cam lock; also available: flat or deep
- Chrome or black powder coated die-cast zinc

PADDLE LATCH

- IP54 heavy-duty non-locking paddle handle
- Push to close
- Keyless
- Body: Nylon black (PA6 30% GF)
- Mounting bracket: Steel

MATERIALS **OVERVIEW**

When selecting the right material for your application, it's vital you know the benefits of each type. Below, we outline some of the key materials and why you might choose them.

METALS

Available in a range of strengths, metal is a good choice for industrial requirements for latches, hinges and handles. Aluminum, for example, is strong, light and easy to form, while steel is rust-resistant and extremely durable.

PLASTICS

From nylon and polypropylene and polyethylene, plastics offer a wealth of benefits, too. Fiberglass, for instance, offers dimensional stability, with no stretch or shrink, while polypropylene ensures high heat resistance and stiffness. Polyethylene, on the other hand has high ductility and impact strength, as well as low friction.

LET'S TAKE A CLOSER LOOK AT SOME OF THESE MATERIALS:

METALS

ALUMINUM

Easy to form, fireproof and offering a long-life with little maintenance, aluminum is a superconductor for heat and electricity – twice as effective as copper, in fact. It's strong and light, too. The fact that it is fireproof makes it a great choice in terms of security.

Example: WELD ON HINGE

DIE-CAST ZINC ALLOY

A low-cost raw material, die-cast zinc offers high quality finishing characteristics for an attractive aesthetic. It also has the ability to cold form, which eases joining. What's more, it provides high-dimensional accuracy and stability and high thermal conductivity.

Example: QUARTER TURN LATCH - WING KNOB

STEEL

Durable steel is a great component for access hardware. With a good tensile strength, the metal is malleable and lustrous. Ideal for a range of handles or levers, steel provides a host of properties.

Example: CYLINDER LOCKING QUARTER TURN LATCH

STAINLESS STEEL

If you're looking for a material that offers corrosion resistance, an attractive appearance and a higher strength and hardness than most metals, consider stainless steel. It's low-maintenance, too, while also providing higher cryogenic toughness, making it ideal in colder environments.

Example: COMPRESSION CAM LATCH

CHROME PLATED STEEL

A corrosion-resistant component, chrome plated steel is low risk when it comes to delamination or flaking during use. The great thing about the material is it provides enhanced wear and impact resistance, too.

Example: METAL PULL HANDLE

BRASS

Wear-resistance, strength, machinability and ductility are just four benefits of brass. Offering hardness and electrical and thermal conductivity, too, the component also provides hygiene and corrosion-resistance.

Example: SIDE HINGE

PLASTICS

NYLON

With good thermal and chemical resistance, Nylon's impact resistance and flexibility increases with moisture content. It can be used in high temperature environments, which makes it ideal in the electronics industry. It also offers good resistance to most chemicals but can be attacked by strong acids and alcohols.

Example: QUARTER-TURN SPRING LATCHES

GLASS-FILLED NYLON

Offering resistance against ageing, glass-filled nylon is waterproof and provides high compression strength and tensile strength. On top of that, the fatigue resistance is excellent and it's one of the best wear-resistant plastics available.

Example: HANDLE TURN CAM LATCH

POLYPROPYLENE

A low-density material, Polypropylene provides heat resistance, chemical inertness and a high gloss appearance too. It's easy to weld, which makes it handy for all kinds of applications, and it offers steam barrier properties.

Example: MAGNETIC CATCHES

ACRYLONITRILE BUTADIENE STYRENE (ABS)

Resistant to corrosive chemicals and/or physical impacts and toughness, the relatively inexpensive Acrylonitrile butadiene styrene (ABS) has a low melting temperature. What this means for the user is it's simple to utilize alongside injection molding manufacturing processes.

Example: SLAM ACTION SLIDE LATCH

ACETAL

You'll get good wear in both wet and dry environments when you use Acetal. It's lightweight and high strength, too, providing low friction and great stiffness.

Example: DOOR LATCH STRIKER

POLYOXYMETHYLENE (POM)

Choose Polyoxymethylene and you'll enjoy high stiffness, hardness and high abrasion resistance. The material also provides high heat resistance, low water absorption and good electrical and dielectrical properties.

Example: RECESSED HANDLE

EPDM

Performing as an electrical insulator, EPDM is compatible with polar substances, making it fireproof. The ideal component for access hardware, it offers great security and outstanding resistance to heat, ozone, steam and the weather.

Example: SEALING GASKET

POLYURETHANE

With good tensile strength, Polyurethane is impact-resistant, abrasion-resistant and offers good hardness. It also has good tear strength and can be used to great effect in access hardware.

Example: CAM LATCH - LIFT & TURN

SILICONE

A fire-resistant component offering dielectric strength, thermal conductivity and cyclic flexing, silicone rubber provides creep, elongation and great tear strength. Due to the fact it's fire-resistant, it can be used confidently in access hardware.

Example: CYLINDER TURN QUARTER TURN LATCH (O-RING)

ACRYLIC

Benefit from excellent optical clarity with acrylic. The component also offers great weatherability and resistance to sunlight, as well as good impact strength and rigidity. With low mold shrinkage, its stretch forming increases biaxial toughness.

Example: WEATHER STRIPPING (ADHESIVE BACKING)

NEOPRENE

A type of plastic made from synthetic rubber, neoprene resists oils, chemicals and UV light. Abrasion resistant, it also has high tensile strength. Note, it resists water, solvents and heat better than natural rubber does.

Example: SEALING GASKET

PVC

There are two types of PVC: rigid and flexible. Both are low cost and offer good electrical insulation. Rigid PVC has high stiffness while flexible PVC has high impact strength. Rigid PVC contains vapor barrier properties whereas flexible PVC resists UV rays.

Example: SEALING GASKET

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