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TZ SlideHandle™

## Product Manual

TZ SlideHandle™ Models: 4267CF, 4271CF, 4272CF

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## About TZ

Telezygology, Inc. (TZ) is a wholly owned subsidiary of publicly listed intellectual property and technology development company TZ Limited with design and engineering operations throughout the United States, Europe and Australia.

TZ is a leader in the integration of intelligence and software control into everyday objects to enable new levels of functionality. Supported by a full product development capability, TZ technology is a platform on which many different solutions can be created by third parties seeking to integrate remote controlled intelligent locking and sensory devices to add functionality to their products.

TZ solutions fuse software controlled remote locking and fastening, environmental sensing, real time analysis and measurement to provide adopters with compelling benefits for their products and businesses.

## Disclaimer

This document is intended to provide basic technical information related to the TZ SlideHandle™ locking device. This document is not meant to be an exhaustive statement of all relevant data. By using this document, however, you agree to accept and comply with the terms, conditions, notices and disclaimer contained in this document.

While TZ has used all due care and skill to ensure that the information contained in this document is accurate, correct, and current at the time of publication, it does not warrant or represent that the information is free from errors or omissions, and does not accept responsibility for any defect in the information.

## Use of Information Contained in This Document

The correct functions of the TZ SlideHandle™ will require consideration of installation and system integration issues such as networking for power and data, and subsequent programming for functionality.

The TZ SlideHandle™ described has not been tested or qualified for a specific application other than for compliance to the specification outlined. Specific qualification testing may be required for fit-for-purpose application design.

## Caution

Changes or modifications not expressly approved by TZ could void the user's authority to operate the equipment (FCC Code of Federal Regulations Title 47 Part 15.21).



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Figure 1: TZ SlideHandle™

## 1.1. Introduction

Telezygology, Inc. (TZ) is the inventor of intelligent fastening, locking and actuation devices that in combination with TZ software and communication gateways provide a networked platform that extends traditional access control networks to asset level protection and creates compelling security, locking, monitoring and control applications across a number of market segments.

TZ control networks consist of the TZ SlideHandle, TZ Radial and other locking devices, interconnect modules, physical and environmental sensors and industry standard access control input translators, all of which can be connected to and controlled from stand-alone control devices and computers via the Internet.

This manual only provides detailed technical information about the TZ SlideHandle locking device. Please refer to the appropriate system or component manual for information on other TZ products.

## 1.2. Device Overview

TZ SlideHandle in Figure 1 is an intelligent locking device that offers a drop-in replacement for legacy manual swing-handle data center cabinet locks. The device integrates a high load Shape Memory Alloy (SMA) actuated locking mechanism with touch to release option, a multi-color LED status indicator, manual key over-ride, electronic door status sensor and RJ-45 connector.

The TZ SlideHandle is powered and controlled via standard UTP Cat5e / Cat6 cabling through a TZ Praetorian Junction or TZ Centurion Bridge. Additionally, it may also be firmware configured for direct connection to a relay output or dry contact closure system using a TZ Port Link device.



### 1.3. Contents of the Standard Package

The TZ SlideHandle comes complete with the following items in the box:

- > 1 x TZ SlideHandle 4200 Series
- > 1 x Magnetic reed door sensor
- > 1 x Installation flyer
- > 1 x Accessory kit (contains various mounting hardware)

The specific model of TZ SlideHandle and the contents of the accessory kit depend on what cabinet the TZ SlideHandle is to be used with. A list containing the exact part number, cabinet model, and additional mounting hardware can be found at: [ixp.tz.net/sites/default/files/cabinet\\_compatibility.pdf](http://ixp.tz.net/sites/default/files/cabinet_compatibility.pdf) or contact TZ to obtain the latest TZ SlideHandle cabinet compatibility matrix.

In order to allow for different keying possibilities, the key and lock cylinder for the override are not included in the standard package, and they are not installed until on-site installation of the system. There are five different possible keys for the TZ SlideHandle, although more can be accommodated. Contact TZ for more information on ordering.

### 1.4. Features

Unlike standard cabinet handles, the TZ SlideHandle contains a microprocessor that is able to execute a wide variety of features and functions – both internal and external – to facilitate the safe and efficient operation of a data center. These features and functions include:

- > Design to replace existing swing handle latches with a simple and reversible installation procedure.
- > Mounting compatible with industry standard 25mm wide openings for swing handle latches.
- > Housing sits completely outside the cabinet door.
- > Mechanism interfaces with existing designs for multi-point latching and split French doors, and provides same level of physical security.
- > Communicates device status and connected sensor status (depending on protocol).
- > Can be powered via up to 100m cable length via twisted-pair cabling (Cat5 or Cat6).
- > Connects into RJ45 based twisted pair cabling infrastructure with standard patch cables.
- > RS-485 serial communication allows remote unlocking, opening, and feedback on status.
- > Multiple sensors allow reporting on true security status of an enclosure, not just whether latch is open or closed.
- > Status LED indicator visible from end of cabinet row.
- > Integrated manual key override.
- > Auxiliary sensor devices (temperature, humidity, liquid) available.

Many of these capabilities can be programmed to provide specific, customised behavior to suit an extensive range of applications.

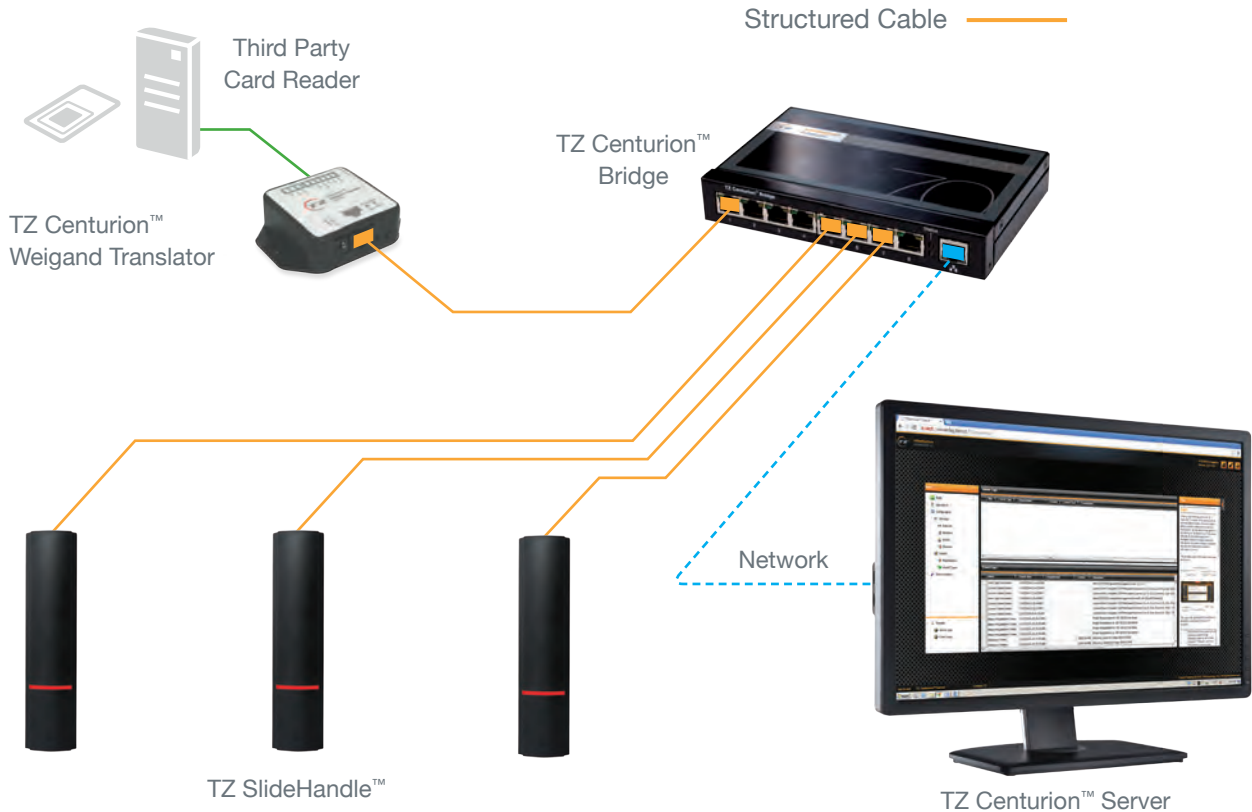


Figure 2: TZ Centurion™ System

### 1.5. System Example

The TZ SlideHandle is part of a technology-driven access control solution and is typically part of a larger networked system of devices like that shown in Figure 2.

The system is an example of a simple configuration that can be used to give remote-controlled access to a small set of cabinets through the use of a Radio-Frequency Identification (RFID) cards or through the web. Devices are networked through standard Cat 5 network cabling, and the complete system is controlled by an embedded web enabled TZ Centurion Bridge.

Every application is different, and TZ solutions offer the flexibility to accommodate multiple situations.

### 1.6. TZ SlideHandle Model and Cabinet Model

In order to retrofit the large number of cabinet manufacturers and cabinet models, there are a few different models of TZ SlideHandle device, and an additional mounting kit (beyond what is included in the box) may be necessary. Please refer to ([http://ixp.tz.net/sites/default/files/cabinet\\_compatibility.pdf](http://ixp.tz.net/sites/default/files/cabinet_compatibility.pdf)) or contact TZ to obtain the latest TZ SlideHandle cabinet compatibility matrix.



## 2. Operation / Behavior

### 2.1. Electrical Connections and Features

The TZ SlideHandle has several features and electrical connections outlined in Figure 3.

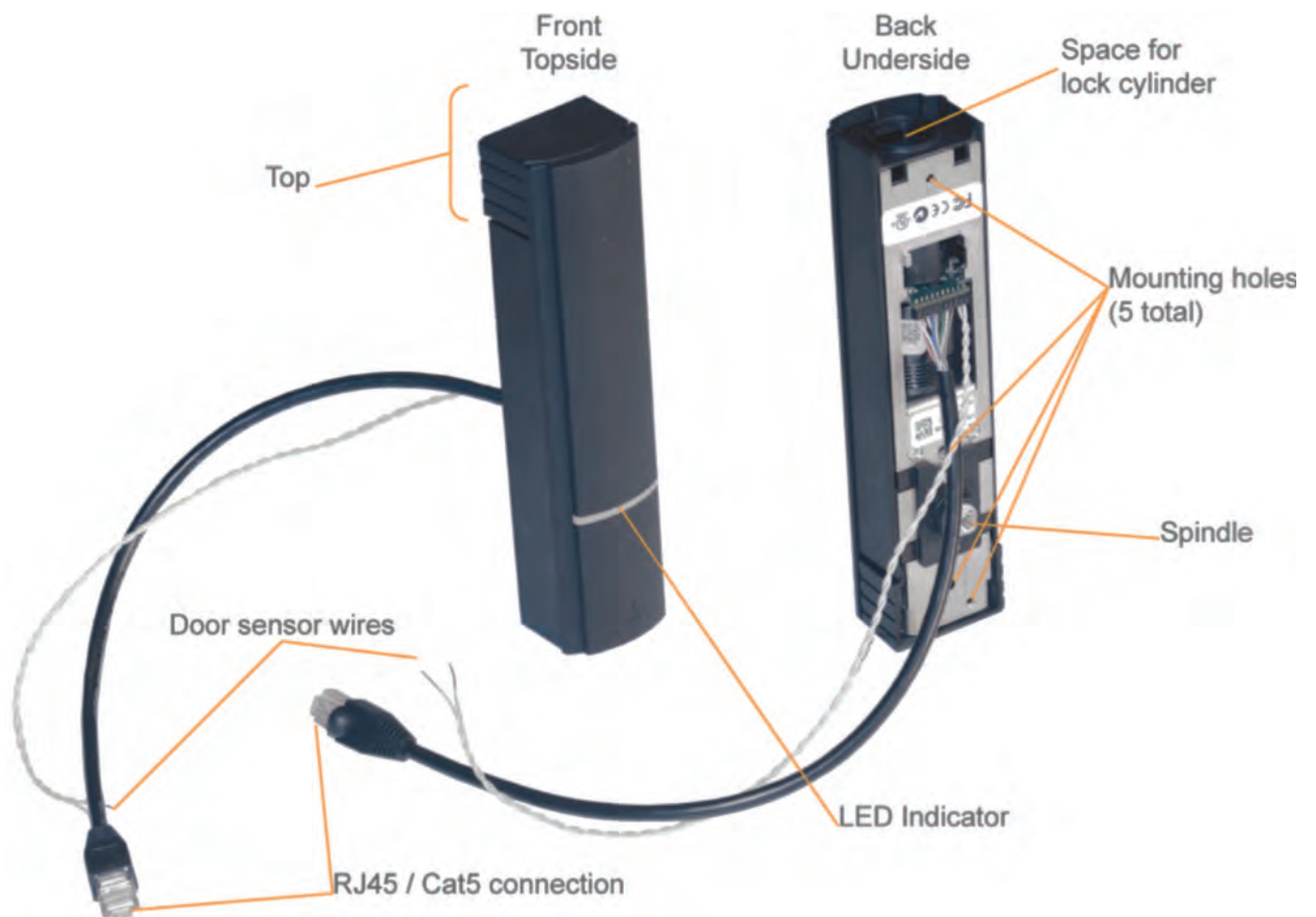






Figure 3: Features and electrical connections of the TZ SlideHandle™



## 2.2. LED Display

The LED display on the front face of the TZ SlideHandle indicates the state of the device and the secureness of the enclosure. The default colors are given in Table 1. This behavior is programmable in the TZ Centurion system, but not the TZ Praetorian system. Consult the appropriate manual for more details.

Table 1: Explanation and behavior of icons and TZ SlideHandle™ in the Device Status tab

TZ SlideHandle™	Device Status	Door State	Description
<b>Solid Red</b>			SlideHandle is closed and locked Door is closed
<b>Solid Green</b>			TZ SlideHandle is unlocked via any authorized access method through the access controller. Door may be open or shut
<b>Flashing Orange</b>			Door is closed. The TZ SlideHandle is ready to be opened either by pressing the button on the TZ Praetorian Trigger, or by pressing the top of the TZ SlideHandle
<b>Flashing Red</b>			SlideHandle is locked with the door open or The key override has been used to unlock the TZ SlideHandle without electronically authorizing the unit





### 2.3. Opening / Closing

To open the TZ SlideHandle, the controller (typically a TZ Centurion Bridge or a TZ Praetorian Junction) must send the proper authorisation command, which is typically done when the user swipes an RFID card or presents other similar credentials.

Once properly authorised, the LED display will flash orange. Simply press lightly on the top of the TZ SlideHandle as shown in Figure 4.

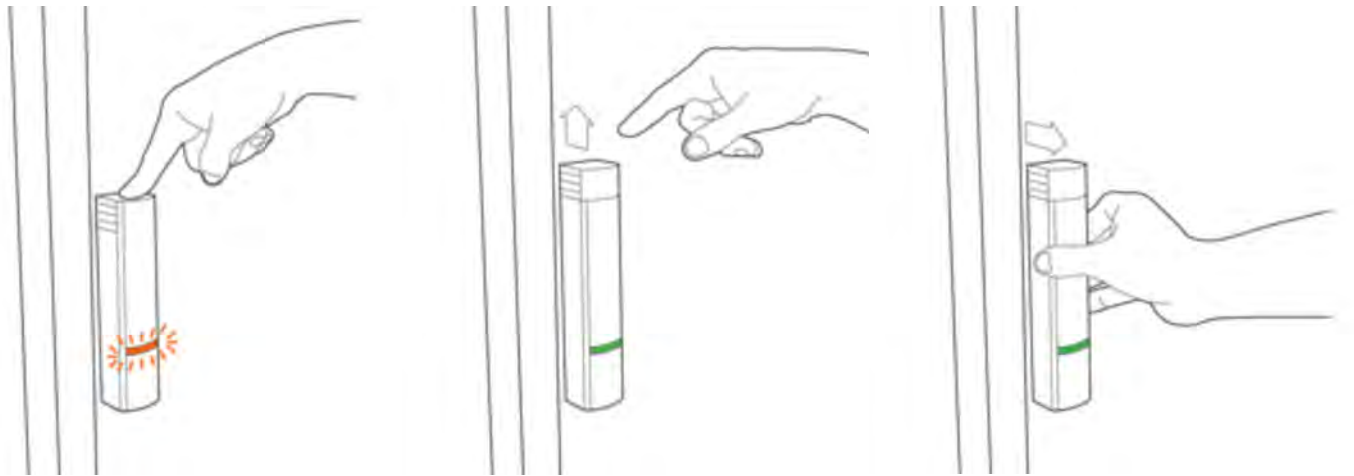


Figure 4: User opens the TZ SlideHandle™ by pressing on top.

The top portion will pop up, the LED indicator will change from flashing orange to solid green, and the enclosure door(s) will be unlocked. The enclosure can now be opened by pulling on the TZ SlideHandle as though it were a doorknob.

To secure the enclosure again, close the enclosure door(s) and press the top portion of the TZ SlideHandle down as shown in Figure 5. The top should click securely, and the solid green LED indicator should turn solid red.

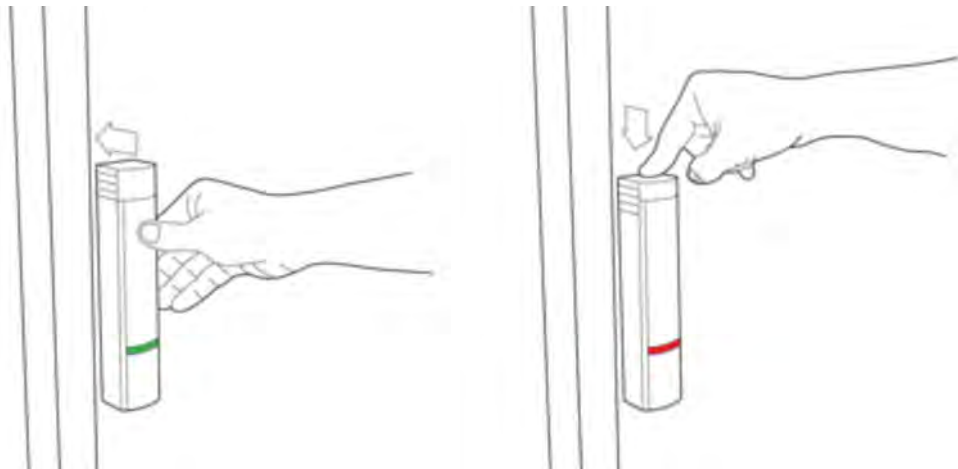


Figure 5: User closes and secures the cabinet by shutting the door and pressing the top down.



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## 2.4. Use of Key

To open via the key override, simply insert the key into lock cylinder in the base of TZ SlideHandle (as shown by key icon) and rotate it approximately 1/8 turn until the TZ SlideHandle opens. The top will pop open and the LED indicator will flash red. Return key to original position and remove. The TZ SlideHandle will not lock, and the key cannot be removed until key is returned to original position.

## 3. Installation

Because the TZ SlideHandle is designed to retrofit a large number of cabinet manufacturers and cabinet models, the installation procedures vary. Installation flyers are included with each model, and are available on the website ([http://ixp.tz.net/sites/default/files/cabinet\\_compatibility.pdf](http://ixp.tz.net/sites/default/files/cabinet_compatibility.pdf)) or contact TZ to obtain the latest TZ SlideHandle cabinet compatibility matrix.



## Appendix 1: TZ SlideHandle Reference Data

### Specifications Overview

Specifications subject to change to suit particular application requirements.

#### Physical And Mountings

- > Dims (mm): 182.3mm tall (207.3mm when open), 43.5mm wide, 35.9mm out from door, 21.2mm in from door.
- > Dims (inches): 7.17" tall (8.16" when open), 1.71" wide, 1.41" out from door, 0.83" in from door.
- > Mounting:
  - via 2 x M4 (#8) screws and clamp piece.
  - Mounts to doors with standard 25mm x 150mm (5.9" x 1") or 25mm x 125mm (4.9" x 1") opening (with or without center of cutout blanked).
  - 5mm max door panel thickness.
- > Grip dimensions of 3mm to 24mm can be accommodated with standard spacers and locking cams. Contact TZ for specific application requirements.

- > Humidity (operating): 95% RH at 50°C (122°F).
- > Operating cycles: MTTF > 125,000.
- > Ingress protection: IP 51.

#### Electrical

- > Supply voltage: 9.0 – 32.0 VDC.
- > Power consumption (operating): < 3.5 W average.
- > Power consumption (standby): < 400 mW.
- > RJ-45 pin-out: 1: +Coms | 2: -Coms | 3: AUX-OUT1 | 4: AUX-IN1, 5: Gnd | 6: AUX-OUT2, 7: AUX-IN2 | 8: +V.
- > RS485 coms for communication with TZ control systems; closing contact operation for connection to dry contact systems.

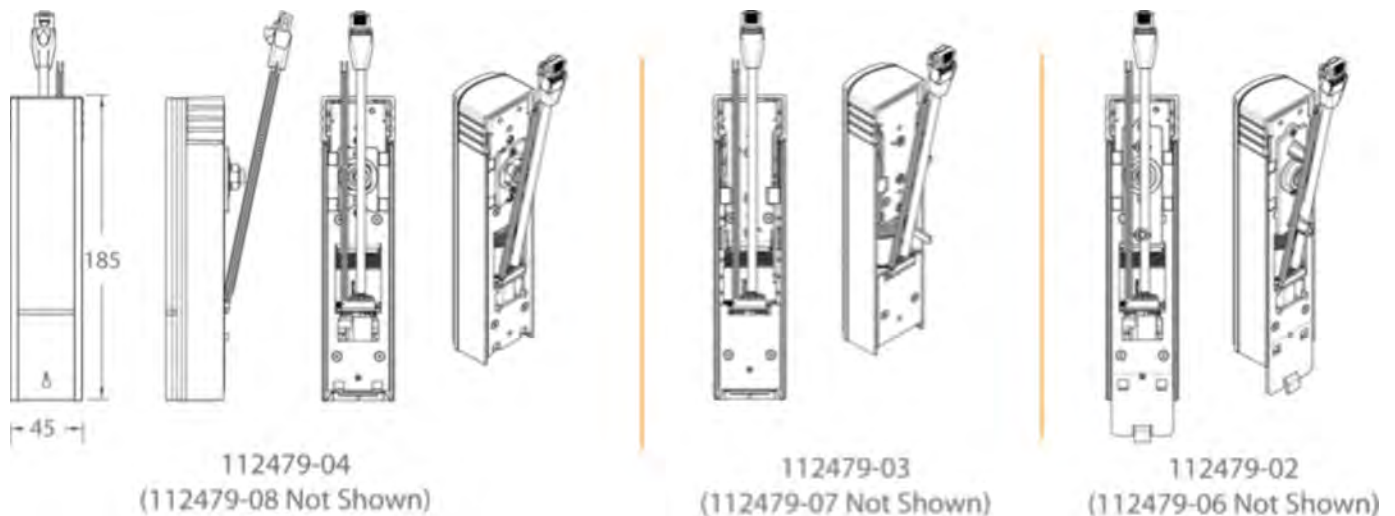
#### Environmental and Performance

- > Operating temperature: -15°C to +55°C (5°F to 131°F).
- > Survival temperature: -55°C to +85°C (-67°F to +185°F).

#### Standards Compliance

- > FCC Part 15, CE, UL (c-us) per IEC/UL/CSA 60950-1.
- > RoHS compliant
- > One year limited warranty.

#### Dimensions (mm)





## Appendix 2: TZ SlideHandle Electrical Specifications

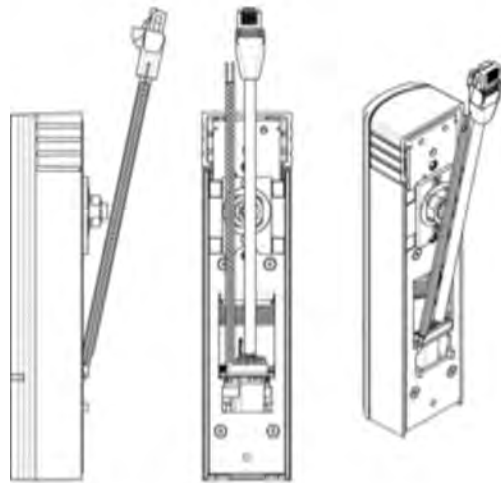
The following is a description of the electrical specifications of the 4200 Series TZ SlideHandle, including voltage, power supply and interfacing.

Electrical Application	Description
Absolute maximum supply voltage:	12V/24V nominal: 32.0 VDC
Operating supply voltage range:	12v nominal: 9.0 – 32.0 VDC
Power supply conditioning:	Must be operated from a well-conditioned, regulated power supply free of noise and transients.
Reverse Polarity Supply Protection:	Not protected.
Power Supply Current Limiting:	No internal supply current limiting is provided. Devices should be connected to their power supply via a current limiting protection device, such as a re-settable fuse of appropriate rating.
Power Supply Filtering:	No power supply filtering is included internal to the device. High level, fast rise-time pulse width modulation artifacts with a fundamental frequency of nominally 100 kHz will be superimposed on the power supply during operation. External power supply filtering will normally be required to meet electromagnetic compatibility and other power feed system requirements.
Electromagnetic Compatibility:	No conformance with EMC requirements is guaranteed without the use of external power conditioning and filtering provisions.
Auxiliary Sensing Interface:	Auxiliary A/D sensing interface providing 8 bit resolution for signals in the range 0V to full scale of 3.3V. Input is protected from damage by voltages in the range +/- 20 VDC.
RS-485 Interface:	Depending on device configuration, may be used for RS-485 network control (using TZ proprietary protocol). RS-485 port lines are not protected against over-voltage, transients or static, beyond the inherent capability of the MAX3471 interface chip used within the device. Refer to the device data sheet for details.

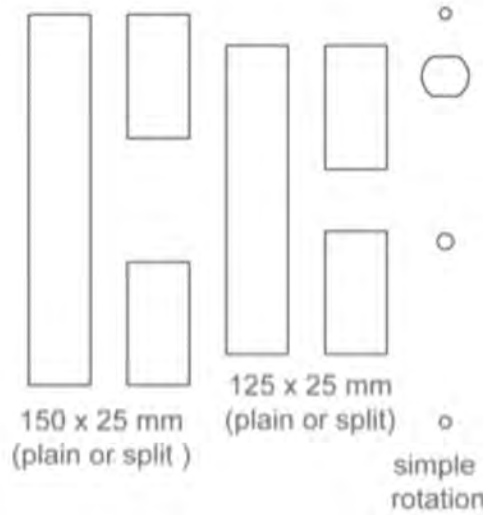


### Appendix 3: TZ SlideHandle™ Models and Cutouts

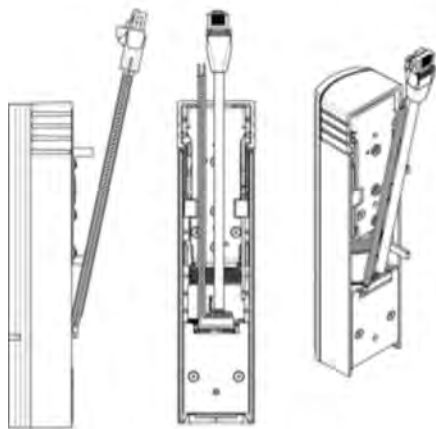
112479-04  
(112479-08 Not Shown)



Cutouts



112479-03  
(112479-07 Not Shown)

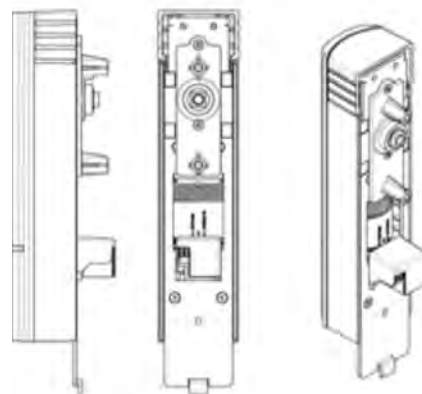


Cutouts



Various slots with  
vertical movement

112479-02  
(112479-06 Not Shown)



Cutout

200 x 25 mm



## Appendix 4: Compatibility Chart

TZ SlideHandle is compatible with the following cabinets:

Manufacturer	Cabinet Model	SlideHandle™ ModelNumber	SlideHandle™ Part Number	MountingKit
APC	NetShelter SX, Single Door, Left Hinge	4272CF-R	112479.08	Not Required
	NetShelter SX, Single Door, Right Hinge	4272CF	112479.04	Not Required
	Net Shelter SX, Split Door	4272CF	112479.04	Not Required
	VX Seismic, Single or Split Door	4272CF	112479.04	Not Required
Belden	XSF, XMF, XME, XMER, with Swing Handle, Right Hinge	4272CF	112479.04	Not Required
	XSF, XMF, XME, XMER, with Swing Handle, Left Hinge	4272CF	112479.08	Not Required
Chatsworth - CPI	TeraFrame (F-series & N-series)	4272CF	112479.04	Not Required
	SteelFrame (T-series), Single or Split Door	4272CF	112479.04	Not Required
	SteelFrame (Gen 1) with Cam Lock, Single Door	4272CF	112479.04	112526.01
	MegaFrame, Single Door	4272CF	112479.04	112526.01
	GlobalFrame, Single Door	4272CF	112479.04	Not Required
	GlobalFrame, Split Door	4272CF	112479.04	Not Required
	CubelT, Single Door	4272CF	112479.04	112745.01
Dell	4210	4272CF	112479.04	112525.01
EMC	EMC Symmetrix with Compression Latch, Right or Left Hinge	4272CF	112479.04	112834.01
	EMC Vmax, Single Front Door	4272CF	112479.04	112505.01
	EMC Vmax, Single Rear Door	4272CF	112479.04	112505.01
	EMC Vblock Single Front Door	4272CF-R	112479.08	Not Required
	EMC Vblock Double Rear Door	4272CF	112479.04	Not Required
Gesab	Eglon V2	4272CF	112479.04	112723.01
Great Lakes	Lake Effect	4272CF	112479.04	Not Required
	E-Series	4272CF	112479.04	Not Required
	ES-Series	4272CF	112479.04	Not Required
Hitachi	AMS 2500 H5 with Slam Lock	4272CF	112479.04	112767.01
	VSP with Single Point Lock	4272CF	112479.04	112766.01
	SAN Frames using Hex Key Latch system - Left Hinge	4272CF-R	112479.08	112886.01
	SAN Frames using Hex Key Latch system - Right Hinge	4272CF	112479.04	112886.01
Hoffman	Net Series, Single Door, Left Hinge	4272CF-R	112479.08	112505.01
	Net Series, Single Door, Right Hinge	4272CF	112479.04	112505.01
	Net Series, Split Door	4272CF	112479.04	112505.01



## Appendix 4: Compatibility Chart

TZ SlideHandle is compatible with the following cabinets:

Manufacturer	Cabinet Model	SlideHandle™ ModelNumber	SlideHandle™ Part Number	MountingKit
HP	10000 Series G2, Single Door, Left Hinge	4271CF-R	112479.07	112484.01
	10000 Series G2, Split Door	4272CF-R	112479.08	112535.01
	10000 Series G1, Single Door, Left Hinge	4271CF-R	112479.07	112640.01
	10000 Series G1, Split Door	4272CF-R	112479.08	112641.01
IBM	Netbay with Compression Latch	4272CF	112479.04	112765.01
	Netbay with Compression Latch	4272CF	112479.04	112765.01
	T42 Single Door , Right Hinge	4272CF	112479.04	112765.01
	T42 Split Door , Left Hinge	4272CFR	112479.08	112765.01
	Cabinets using Southco Compression latch, Right Hinge	4272CF	112479.08	112765.01
	Cabinets using Southco Compression latch, Left Hinge	4272CFR	112479.08	112765.01
	DS8300 Series Front Door	4272CF	112479.04	112765.01
	DS8300 Series Rear Door	4272CFR	112479.08	112765.01
IMS	Titan DT, Single Door, Right Hinge	4272CF	112479.04	Not Required
	Titan DT, Single Door, Left Hinge	4272CF-R	112479.08	Not Required
	Titan DT, Split Door with Gear Box	4272CF	112479.04	112733.01
Knurr	Miracel, Single Door, Multi-Point Latch	4272CF	112479.04	112502.01
Ortronics	Mighty Mo with Swing Handle, Right Hinge	4272CF	112479.04	112505.01
	Mighty Mo with Swing Handle, Left Hinge	4272CF-R	112479.08	112505.01
Panduit	Net Access (CS1, CS2, CN1, CN2, CN4, CN5), Single Door, Left Hinge	4272CF-R	112479.08	Not Required
	Net Access (CS1, CS2, CN1, CN2, CN4, CN5), Single Door, Right Hinge	4272CF	112479.04	Not Required
	Net Access (CS1, CS2, CN1, CN2, CN4, CN5), Split Door	4272CF	112479.04	Not Required
	Net Access, Dual Hinging Door using Both Hinges, Left Hinge	4272CF-R	112479.08	112642.01 <sup>4</sup>
	Net Access, Dual Hinging Door using Both Hinges, Right Hinge	4272CF	112479.04	112642.01 <sup>4</sup>
	Net Access, Dual Hinging Door using One Hinge Only, Left Hinge	4272CF-R	112479.08	112642.02
	Net Access, Dual Hinging Door using One Hinge Only, Right Hinge	4272CF	112479.04	112642.02
	Net-Serv, Single Door, Left Hinge	4272CF-R	112479.08	Not Required
	Net-Serv, Single Door, Right Hinge	4272CF	112479.04	Not Required
Net-Serv, Split Door	4272CF	112479.04	Not Required	
RF Mote and Cable Talk	RFM Series Cabinets with Paddle Latch, Left Hinge	4272CF-R	112479.08	112665.01
	RFM and CableTalk Cabinets with Paddle Latch, Right Hinge	4272CF	112479.04	112665.01
	RFM and CableTalk Cabinets with Standard Swinghandle, Right Hinge	4272CF-R	112479.04	Not Required
	RFM and CableTalk Cabinets with Standard Swinghandle, Left Hinge	4272CF-R	112479.08	Not Required



## Appendix 4: Compatibility Chart

TZ SlideHandle is compatible with the following cabinets:

Manufacturer	Cabinet Model	SlideHandle™ ModelNumber	SlideHandle™ Part Number	MountingKit
Rittal	TS-8, Single or Split Door, Comfort Handle, Right Hinge, Solid or Diamond Mesh Door	4271CF	112479.03	112482.01
	TS-8, Single or Split Door, Comfort Handle, Left Hinge, Solid or Diamond Mesh Door	4271CF-R	112479.07	112482.01
	TS-8, Single or Split Door, Comfort Handle, Right Hinge, Solid or Hex Mesh Door	4271CF	112479.03	112821.01
	TS-8, Single or Split Door, Comfort Handle, Left Hinge, Solid or Hex Mesh Door	4271CF-R	112479.07	112821.01
	TS-8, Split Door, Slam Lock	4272CF	112479.04	112525.01
Wrightline	Paramount, Single Door, Left Hinge	4272CF	112479.04	112466.01
	Paramount, Split Door	4272CF-R	112479.08	112466.01
	Vantage S2, Single Door, Left Hinge	4272CF-R	112479.08	112466.01
	Vantage S2, Split Door	4272CF-R	112479.08	112466.01

**Note:**

1. TZ SlideHandle is compatible with the majority of server cabinets and does not require any special mounting kit. If a mounting kit is required, it is listed above.
2. Mounting kits are designed for standard cabinet configurations as specified by the cabinet manufacturer.
3. In the event that you cannot find your cabinet model in the table, please contact TZ for further information. This table is updated frequently.
4. Only 1 mounting kit required for each dual hinging door.





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