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TZ Centurion™ Port Links

Product Manual

TZ Centurion™ Port Link 7101CL
TZ Centurion™ Multi Port Link 7105CL





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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 TZ Centurion Port Link interconnect modules.

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 Centurion Port Link interconnect modules will require consideration of installation and system integration issues such as networking for power and data and subsequent programming for functionality.

The TZ Centurion Port Link interconnect modules described have 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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1. TZ Centurion™ Interconnect Modules



Figure 1: TZ Centurion™ Interconnect Modules

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 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 provides detailed technical information specific to the TZ Centurion Port Link 7101CL and the TZ Centurion Multi Port Link 7105CL modules. Please refer to the TZ Centurion System Guide for information on other TZ Centurion System components.

1.2. Device Overview

The TZ Centurion Port Link and Multi Port Link modules extend the TZ Centurion device network and allow other TZ devices to connect to the network. Equipped with an optional power supply, these interconnect modules supply power to attached devices and allow communication from the device to the rest of the network via the CF RS-485-based protocols.



Figure 2: TZ Centurion™ Multi Port Link (7105CL)

2. TZ Centurion™ Multi Port Link 7105CL

The TZ Centurion Multi Port Link 7105CL connects up to four additional devices to a network and provides a connection point between the attached devices and additional circuitry. It also provides an output for further extension of the network (daisy-chaining to other TZ Centurion Port Link or Multi Port Link devices), an internal temperature sensor and a set of internal switches that allow devices to be grouped together to trigger simultaneously.

2.1 Contents of the Standard Package

The TZ Centurion Multi Port Link 7105CL module comes complete with the following items in the box:

- > 1 x TZ Centurion Multi Port Link 7105CL module
- > 2 x Screw Terminal Blocks
- > 1 x 12V 0.84A Power Adapter (standard with part #: 112004.01, optional with part #: 112004.02)

2.2 Capabilities

The TZ Centurion Multi Port Link 7105CL module has the following features:

- > 1 x RJ-45 input network port
- > 1 x RJ-45 output network port
- > 4 x RJ-45 ports for connecting TZ devices (locks, RFID readers, Wiegand Translators)
- > 4 x Mating headers for screw terminal blocks to access the auxiliary inputs and outputs of attached devices
- > 1 x Thermistor, wired internally to the fourth device port



A diagram portraying the TZ Centurion™ Multi Port Link in use is shown in Figure 3 below.



Figure 3: TZ Centurion™ Multi Port Link in a TZ Centurion™ System



Figure 4: TZ Centurion™ Port Link (7101CL).

3. TZ Centurion™ Port Link 7101CL

The TZ Centurion Port Link 7101CL module extends TZ Centurion device networks and allows one or two TZ devices to connect into the network, or allows devices to daisy chain to add multiple devices. It also provides a connection point for auxiliary inputs and outputs of connected TZ devices.

3.1 Contents of the Standard Package

- > The TZ Centurion Port Link 7101CL module comes complete with the following items in the box:
- > 1 x TZ Centurion Port Link 7101CL module
- > 1 x Screw terminal blocks

3.2 Capabilities

The TZ Centurion Port Link module has the following features:

- > 1 x RJ-45 input network port for RS-485 communication
- > 1 x RJ-45 output network port
- > 1 x RJ-45 ports for connecting TZ devices
- > 1 x Green power indicator LED
- > 1 x Mating headers for screw terminal blocks to access the auxiliary inputs and outputs of attached devices



A diagram portraying the TZ Centurion™ Port Link in use is shown in Figure 5 below.



Figure 5: TZ Centurion™ Port Link In a TZ Centurion™ System



4. Wiring and Use

TZ Centurion Port Link and Multi Port Link modules serve to connect and extend TZ devices in a network, allow device grouping and provide the connection to auxiliary lines of devices. Connection information for these electrical components is shown in Figure 6 and outlined below:

Power jack (TZ Centurion Multi Port Link 7105CL / part #: 112004.01 only): Accepts a 2.1 mm center positive barrel plug and transfers power directly to the attached devices. Although the TZ Centurion Multi Port Link itself will not be damaged by different power supplies; the voltage is directly transferred to all attached devices. Do not to exceed the maximum allowable voltage of any attached device. Check the manuals of the attached devices for specific information.

RJ45 (8P8C) input connector (all models): Used to transfer RS-485 commands from an interconnect module to the attached devices.

RJ45 (8P8C) output connector (all models): Used to extend the network further by transferring RS-485 commands

to other TZ Centurion Multi Port Link and TZ Centurion Port Link interconnect modules or other TZ lock or reader devices. A TZ device may be connected to this output, but it is not possible to connect sensors or other circuits to the auxiliary inputs and outputs of such device.

RJ-45 (8P8C) connectors for devices (all models): Used to connect additional TZ devices (e.g., locks or readers) to the network. The TZ Centurion Multi Port Link 7105CL has four such connectors, whereas the TZ Centurion Port Link 7101CL has one connector.

Screw terminal blocks (all models): Used to connect external sensors and circuitry (fan, reed switches, lights, etc.). Each corresponds to a device connected to an RJ45 port. The TZ Centurion Multi Port Link 7105CL has four such connectors, whereas the TZ Centurion Port Link 7101CL has one connector. The connector on the TZ Centurion Port Link is associated to the device connected to the RJ45 port on the same side.

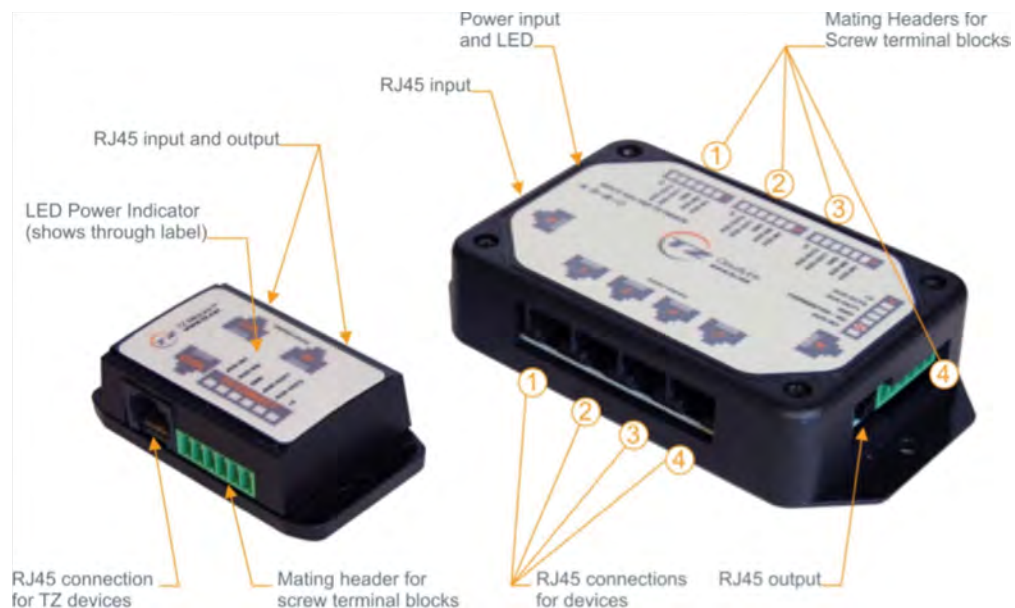


Figure 6: TZ Centurion™ Multi Port Link and Port Link electrical connections



4.1 Wiring Devices and Connection to Aux/Vc/Gnd

For the best performance of either the TZ Centurion Multi Port Link 7105CL or TZ Centurion Port Link 7101CL, the RJ45 connection labeled “input” should be connected either to a TZ Centurion Bridge or to an output from another TZ Centurion Multi Port Link or TZ Centurion Port Link.

The RJ45 connections labeled 1 through 4 (on the TZ Centurion™ Multi Port Link) or “Lock” (on the TZ Centurion Port Link) are designated for standard TZ devices (Locks or Readers). The corresponding screw terminals are convenient connections for the auxiliary inputs and outputs. The order for the screw terminal outputs is given in Table 1 and Figure 7.

Table 1: TZ Centurion™ Port Link and Multi Port Link pin-out information.

Pin	Function	Explanation
1	AUXIN1	
2	AUXIN2	
3	GND	Ground of attached power adapter
4	AUXOUT1	
5	AUXOUT2	
6	V	Voltage available from the attached power adapter, minus a diode drop.

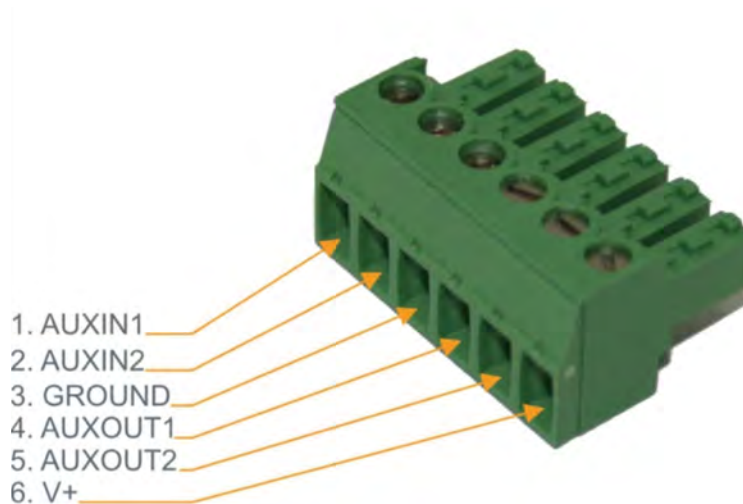


Figure 7: TZ Centurion™ Port Link and Multi Port Link screw terminal pin-out diagram

The RJ-45 jack labeled “Output” is intended to connect to other TZ Centurion Multi Port Link devices. The RJ-45 jack labeled “Out” on the TZ Centurion Port Link may be used to connect a second TZ Radial or TZ SlideHandle lock or may be used to daisy-chain/pass through to another TZ Centurion™ Port Link or TZ Centurion Multi Port Link device.

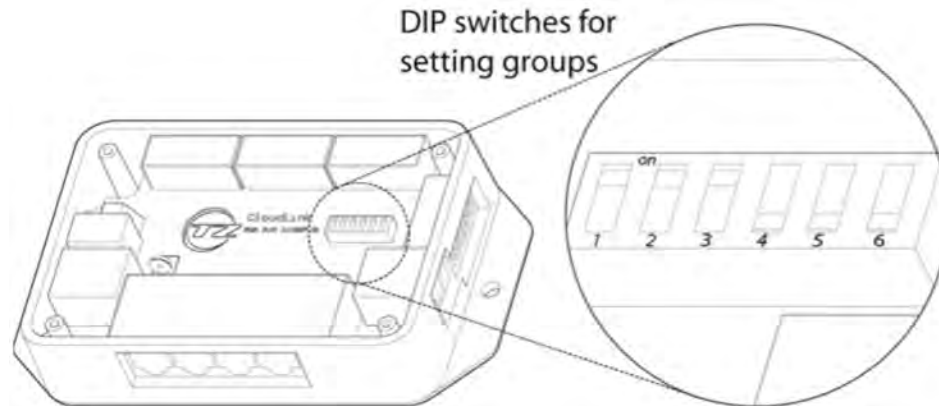


Figure 8: TZ Centurion™ Multi Port Link internal dip switches.

4.2. Groups

Most TZ devices can be configured to open when the AUXIN1 line is connected to ground through a relay or push button switch. In many applications, more than one device may secure a door or other item, making it necessary to trigger several devices at the same time. Inside the TZ Centurion Multi Port Link 7105CL, there is a set of dipswitches that connect the AUXIN1 lines from several devices, enabling them to be triggered from the same switch. These devices comprise a “group.”

In order to place devices in a group, move the dip switches of the respective devices to the “on” position as shown in Figure 8, and connect a switch between ground and the AUXIN1 of any of the screw terminals corresponding to the devices.

Many TZ devices automatically pull their own AUXIN1 low when triggered. Consequently, a device that is given an RS-485 command to fire will also trigger the other devices in its group as well. This is because all the associated AUXIN1 lines will be pulled low.

The fifth and sixth dip switches correspond to the input and output RJ45 connections in the TZ Centurion Multi Port Link. If two TZ Centurion Multi Port Link modules are connected together, a single group can span across both. There is no limit to how many can be bridged together, but there must be sufficient power available from the connected power adapters. Although it is not possible to have more than one group connected to a single TZ Centurion™ Multi Port Link, a simple jumper wire connecting the corresponding AUXIN1 lines can provide the same effect.

Note: The TZ Centurion Multi Port Link 7105CL (Part #: 112004.01) ships with its own 12V, 0.84A power adapter. Typically, the power adapter is large enough to fire two devices simultaneously, but this is affected by the ambient temperature around the device and the length of wire from the device to the TZ Centurion Multi Port Link. If more than two devices need to fire simultaneously, a larger power adapter is necessary. If more than four devices need to fire simultaneously, the devices need to be divided up between two or more TZ Centurion Multi Port Link modules, each with their own power adapter. Contact TZ for details.



4.3. Power Supplies

The TZ Centurion Port Link does not ship with or support a power supply. Instead, it extends the power connection from the TZ Centurion Bridge upstream or a TZ Centurion Multi Port Link connected nearby.

There are two versions of the TZ Centurion Multi Port Link module.

- > Part #: 112004.01 includes a power supply, part #: 112004.02 does not ship with a power supply.
- > Part #: 112004.01 ships with 12V 0.84A power adapter. In most instances this is sufficient to trigger two or more devices simultaneously. If the application requires more devices to trigger simultaneously contact TZ for information on a larger power adapter.

Note: It is possible to use a larger or higher voltage power adapter without damaging the TZ Centurion Multi Port Link, but this voltage is directly transferred to every attached device, and every device in a network should be powered at the same voltage. Check the appropriate device manuals for details.

4.4. Mounting

Both the TZ Centurion Port Link and Multi Port Link should be secured to a surface to ensure the best performance and to keep consistent electrical connections. For installation of the TZ Centurion Multi Port Link, use two M4 or #8 pan head screws (not included) to secure the base. For the TZ Centurion Port Link, use two M3 or #6 pan head screws (not included). Refer to the Appendix for physical dimensions and hole placement.

Note: TZ does not recommend double sided tape as a mounting medium due to the variability in temperature, humidity and vibration conditions in cabinet environments and their negative impact on lightweight adhesives used in double-sided tape.



Appendix 1: Port Link 7101CL Specifications

Specifications Overview

Specifications subject to change to suit particular application requirements.

Physical And Mountings

- > Dims: 59mm (75mm with flanges) x 41mm x 23mm (2.4" (3.0" with flange) x 1.6" x 0.9")
- > Weight: 35 g (1.2 oz)
- > Mounting: via 2 x M3 (#6) screws through flanges or adhesive on bottom surface (not included)

CAUTION:

This product should not be installed in a way that compromises the Ingress Protection (IP) rating of the enclosure in which it is mounted. Do not drill or otherwise produce metal shavings around electronic equipment.

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)
- > Humidity (operating): 95% RH at 50°C (122°F)
- > Non-combustible
- > Ingress protection: IP 21

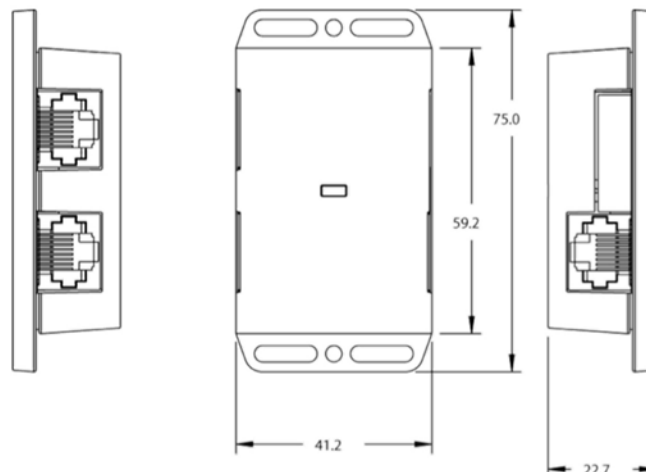
Electrical

- > Accepts 9.0 – 32.0 VDC supply voltage
- > RS-485 multi-drop communications interface via RJ45
- > 3 x RJ45 connections: 1 input, 1 output, and 1 for connecting a TZ device
- > Header for pluggable screw terminal blocks to make additional electrical connections with devices
- > Pluggable screw terminal not included
- > Screw terminal pin-out: 1: AUX-IN1 | 2: AUX-IN2 | 3: Gnd | 4: AUX-OUT1 | 5: AUX-OUT2 | 6: +V
- > Push-button triggering of attached devices by connecting AUXIN1 to GND via switch or similar
- > RJ-45 pin-out: 1: +Coms | 2: -Coms | 3: AUX-OUT1 | 4: AUX-IN1 | 5: Gnd | 6: AUX-OUT2 | 7: AUX-IN2 | 8: +V

Standards Compliance

- > FCC Part 15, CE, UL (c-us) per IEC/UL/CSA 60950-1 File E325346
- > RoHS compliant
- > One Year Limited Warranty

Dimensions (mm)





Appendix 2: Multi Port Link 7105CL Specifications

Specifications Overview

Specifications subject to change to suit particular application requirements.

Physical And Mountings

- > Dims: 108mm (130mm with flange) x 72mm x 28mm (4.25" (5.2" with flange) x 2.8" x 1.1")
- > Weight: 75 g (2.6 oz)
- > Mounting: via 2 x M4 (#8) screws through flanges or adhesive on bottom surface (not included)

CAUTION:

This product should not be installed in a way that compromises the Ingress Protection (IP) rating of the enclosure in which it is mounted. Do not drill or otherwise produce metal shavings around electronic equipment.

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)
- > Humidity (operating): 95% RH at 50°C (122°F)
- > Non combustible
- > Ingress protection: IP 21

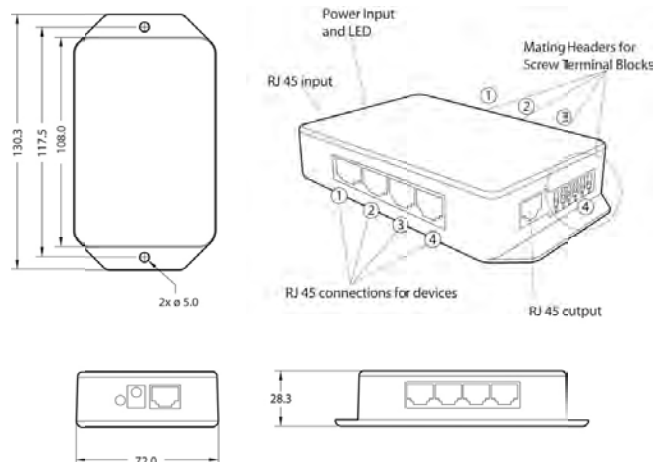
Electrical

- > Accepts 9.0 – 32.0 VDC supply voltage – 2.1mm diameter, center positive, barrel power plug
- > RS-485 multi-drop communications interface via RJ45
- > 6 x RJ45 connections: 1 input, 1 output, and 4 for connecting TZ devices
- > Four pluggable screw terminal blocks included to make additional electrical connections with devices
- > Screw terminal pin-out: 1: AUX-IN1 | 2: AUX-IN2 | 3: Gnd | 4: AUX-OUT1 | 5: AUX-OUT2 | 6: +V
- > Push button triggering of attached devices by connecting AUXIN1 to GND via switch or similar
- > Internal DIP switch can bridge AUXIN1 pins of all attached devices for simultaneous triggering
- > RJ45 pin-out: 1: +Coms | 2: -Coms | 3: AUX-OUT1 | 4: AUX-IN1 | 5: Gnd | 6: AUX-OUT2 | 7: AUX-IN2 | 8: +V

Standards Compliance

- > FCC Part 15, CE, UL (c-us) per IEC/UL/CSA 60950-1 File E325346
- > RoHS compliant
- > One Year Limited Warranty

Dimensions (mm)





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