SuperTrak HORIZON3™

Operations and Maintenance Manual

Rev. 3, November 2025

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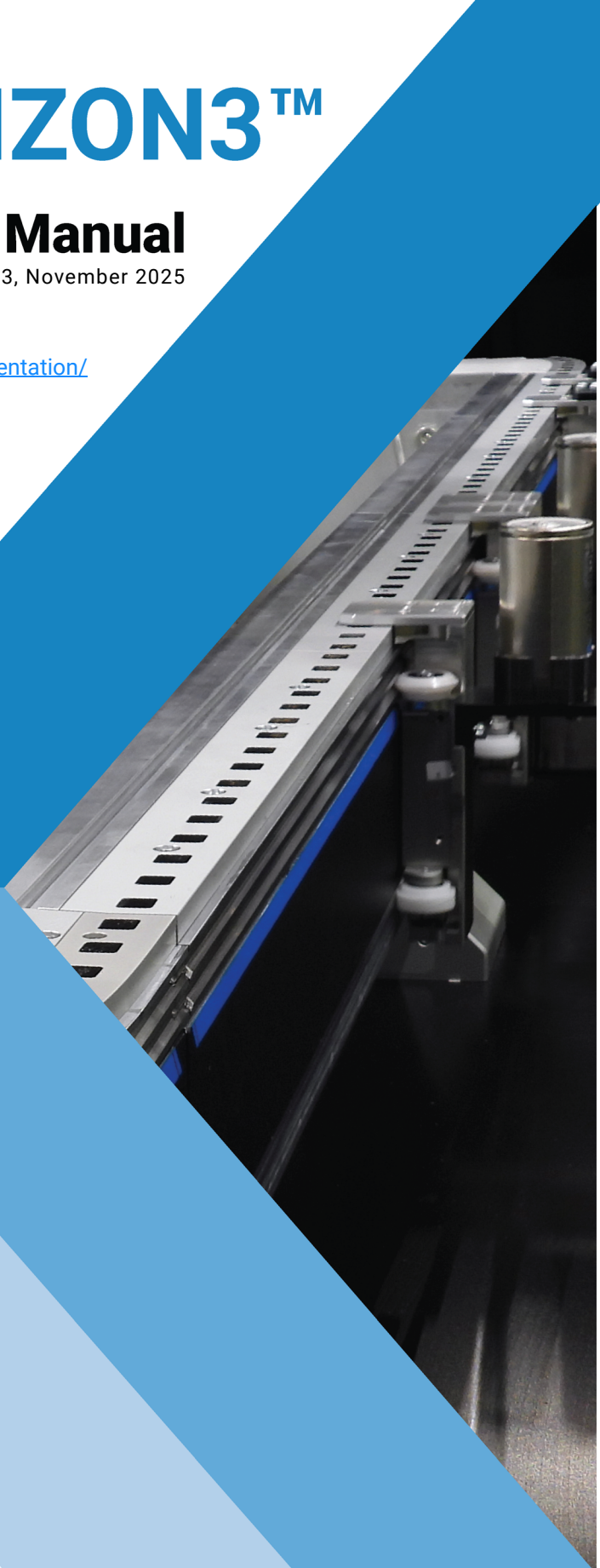
for the most current version of this document.



SuperTrak™ CONVEYANCE

The Foundation of World Leading Automation

Operation and Maintenance Manual

SuperTrak HORIZON3™ Conveyance Platform

Document Product Relevance

		Max Payload	Shuttle Pitch	Curve Configuration	This document applies
SuperTrak HORIZON3		3 kg	50 mm	Ø 270 mm	✓
SuperTrak HORIZON10		10 kg	154 mm	Ø 500 mm Ø 800 mm 90°	✗
SuperTrak VERTICAL10		10 kg	154 mm	Ø 500 mm	✗
SuperTrak PHARMA8		8.5 kg	154 mm	Ø 500 mm	✗

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GRAPHICS

All drawings, illustrations, and photographs included in this document are provided to expand and enhance the text. These graphics are representations only and are not necessarily drawn to scale. For accurate drawings, see the *Mechanical Drawing Package* and *Electrical Design Package*.

Table of Contents

SuperTrak HORIZON3™Preface

This section provides the following SuperTrak HORIZON3™ conveyance platform documentation package information:

Documentation Package

SuperTrak CONVEYANCE™ supplies the following documentation and software for the SuperTrak HORIZON3™ conveyance platform:

- SuperTrak HORIZON3™ Design Considerations document available at https://supertrakconveyance.com/technical-documentation/
- SuperTrak HORIZON3™ Operation and Maintenance Manual
- SuperTrak HORIZON3™ Component Data Sheets at https://supertrakconveyance.com/technical-documentation/)
- TrakMaster™ software (with built-in help)
- Design package, which includes:
    - Electrical drawings
    - Mechanical drawings

Official Website

The SuperTrak CONVEYANCE™ website, www.supertrakconveyance.com , provides resources such as case studies, certification information, videos, and blog posts.

Style Conventions

This document uses the following styles to indicate different types of information:

- *Italic text* indicates a document title.
- *Italic text with color* indicates hypertext reference information. For example, a web site link or a link to content within the current document.
- **Bold text** indicates a button or control that requires action during a procedure.
- `Grey Courier text` indicates on-screen messages; for example, a fault or warning message on an HMI screen.
- `Courier text` indicates software code.
- CAPITALIZED TEXT indicates an operational state; for example, ON, OFF, MANUAL mode.
- First Letter Capitalized Text indicates the name of an HMI screen, screen menu, or HMI message.
- Bulleted list indicates items where order is not relevant.
- Numbered list indicates a step-by-step procedure where order is relevant.
- Vertical line in the page's left margin indicates content that has changed since the prior revision of this document; example here to left of this paragraph.

Special Notations

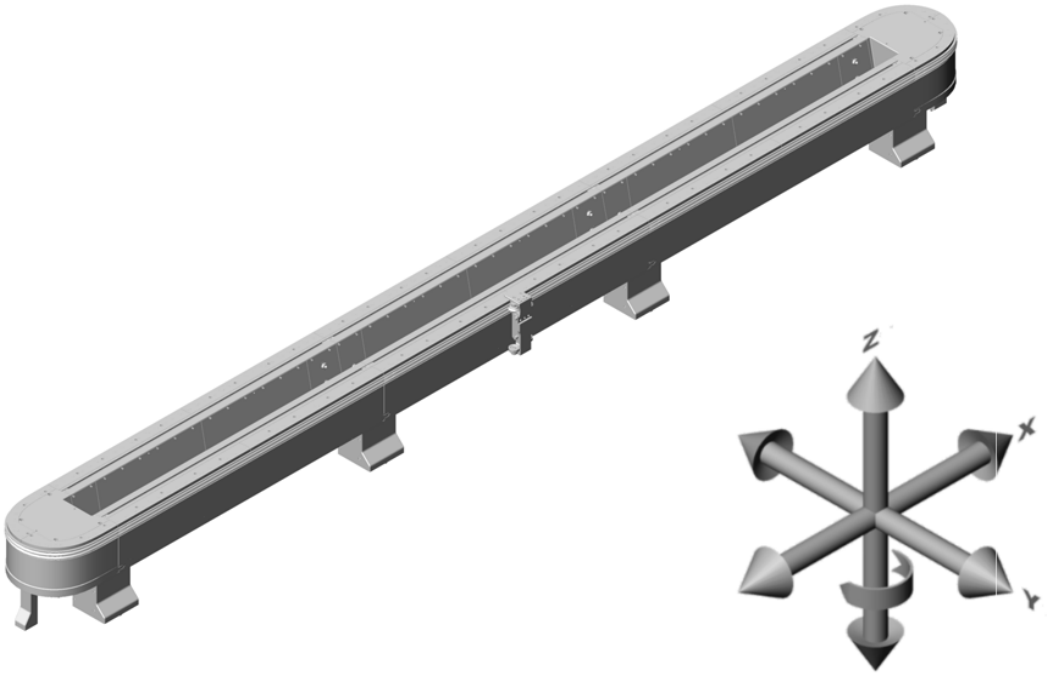
This document uses five (5) levels of notation:

⚠DANGER	Warns that failure to comply results in death or serious injury.
⚠WARNING	Warns that failure to comply could result in death or serious injury.
⚠CAUTION	Warns that failure to comply could result in minor or moderate injury.
NOTICE	Warns that failure to comply may result in property damage.
	Provides additional information, emphasizes a point, or provides a tip.

Frame of Reference

- The SuperTrak conveyance platform image is for representational purposes only. It may not reflect the system you have installed.
- The direction of travel on each axis (positive or negative) varies based on configuration.

This document describes tooling movement using the following frame of reference:



Directional statements such as “left” and “right” are based on the perspective of a user looking at the track or the section from the outside of the track.

Referenced Terms

This section defines terms that are used throughout this document.

Term	Description
SuperTrak	Represents the SuperTrak HORIZON3™ conveyance platform.
TrakMaster	Represents the TrakMaster™ software.
Power supply*	Represents the SuperTrak HORIZON3™ conveyance platform power supply.
Control panel*	Represents the SuperTrak HORIZON3™ conveyance platform control panel which can refer to any of the following: • Combined Panel 208VAC Simatic IPC-12PWS-1PH 10241202-B-NA-SI • Combined Panel 400VAC Simatic IPC-12PWS-1PH 10241202-B-EU-SI • Logic Panel Advantech IPC 10241202-AD • Logic Panel Simatic IPC 10241202-SI • Power Panel 208VAC 12PWS-1PH 10241202-NA-1PH • Power Panel 400VAC 12PWS-1PH 10241202-EU-1PH
Curved section*	Represents a section of the SuperTrak HORIZON3™ conveyance platform that changes track direction and can refer to either of the following: • D300 HRID-LQ 125979240 • D300 HRID 700577533
Shuttle*	Represents the SuperTrak HORIZON3™ conveyance platform shuttle.
Straight section*	Generally represents a section of the SuperTrak HORIZON3™ conveyance platform that moves in a linear direction and can refer to either of the following: • L1000 HRID-LQ 125866928 • L1000 HRID 700577429
Track	Refers generally to the entire track system.
User	Represents all levels of SuperTrak HORIZON3™ conveyance platform users. It includes operators, maintenance personnel, and technicians.
Operator	Represents a user with basic mechanical knowledge.
Maintenance Personnel	Represents a user with knowledge about routine cleaning, and lubrication procedures. They are expected to complete adjustments that are within validated ranges.
Technician	Represents a user that specializes in a discipline such as electrical, mechanical, or programming. They are expected to complete complex SuperTrak HORIZON3™ conveyance platform procedures; such as, replacement procedures or adjustments that are outside of validated ranges.

See *Glossary* on page 59 for additional definitions.

* See the SuperTrak HORIZON3™ conveyance platform component data sheets for detailed information: https://supertrakconveyance.com/horizon3-technical-documents/

Safety Information

This section provides the following important safety information:

Read this information thoroughly and completely before operating, or maintaining the SuperTrak HORIZON3™ conveyance platform.

Safety and Regulatory Compliance

The SuperTrak HORIZON3™ conveyance platform is certified to CSA standards for Canada.

The SuperTrak HORIZON3™ conveyance platform is certified to UL standards for the United States of America.

For the European Economic Area, a declaration of conformity and a declaration of incorporation is provided.

For important information related to safety certification and conditions of use, see the certifications section of https://supertrakconveyance.com/horizon3-technical-documents/ .

Training

SuperTrak HORIZON3™ conveyance platform training packages are available on request. Contact support@supertrakconveyance.com for more information.

General Safety Rules

Everyone:

- Learn how automated equipment works.
- Understand the potential dangers of automated equipment before operating it.
- Energy sources must be shutdown, locked out, and tagged out before preventive maintenance, adjustment, or service.
- Understand and be aware of potential energy sources that exist in the SuperTrak HORIZON3™ conveyance platform after lockout and tagout (for example, the strong permanent magnets when shuttles are removed from the SuperTrak HORIZON3™ conveyance platform).
- Be aware that the magnetic field of the shuttles on the SuperTrak conveyance platform can be harmful to pacemaker wearers.
- Long hair must be tied up and kept away from SuperTrak HORIZON3™ conveyance platform devices to prevent entanglement.
- Do not wear loose clothing or dangling jewelry while operating or maintaining the equipment, to prevent entanglement.
- Wear the appropriate personal protective equipment (PPE) for each task.
- Stay away and do not touch any live electrical wires or circuits. Qualified technicians must wear PPE appropriate to the electrical hazard.
- Do not tamper, remove, or make safety controls ineffective.

Operators:

- Do not remove guarding, covers, or shields. Procedures that involve removing guarding, covers or shields must only be performed by a trained, qualified technician.
- Do not operate damaged equipment. Safety and protection features are impaired in damaged equipment. Turn OFF energy sources immediately. Do not use the automated equipment until a trained, qualified technician confirms it is safe to operate.

Technicians:

- Do not perform service work alone. Only attempt internal service or adjustments in the presence of a person capable of rendering first aid.
- Read the current SuperTrak HORIZON3™ Operation and Maintenance Manual before troubleshooting or servicing the equipment.
- Guarding, covers, or shields must not be removed, except for emergency or maintenance purposes.
- If guarding is removed, clearly communicate (for example, with signs or barriers) that the guarding is not functional.
- Guarding around moving devices that has been removed, must be replaced.

- Do not install substitute parts or make any product modifications that are not authorized by SuperTrak CONVEYANCE™ because this may introduce new hazards.
- Use insulated tools when working with electrical equipment. Make sure qualified electrical technicians wear appropriate PPE when completing live electrical work according to the hazard assessment.
- Remove electrical power before changing fuses, or use approved fuse-pullers.
- Never use jumper wires or fuse substitutes to replace fuses.
- Replace the line fuses with fuses of the same voltage, current rating, and type. Do not use repaired fuses or short-circuited fuse holders.
- Be prepared to handle electrical fires by keeping dry powder or carbon dioxide extinguishers on hand at all times.
- Verify that all fittings and connections are tight once repair work is complete.
- Do not use compressed air to clean SuperTrak HORIZON3™ conveyance platform devices. Use clean, lint-free cloths or a vacuum cleaner. Compressed air causes dirt and lubricants to become airborne and contaminate assembly products and tooling.

Personal Protective Equipment

At a minimum, all users are recommended to wear the following personal protective equipment (PPE) when working with or around the SuperTrak HORIZON3™ conveyance platform:

- Safety glasses that meet the specific standard requirements the local jurisdiction:
  - North America - ANSI Z87.1
  - Europe - EN 166 F
- Safety shoes that meet the specific standard requirements the local jurisdiction:
  - North America - ASTM F2413
  - Europe - EN ISO 20345 S1

Hazardous Energy

Any energy source that presents a risk of injury to a person working on equipment is considered a hazardous energy source. The SuperTrak HORIZON3™ conveyance platform contains the following hazardous energy sources:

- *Electrical* on page 12
- *Mechanical* on page 12
- *Thermal Hazards* on page 14

To prevent accidental or unauthorized start-ups, always lockout and tagout hazardous energy before completing any service or maintenance procedures. Lockout and tagout procedures control hazardous energy supplies, making the SuperTrak HORIZON3™ conveyance platform inoperable.

See *Lockout and Tagout* on page 15.

Electrical

⚠WARNING Servicing an electrical panel that is still connected to its power source may cause injury or death. Remove all sources of power before servicing--refer to lockout tagout procedures. Only qualified electrical technicians should perform service on the electrical panel.

See *Hazardous Energy* on page 12 and *Lockout and Tagout* on page 15.

The control panel contains hazardous voltages. Electrical hazards may be present from damaged or broken wires, open electrical boxes, or open control panels.

The control panel is designed to be integrated with an automated machine system's main electrical panel that includes a switch for **main power disconnect**. Use the **main power disconnect** switch to turn OFF SuperTrak HORIZON3™ conveyance platform power but maintain buffer module (UPS) power in the control panel. Use the **SuperTrak HORIZON3™ conveyance platform power disconnect switch** to isolate the SuperTrak HORIZON3™ conveyance platform power and turn the buffer module OFF.

See *Energy Controls* on page 43.

Mechanical

⚠WARNING Servicing mechanical components or devices while still connected to energy sources may cause injury. As required for access and service of the mechanical component, open the safety circuit or turn the **main power disconnect switch** to the OFF position and lock out and tag out the **main power disconnect switch**. Only qualified technicians should access mechanical components or devices.

Understand and be aware of stored energy sources (for example; stored electrical energy, or strong magnetic field) that exist in the SuperTrak HORIZON3™ conveyance platform after lockout and tagout.

See *Lockout and Tagout* on page 15.

⚠CAUTION

- The magnetic field generated by the shuttles can be harmful to pacemaker wearers. Maintain a minimum distance of 31 cm (12 in.) between the shuttle and the implant location. The permanent magnets in the shuttles have a strong magnetic field. When the shuttles are installed on the SuperTrak HORIZON3™ conveyance platform, the magnetic field around the shuttle is low. When a shuttle is removed from the SuperTrak HORIZON3™ conveyance platform, the permanent magnets are exposed and the magnetic field is very strong.
- Always install a keeper plate on the shuttle magnet when a shuttle is removed from the SuperTrak HORIZON3™ conveyance platform to reduce the magnetic field to a safe level.
- The magnetic field of the SuperTrak HORIZON3™ conveyance platform may induce magnetic materials into motion, creating potential projectiles or pinch points. Various electronic equipment and magnetic data carriers can also be affected by magnetic fields.

The SuperTrak HORIZON3™ conveyance platform has mechanical hazards from moving tooling components or devices. Crushing, pinching, and impact injuries can result from devices actuated by potential or kinetic energy in the form of rotational, linear force, or gravity.

The magnetic field generated by the shuttles can be harmful to pacemaker wearers. Maintain a minimum distance of 31 cm (12 in.) between the shuttle and the implant location. The permanent magnets in the shuttles have a strong magnetic field. When the shuttles are installed on the SuperTrak HORIZON3™ conveyance platform, the magnetic field around the shuttle is low. When a shuttle is removed from the SuperTrak HORIZON3™ conveyance platform, the permanent magnets are exposed and the magnetic field is very strong.

The magnetic field of the SuperTrak HORIZON3™ conveyance platform may induce magnetic materials into motion, creating potential projectiles or pinch points. Various electronic equipment and magnetic data carriers can also be affected by magnetic fields.

In the event of a mechanical hazard, turn the **main power disconnect switch** to the OFF position. Do not turn ON power to the SuperTrak HORIZON3™ conveyance platform until a qualified technician has corrected the situation.

Thermal Hazards

⚠WARNING

Allow adequate time for hot surfaces to cool before commencing work. Wear the appropriate PPE when working on or near the thermal hazard.

Use a non-contact thermometer to verify the temperature.

NOTICE

The lifespan of some SuperTrak components may be compromised when temperature-related TrakMaster configuration parameters are adjusted from the default value.

For optimum lifespan of SuperTrak conveyance platform components, do not increase the default value of the electronics temperature configuration parameter, and use caution when increasing the coil temperature configuration parameter:

- Coil Temperature Limit (°C); default=60, hard limit=90.
- Electronics Temperature Limit (°C); default=60, hard limit=70.

The SuperTrak HORIZON3™ conveyance platform may include thermal hazards if temperature-related TrakMaster configuration parameters are adjusted from the default value.

Thermal hazards include any excessively hot or cold point of contact. Thermal hazards can cause contact injuries to exposed skin, or create a fire hazard. Use shielding to avoid contact burns. Dissipate thermal to make sure the point of contact is at a moderate temperature before working near it.

Lockout and Tagout

DANGER Understand and be aware of stored energy sources (for example magnetism or buffer module energy) that exist in the SuperTrak HORIZON3™ conveyance platform after lockout and tagout.

See *Hazardous Energy* on page 12.

This lockout and tagout information is provided for general reference only. The end user is responsible for lockout tagout development and integration. Use an applicable lockout tagout procedure that complies with local requirements.

The lockout and tagout procedure must neutralize all sources of SuperTrak HORIZON3™ conveyance platform energy, making it inoperable and preventing accidental or unauthorized energizing of the SuperTrak HORIZON3™ conveyance platform.

Develop and follow an approved lockout and tagout procedure before maintenance or service or where unexpected SuperTrak HORIZON3™ conveyance platform startup or release of stored energy may cause injury.

Lock Prerequisites

An acceptable lock should:

- Be provided by an employer. Ensure standardization (size, shape and color) and purchase from a reputable manufacturer.
- Be able to withstand heat, cold, and humidity.
- Be strong enough that it cannot be removed with heavy force.
- Not be a combination lock.
- Have only one (1) key and are not able to be opened using any other key.

Tag Prerequisites

A tag must never be used as a substitute for a lock. A tag is a visual warning that does not provide physical protection.

A good tag should:

- Have a clear warning.
- Be easy to read (that is; legible and understandable).
- Have the identification mark of the person who applied it.
- Be secure enough to prevent accidental removal, and durable enough to withstand extreme temperatures, fumes, and caustic chemicals.
- Be secured with something similar to a nylon cable tie that is self-locking, can be attached by hand, can resist release with less than 23 kgs (50 lbs) of pressure, and cannot be reused.

Power Disconnect Locations

The control panel is designed to be integrated with a main electrical panel that includes a main power disconnect switch.

To lock out SuperTrak HORIZON3™ conveyance platform hazardous energy, complete one (1) of the following:

- Disconnect **main power** when the SuperTrak HORIZON3™ conveyance platform power must be OFF, but the SuperTrak HORIZON3™ conveyance platform buffer module power can be ON.
- Disconnect the **main power** and the **SuperTrak HORIZON3™ conveyance platform power** when SuperTrak HORIZON3™ conveyance platform power and buffer module power must be OFF.

Allow stored energy to discharge until the LED indicator of the buffer module is not illuminated.

The end user is responsible for lockout tagout development and integration.

See *SuperTrak HORIZON3™ Conveyance Platform Power Disconnect Switch* on page 43.

Label Descriptions

Labels are applied throughout the SuperTrak HORIZON3™ conveyance platform to warn users of possible or certain hazards. Read this section carefully and comply with the required actions, warnings, or prohibitions.

Safety Label Symbols

Safety Labels

SuperTrak CONVEYANCE™uses the following ISO symbols on labels on the track and on components.l

Symbol	Symbol Type/ Name	Description
	Mandatory action--Refer to instruction manual/booklet	Operators of the machine must familiarize themselves with the equipment by reading operational and maintenance documentation before using the machine.
		Technicians of the machine must read the service manual or similar instructional documentation before attempting to work on the machine.
	Mandatory--Lock out in de-energized state	Equipment must be locked out while in a de-energized state

Symbol	Symbol Type/ Name	Description
	Mandatory--Lock out electrical power while servicing	Ensure equipment is de-energized and secured (locked and tagged out) before servicing or maintenance
	Marking--Ground	This label is affixed next to grounded connections. The grounding conductor is the current path that enables protective devices, such as circuit breakers and fuses to operate when a fault occurs.
	Warning--General warning sign	Signifies a general warning. Warning sign surrounded by a red border frame means danger while an orange border frame means warning.
	Warning--Electricity	This symbol warns users of: • tarc flash and shock hazard. Follow ALL requirements in NFPA 70E for safe work practices and for Personal Protective Equipment. • electrical energy. Only qualified electrical technicians should complete work in these areas. Disconnect power before opening the electrical cabinet working within. Close the electrical cabinet before turning the power ON. • Buffer module voltage present when power is OFF. Contact may cause electric shock or burn. Turn OFF and lock out buffer module output power before servicing.
	Warning--Crushing of hands	Crushing of hands hazard present from the motion of mechanical parts of equipment

Symbol	Symbol Type/ Name	Description
	Caution - Strong Magnetic Field	This label warns users of a strong magnetic field. Interaction with metallic objects may produce pinch hazards. Persons with medical implants must keep back 30 cm (12 in.).
	Prohibition-- Individuals with pacemakers	The symbol warns individuals with pacemakers or other active implanted cardiac devices to avoid areas where there might be strong electromagnetic fields that could interfere with their devices. Persons with medical implants must keep back 30 cm (12 in.).

Identification Labels

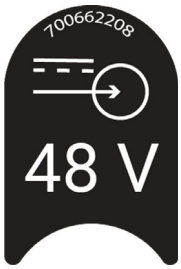
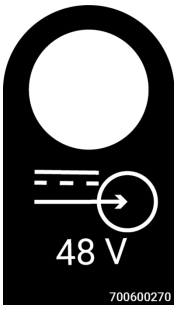
Electrical Nameplate

An electrical nameplate is located on the door of the control panel. It specifies the SuperTrak HORIZON3™ conveyance platform power requirements and provides the electrical drawing reference number.

Maintain correct SuperTrak HORIZON3™ conveyance platform power requirements. If power levels fall below or rise above the requirements specified on the identification label, the SuperTrak HORIZON3™ conveyance platform will not work properly and damage may occur.

Functional Labels for Port Identification

SuperTrak CONVEYANCE™uses the following labels on the track components to identify ports.l

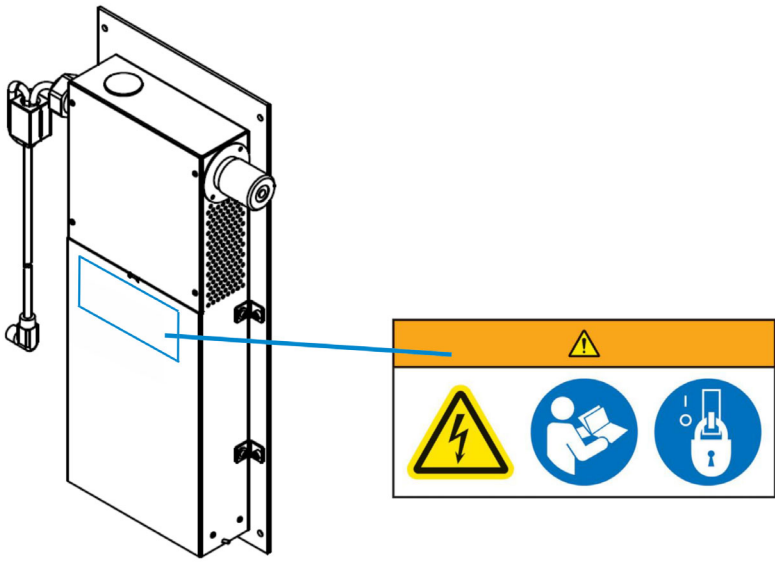
Symbol	Symbol Type/ Name	Description
 	Power input labels	Shows the ISO symbol for DC input. Label is affixed to indicate the location of the power input port and specifies the voltage. Which label shape is used depends on space available surrounding the port.
 	Coolant port labels	Shows the ISO liquid inlet/outlet symbol for optional liquid coolant. Label is affixed to indicate both the ingoing and outgoing ports for the coolant and specifies the maximum pressure rating. Which label shape is used depends on space available surrounding the port.

Label Locations

This section describes the location of the safety labels on the SuperTrak HORIZON3™ conveyance platform.

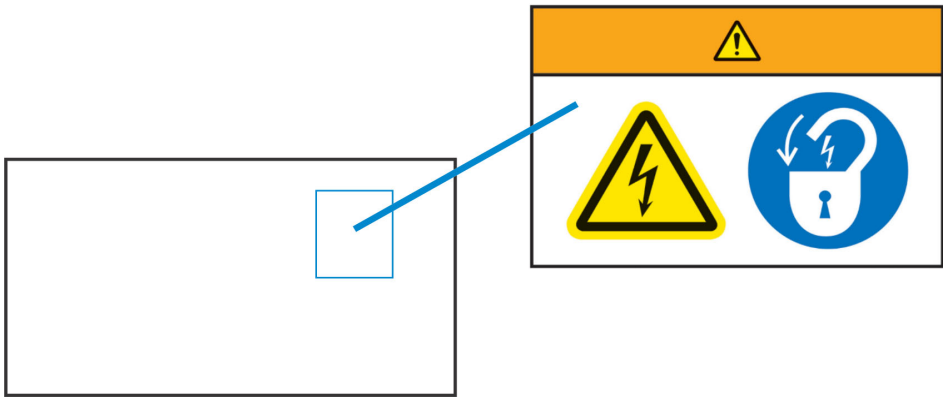
Power Supply Label

The power supply has the following label on the front top face of the supply, regardless of whether the power supply has a mounting plate. See *Safety Label Symbols* on page 17 for label symbol descriptions.



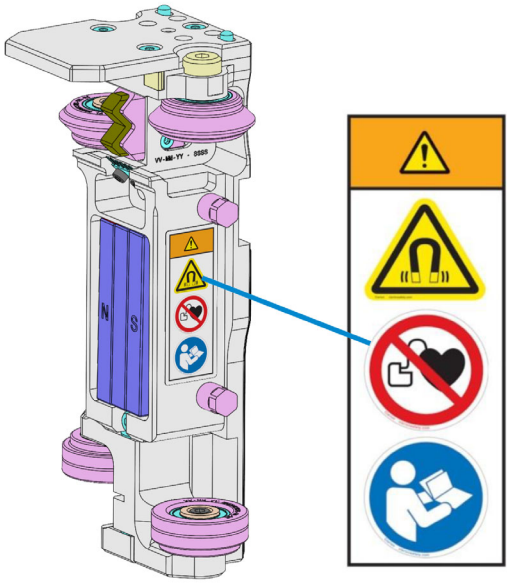
Control Panel Labels

The control panel has the following label , regardless of whether it is a power panel, logic panel, or combined panel. See *Safety Label Symbols* on page 17 for label symbol descriptions.



Shuttle Label

Shuttles have the following label. See *Safety Label Symbols* on page 17 for label symbol descriptions.



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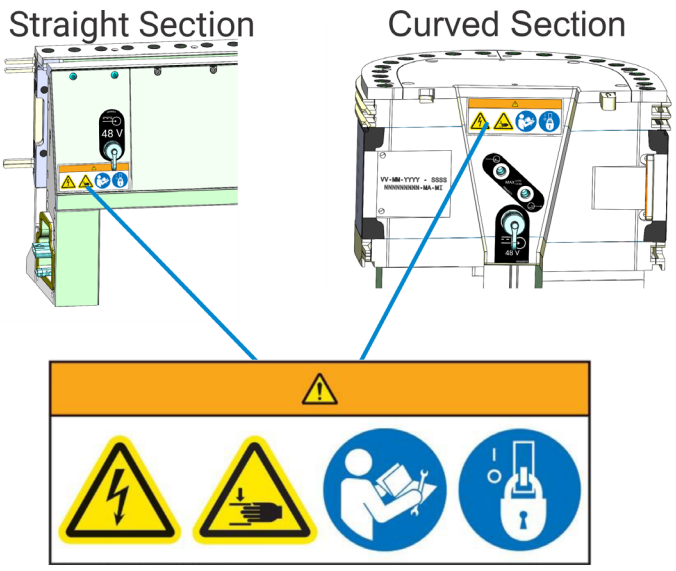
Labeling on Track Sections

Track sections have the following label. The location of the label varies depending on the type of section. See *Safety Label Symbols* on page 17 for label symbol descriptions.



SuperTrak HORIZON3™ Conveyance Platform Overview

The SuperTrak HORIZON3™ conveyance platform is a high-speed shuttle transport system. It allows the direction, acceleration, speed, and position of each shuttle to be individually programmed. Integrated collision avoidance eliminates shuttle-to-shuttle contact and provides auto-queuing at process stations.

This section provides the following overview information about the conveyance platform:

Features

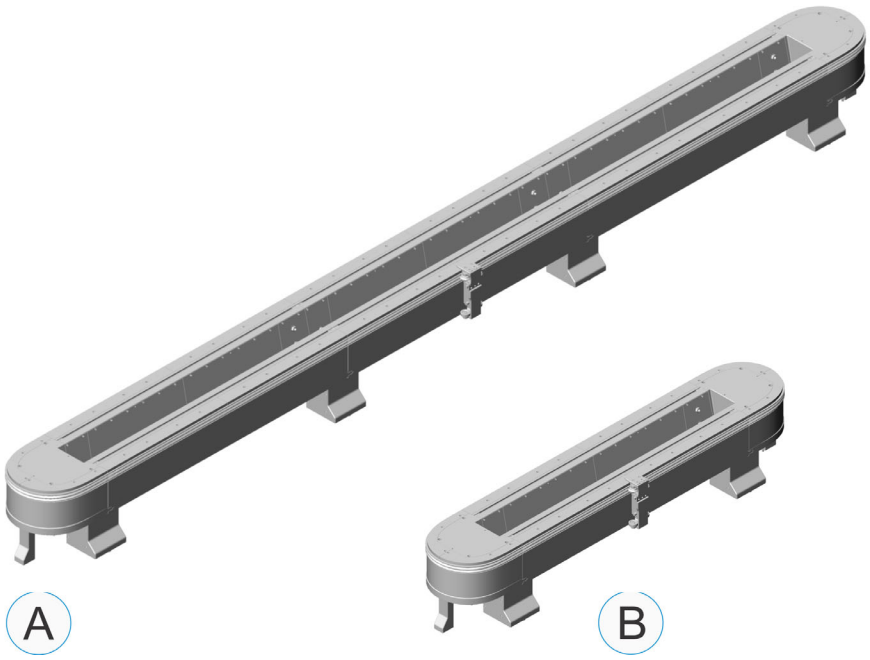
Some features of the SuperTrak HORIZON3™ conveyance platform include:

- Integration flexibility: works with any programmable logic controller (PLC)
- Fast indexing: maximum speed of 4 m/s (13.1 ft./s)
- Acceleration: 3G for a 1 kg (2.2 lb) payload
- Precision shuttle control: stop repeatability of ±0.01 mm (0.00039 in.) on straight sections and ±0.025 mm (0.00098 in.) on curves
- Payload of 3 kg (6.6 lb) per shuttle
- Scalable: modular system provides design flexibility
- Low maintenance: has few moving parts

See *System Specifications* on page 55 for a complete list of SuperTrak HORIZON3™ conveyance platform specifications. For specifications of platform components, see the SuperTrak HORIZON3™ Data Sheets at https://supertrakconveyance.com/horizon3-technical-documents/ .

SuperTrak HORIZON3™ Conveyance Platform Configurations

The standard SuperTrak HORIZON3™ conveyance platform is available in modular sections to allow for various track lengths.



Pictured above: Examples of HORIZON3™ system lengths:

- *A: HORIZON3™ three-meter system*
- B: HORIZON3™ one-meter system

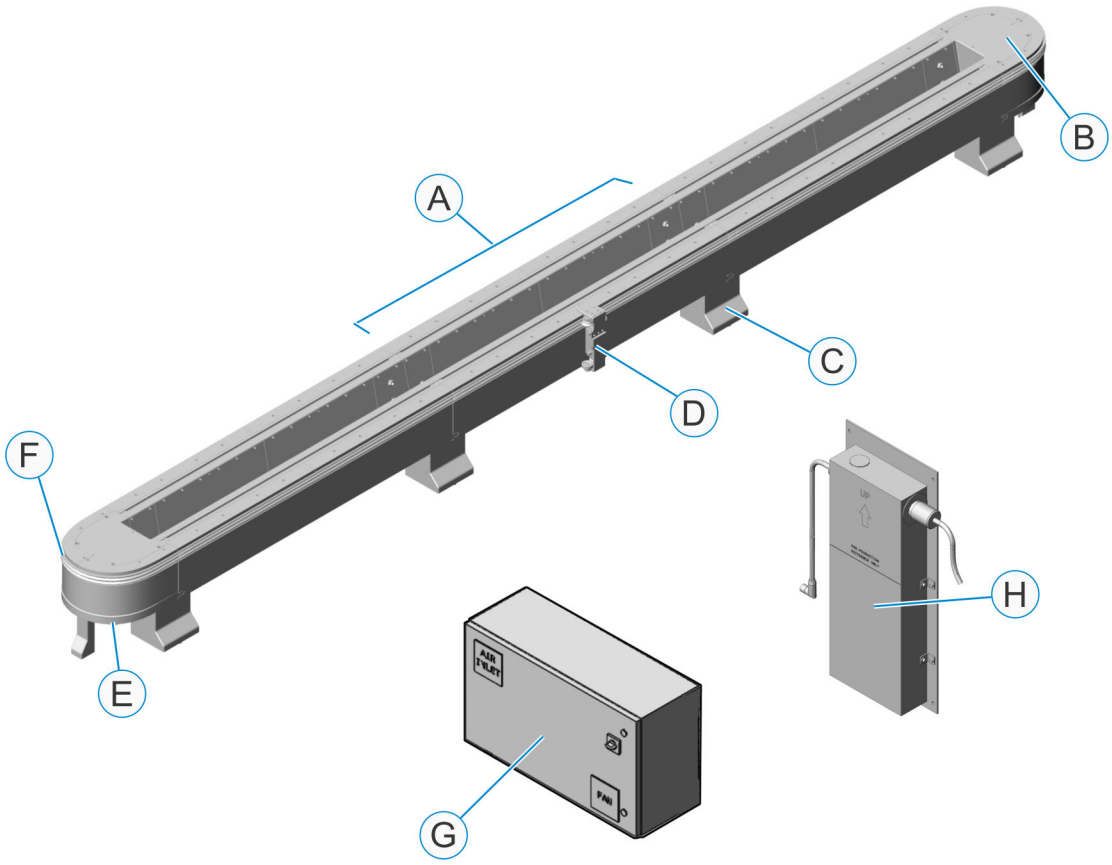
The SuperTrak HORIZON3™ conveyance platform is designed to be mounted horizontally.

SuperTrak HORIZON3™ Conveyance Platform Components

SuperTrak HORIZON3™ conveyance platform components are configured based on the required application. This illustration shows the components in a typical SuperTrak HORIZON3™ conveyance platform.

For more specific information on the platform components, see the SuperTrak Horizon3™ Component Data Sheets at https://supertrakconveyance.com/technical-documentation/

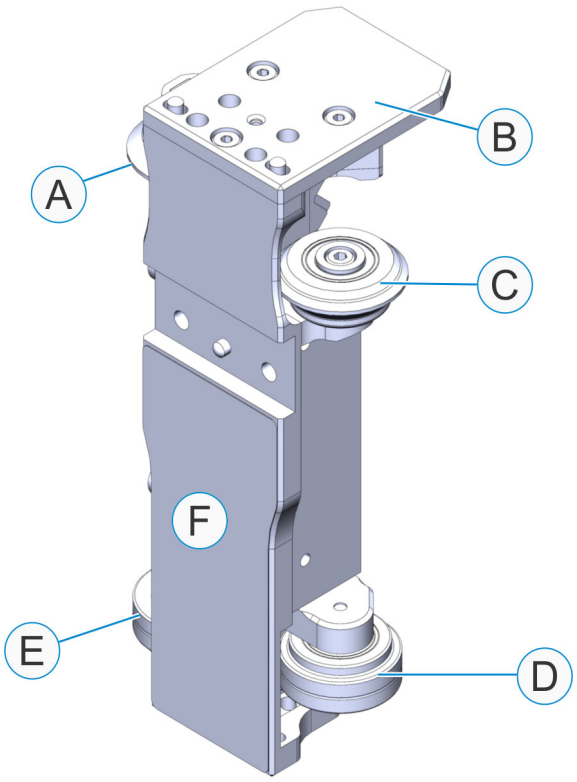
Note: components pictured below are not to scale.



A	Straight track section (1M)	E	Flat rail
B	Curved track section	F	V-rail
C	Track support leg	G	Control panel See *Control Panel* on page 33.
D	Shuttle (may also be referred to as a “pallet”) See *Shuttle* on page 26.	H	Power supply See *Power Supply* on page 35.

Shuttle

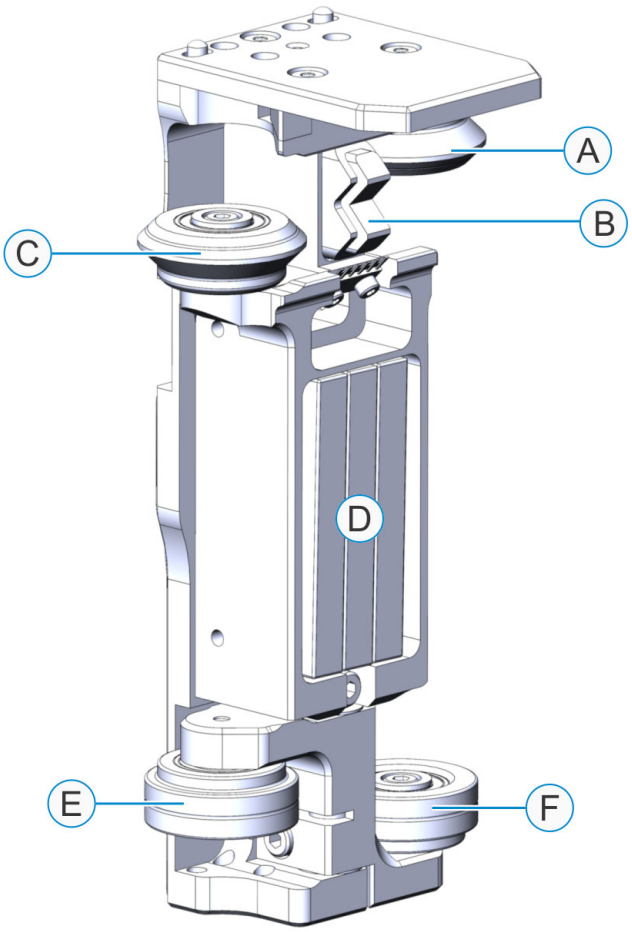
The shuttle provides a transport platform for carrying production parts along a SuperTrak HORIZON3™ conveyance platform. A shuttle may also be referred to as a “pallet.”



Shuttle - Front View

ID	Component Name	Description
A	Upper V-rail wheel	Travels on the upper groove of the V-rail of the track
B	Encoder Bracket	Contains the high-resolution encoder strip for shuttle positioning
C	Lower V-rail wheel	Travels on the lower groove of the V-rail of the track
D	Upper flat rail wheel	Travels on the flat rail at the bottom of the track
E	Lower flat rail wheel	Travels on the flat rail at the bottom of the track
F	Shuttle body	Shuttle base frame

Shuttle - Back View



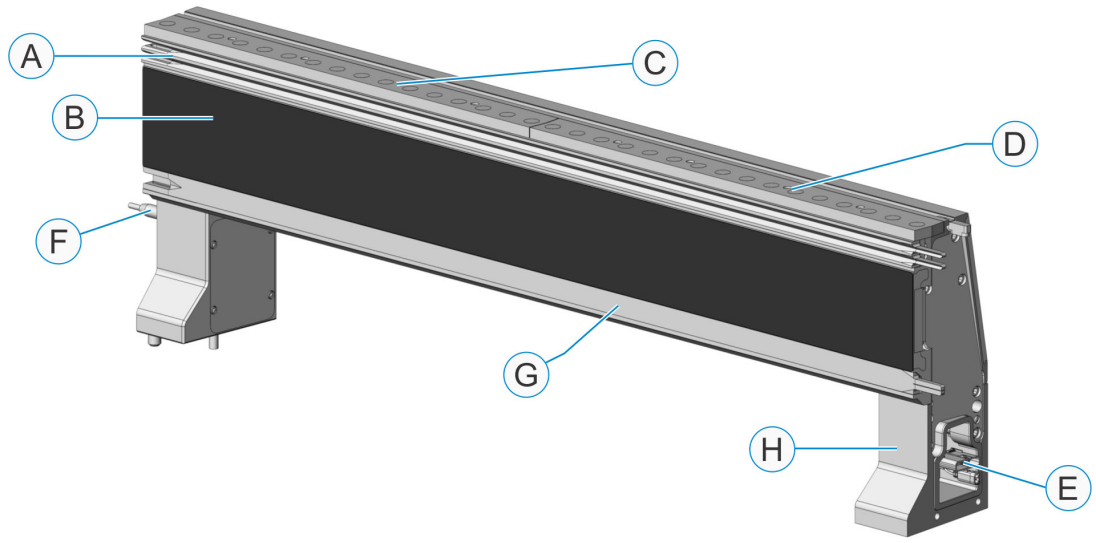
ID	Component Name	Description
A	Upper V-rail wheel	Travels on the upper groove of the V-rail of the track
B	Lubrication felt	Holds lubrication to apply to V-rail*
C	Lower V-rail wheel	Travels on the lower groove of the V-rail of the track
D	Magnet assembly	Magnets for shuttle attraction and propulsion
E	Upper flat rail wheel	Travels on the flat rail at the bottom of the track
F	Lower flat rail wheel	Travels on the flat rail at the bottom of the track

**Shuttles arrive from SuperTrak CONVEYANCE™ with felt pre-lubricated. However, lubrication will need to be reapplied periodically. Contact support@supertrakconveyance.com for lubrication guidelines specific to your SuperTrak HORIZON3™ system.*

Straight Section

Straight sections are connected in series to create a linear path for shuttles to travel on.

Straight Section - Closed

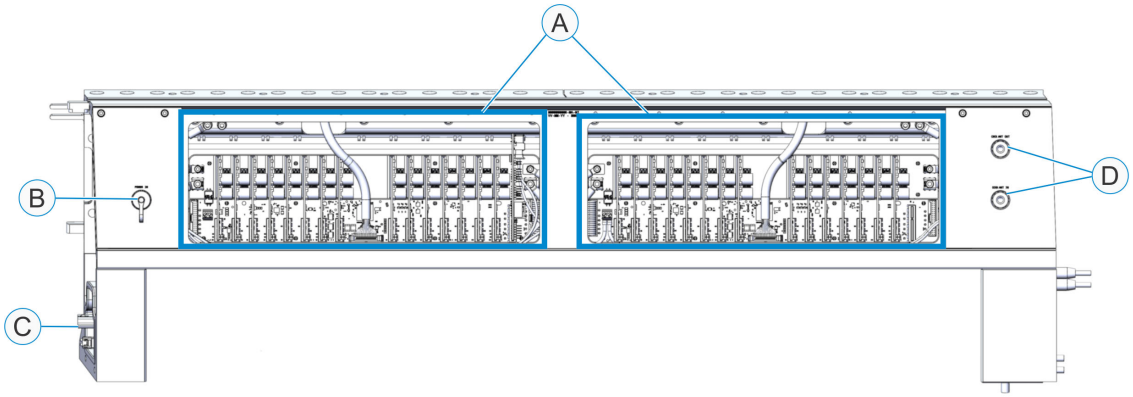


ID	Component Name	Description
A	V-rail	Provides a track for shuttle V-wheels to travel on
B	Linear motor	Produces the electromagnetic force that propels the shuttles. The linear motor includes: • 60 potted coils. • An iron core lamination assembly.
C	Left encoder assembly	Measures the shuttle position using encoder read heads
D	Right encoder assembly	
E	Track section interconnect ports	Connection ports to attach to other sections' electrical interconnects
F	Section-to-section attachment bolt/locating pin	Provides mechanical connection between sections
G	Flat rail	Provides a smooth surface for shuttle flat wheels to travel on.
H	Track leg	Part of the track frame; elevates the track above its user-provided platform

Straight Section - Open

Access to the electronics of straight sections is in the back (inner track side) of each section. Remove the line of fasteners along the top edge of the two wide rear panels, and then lift the panels out from the bottom.

Overview

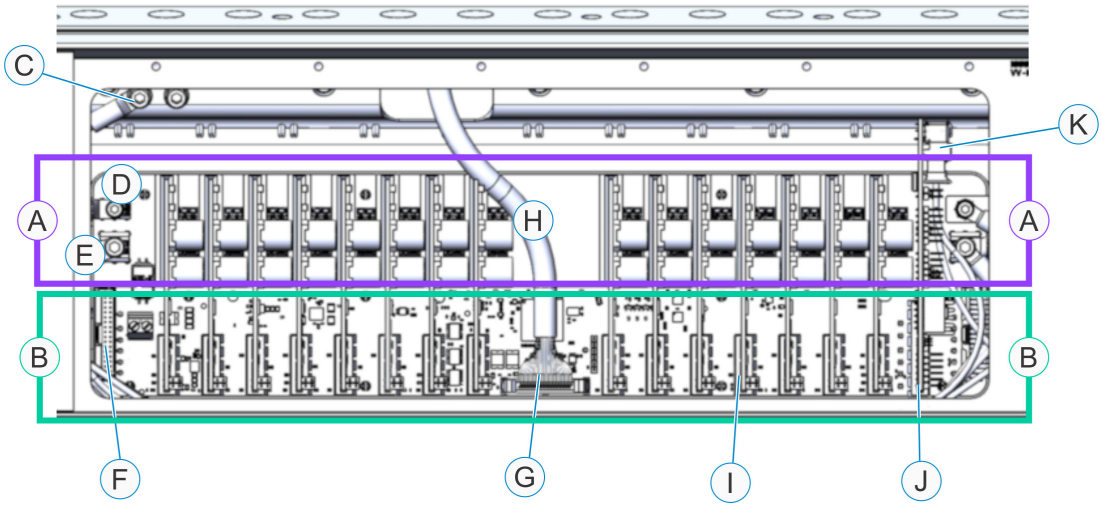


ID	Assembly Name	Description
A	Section electronics	Contains electrical and communication components. See next page for detail.
B	Power entry connection point	Connection for motor power supply.
C	Track section interconnect cables	Connection cables to attach to other sections' electrical interconnects
D	Cooling fluid ports (optional)	If a track section is equipped with the optional liquid cooling component, these ports transfer the coolant in and out of the section.

Straight Section - Open

Straight sections contain electronic boards, a left and a right. Both sides are identical but are mirror images of each other. Pictured below is the left side.

Electronics Detail

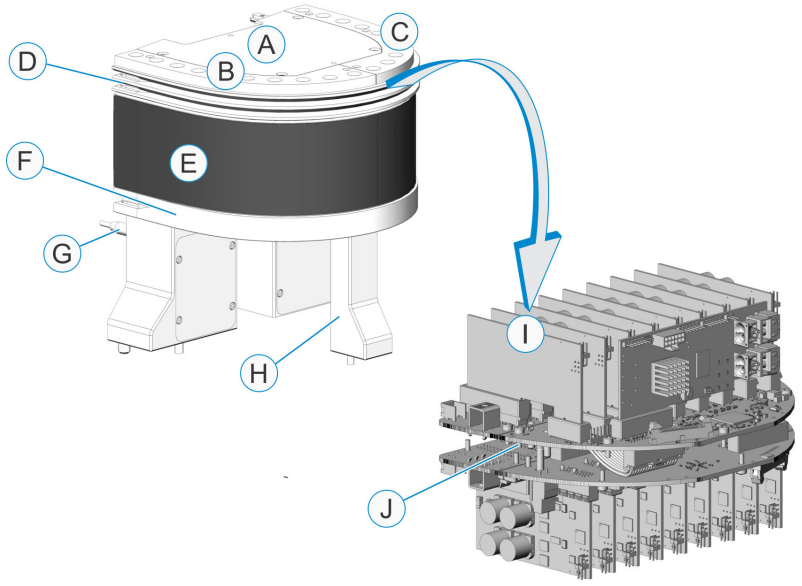


ID	Component
A	Power backplane
B	Communication backplane
C	Chassis ground
D	48V motor power
E	48V common ground
F	Board connection port
G	Encoder
H	Encoder cable
I	Coil driver
J	Gateway
K	Fiber optic connector

Curved Section (180 Deg. 300mm)

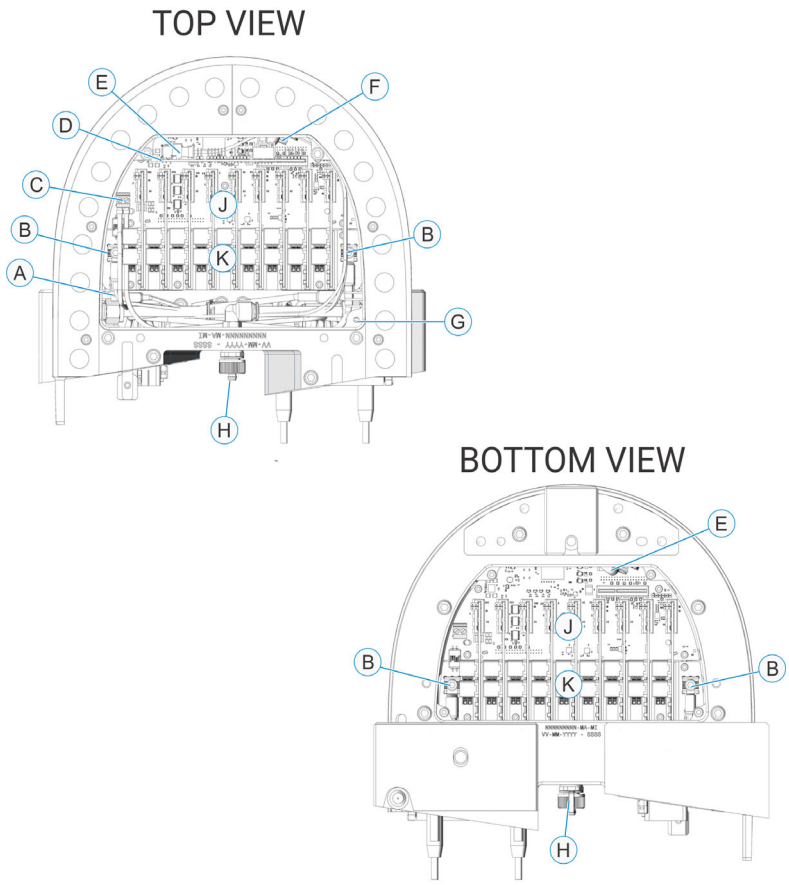
A curved section provides a 180° turning path for the shuttles to travel on between straight sections.

Overview



ID	Component Name	Description
A	Top cover	Provides access to the electronic boards.
B	Left encoder assembly	Measures the shuttle position using encoder read heads.
C	Right encoder assembly	
D	V-rail	Provides a track for the shuttle v-wheels to travel on.
E	Motor	Produces the electromagnetic force that propels the shuttles. The motor includes:
F	Flat rail	Provides a smooth surface for shuttle flat wheels to travel on.
G	Section-to-section attachment bolt/locating pin	Provides mechanical connection between sections
H	Track leg	Part of the track frame; elevates the track above its user-provided platform.
I	Internal electronics	General view of electronics inside the section. See next page for details.
J	Communication cable connector	Provides connection between right left and right side of the curved section.

Internal Detail



ID	Component Name	ID	Component Name
A	30 amp fuse	F	Encoder connection
B	48V motor power	G	Single-point ground
C	24V digital power	H	Motor power connector: One of three ports (other two are not shown here)
D	Gateway board	J	Communication backplane
E	Fiber optic connection	K	Power backplane

Control Panel

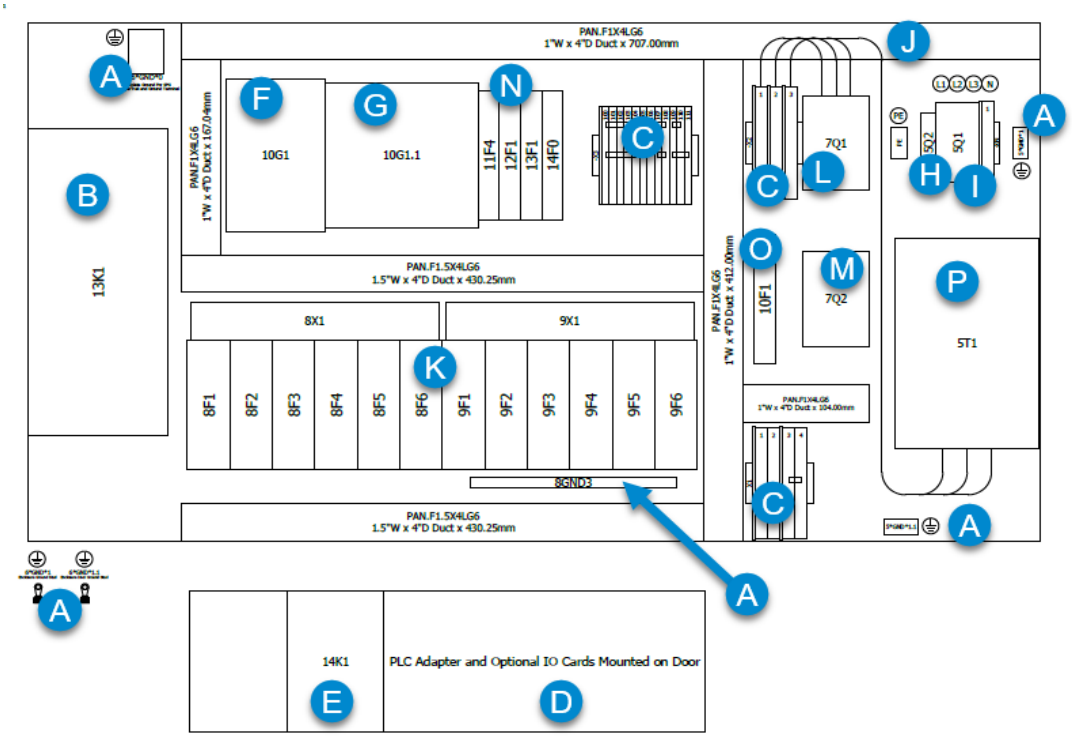
⚠WARNING Servicing an electrical panel that is still connected to its power source may cause injury or death. Remove all sources of power before servicing--refer to lockout tagout procedures. Only qualified electrical technicians should perform service on the electrical panel.

See *Hazardous Energy* on page 12 and *Lockout and Tagout* on page 15.

If an ATS control panel is not used, a line filter is required (for example, a Schaffner "FN 3256H-XX").

The control panel provides power to the SuperTrak HORIZON3™ conveyance platform only. It is intended to be integrated within an automated machine that includes a machine supply circuit disconnect (a main power disconnect switch) and requires a protective earth-ground connection from the main electrical enclosure.

Diagram on following page.



A	Ground	I	SuperTrak HORIZON3™ conveyance platform power disconnect switch (3 phase)[b]
B	Controller - TrakMaster EtherNet connection	J	Single-point earth-ground connection
C	Terminals	K	Power supply breakers (space for 6 or 12 breakers)
D	PLC connection (EtherNet/IP, EtherCAT, or PROFINET)	L	Safety contactor #1
E	Bus controller	M	Safety contactor #2
F	24V power supply	N	24V circuit breaker
G	24V buffer	O	Power supply circuit
H	Buffer module disconnect[a]	P	Filter

a.Disconnects the 24V digital battery power
b.Disconnects the AC power to the SuperTrak HORIZON3™ conveyance platform.

Power Supply

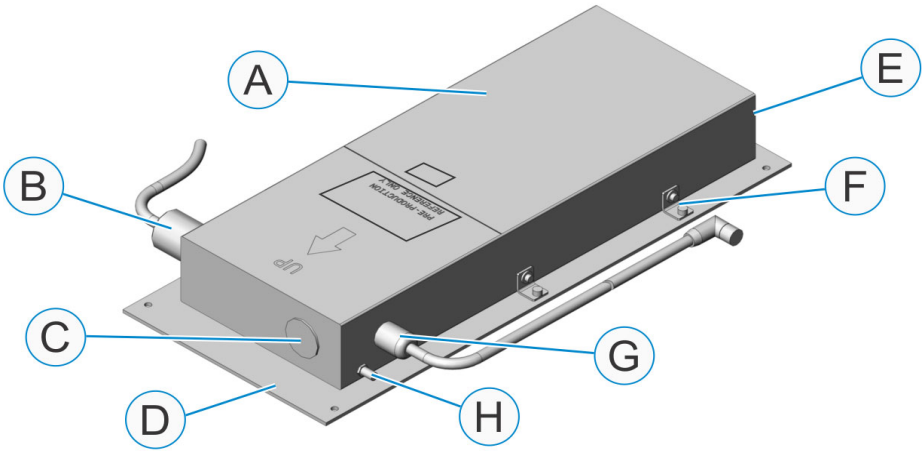
⚠WARNING Servicing an electrical panel that is still connected to its power source may cause injury or death. Remove all sources of power before servicing--refer to lockout tagout procedures. Only qualified electrical technicians should perform service on the electrical panel.

See *Hazardous Energy* on page 12 and *Lockout and Tagout* on page 15.

The power supply is an AC to DC power supply that provides 48VDC to the SuperTrak HORIZON3™ conveyance platform for shuttle motion. Each power supply is wired to a control panel. Alternating-current (AC) electrical power is supplied to the power supply from the control panel by a cable plug. The power supply is available with and without a mounting plate. Pictured below is the power supply with mounting plate.

The required number of power supplies varies depending on the demands of the specific SuperTrak HORIZON3™ conveyance platform.

Every power supply has a label affixed to it that indicates the date it was tested and the initials of the tester. This label verifies that the power supply was inspected and tested. If this label does not exist or an unauthorized replacement power supply is used, contact SuperTrak CONVEYANCE™ for the correct power supply replacement.



A	Power supply cabinet	E	Power supply filter
B	AC power input plug	F	Power supply mounting bracket
C	Alternate 48VDC power output location	G	48VDC power output location
D	Power supply mounting plate	H	Power supply OK signal

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Installation

This section describes how to complete basic setup for the SuperTrak HORIZON3™ conveyance platform.

Prerequisites

The following services and components are required to successfully install the SuperTrak HORIZON3™ conveyance platform:

- A non-compressing installation surface (for example; a concrete floor)
- Electrical connections to the SuperTrak HORIZON3™ conveyance platform control panel:
  - AC incoming power from the main electrical cabinet
    - North America: 208Y120+N+PE, 40A maximum (or 20-30A on smaller systems)
    - Europe: 400Y230+N+PE, 40A maximum (or 20-30A on smaller systems)
  - Safety circuit connection (Category III dual-channel monitored 24V output to safety contactors)
  - PLC network connections (EtherNet/IP, PROFINET, or alternate)
- TrakMaster software
- Computer with Windows and network connectivity
- Fiber optic communication cable
- Tools:
  - 0.5 mm (0.02 in.) shims
  - Feeler gages
  - Framing square
  - Mallet
  - Precision spirit level
  - Set of metric hex keys
  - Set of metric wrenches or spanners

Mechanical Setup and Installation

This section provides the following information about mechanically setting up the SuperTrak HORIZON3™ conveyance platform.

Assemble and Connect Track Sections

In cases where the SuperTrak HORIZON3™ conveyance platform was not delivered pre-assembled, the track sections must be aligned and connected.

Before beginning assembly:

- Gather all tools as outlined in *Prerequisites*.
- Ensure availability of a mounting platform built based on the drawings provided by SuperTrak CONVEYANCE™. Such a base will have mounting dowels which are required for the track assembly.
- Begin by attaching all straight sections for each side of the track before connecting the sides with the curved sections. This allows more flexibility to adjust the track later in the setup process.
- Be careful to not damage the track sections during assembly, especially the rails the shuttles run on, as this can adversely affect the system's performance.
- Connect sections mechanically before connecting them electrically.

Please contact SuperTrak CONVEYANCE™ Support at support@supertrakconveyance.com for comprehensive guidance in the initial assembly of the track sections.

Install a Shuttle

⚠CAUTION

- The magnetic field generated by the shuttle magnets can be harmful to pacemaker wearers. Maintain a minimum distance of 31 cm (12 in.) between the shuttle and the implant location. The magnetic field may also induce magnetic materials into motion, creating potential projectiles or pinch points. Various electronic equipment and magnetic data carriers can also be affected by magnetic fields.
- Make sure the motor power is OFF when a shuttle is installed on the SuperTrak HORIZON3™ conveyance platform. The external safety circuit must turn the failsafe output to the control panel OFF when the guard doors are open, to disable the motor power.

NOTICE The magnetic attraction between the permanent magnets of the shuttle and the motor increases as the distance decreases. Prevent strong impact of the shuttle with the motor or damage can occur.

NOTICE Handle shuttles carefully to avoid damage to the shuttle components.

Shuttle Accessories

Shuttle Magnet Keeper Plate

The shuttle magnet keeper plate shields the magnetic field when the shuttle is not on the track. Whenever a shuttle is removed from the track for maintenance, the keeper plate should be re-installed.

Always use care to not contact the shuttle's anti-static brush when removing or replacing the magnetic keeper plate as doing so can damage the brush.

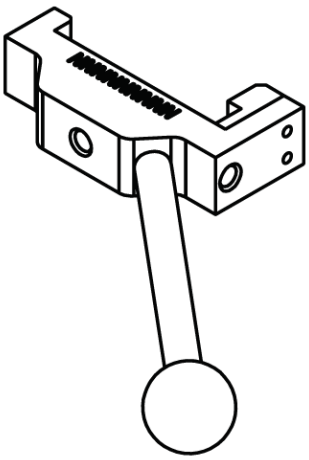
Before placing the shuttle back on the track, the keeper plate must be removed so the magnets can work properly in concert with the track.

Shuttle Removal Tool (Optional)

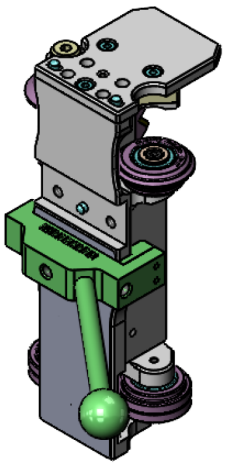
To install or remove a shuttle safely and easily, use the optional HORIZON3™shuttle removal tool. It is used to remove shuttles by leveraging against the magnetic force holding the shuttle in place.

When using the Shuttle Removal Tool, be sure to support the shuttle to support it as the removal tool will not hold the shuttle in suspension when it is not on the track.

SuperTrak CONVEYANCE™ recommends using the optionally purchased shuttle removal tool to remove and install shuttles.



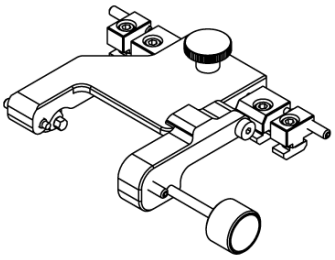
Shuttle removal tool

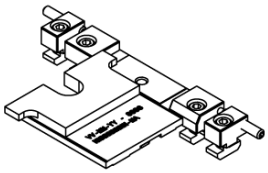


Shuttle removal tool (in green) attached to shuttle

Shuttle and Station Setup Tools (Optional)

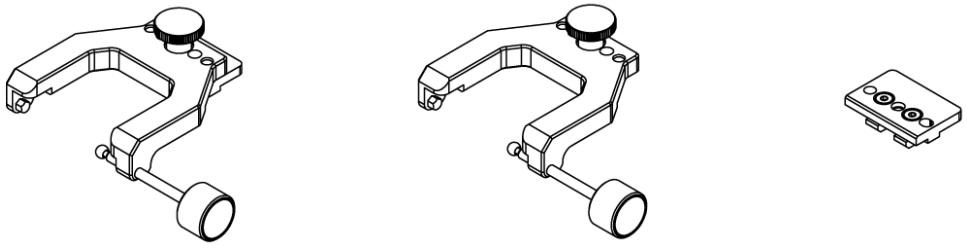
The shuttle setup tool is for adjusting the position of the encoder strip on top of the shuttle if the encoder strip has been removed and is being replaced.





SHUTTLE SETUP TOOL (+ CHIP FINDER CONFIGURATION)

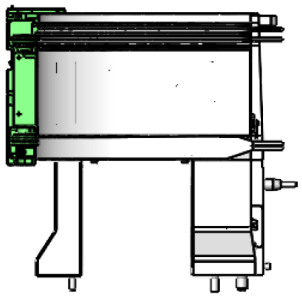
The station setup tool aligns station tooling to shuttles by holding the shuttle in a repeatable position.



STATION SETUP TOOL (+ REMOVABLE LOCATE + STATIONARY LOCATE)

Placing the Shuttle on the track

Remove the shuttle magnet keeper plate. If you have a shuttle removal tool, this can be used to place the shuttle on the track, or you can place the shuttle manually. The upper wheels will line up with the V-rail at the top of the track and the lower wheels should be contacting the flat strip at the bottom of the track.



Controls Setup

This section provides the following information about SuperTrak HORIZON3™ conveyance platform controls, and connections:

TrakMaster Software

NOTICE

The lifespan of some SuperTrak components may be compromised when temperature-related TrakMaster configuration parameters are adjusted from the default value.

For optimum lifespan of SuperTrak conveyance platform components, do not increase the default value of the electronics temperature configuration parameter, and use caution when increasing the coil temperature configuration parameter:

TrakMaster is a Windows-based application that monitors, configures, and is used to troubleshoot the SuperTrak HORIZON3™ conveyance platform.

Guarding

⚠ DANGER

Unguarded devices may cause injury or death. Do not start or operate the equipment with guard doors open. Lockout and tagout all energy sources before entering the guarding. Make sure that all guard panels are in place and guard doors are closed before operating the equipment. Never bypass a safety component.

See *Hazardous Energy* on page 12 and *Lockout and Tagout* on page 15.

Guarding is a protective housing that separates users from dangers; such as, moving devices. The guarding is comprised of a framework fitted with fixed guarding panels, and removable guarding panels.

Fixed Guard Panels

Fixed guard panels should not be removed.

Removable Guard Panels

Removable guard panels are available for maintenance and should only be opened by a qualified technician. A tool is required to unlock and remove a panel and to lock a panel in position. These panels are not usually equipped with a safety switch; therefore, the system should not be operated with any of these panels removed.

Energy Controls

This section describes the energy controls on the SuperTrak HORIZON3™ conveyance platform.

SuperTrak HORIZON3™ Conveyance Platform Power Disconnect Switch

⚠WARNING

Servicing an electrical panel that is still connected to its power source may cause injury or death. Remove all sources of power before servicing--refer to lockout tagout procedures. Only qualified electrical technicians should perform service on the electrical panel.

See *Hazardous Energy* on page 12 and *Lockout and Tagout* on page 15.

The SuperTrak HORIZON3™ conveyance platform control panel is designed to be integrated with a main electrical panel, which includes a main power disconnect switch. Use the main power disconnect switch to turn OFF system power, but maintain digital (buffer module) power in the control panel. Only use the SuperTrak HORIZON3™ conveyance platform power disconnect switch when replacing a SuperTrak HORIZON3™ conveyance platform electrical component.

The SuperTrak HORIZON3™ conveyance platform power disconnect switch is located on the control panel door.

Use the SuperTrak HORIZON3™ conveyance platform power disconnect switch when any electronic service or maintenance work is completed.

To isolate the SuperTrak HORIZON3™ conveyance platform power, turn the SuperTrak HORIZON3™ conveyance platform power disconnect switch to the OFF position. The switch is lockable in the OFF position to prevent accidental or unauthorized enabling of electrical power to the system.

See *Hazardous Energy* on page 12.

Buffer Module Power Supply

A buffer module, sometimes referred to as an uninterruptible power supply, is located inside the control panel.

The buffer module provides power to the controller and digital electronics. This maintains shuttle position information and allows network communications to continue. The buffer module does not provide motor power or cause shuttle movement.

Safety Circuit Connection

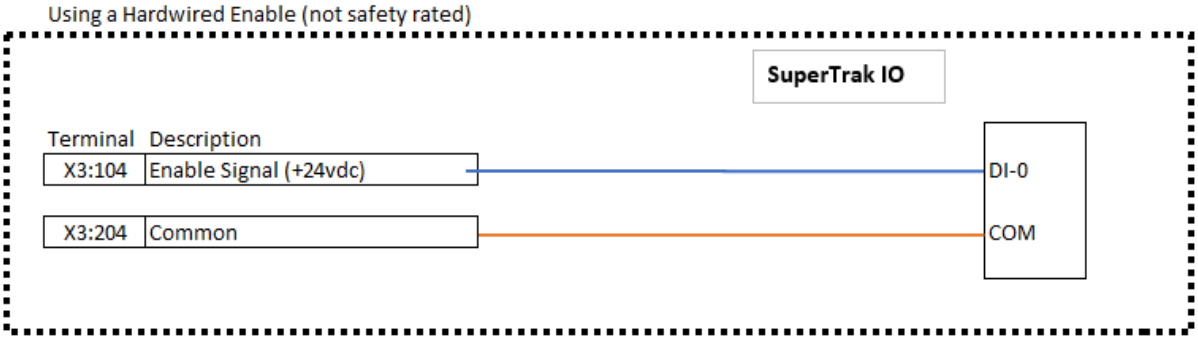
The SuperTrak HORIZON3™ conveyance platform is integrated with a system safety circuit in the control panel.

There are two levels of stop signals--immediate stop signal and delayed stop signal.

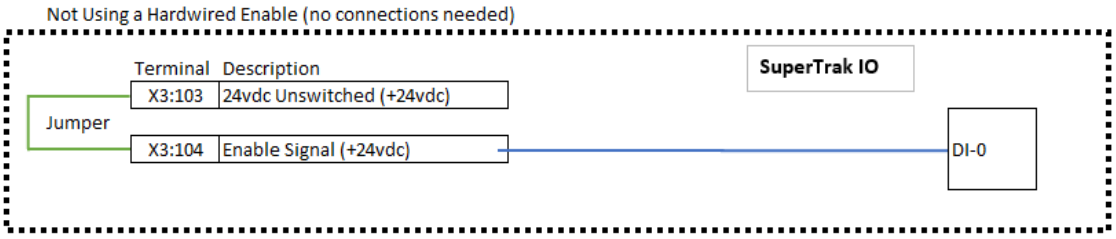
Immediate Stop Signal

The immediate stop signal is hard wired and does not need to be safety rated. This signal is used to bring the track to a controlled stop.

To hardwire the enable signal, connect one wire to X3:104 for the signal and one wire to X3:204 for the common, as diagrammed below.



When not using the hardwired immediate stop signal, ensure there is a jumper between X3:103 and X3:104, as illustrated in the graphic below.



In both immediate stop signal diagrams above, X3:104 corresponds to SuperTrak Digital Input 0, which is configured in TrakMaster as “Allow Section Enable” by default. See TrakMaster Help, Digital I/O Configuration for more information.

Delayed Stop Signal

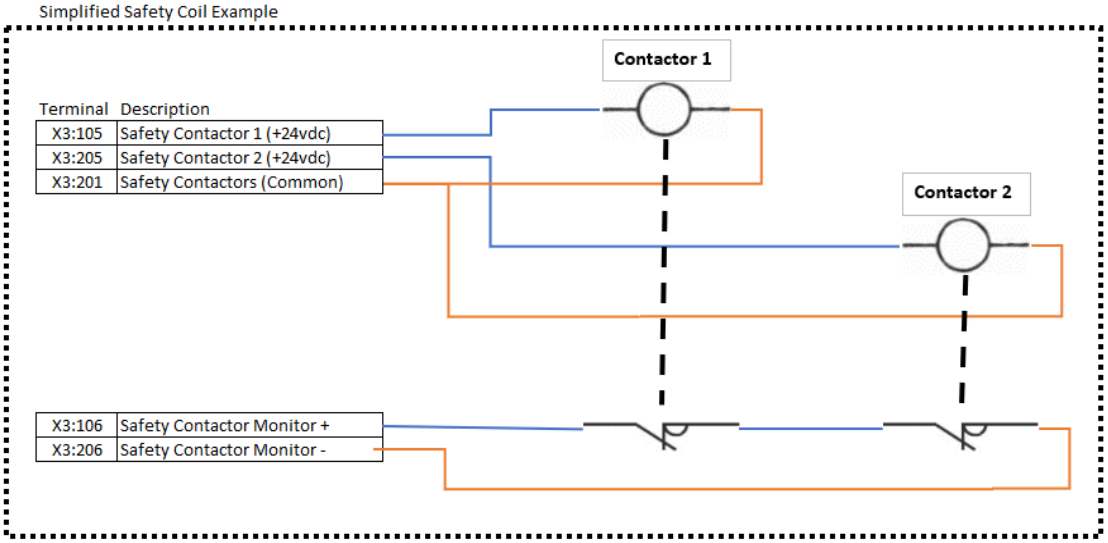
The delayed stop signal is safety rated. It removes motor power from the track.

There are two channels that complete the stopping circuit using monitoring.

- Channel 1 signal is connected to X3:105 for positive and X3:201 for common.
- Channel 2 signal is connected to X23205 for positive and X2:201 for common.

Additionally, the monitoring signal is connected to X3:106 and X3:206.

Simplified Safety Coil Example



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Maintenance

Maintenance is an important part of the continued and proper operation of the SuperTrak HORIZON3™ conveyance platform. Failure to perform maintenance as required, and in accordance with your ATS contract, voids the warranty. Maintain accurate and complete records regarding SuperTrak HORIZON3™ conveyance platform maintenance and any completed service procedures.

Some equipment requires periodic adjustment to re-establish the accuracy and desired output of the SuperTrak HORIZON3™ conveyance platform. SuperTrak CONVEYANCE™ recommends replacing defective devices rather than repairing them. Only qualified technicians should perform maintenance tasks.

Warranty excludes consumable items and wear parts, such as but not limited to fuses, filters, or lubricants, which by their nature require periodic replacement.

All technicians involved with maintaining the SuperTrak HORIZON3™ conveyance platform must be qualified and must read and understand the SuperTrak HORIZON3™ conveyance platform process and safety guidelines.

See *Safety Information* on page 9.

This section provides the following SuperTrak HORIZON3™ conveyance platform maintenance information:

Scheduled Maintenance

NOTICE

The scheduled maintenance tables in this section provide a recommended frequency for each maintenance task. Adjust the frequency according to your installation environment. For example; cleaning may need to be more or less frequent, depending on the environment.

This section provides SuperTrak HORIZON3™ conveyance platform preventive maintenance tables. See *SuperTrak HORIZON3™ Conveyance Platform Overview* on page 23 for diagrams and component names.

SuperTrak HORIZON3™ Conveyance Platform Components

Component	Frequency	Task	Description
Power supply	Monthly	Inspect	Inspect the air filter for dirt and debris. If required, replace the filter. See *Replace a Power Supply Filter* on page 54.
Track and supporting structure	Weekly	Clean	Clean off debris, using a clean, soft cloth.

SuperTrak HORIZON3™ Conveyance Platform Shuttles

Component	Frequency	Task(s)	Description
Shuttle Body	Monthly	Clean	Wipe off debris using a clean, soft, non-marking cloth.
Flat Wheels	Monthly	Inspect	Turn each wheel to make sure it moves freely. Check each flat wheel for vertical and horizontal movement. If a flat wheel does not sit firmly in position and still turn freely after tightening, replace the flat wheel. Visually inspect each flat wheel for wear or damage. Replace any badly damaged wheels.
V Wheels	Monthly	Inspect	Check wheels for vertical movement. I Turn each wheel to make sure it moves freely. Replace any wheels that do not move freely. Visually inspect wheels. If a wheel is damaged, make sure the V-rail is not damaged and that it is correctly aligned.
Magnet Assembly	Monthly	Inspect	Visually check magnet assembly surface is not damaged and there are no weld gaps.

Cleaning Procedures

This section describes SuperTrak HORIZON3™ conveyance platform cleaning procedures.

Clean the SuperTrak HORIZON3™ Conveyance Platform

⚠CAUTION After cleaning the SuperTrak HORIZON3™ conveyance platform frame, clean up all spills and excess water immediately. Liquid on floors causes a slip hazard.

NOTICE Never use razor blades, scrapers, squeegees, brushes or any other abrasive tools to clean the SuperTrak HORIZON3™ conveyance platform frame. Use of these tools may cause damage.

SuperTrak CONVEYANCE™ does not recommend any specific brands of cleaners. Your system's processes and product requirements determine the type of cleaners you will use.

Remove Dust and Dirt

1. Wipe with a soft damp cloth to remove dust and dirt.
2. Dry with a clean soft cloth or chamois.

Remove Wet Paint, or Grease

1. Wipe with a clean soft cloth dampened with isopropyl alcohol or equivalent. (Do not use chlorine-based cleaners.)
2. Dry with a clean soft cloth or chamois.

Clean a Control Panel Air Filter

Air filters are located on the side of the control panel.

1. Carefully remove the front plastic filter support.
2. Gently peel back the sponge filter.
3. Use a vacuum to carefully remove any particulate from the filter unit.
4. Replace the filter.
5. Snap the filter cover back into position over the filter.

Clean the V-Rail

V-rails can be cleaned when needed, but be aware that cleaning will remove necessary lubrication on the rail.

1. Wipe with a clean soft cloth dampened with isopropyl alcohol or equivalent.
2. Dry with a clean soft cloth or chamois.

Electrical Components

DANGER

Completing any maintenance procedures with the SuperTrak HORIZON3™ conveyance platform electrically powered may result in serious injury or death. Lock out and tag out all electrical energy sources before part service or replacement.

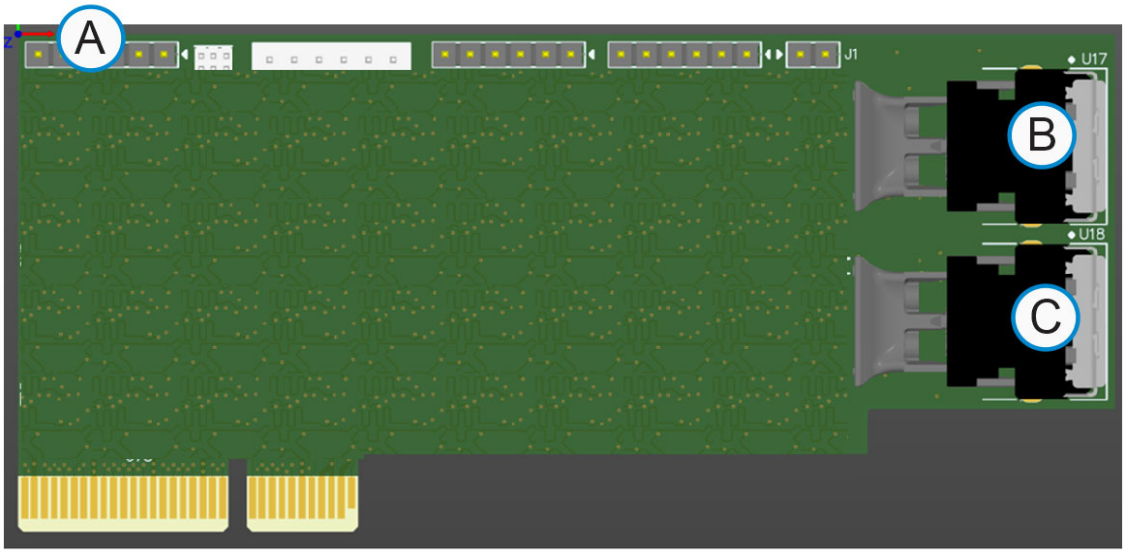
See *Hazardous Energy* on page 12, and *Lockout and Tagout* on page 15.

NOTICE

To prevent damage to electrical components from electrostatic discharge (ESD), always use an ESD wrist strap when working with electrical components. An ESD wrist strap prevents the buildup of static electricity.

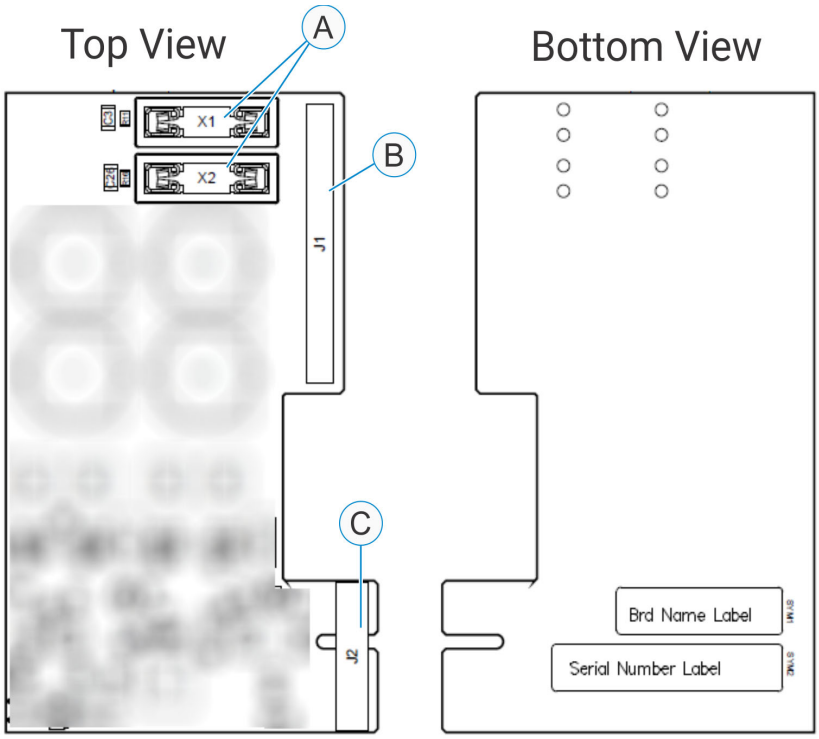
Board Diagrams

Gateway Board Layout



A	JTAG programming port
B	Left Gateway network cable port
C	Right Gateway network cable port

Coil Driver Board



A	50A fuses
B	Connection to power backplane
C	Connection to communication backplane

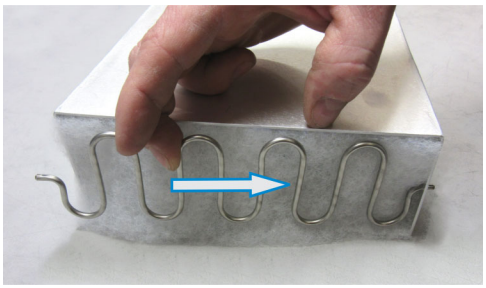
Replace a Power Supply Filter

NOTICE Be careful not to bend the power supply filter retention clip out of shape when removing it.

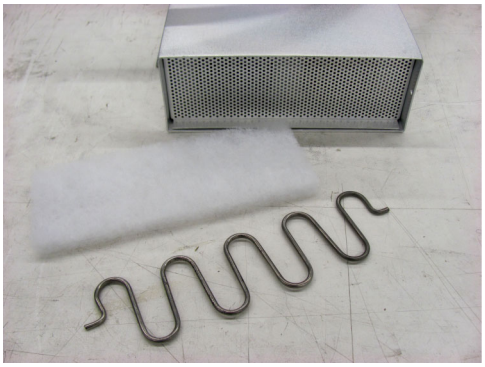
The power supply filter prevents particles from entering the power supply through the cooling fans. Particulate build-up on the power supply filter impedes air flow and may cause the power supply to overheat.

Power supply filter replacement frequency depends on the SuperTrak HORIZON3™ conveyance platform environment. Regularly inspect the power supply filter and replace it when it is dirty.

1. Carefully compress one end of the filter retention clip until one end releases from the power supply cabinet tab.



2. Remove the filter retention clip.
3. Remove the old filter.
4. Clean away any excess grit or dirt in and around the power supply fans.



5. Position a new filter into the base of the power supply.

   The filter is not directional, so it can be positioned with either side facing either direction.
6. Place one end of the filter retention clip into the power supply cabinet tab, and then carefully compress the filter retention clip to secure the opposite end into the cabinet tab on the opposite side.

System Specifications

This section provides SuperTrak HORIZON3™ conveyance platform system specifications. Information in this section is for general reference and may be updated without notice. Be sure you are using the most current version of this user manual, which, along with component data sheets and design documents, can be found at https://supertrakconveyance.com/horizon3-technical-documents/ .

Performance

The SuperTrak HORIZON3™ conveyance platform is designed to meet the following optimal performance[1]:

Performance Description	Value
Maximum speed	4 m/s (13.1ft./s)
Acceleration	3G for a 1 kg (2.2 lb) payload
Payload	3 kg (6.6 lb) per shuttle
Stop repeatability - straight section	± 0.01 mm (0.00039 in.)
Stop repeatability - curved section	± 0.025 mm (0.001 in.)
Communication	EtherNet/IP, PROFINET, and EtherCAT[a]
Process on curve	Yes, full control
Collision avoidance	Built in
Servo update rate	1000 µs

a. Other protocols are possible. Contact ATS if other protocols are required.

[1]Performance does not include supplied product defects, operator error, operator training, or failure of services.

Environment Conditions

State	Specification	Track	Power Supply Value
Operation	Temperature (ambient)	5°C (41°F) to 55°C (131°F)	-20°C (-4°F) to 71°C (159.8°F)
	Humidity (relative)	5% to 85% non-condensing	20% to 90%
Storage	Temperature (ambient)	-25°C (-13°F) to 55°C (131°F)	-20°C (-4°F) to 75°C (167°F)
	Humidity (relative)	5% to 95% non-condensing	20% to 90%
Transport	Temperature (ambient)	-25°C (-13°F) to 70°C (158°F)	-20°C (-4°F) to 75°C (167°F)
	Humidity (relative)	Max.95% at 40°C (104°F)	20% to 90%

Electrical Specifications

Service	Specification	Value
Power supply	Mains configuration	1 phase x 200-240VAC 50/60 Hz Grounding: TN
	Degree of contamination	Pollution degree 2 environments
	Over-voltage capacity	II
	IP protection	IP20
	NEMA protection	NEMA type 1
	Maximum installation altitude	2000 m (6561.6 ft.)
	Input rating	1 phase x 200-240VAC 50/60 Hz
	Output rating	48VDC 1500W
	Circuit breaker	10 A UL489 breaker
	Terminal connection cross-section	Connect as per local requirements for 10A
Track--Straight Section	Input rating	48VDC 100A peak
	Output rating	Force of up to 150N/shuttle
	Fuses/circuit breaker	30A fuses
	Terminal connection cross-section	10 mm^2 cables terminated with a wire lug
	Permitted mounting orientations	Horizontal upright
Track--Curved Section	Input rating	48VDC 100A peak
	Output rating	Force of up to 150N/shuttle
	Fuses/circuit breaker	30A fuses
	Terminal connection cross-section	10 mm^2 cables terminated with a wire lug
	Permitted mounting orientations	Horizontal upright

Electrical Services

Service	Specification	Value
Control panel	Line voltage	208Y120VAC+PE Or 400Y230VAC+PE
	Frequency	50/60 Hz
	Phases	3 ph, 5-wire
	Short circuit current rating	5kA
	Largest load	10A
	Control voltage	24VDC (digital power supplied from the control panel) 48VDC (motor power supplied from the power supplies)
	Full load amps	30A
Buffer module (located inside the control panel)	Line voltage	24VDC
	Frequency	50/60 Hz
	Current rating	15A

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Glossary

This section contains an alphabetized list of terms and acronyms that may be used in this document.

Term	Definition
ATS	ATS Corporation, the parent company of SuperTrak CONVEYANCE™.
Buffer module	An electrical device that provides digital power (24V DC) to another device for a short time when the main source of electrical power is turned OFF. (may also be referred to as a UPS)
Bus board	A capacitor bank that filters out spikes or ripples in the electrical supply to provide smooth DC voltage. A bus board is mounted behind each linear motor.
Cell	Two (2) or more stations that are grouped together. Typically, a cell can function independently of other cells. In some cases, cells are connected by a global emergency stop.
Component	Typically, the smallest and most detailed level of the SuperTrak HORIZON3™ conveyance platform. For example; a single piece of tooling, a sensor, or a cylinder.
Control interface	A protocol that provides isolated bi-directional communication from the SuperTrak HORIZON3™ conveyance platform controller to local cell controllers. This protocol is executed over one of the supported fieldbus network.
Control panel power disconnect switch	Provides a disconnect means that the facility or integrator may use as part of a local isolation plan and/or logout-tagout protocol. Documentation may refer to it as “SuperTrak control panel power disconnect switch.”
Curved section	A portion of the track where shuttles move on an arc between straight sections. May also be referred to as an e-turn or a 180 deg. (300mm) section.
Cycle	The complete sequence of steps that a device performs to complete a task.
Cycle time	The time a device takes to complete a sequence of operations once.
Device	Two (2) or more components that are grouped together to complete a single function. A device can be controlled by software to move through a sequence of steps. For example; a conveyor or lift tooling.
Disable	Prevent a device from operating through software or by removing power.
Disconnect	To interrupt or terminate a connection.
Enable	Allow a device to operate through software or by connecting power.
Encoder	A position sensor that continuously monitors shuttle positions.
Gateway network	An ATS proprietary network, implemented using standard Ethernet cables; however, it is not Ethernet and should not be connected to Ethernet devices. It connects an array of Gateway boards to the controller.

Term	Definition
Guarding	A protective barrier surrounding automated equipment to prevent access to moving devices and to guard users from potentially hazardous conditions.
Lockout	The placement of a locking device (such as a padlock) on an energy isolating device, in accordance with an established procedure, to make sure that the energy isolating device and the equipment being controlled cannot be operated until the locking device is removed. Used in combination with tagout.
Main power disconnect switch	The disconnect provided by the systems integrator to safely disconnect power for the entire machine (including the integrated SuperTrak Control panel). This is also known as a “machine supply circuit disconnect.”
Pallet	A shuttle may also be referred to as a pallet. See definition of “shuttle” below.
Payload	The total mass of the parts and tooling added to the base shuttle. (The mass of the base shuttle is not included in the payload.)
PLC	Programmable Logic Controller An electronic processor that contains the programmable code for controlling system operation, device operating sequences, fault recovery, and data processing.
Shuttle	A movable base on which parts can be placed. A shuttle can be partitioned to hold more than one part. A shuttle may also be referred to as a pallet.
Station	Two (2) or more devices that work together to complete a task. For example; a shuttle stop on a conveyor and all the devices responsible for working on the contents of the shuttle.
Straight section	A portion of the track where shuttles move in a linear direction.
System	References the automation machine that the SuperTrak HORIZON3™ conveyance platform is integrated with.
Tagout	The placement of a durable tag on an energy isolating device, in accordance with established procedure, to identify the person who placed a lock on the device. Equipment being controlled by the energy isolating device must not be operated until the lock and tag have been removed. Used in combination with lockout.
Target	A location on the SuperTrak HORIZON3™ conveyance platform that can be set as a shuttle destination. A SuperTrak HORIZON3™ conveyance platform can have up to 255 configured targets, each located anywhere on the system.
Thermistor (motor thermistor)	A motor thermistor is a temperature sensor that is used to monitor the temperature of the linear motor.
Track	When used in the context of specifications, the term “track” refers to the basis of the conveyor itself, including the motors and the rails (and not including the shuttles, power supply, control panel, or skirting).
TrakMaster	Software that provides configuration, programming, diagnostics and control over a supervisory data network. TrakMaster communicates over Ethernet. TrakMaster is not required to operate SuperTrak HORIZON3™ conveyance platform; however, it is useful for troubleshooting and configuring the device.

SuperTrak HORIZON3™ Conveyance Platform Service

This section describes how to contact SuperTrak CONVEYANCE™ Product Support for customer assistance.

Contact SuperTrak CONVEYANCE™

Please contact SuperTrak CONVEYANCE™ for assistance, questions or comments regarding the operation or maintenance of your equipment.

SuperTrak CONVEYANCE™

1 Natura Way

Cambridge, ON, N3C 0A4, Canada

Tel: 519-653-6500

Fax: 519-650-6538

Email: *support@supertrakconveyance.com*

Website: *www.supertrakconveyance.com*

Regular business hours are 8:30 am to 5:00 pm EST, Monday through Friday. Emergency support hours are weekends, holidays, and 5:30 pm to 8:00 am EST weekdays.

Emergency Support Tel: 519-653-3060

Return a Part to SuperTrak CONVEYANCE™ for Warranty

If your spare parts inventory does not contain a replacement part for a failed SuperTrak HORIZON3™ conveyance platform part, you can purchase a replacement part from SuperTrak CONVEYANCE Product Support.

1. Contact SuperTrak CONVEYANCE Product Support with the following information:
   - Part number
   - Part description
   - A brief description of the failure.
2. SuperTrak CONVEYANCE Product Support will send you a RMA request form which you complete and return to product support.
3. SuperTrak CONVEYANCE Product Support reviews the form and determines if the part is in warranty.

4. SuperTrak CONVEYANCE Product Support provides you with a return material authorization (RMA) number.
5. Courier your defective part to SuperTrak CONVEYANCE Product Support. A tracking number is recommended. Make sure the RMA number is on the outside of the package.
6. When SuperTrak CONVEYANCE Product Support receives the defective part, one (1) of the following is done:
    - For parts manufactured by SuperTrak CONVEYANCE™, SuperTrak CONVEYANCE Product Support directly validates the warranty by repairing or replacing the part. Proceed to step 7.
    - For purchased parts (for example; motors, or amplifiers), SuperTrak CONVEYANCE Product Support sends the defective part to the original manufacturer. The original manufacturer validates the warranty and repairs or replaces the part at their discretion.

    Be aware that some manufacturers require a purchase order (PO) to test returned parts. If a PO is required, SuperTrak CONVEYANCE Product Support will contact you for a PO before additional action is taken.
7. Depending on the original manufacturer response, SuperTrak CONVEYANCE Product Support contacts you with a list of options:
    - The defective part is repaired or replaced under warranty. Freight is the responsibility of the customer.
    - The defective part is not covered under warranty, but it can be repaired with a PO. SuperTrak CONVEYANCE Product Support provides a quote for part repair.
    - The defective part is not covered under warranty, and it can not be repaired. SuperTrak CONVEYANCE Product Support provides a quote for part replacement and discards the defective part unless otherwise directed.
8. When SuperTrak CONVEYANCE Product Support receives the replacement part from the manufacturer, SuperTrak CONVEYANCE Product Support sends the replacement part back to the original sender unless otherwise directed.
9. SuperTrak CONVEYANCE Product Support closes the RMA.

Request Service from SuperTrak CONVEYANCE™

Contact SuperTrak CONVEYANCE™ Product Support if service is required on your SuperTrak HORIZON3™ conveyance platform. Please have the following information available when you call:

- Company name
- Contact name
- Contact number
- Project number (if applicable): See the electrical panel, or front cover of this manual for the project number.
- Technical description of the problem
- Purchase order number

Spare Parts

Spare part information is located on the SuperTrak CONVEYANCE™ website at https://supertrakconveyance.com/stc-spare-parts/ or, for a spare parts list specific to your SuperTrak HORIZON3™ system, contact us at spares@supertrakconveyance.com .

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