

Apex System

SIL3 variable speed chain hoist and winch control system





The standard **Apex Hoist** is available in 500kg and 1250kg versions and is capable of speeds of 30m/min and 12m/min respectively. It is equipped with two silent, monitored brakes, dual encoders and an integral loadcell all of which enable SIL3 operation and compliance with EN17206, DIN56950 and BS7905.

The **Apex Hoist Servo** is available as a 500kg version with a maximum of speed of 36m/min. With features similar to that of the standard versions, it is designed for use with a wide range of both Kinesys and TAIT automation systems and complies with DGUV17 (BGV C1) and EN17206.

The **Apex Winch Flexi** offers standard formats and specifications for tours or installations requiring either 'fly bar' or flexible 'point hoist/touring' configurations.



The **Apex Drive** is designed with SIL3 safety at its heart. It can switch seamlessly between different hoist models and is the ultimate meeting of creativity and usability in a chain hoist controller. The **Apex Drive v2** is also available for use with the Apex Hoist 500 Servo.



The series 4 range of **Mentor** controllers adds further features to the Mentor safety controller family. It has SIL3 safety over Ethernet at its core and can communicate with and safely control up to 100 devices at any one time.

KINESYS HAS A SIMPLE GOAL:
TO PROVIDE **EXCEPTIONAL** AUTOMATION EQUIPMENT THAT ALLOWS VENUES TO BE **OUTSTANDING** AND AUDIENCES TO BE **AMAZED**.

KINESYS is focused on being the market leader in providing the perfect combination of features, usability and reliability that complies with or exceeds the many and varied safety standards across the world.

We are a global company with a long history of providing the right solutions to companies worldwide.

We are one of the few companies that provide truly integrated solutions incorporating hoists, winches, load monitoring and control software that can be purchased outright. We look forward to working with you to provide the right solution to take your company, production or venue into a world of automation.

Apex System

The Apex system from Kinesys is the complete solution to high-end chain hoist control applications.

It has all the features you would expect like SIL3 safety and standards compliance, sub millimetre precision and true zero speed. It also contains some you might not expect like silent brakes, intelligent duty cycle management and real-time data logging.

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Apex Hoist 500 & 1250



Apex Hoist 500 Servo



The **Apex Hoist** range offers 500kg (1200lb), 1250kg (2750lb), and 500kg Servo options. The hoists have maximum speeds of 500mm/s (100ft/min), 200mm/s (40ft/min), and 610mm/s (120ft/min) respectively in compact packages while still maintaining the highest safety standards suitable for movement over people in show situations.

Completely silent brakes across the range along with the ability to 'hover' allow the use of the apex system in environments where chain hoists previously may not have been appropriate. Ultra-smooth movement resulting from precision speed and position control make the most complex and graceful geometric movements a possibility.

Extended duty cycles and intelligent temperature monitoring allow longer continuous running periods meaning that Apex Hoists can keep providing movement after other hoists may have to stop. The Intelligent Duty Cycle Management feature constantly updates the user on the remaining run time available on the hoist based on temperature, speed and weight, all precisely monitored by the system in real-time. This allows the user to maximise the usage of the hoist without fear of damage through over-heating.

The Apex Hoist logs all the key usage data allowing owners of the equipment to keep an incredibly accurate log of the hoist's usage. Run time, maximum load experienced by the hoist, maximum temperature reached and number of brake operations is just some of the data that allows the hoist's owner to ensure that the hoists are not over-exerted and to precisely schedule maintenance and service to ensure all regulatory requirements are met.

FEATURES

- 400kg (1200lb) at 10:1, up to 30m/min (100ft/min) with 7 x 22mm chain
- 500kg (1200lb) at 8:1, up to 30m/min (100ft/min) with 7 x 22mm chain
- 1250kg (2750lb) at 10:1, up to 12m/min (40ft/min) with 11 x 31mm chain
- 500kg (1200lb) Servo at 8:1, up to 36.6m/min (120ft/min) with 11 x 31mm chain
- Dual silent brakes
- Integral SIL3 rated loadcell
- Real-time data logging of all key motion and maintenance related parameters
- Full load capacity at any speed down to and including zero
- Intelligent Duty Cycle Management for longer running periods
- Hoist ID technology enabling the drive to automatically configure for the correct hoist type
- Black chain
- Locking chain hook
- 208V or 400V operation, settable by the user

CONNECTIONS

1 x Multi-function Harting connector

Apex Winch Flexi



Flexibility is at the heart of this winch design. Designed to operate as a Point Hoist for theatrical applications it is equally at home in a touring environment.

The **Apex Winch Flexi** is offered in both high-speed, low-load and low-speed, high-load versions for maximum flexibility, ideal for zero-fleet point-hoist applications, or for scenic movement, lifting either 125kg at 3.6m/s or 250kg at 1.8m/s with a stroke of 30m.

Zero fleet and incorporating the safety features mandated for performer flying, the Apex Winch Flexi allows for single or twin lines on the drum. Multiple rope exit paths are possible including a full gimbal exit for the most exacting performer flying applications.

Dual brakes, full SIL3 safety and on-board load-monitoring are standard. Control is from the Pulse Drive range by default, but the Flexi winch can also be purchased ready to work with the Kinesys Apex Drive for seamless interchange with the Kinesys Apex range.

The truss frame design provides maximum flexibility for handling and rigging. It can be supplied either with large format wheels, to make easy work of moving around a theatre grid, or with smaller touring wheels, ideal for trucks and on arena floors. A fabric winch cover is also available providing guarding of the winch once in position but with easy maintenance access if required.

FEATURES

- Zero fleet
- Multiple mounting options
- Multiple rope exits or full gimball for performer flying
- 125kg at 3.6m/s or 250kg at 1.8m/s versions
- Single or Dual line drum
- Roll-On Roll-Off possible direct from the drum
- Control with Pulse Drive or Apex Drive
- Can be installed inside HUD Truss for touring applications

Apex Drive v2



Apex represents the state of the art in variable speed chain hoist control. Both the controller and hoists are built to Kinesys’ exacting specification which allows for numerous features to be available to the operator.

It has all the features you would expect like SIL3 safety and standards compliance, sub millimetre precision and true zero speed. It also contains some less common like silent brakes, intelligent duty cycle management and real-time data logging.

Apex is compatible with all Kinesys’ existing software control solutions which allows for seamless integration into existing systems. The Mentor Series 4 range provides the necessary interfaces to allow Apex’s new safety over data technology to work alongside our existing product ranges.

Ease of use has always been central to Kinesys’ product design. True to that philosophy is the ability to daisy chain power between drives using industry standard Ceeform or L21-30 cable. The safety over Ethernet technology in Apex also allows the data to be daisy chained through the drives using standard Ethercon cabling, reducing the cable runs required to connect the system together.

The on-board safety features also mean that custom power distribution is not required for the Apex system; you can either use the Kinesys PD designed for the Apex range or your own existing stock if you prefer.

SIL3 monitoring of speed, ramps, load, position and brakes means that any creative application can be supported by Apex. When working with the Mentor 4 controller, groups of hoists can be assigned and protected with a SIL3 rating as well.

FEATURES

- SIL3 (EN61508) and PLe (EN13849)
- Apex Drive Complies with EN17206, DIN56950 and BS7905
- Apex Drive v2 complies with DGUV (BGV C1) and EN17206
- Manual controls on the front panel for ease of use
- Touchscreen display for feedback and diagnostics
- Capable of running both 500 and 1250 versions of Apex chain hoist
- Automatic recognition and configuration when a hoist is plugged in
- Safety over Ethernet for fully networked system using standard Ethercon cables
- Power and data daisy chain for simplified cabling
- Industry standard power connectors
- Truss mounting plate option with ¼ turn DZUS fasteners to fix to Apex Drive
- 3U 19" rack compatible with optional Rack Fixing kit

HOIST CONNECTIONS

1 x Multi-function Harting connector

MAINS CONNECTIONS

5-pin 32A ‘Ceeform’ plug and link through socket to IEC60309 (400V version) • 5-pin 30A L21-30 plug and link through socket (208V version)

CONTROL CONNECTIONS

Neutrik Ethercon RJ45 in and link out

Mentor 401



SIL or Safety Integrity Level is a rating for a safety function within a piece of equipment. The safety function can be emergency stop, load monitoring, speed monitoring, brake control and so on. Each function can be assigned a different SIL depending on how it is implemented.

SIL ratings range from 1 to 4. 1 is the lowest and might relate to simple and low-risk activities like the emergency stop button for a basic conveyor belt. SIL4 is the highest rating and relates to activities where failure of safety systems could have catastrophic results such as aviation, nuclear power and so on. The SIL rating that any particular activity requires is determined by the completion of a risk assessment of the application. For flying people or for flying objects over people the most commonly assessed level is SIL3.

The Apex system implements all of its safety functions to a SIL3 level ensuring that an Apex Hoist and Drive will impose no limits on their creative use.

Mentor Series 4 controllers add further features to the Mentor safety controller family. It has SIL3 safety over Ethernet at its core and can communicate with and safely control up to 100 devices at any one time.

Mentor Series 4 uses the emergency stops and enable switches (dead man's handles) common across the Mentor range. It also includes Universal Device Interface (UDI) connections that allow Elevation, DigiHoist and other legacy systems to integrate into the Mentor infrastructure.

Safe groups are central to the Mentor Series 4 capabilities. This feature allows devices to be grouped together with a SIL3 rating so that an error on any one of the grouped devices will stop the entire group. Groups can be created and deleted by the user from the touchscreen interface with any changes being confirmed via a key-switch to ensure these actions are only performed by authorised personnel.

The inclusion of a Console/Pendant connector allows the Dimension pendant to be connected directly to the Mentor making it quick and easy to get a system up and moving.

FEATURES

- Control up to 100 devices from a single unit
- Emergency Stop and Enable Switches to SIL3
- SIL3 safety data both to and from compatible devices
- SIL3 device grouping capabilities
- 7" touchscreen for configuration and diagnostics
- Optional Ethernet over fibre for long distance connections
- Universal Device Interface connections for non-Apex systems
- 4U 19" rack format

MAINS CONNECTIONS

Neutrik Powercon True1 in and link out

CONTROL CONNECTIONS

8 x Apex Safety over Ethernet - Neutrik Ethercon RJ45 • 2 x Apex Safety over Fibre Ethernet (optional) – Neutrik OpticalCon QUAD • 2 x EVO v2 Ethernet Data – Neutrik Ethercon RJ45 • 3 x MIL10 Combined Emergency stop and DMH • 3 x MIL10 Emergency Stop (3 x Estop & DMH, 3 x Estop only) • 1 x MIL19 Console/Pendant Input • 2 x Universal Device Interface connections for non-Apex devices

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Disclaimer: These specifications are general guidelines only and may not be appropriate for your particular project. All product specifications and data are subject to change without notice. Data, performance features, and images may vary from the final project quote.

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