

# Kinetix® 6200 Modular Safe Speed Servo Drive

Flexible Modular Design Helps You Quickly Adapt to Future Technology Advancements

For machine builders, gaining the flexibility to quickly and easily adapt to new market trends and technologies can provide an important competitive advantage. With the modular design of the new Kinetix® 6200 multi-axis servo drive, Rockwell Automation® can help you react quickly to the ever-changing world of automation.

The innovative modular design of the Kinetix 6200 gives you greater design adaptability by providing a platform for future machine enhancements such as a new control type or increased power ranges. The interchangeable control modules on the Kinetix 6200 allow you to easily make a design modification such as a new communication type. It also allows you to offer customers a new level of machine safety with Safe Speed monitoring functionality.

For end users, the Kinetix 6200 Safe Speed functionality helps personnel perform some maintenance work, such as removing a jam, without stopping the machine completely. An operator is able to access a guarded zone while the axis is monitored and kept below a specific speed limit defined by the user.

End users can also benefit from the modular design of the servo drive:

- Reduce spare parts inventory
- Diagnose and correct problems faster, without changing out the entire drive
- Reduce migration costs as an axis can easily be transitioned to new functionality

Both machine builders and end users can leverage the proven performance of the established Kinetix 6000 family, while building a foundation for future machine enhancements.



## Kinetix 6200 Benefits

- Minimize downtime, reduce energy and production waste and improve machine operating efficiencies with Safe Speed functionality that helps provide safer access to guarded areas while a machine or process is allowed to continue operation under limited conditions
- Help protect personnel with embedded advanced safety features
- Eliminate the need for additional panel space and wiring between an external safety monitor and the drive because of the drive's embedded safety
- Reduce and monitor the speed of your application to a point that helps allow an operator to safely inspect and perform some process maintenance work without completely stopping the machine with the Safe Speed monitoring functionality
- Safety options available with the Kinetix 6200 can help provide reduced downtime along with an increase in productivity
- Reduce wear on motor and equipment due to unnecessary, frequent stops and starts, helping to reduce maintenance time and cost
- Greater flexibility with modular design; an axis can easily transition from Safe-Off to Safe Speed functionality or from SERCOS interface™ to EtherNet/IP networking
- Excellent machine adaptability due to extensive potential for control scalability
- Simplified maintenance; because of the drive's modularity there is no need to replace an entire drive if a problem arises
- Enhanced diagnostics
  - Scrolling error message for faulted drive tells you the nature of the fault
  - Increased level of data available for faster diagnosis and correction

LISTEN.  
THINK.  
SOLVE.™

# Select the safety level that best meets the needs of your application

**Safe Torque Off (-S)** — Drive output is safely disabled to eliminate motor torque without removing power from the entire machine.

## Benefits

- Provides a safe torque-off solution for the Kinetix 6000 drive family
- Electromechanical design
- SIL 3, PL D safety performance
- No configuration required
- Category 0 stop
- Category 1 stop
- Prevention of unexpected restart



**Enhanced Safe Torque Off (S0)** — Drive output is disabled to eliminate motor torque without removing power from the entire machine.

## Benefits

- Provides a safe torque-off solution for the Kinetix 6200 and 6500 drives
- High reliability solid state design
- SIL 3, PL E safety performance
- Embedded dual channel monitoring capability
- No configuration required
- Supports two channel equivalent or solid state type of devices
- Supports cascaded system configuration via solid state (pulse tested) safety outputs
- Includes automatic or manual reset
- Provides substantial wiring simplification and excellent safety performance ratings
- Low Total Cost of Ownership (TCO) compared with competitive alternatives



**Safe Speed (S1)** — When necessary, monitor the speed of your application. If in excess of the safe speed you have defined, initiate Safe Stop.

## Benefits

- Provides support for multiple built-in safety functions for the Kinetix 6200 and 6500 servo drives\*
- High reliability solid state design
- SIL 3 PL E safety performance
- Embedded dual channel monitoring capability
- Configuration over web server and IE
- Supports multiple types of input devices
- 2 channel equivalent (with or without discrepancy)
- 2 channel complementary (with or without discrepancy)
- OSSD type
- Supports cascaded system via solid state safety outputs
- Includes automatic, manual or manual monitored reset
- Local Display of Configuration Signature ID
- Supported feedback types
  - Sin/Cos Incremental
  - TTL Incremental
- Controller independent
- Provides complete machine safety control capabilities



## Availability

*The Kinetix 6200 SERCOS interface drive with Safe Speed (S1) is available now. Contact your local sales representative for availability of the Kinetix 6200 with S0 as well as the Kinetix 6500 EtherNet/IP servo drive.*

# Building on the proven performance of the Kinetix 6000 platform

The Kinetix 6000 has an established record as a reliable, high performance servo drive and will continue to serve the needs of many customers for years to come. Some applications, though, may benefit from additional safety options and the adaptability provided by the modular design of the Kinetix 6200. For these applications, new feature options are available in the Kinetix 6200 to help provide improved productivity and greater machine flexibility.

The commonality within the Kinetix 6000 family allows you to migrate to the enhanced features exactly when and where you need them.

## Leverage your investment in the Kinetix 6000

The proven performance of the Kinetix 6000 provides a solid foundation for the Kinetix 6200. Get the benefits of an established drive family PLUS safety and feature enhancements:

- Since the Kinetix 6200 SERCOS interface drive is compatible with the existing Kinetix 6000 system, any number of axes can be upgraded to advanced safety where needed without replacing the entire system.
- Use your existing Kinetix 6000 accessories, such as the Line Interface Module, with the Kinetix 6200.
- The Kinetix 6200 continues connector kit support with easy-to-use wiring.
- The 6200 drives produce torque up to 250% of peak power for limited duty cycles.<sup>1</sup>
- Use the same Allen-Bradley® motors and actuators with the Kinetix 6000 and 6200, including the MP-Series Low Inertia, Stainless Steel and Food Grade Motors, TL-Series Motors, HPK-Series, MP-Series Linear and Multi-Axis Stages and MP-Series/TL-Series Electric Cylinders.

The Kinetix 6200 multi-axis servo drive also provides all the other features that allow the Kinetix 6000 to help you handle even demanding applications quickly, easily and cost-effectively:

- Simplified Wiring — Fewer connections take less time to wire and make it easier to wire correctly the first time
- Space Saving Design — Enclosures can be up to 50% smaller than those required for competitors' units
- Excellent Performance — Advanced control capabilities help provide greater precision and throughput, allowing you to meet demands for increased productivity
- Simple Modular Design — Can lower wiring costs by reducing the total number of connections
- One Simple Power Rail — Replaces power wiring, logic control wiring and other complex cables

<sup>1</sup> 200% on 230V AC, 250% on 460V AC

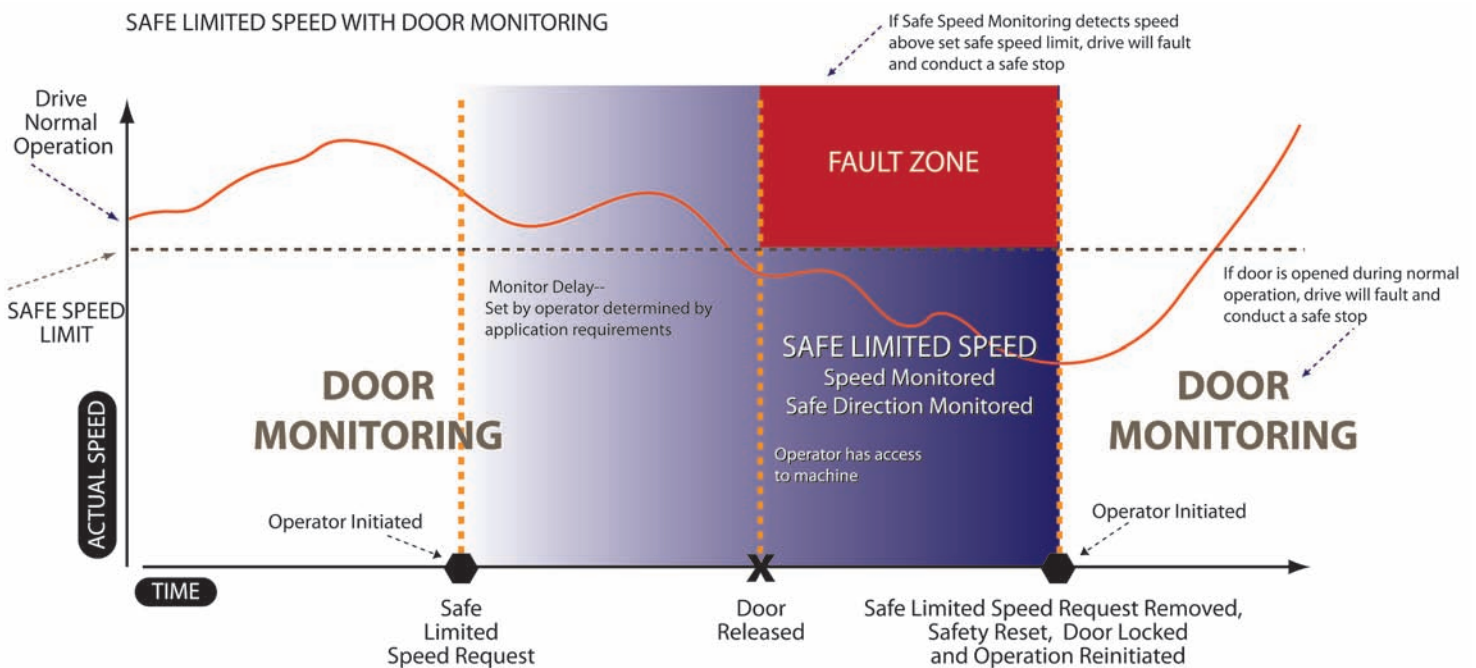


*Mix drive modules within a single power rail to get the advanced safety features just on the axes where they are needed.*

*Modularity provides a power platform with nearly unlimited potential for control scalability. The flexibility of this modular design will allow for an easy transition from the Kinetix 6200 SERCOS interface drive to the upcoming Kinetix 6500 EtherNet/IP networking drive.*

# Specifications and additional information for Kinetix 6200 Safe Speed Modular Servo Drive

| Safety Function   | Operation   |
|---|---|
| Safe Stop   | Initiate Safe Stop (NFPA 79 Category 0, 1, or 2)  |
| Zero speed monitoring   | Only allow access (unlock door) when axis is stopped  |
| Safe limited speed  | When requested, monitor speed. If in excess of safe speed, initiate Safe Stop   |
| Safe maximum speed  | Always monitor for safe maximum speed, even under normal operation. If in excess, initiate Safe Stop                        |
| Safe direction monitoring   | When requested, monitor direction. If wrong rotation direction, initiate Safe Stop.   |
| Door monitoring and control   | Unlock door to grant access when at safe speed or zero speed  |
| Enabling switch control   | Use in conjunction with Safe Limited Speed. Allow access when at Safe Speed. If no enable switch signal, initiate Safe Stop |
| Safe Max Accel monitoring   | When configured, if accelerating too fast, initiate Safe Stop   |
| The Kinetix 6200 with the 2094-SE02F-M00-S1 control option, provides a TUV certified safety solution that meets IEC 61508 SIL 3, and ISO 13849 PL E |   |



## The diagram above shows an example of the Safe Speed Monitoring Process:

When an operator initiates a safe speed request, the drive decelerates the motor while monitoring speed. As the programmed safe speed is reached, the safety zone door unlocks and provides operator access to the restricted area. When the operator completes his task, he leaves the area, closes the door, and initiates a request to resume normal operation. If for any reason, the safe speed limit is exceeded while the operator is in the guarded zone, a Safe Stop is initiated. Depending on your risk assessment, an enabling switch can also be set up as a required part of the routine.

This diagram is intended only as an example. Your individual risk assessment will dictate the appropriate use of the Kinetix 6200 for your application.

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