

# Kinetix® 6000M Integrated Drive-Motor System

High Performance Food-Grade Servo Motor  
with Integrated Kinetix Servo Drive

*Preliminary Information – Subject to Change*

## Advantages of Kinetix Integrated Drive-Motor Technology

### Enclosure Size Reduction:

Moving the servo drive out on to the machine results in substantial panel space savings and wiring simplification. Additionally, because heat generated by servo drives is no longer confined to the control system enclosure, expensive cooling devices can usually be eliminated.

### Cable Reduction and Simplification:

The number of cables running from the servo motors to the control system enclosure is reduced appreciably because a single hybrid power cable and single sercos motion network cable are used to connect up to 16 Kinetix 6000M Integrated Drive-Motor units together.

### Reduced Installation Time:

By eliminating the need to terminate servo motor power and feedback cables at in-panel servo drives, the Kinetix 6000M system reduces the time required to install servo system cables.

### Reduced Design Time:

In many cases, it is not necessary to modify the control system enclosure when adding or removing optional servo axes for the machine system. To add a servo axis, you simply connect another integrated drive-motor unit into the hybrid/sercos cable network.



The Kinetix 6000M Power Interface Module (left) mounts directly to a Kinetix 6000 power rail. Up to 16 integrated drive-motor units (right) can be connected to a single power interface module.

The Allen-Bradley® Kinetix 6000M Integrated Drive-Motor system combines the reliable high-performance MP-Series™ food-grade servo motor and Kinetix 6000 servo drive technologies into a single, compact package that provides significant space savings and machine control system simplification. The Kinetix 6000M Integrated Drive-Motor is available in three different torque ratings with optional holding brakes.

## Kinetix 6000M System Overview

The Kinetix 6000M system is designed to integrate seamlessly with the popular Kinetix 6000 and Kinetix 6200 multi-axis servo drive systems. The 460 Volt Kinetix 6000M Power Interface Module mounts directly to a Kinetix 6000 power rail and connects to the sercos fiber optic motion network in the control enclosure.

The Kinetix 6000M Integrated Drive-Motor units feature mounting flanges and shaft dimensions that are identical to MP-Series food-grade motors of the same frame size, making it easy to upgrade to Integrated Drive-Motor technology.

A single hybrid power cable and single sercos motion network cable connects the Kinetix 6000M power interface module to as many as 16 Kinetix 6000M Integrated Drive-Motor units.

SIL2/PLd safe torque-off functionality is included with the Kinetix 6000M system using standard Kinetix 6000 safe-off header connectors and cables. When the Kinetix 6000M power interface module receives a safe torque-off command, all of the integrated drive-motor units connected to it are put in the safe torque-off state.

Up to five digital inputs can be connected directly to each Kinetix 6000M integrated drive-motor unit using standard Allen-Bradley sensors and 889 DC Micro cord sets. The inputs can be used for general purpose sensors or use pre-assigned home/over-travel/registration functions.

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## Kinetix 6000M Integrated Drive-Motor System Performance

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Integrated Drive-Motor Unit Catalog Number	Environmental Rating	Max. Speed (RPM)	Continuous Stall Torque Nm (lbs-in)	Peak Stall Torque Nm (lbs-in)	Rotor Inertia <sup>1</sup> kg-m <sup>2</sup> (lb-in-s <sup>2</sup> )
MDF-SB1003P	IP67	5000	3	11	0.00012 (0.001)
MDF-SB1153H		3750	4	20	0.00038 (0.0033)
MDF-SB1304F		3250	7	23	0.00052 (0.0046)

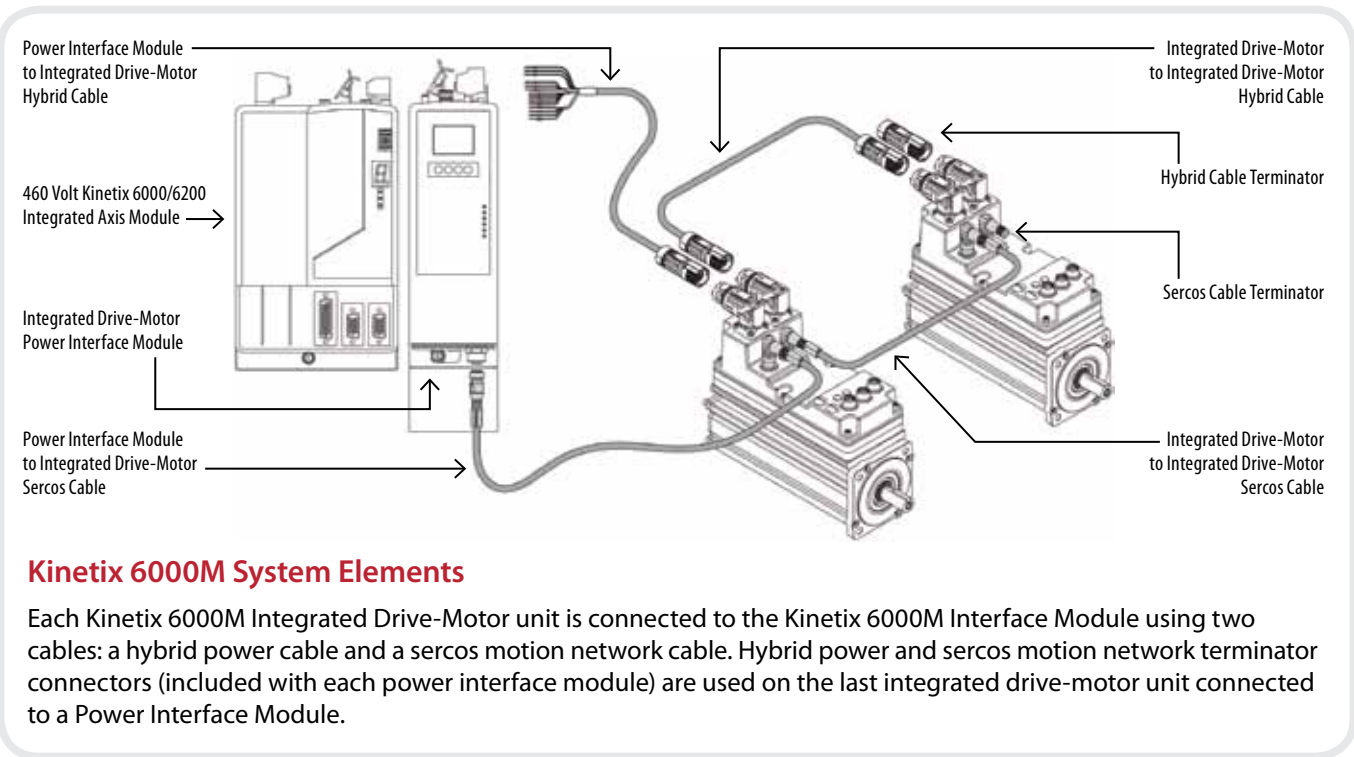
<sup>1</sup> Rotor inertia values shown are for non-brake motors. Inertias are higher for motors with holding brakes.

## Kinetix 6000M Integrated Drive-Motor Unit Food Grade Features

The Kinetix 6000M Integrated Drive-Motor units incorporate features specifically designed to meet the unique needs of many food and beverage packaging and handling applications. These integrated drive-motor units incorporate enhanced sealing techniques, corrosion resistant materials, and coating appropriate for food environments.

Food-grade features include:

- Durable USDA approved epoxy coating on integrated drive-motor and shaft seal with food-grade grease allows mounting above the “food Line”
- IP66 and IP67 environmental ratings suitable for low pressure wash and incidental spillage protection
- Stainless steel shaft and fasteners
- Optional positive air pressure kit



## Kinetix 6000M System Elements

Each Kinetix 6000M Integrated Drive-Motor unit is connected to the Kinetix 6000M Interface Module using two cables: a hybrid power cable and a sercos motion network cable. Hybrid power and sercos motion network terminator connectors (included with each power interface module) are used on the last integrated drive-motor unit connected to a Power Interface Module.

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