

Kinetix 6000M Hybrid Terminator

Catalog Number 2090-CTHP8

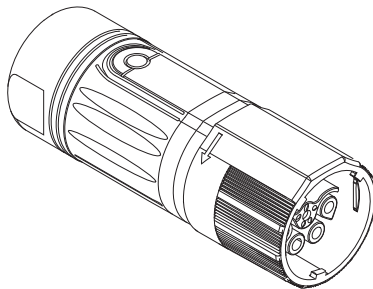
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About the Hybrid Terminator

A Kinetix® 6000M integrated drive-motor system shares DC bus and control power, system status, and safety signals through a daisy-chain of hybrid cables between each integrated drive-motor (IDM) in the drive system.

The 2090-CTHP8 hybrid terminator is a male M23 connector with a backshell cover that seals the connector. The hybrid terminator is installed on the final IDM unit, as shown in the Kinetix 6000M Cable Routing Diagram diagram on [page 4](#). It terminates the communication bus and returns the IDM system status signal to the IDM power interface module (IPIM).

2090-CTHP8 Hybrid Terminator



Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls, publication [SGI-1.1](#), is available from your local Rockwell Automation sales office or online at <http://www.rockwellautomation.com/literature> describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

	<p>WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.</p>
	<p>ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard and recognize the consequences.</p>
	<p>SHOCK HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that dangerous voltage may be present.</p>
	<p>BURN HAZARD: Labels may be on or inside the equipment, for example, drive or motor, to alert people that surfaces may reach dangerous temperatures.</p>
<p>IMPORTANT</p>	<p>Identifies information that is critical for successful application and understanding of the product.</p>

Before You Begin

Remove all packing material from within and around the item. After unpacking, verify the catalog number against the purchase order, and visually inspect the cable and each connector for damage. If necessary, immediately notify the carrier of any shipping damage.

Observe the following precautions when installing the connector in a servo system. Failure to observe these safety notices could result in personal injury or damage to the motor and equipment.



SHOCK HAZARD: To avoid the hazard of electrical shock, be sure to ground any cable providing power at a minimum of one point. To prevent the build-up of electrical energy, factory-supplied power cables use one of these grounding techniques:

- Bond the overall shield to the connector housing.
- Make sure there is a direct connection-to-ground for each hybrid cable shield.
- Connect an exposed cable braid or a ground wire, if present, to the power cable clamp, housing, or another suitable chassis ground.

Failure to observe these safety procedures could result in personal injury or equipment damage.



ATTENTION: Arcing or unexpected motion can occur if cables are connected or disconnected while power is applied to the IDM system. Before working on an IDM system, disconnect power and wait the full time interval as indicated in the warning on the IPIM module or verify the DC bus voltage at the IPIM module measures less than 50V DC.

Failure to observe this precaution could result in severe bodily injury or loss of life, and damage to the product will occur.



ATTENTION: The hybrid connectors are designed to be rotated into a fixed position during motor installation, and remain in that position without further adjustment. Strictly limit the applied forces and the number of times the hybrid connectors are rotated to make sure the connectors meet the specified IP ratings.

Apply force only to the connector and cable plug. Do not apply force to the cable extending from the cable plug. No tools, for example pliers or vise-grips, should be used to assist with the rotation of the connector.

Failure to observe safety precautions could result in damage to the IDM unit and its components.



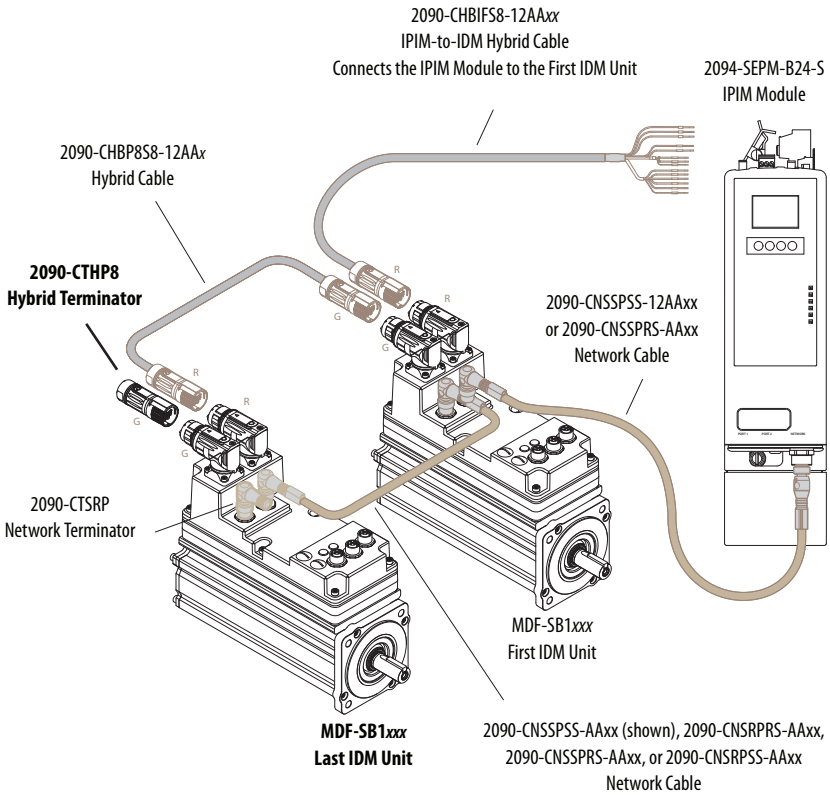
ATTENTION: The overall shield on the hybrid cable must be grounded to obtain effective shielding for optimum performance.

Be sure there is an effective connection between any hybrid cable shields and the Kinetix 6000M system ground.

Installing the Hybrid Terminator

Follow these steps when installing the 2090-CTHP8 hybrid terminator.

Kinetix 6000M Cable Routing Diagram



IMPORTANT

The colored rings on the hybrid output connector and the terminator must match: green-to-green.

1. Verify power to the IPIM module is removed before making any connections or disconnecting any components of the system.



ATTENTION: Arcing or unexpected motion can occur if cables are connected or disconnected while power is applied to the IDM system. Before working on an IDM system, disconnect power and wait the full time interval as indicated in the warning on the IPIM module or verify the DC bus voltage at the IPIM module measures less than 50V DC.

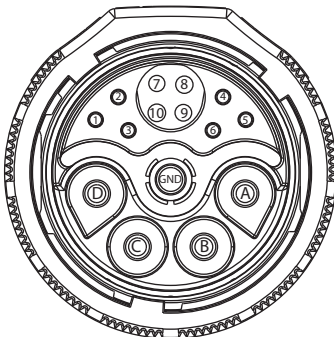
Failure to observe this precaution could result in severe bodily injury or loss of life, and damage to the product will occur.

2. Attach the hybrid terminator to the power-out connector on the last IDM unit in the system.
3. Tighten the M23 connector approximately 45° to fully seat the contacts and secure the connection.

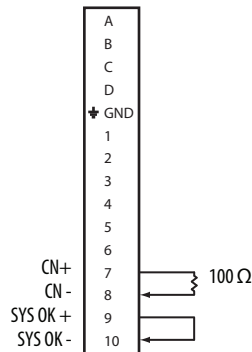
IMPORTANT

The internal O-ring is self-conforming and requires a short period between each connect/disconnect cycle to expand to full size. Allow at least one minute for the O-ring to expand before reconnecting the hybrid terminator.

2090-CTHP8 Terminator Schematic and Pinout



Male Plug



Specifications

Additional specifications for each cable are available in the Kinetix Motion Control Accessories Technical Data, publication [GMC-TD004](#).

Attribute	2090-CTHP8
Wire size	22 AWG

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Integrated Drive-Motor User Manual, publications 2094-UM003	Information on installing, configuring, starting up, and troubleshooting a servo drive system with a servo motor.
Kinetix 6000M Integrated Drive-Motor System Power Interface Module (IPIM) Installation Instructions 2094-IN016	Information on the installation of your Kinetix 6000M IDM Power Interface Module.
Kinetix 6000M Integrated Drive-Motor Installation Instructions MDF-IN001	Information on the installation of your Kinetix 6000M integrated drive-motor.
Allen-Bradley Industrial Automation Glossary, publication AG-7.1	A glossary of industrial automation terms and abbreviations.
System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001	Information, examples, and techniques designed to minimize system failures caused by electrical noise.
Kinetix Rotary Motion Specifications Technical Data, publication GMC-TD001	Catalog numbers and product specifications, including performance, environmental, certifications, load force, and dimension drawings for Allen-Bradley rotary motors.
Kinetix Motion Control Accessories Technical Data, publication GMC-TD004	Catalog numbers, specifications, and dimensions for Allen-Bradley servo drive accessories.
Kinetix Motion Control Selection Guide, publication GMC-SG001	General product specifications for Kinetix motion control products.

You can view or download publications at <http://www.rockwellautomation.com/literature>. To order paper copies of technical documentation, contact your Allen-Bradley distributor or Rockwell Automation sales representative.

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support>, you can find technical manuals, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools. You can also visit our Knowledgebase at <http://www.rockwellautomation.com/knowledgebase> for FAQs, technical information, support chat and forums, software updates, and to sign up for product notification updates.

For an additional level of technical phone support for installation, configuration and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/support/>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

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