

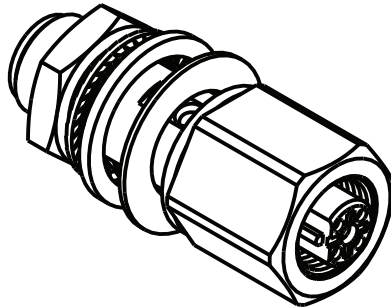
# Kinetix 6000M Bulkhead Adapter Kit for Network Cables

Catalog Number 2090-CBUSPSS

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## About the Adapter Kit

The Kinetix® 6000M bulkhead adapter kit for network cables is a cost-effective and reliable adapter that passes network signals for an integrated drive-motor (IDM) system through a cabinet wall or other physical barriers.



## 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.

	<b>WARNING:</b> 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.
	<b>ATTENTION:</b> 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.
	<b>SHOCK HAZARD:</b> Labels may be on or inside the equipment, for example, drive or motor, to alert people that dangerous voltage may be present.
	<b>BURN HAZARD:</b> Labels may be on or inside the equipment, for example, drive or motor, to alert people that surfaces may reach dangerous temperatures.
<b>IMPORTANT</b>	Identifies information that is critical for successful application and understanding of the product.

## 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 cables 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 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 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.

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**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.

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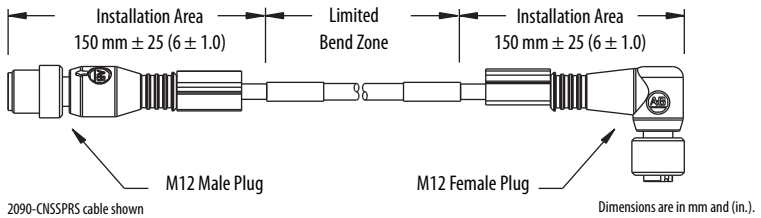
**ATTENTION:** The maximum length of cabling between the IPIM and the last IDM unit in the system must not exceed 100 m (328 ft). Also, a maximum of two extension cables may be connected between an IDM unit and the preceding IPIM module or IDM unit.

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## Install the Adapter Kit

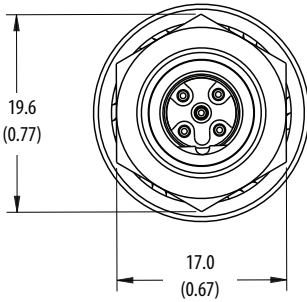
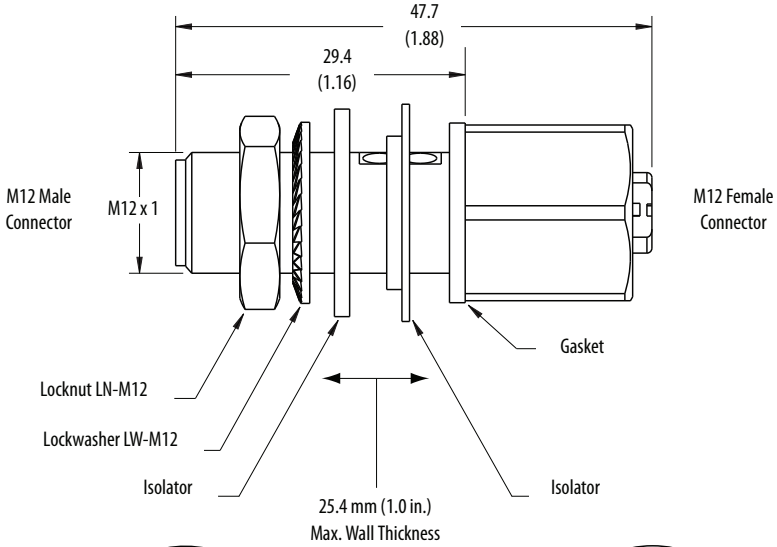
Follow these steps when installing an adapter kit.

1. Verify that space is provided for the cables that must connect through the adapter.
  - The installation area must provide clearance for cable features that are greater than or equal to the cable diameter.  
Examples of cable features include: connectors, transitions from exposed wire to insulation (for example, flying leads), exposed cable ground shields.
  - Provide sufficient area around the adapter so the M12 connectors, that require multiple rotations, can be hand-tightened.
  - Network cables have a static or one-time bend radius of twelve times the cable diameter.

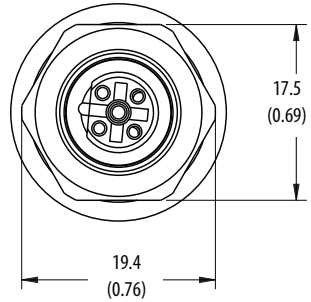


2. Create a panel cutout  $15.9 \text{ mm (} 0.62 \text{ in.)}$  in diameter.
3. Install the bulkhead adapter kit in the panel cutout, with one isolator on each side of the panel as shown in the diagram on [page 5](#).
4. Observe these restrictions when installing the connecting cables:
  - Prevent the cable from flexing within  $150 \pm 25 \text{ mm (} 6 \pm 1 \text{ in.)}$  installation areas.
  - Bend cables to a specific shape only in the bend zone area.
  - Provide cable supports at  $3 \text{ m (} 10 \text{ ft)}$  intervals along the cable run to reduce tension and flexing at the connectors and other features on the cable.

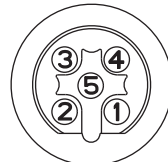
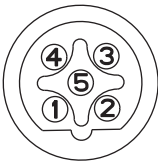
### 2090-CBUSPSS Mounting Dimensions and Pinouts



M12 Male Connector



M12 Female Connector



Dimensions are in mm (in.).

## Specifications

### 2090-CBUSPSS Bulkhead Adapter Kit for Network Cables

Attribute	Value
Contact carrier	Nylon or Thermoplastic Polyurethane
Contact material/plating	Brass/Gold
Housing material/plating	Brass/Nickel
Rated current	4.0 A
Temperature range	-40...105° C (40...221° F)
Protection class	NEMA 1, 3, 4, 6P IEC IP67
Insulation resistance	$\geq 10^9 \Omega$
Gasket material	Nitrile
Isolator material	Nylon

## Additional Resources

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

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

# 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 <a href="#">Worldwide Locator</a> at <a href="http://www.rockwellautomation.com/support/americas/phone_en.html">http://www.rockwellautomation.com/support/americas/phone_en.html</a> , 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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Publication 2090-IN039B-EN-P - March 2012

PN-143966

Supersedes Publication 2090-IN039A-EN-P - February 2012

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