

Feedback Cables

Catalog Number 2090-CFBM4DF-CEAAxx, 2090-CFBM6DF-CBAAxx, 2090-XXNFHF-Sxx, 2090-XXNFMF-Sxx, 2090-XXNFMP-Sxx, 2090-XXNFN-Sxx, 2090-XXNFY-Sxx

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About This Publication

This publication provides cable schematics with wire color and connector pinouts for feedback cables used with Kinetix Motion Control products, and general guidelines for installing these cables.

Before You Begin

The Kinetix Motion Control Selection Guide, publication [GMC-SG001](#), contains information on cable compatibility with specific drives and motors. It also provides information on the bend offset and bend radius for each cable. Refer to your drive manual for instructions to correctly interface the cables in this document to your drive and motor combination.

These publications are available from your local Rockwell Automation sales office or online at <http://www.literature.rockwellautomation.com>).

Cable Installation Guidelines

Cables usually are stored and shipped in a coil, and they will retain this shape unless you allow the cable to straighten itself. To straighten a cable, hang a short cable from its mid-point or lay a long cable on the floor in a straight line. Any coiling that persists in the cable should relax within the next twenty-four hours. Doing this results in a cable that is easier to install.



ATTENTION: Servo drive power must be turned off before connecting or disconnecting the cables to the motor, and if a cable is left disconnected at the motor end. Arcing or unexpected motion could occur if the brake, feedback, or power cables are connected or disconnected while power is applied to the servo drive.

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



ATTENTION: The examples in this publication show all the available connections, some of which may not be appropriate for your specific installation. Refer to your drive installation or user manual for wiring examples appropriate to your drive and motor application.

Do not connect unused wires. These unused wires may be trimmed and finished as necessary to prevent accidental contact with other wires or wire shields, or with a ground connection.

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

Before bending a cable, verify that the correct offset from the connector is provided. This offset should be equal to or greater than one times (1x) the cable diameter.

All cables have a specified bend radius, and cables should not be bent with a radius that is tighter than the specified bend radius.

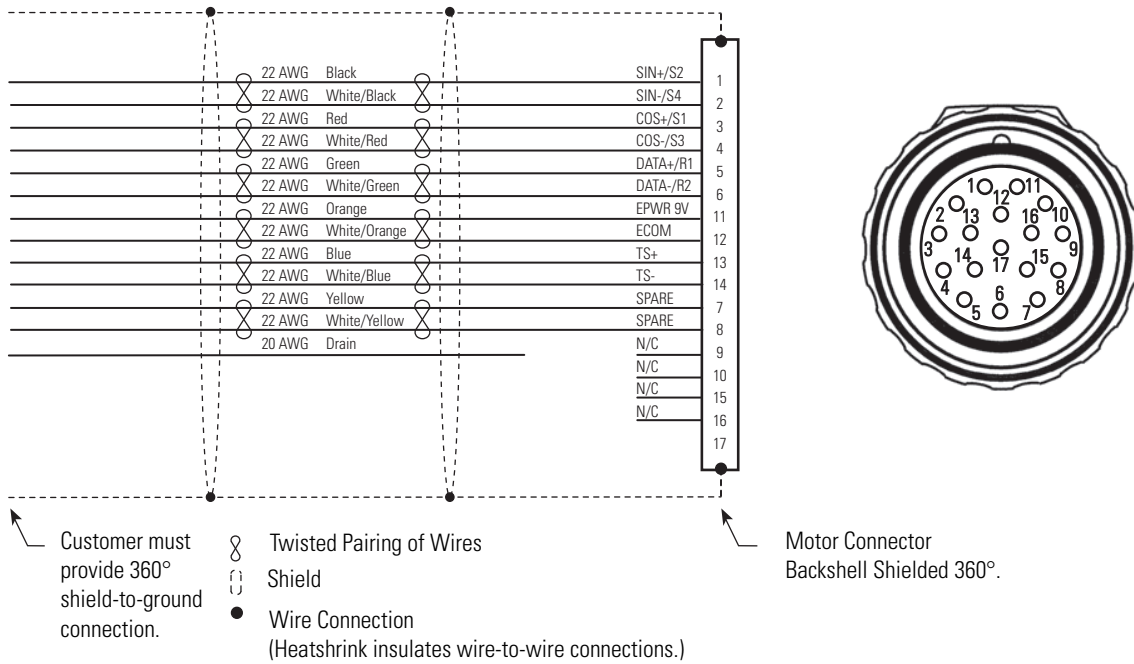
- Cables have a static or one-time bend radius of ten times (10x) the cable diameter.
- Flex cables have an operational bend radius of twelve times (12x) the cable diameter.

You may identify the connections for a cable by attaching a label around the outer insulation of each wire adjacent to the drive connection.

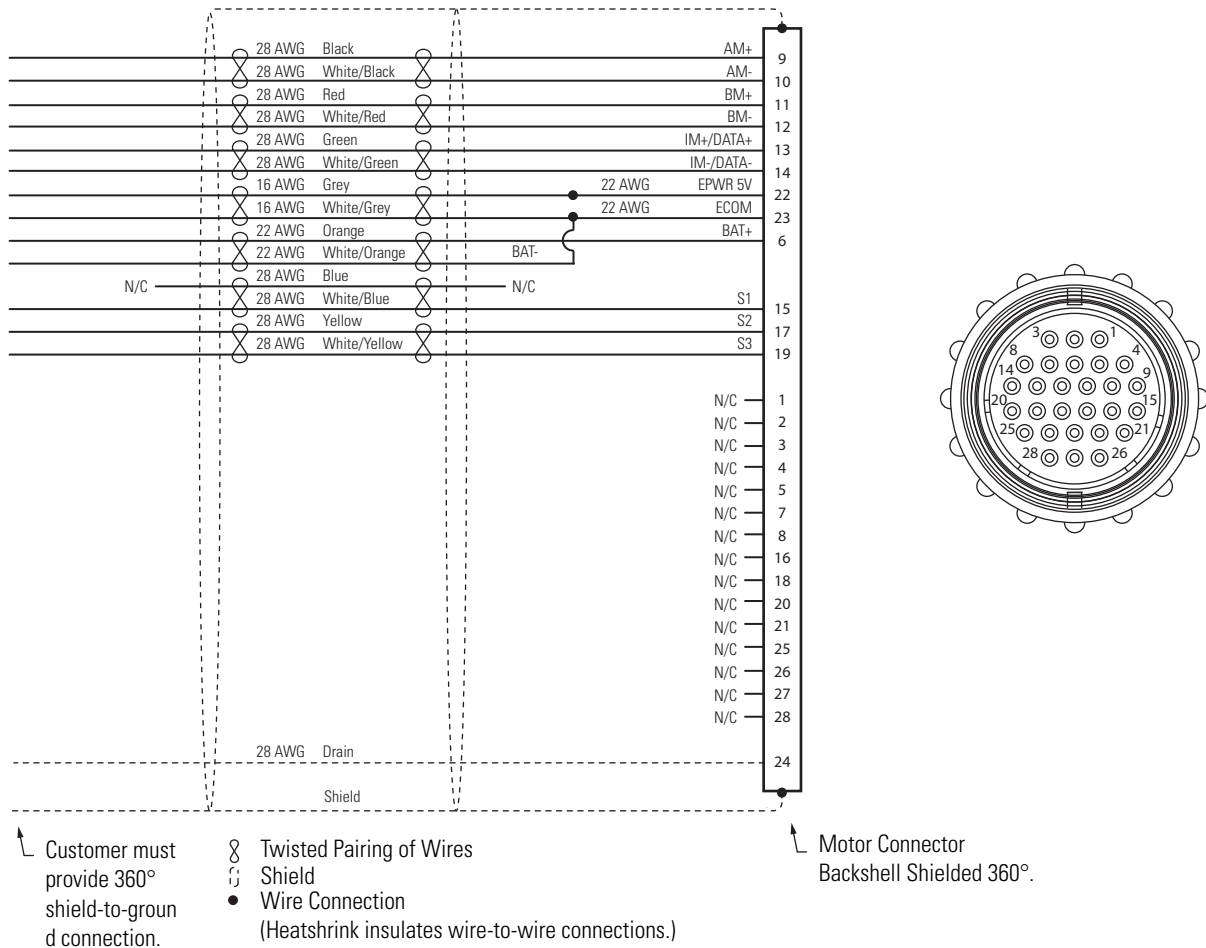
Schematics and Connector 2090-CFBM4DF-CEAxx

Pinouts for Feedback Cables

Cables

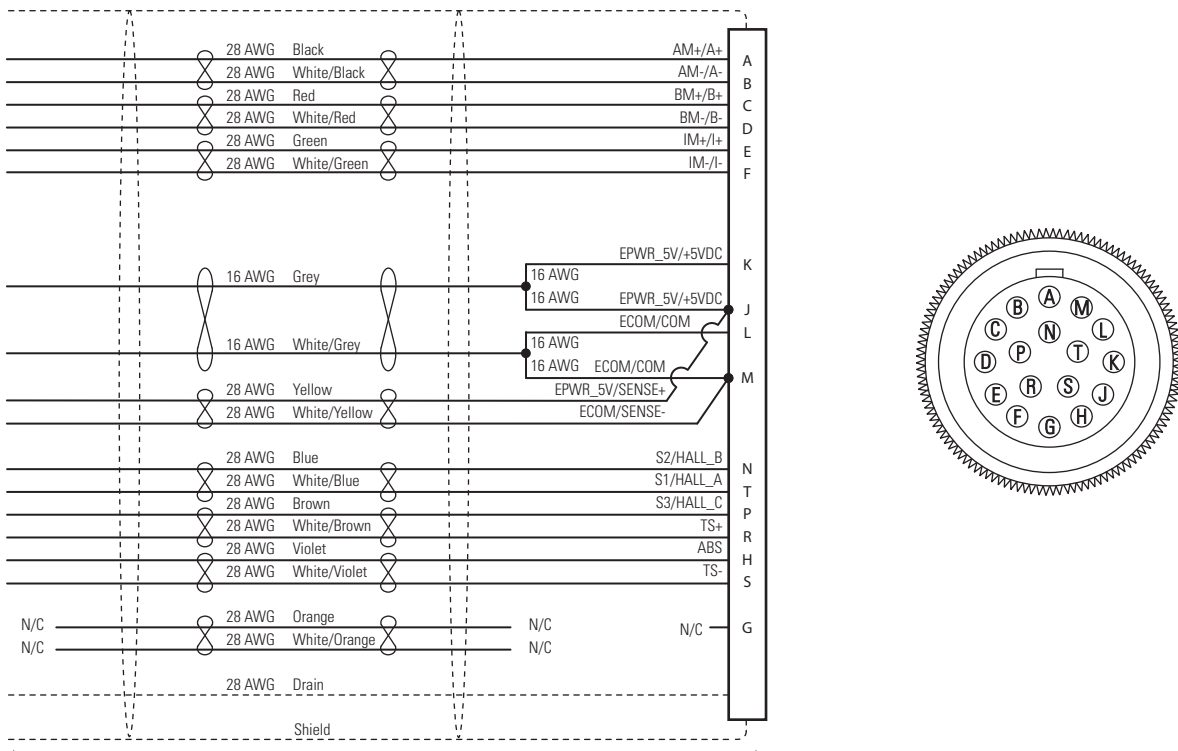


2090-CFBM6DF-CBAAxX



- 1 Feedback connector on the bulletin 2098 drives is labeled CN2, and MF on bulletin 2093 or 2094 drives.
- 2 22 AWG wires may be added to the EPWR_5V and ECOM (16 AWG) wire pair at the flying lead, if necessary to fit a connector. Make the connection less than 38.1 mm (1.5 in.) from the termination point of the cable, and insulate it with shrink tubing.
- 3 Terminate the overall cable braid to a connector housing or to an appropriate termination on the device.

2090-XXNFHF-Sxx



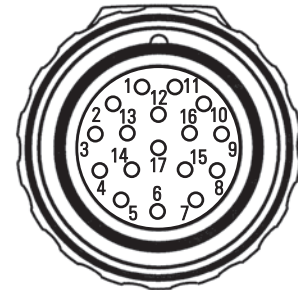
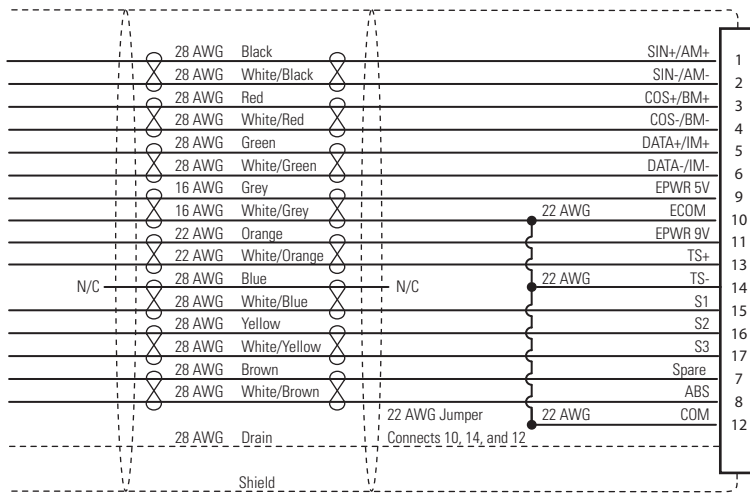
Customer must provide 360° shield-to-ground connection.

- ⊗ Twisted Pairing of Wires
- ⋮ Shield
- Wire Connection
(Heatshrink insulates wire-to-wire connections.)

Motor Connector Backshell Shielded 360°.

- 1 Feedback connector on the bulletin 2098 drives is labeled CN2, and MF on bulletin 2093 or 2094 drives.
- 2 22 AWG wires may be added to the EPWR_5V and ECOM (16 AWG) wire pair at the flying lead, if necessary to fit a connector. Make the connection less than 38.1 mm (1.5 in.) from the termination point of the cable, and insulate it with shrink tubing.
- 3 Terminate the overall cable braid to a connector housing or to an appropriate termination on the device.

2090-XXNFMF-Sxx



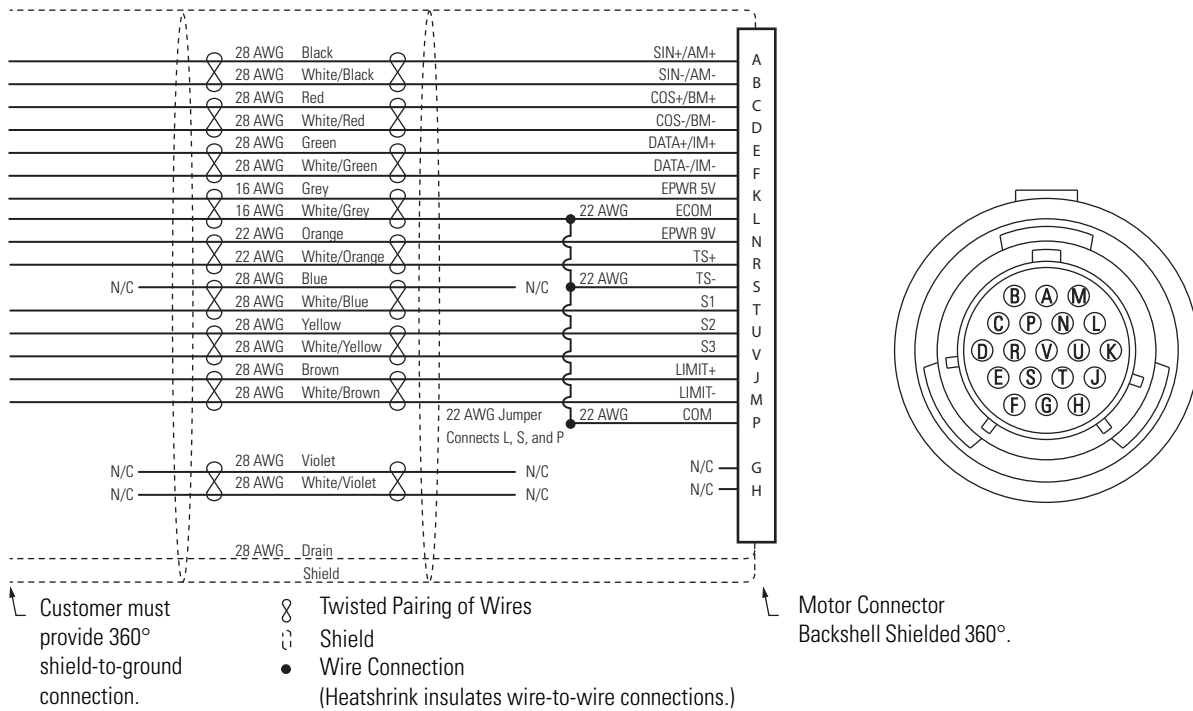
Customer must provide 360° shield-to-ground connection.

Twisted Pairing of Wires
 Shield
 Wire Connection
 (Heatshrink insulates wire-to-wire connections.)

Motor Connector Backshell Shielded 360°.

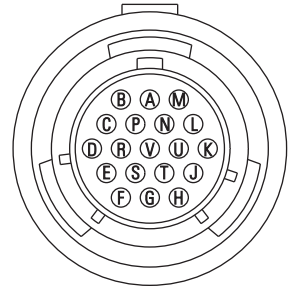
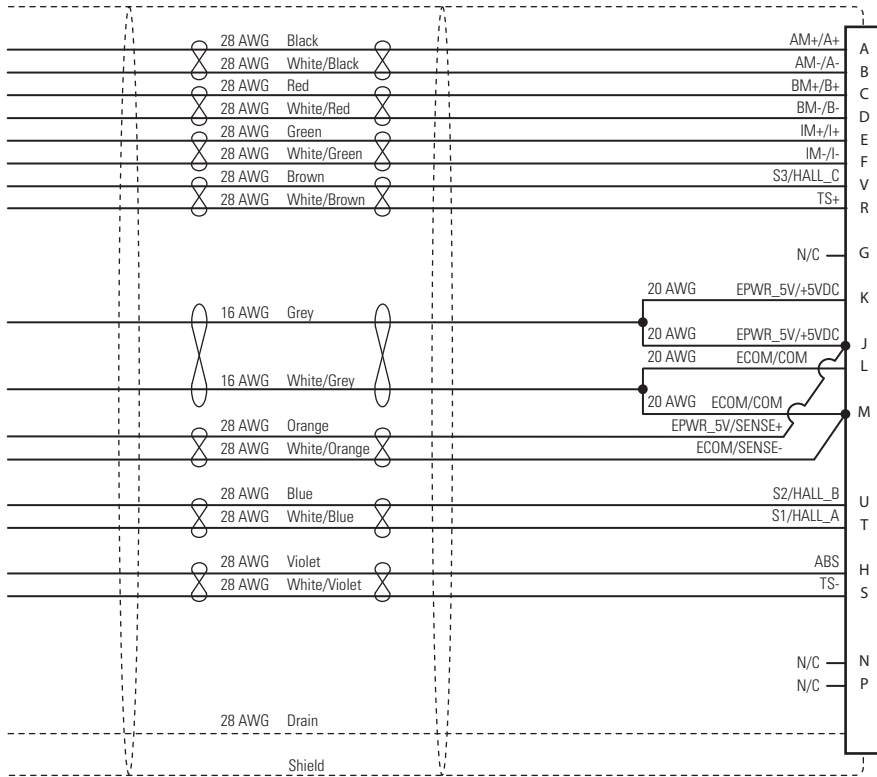
- 1 Feedback connector on the bulletin 2098 drives is labeled CN2, and MF on bulletin 2093 or 2094 drives.
- 2 22 AWG wires may be added to the EPWR_5 and ECOM (16 AWG) wire pair at the flying lead, if necessary to fit a connector. Make the connection less than 38.1 mm (1.5 in.) from the termination point of the cable, and insulate it with shrink tubing.
- 3 Terminate the overall cable braid to a connector housing or to an appropriate termination on the device.
- 4 [2090-XXNFMF-Sxx](#) cables are not compatible with 1398-DDM-xxx drives.

2090-XXNFMP-Sxx



- 1 Feedback connector on the bulletin 2098 drives is labeled CN2, and MF on bulletin 2093 or 2094 drives.
- 2 22 AWG wires may be added to the EPWR_5V and ECOM (16 AWG) wire pair at the flying lead, if necessary to fit a connector. Make the connection less than 38.1 mm (1.5 in.) from the termination point of the cable, and insulate it with shrink tubing.
- 3 Terminate the overall cable braid to a connector housing or to an appropriate termination on the device.
- 4 Signals LIMIT+ and LIMIT- are reserved, and only for use by linear motor products.

2090-XXNFN-Sxx



Customer must provide 360° shield-to-ground connection.

Twisted Pairing of Wires

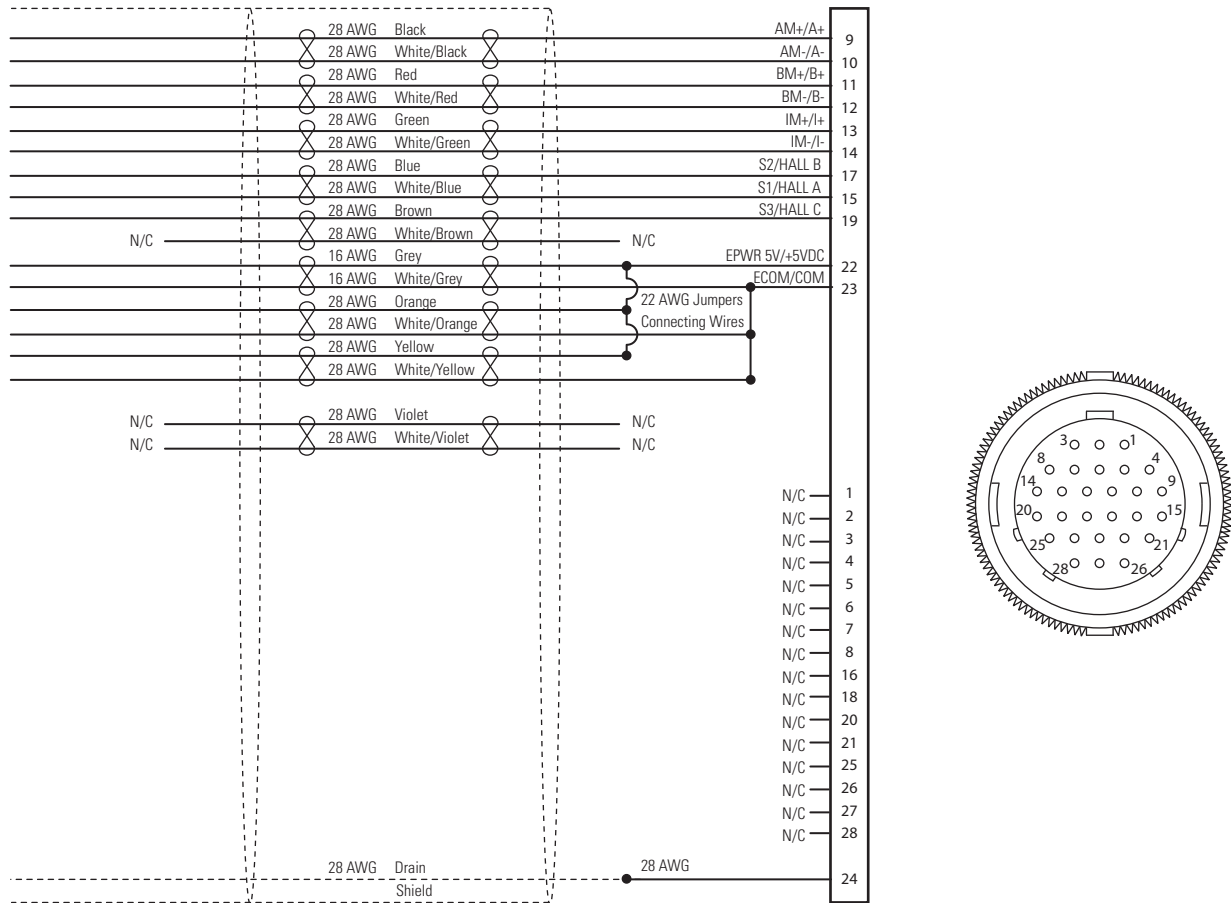
Shield

Wire Connection
(Heatshrink insulates wire-to-wire connections.)

Motor Connector
Backshell Shielded 360°.

- 1 Feedback connector on the bulletin 2098 drives is labeled CN2, and MF on bulletin 2093 or 2094 drives.
- 2 22 AWG wires may be added to the EPWR_5V/+5VDC and ECOM/COM (16 AWG) wire pair at the flying lead, if necessary to fit a connector. Make the connection less than 38.1 mm (1.5 in.) from the termination point of the cable, and insulate it with shrink tubing.
- 3 Terminate the overall cable braid to a connector housing or to an appropriate termination on the device.

2090-XXNFY-Sxx



Customer must provide 360° shield-to-ground connection.

Motor Connector Backshell Shielded 360°.

- 1 Feedback connector on the bulletin 2098 drives is labeled CN2, and MF on bulletin 2093 or 2094 drives.
- 2 22 AWG wires may be added to the EPWR_5V and ECOM (16 AWG) wire pair at the flying lead, if necessary to fit a connector. Make the connection less than 38.1 mm (1.5 in.) from the termination point of the cable, and insulate it with shrink tubing.
- 3 Terminate the overall cable braid to a connector housing or to an appropriate termination on the device.

Notes:

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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, a knowledge base of FAQs, 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.

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, review the information that is contained in this manual. You can contact Customer Support 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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