

# Kinetix 5300 Feedback Connector Kit

Catalog Number 2198-K53CK-D15M

## About the Connector Kit

This kit is designed for use with Allen-Bradley® 2090-Series motor feedback cables and provides wire terminations for encoder signals to the motor feedback (MFB) connector on Kinetix® 5300 drives.

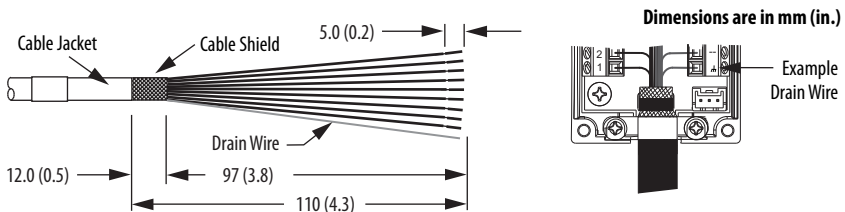
Refer to the Kinetix 5300 Servo Drives User Manual, publication [2198-UM005](#), for more information on compatible 2090-Series feedback cables and wiring this kit. This kit only covers the kit connection to the drive end, and does not include information about connecting the kit to the motor.

## Prepare the Feedback Cable

To prepare your existing Bulletin 2090 cables for use with the feedback connector kit, some preparation is necessary so that the cable shield, conductor lengths, and strip lengths are correct. Make sure your feedback cable preparation follows these guidelines:

- Trim the shield flush so that no strands can cause a short to adjacent terminals.
- Measure the conductor lengths so that they are long enough.
- Each conductor should have 5 mm (0.2 in.) insulation from each conductor to provide the proper strip length.

### Feedback Cable Example



### IMPORTANT

The drain wire from your 2090-Series motor cable must be connected to pin 16. If your cable does not include a drain wire, you must create one from the overall shield during wire preparation and connect it to pin 16.

## Install the Connector Kit

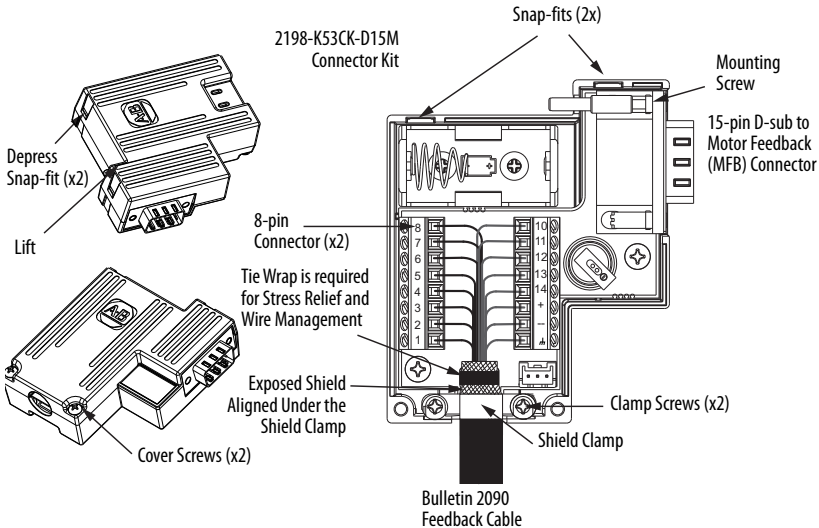
Follow these steps to install the connector kit.

1. Depress the snap-fits with a small screw driver or probe to remove the cover.
2. Route signal wires/drain wire to the proper terminals.  
See [Connector Data](#) on [page 3](#), for the 16-pin terminal pinout.
3. Tighten terminal screws to achieve 0.25 N•m (2.2 lb•in), maximum torque.
4. Apply the shield clamp to the 12 mm (0.5 in.) of exposed cable shield to achieve a high-frequency bond between the shield braid and ground pad on the PCB.

**IMPORTANT**

The purpose of the ground pad on the PCB is to provide a proper ground and improve system performance. To achieve this, clamping the exposed braid under the shield clamp is critical. If the braid is not tightly secured under the clamp, consider applying copper tape around the braid to increase the diameter.

5. Attach a tie wrap (customer-supplied) for stress relief.
6. Tighten clamp screws to achieve 0.34 N•m (3.0 lb•in), maximum torque.



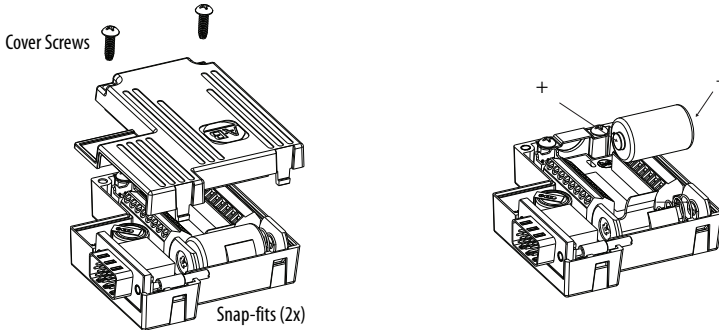
7. Replace the cover and install cover screws.  
Tighten cover screws to achieve 0.34 N•m (3.0 lb•in), maximum torque.

## Install or Replace Battery

A 3.6V, ER14252, or equivalent, 1/2AA size battery is required for absolute position backup of Kinetix TL/TLY motors. For the Kinetix TLP motors, the installation method varies, see [Additional Resources](#) for more information. Follow these steps to install the battery.

**IMPORTANT** Replace battery within 10 minutes. Failure to do so can result in loss of position.

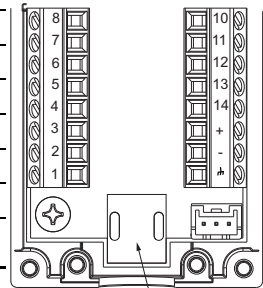
1. Open the cover by removing the screws and depress the two snap-fits.  
Do not unplug the battery connections.
2. Insert the battery as shown.
3. Replace the cover and install the cover screws.  
Tighten cover screws to achieve 0.34 N•m (3.0 lb•in), maximum torque.



## Connector Data

Terminal	Signal	Wire Color
1	SIN+ AM+	Black
2	SIN- AM-	White/Black
3	COS+ BM+	Red
4	COS- BM-	White/Red
5	DATA+ IM+	Green
6	ECOM <sup>(1)</sup>	White/Gray
7	EPWR_9V	Orange
8	S3	White/Yellow

Terminal	Signal	Wire Color
10	DATA- IM-	White/Green
11	TS+	White/Orange
12	S1	White/Blue
13	S2	Yellow
14	EPWR_5V	Gray
+	Battery +	N/A <sup>(2)</sup>
-	Battery -	N/A <sup>(2)</sup>
⌚	Drain	Shield



(1) The ECOM and TS- connections are tied together and connect to the cable shield.

(2) For the Kinetix motors, see Kinetix 5300 Single-axis EtherNet/IP Servo Drives, publication [2198-UM005](#).

Ground Pad

## Connector Kit Specifications

Attribute	Value
Cable diameter	6.5...11.9 mm (0.26...0.47 in.)
Screw terminal wire size	0.14...1.5 mm <sup>2</sup> (26...16 AWG)
Wire strip length	5 mm (0.2 in.) single conductor
Torque Mounting screw Terminal screws Clamp and cover screws	0.39 N•m (3.5 lb•in) 0.22...0.25 N•m (1.9...2.2 lb•in) 0.34 N•m (3.0 lb•in)
Kit contents	<ul style="list-style-type: none"> <li>• Connector kit</li> <li>• Parts bag containing:               <ul style="list-style-type: none"> <li>– 2 cover screws, and 1 spare, #4-20, (0.375 in.)</li> <li>– 2 clamp screws, and 1 spare, #4-40, (0.25 in.)</li> <li>– 1 shield clamp</li> </ul> </li> </ul>

## Additional Resources

Resource	Description
Kinetix 5300 Servo Drives User Manual, publication <a href="#">2198-UM005</a>	Install, configure, startup, and troubleshoot
Kinetix Servo Drives Specifications Technical Data, publication <a href="#">KNX-TD003</a>	Integrated motion networking specifications
Kinetix Motion Accessories Specifications Technical Data, publication <a href="#">KNX-TD004</a>	2090 motor and accessory items
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Guidelines to install industrial system
Product Certifications website, <a href="http://rok.auto/certifications">http://rok.auto/certifications</a>	Certification details
Build Your Own Kinetix TLP Motor Cables Installation Instructions, publication <a href="#">2090-IN048</a>	How to build your own Kinetix TLP motor cables

You can view or download publications at <http://www.rockwellautomation.com/literature>.



At the end of its life, this equipment should be collected separately from any unsorted municipal waste.

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