Installation Instructions

Original Instructions

Allen-Bradley

Kinetix 5100 Feedback Connector Kit

Catalog Number 2198-K51CK-D15M

About the Feedback 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® 5100 drives.

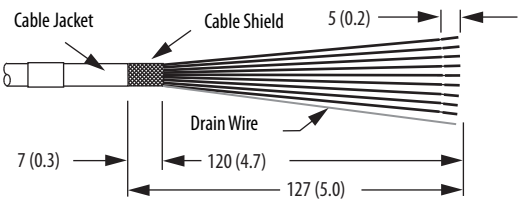
See the Kinetix 5100 Single-axis EtherNet/IP™ Servo Drive User Manual, publication 2198-UM004, for more information on compatible 2090-Series feedback cables and wiring the kit.

Prepare the Feedback Cable

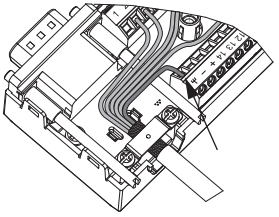
To prepare your existing Bulletin 2090 cables for use with the Kinetix 5100 feedback connector kit, it is necessary to prepare the cable shield, conductor lengths, and strip lengths. Make sure that your feedback cable preparation follows these guidelines:

- Trim the shield flush so that no strands can cause a short to adjacent terminals.
- Measure the conductor lengths so they are long enough to provide a service loop.
- Remove enough insulation from each conductor to provide the proper strip length.

Feedback Cable



Dimensions are in mm (in.)



IMPORTANT The drain wire from your 2090-Series motor cable must be connected to drain terminal ⏚. If your cable excludes a drain wire, you must create one from the overall shield during wire preparation and connect the drain terminal ⏚.

Install the Connector Kit

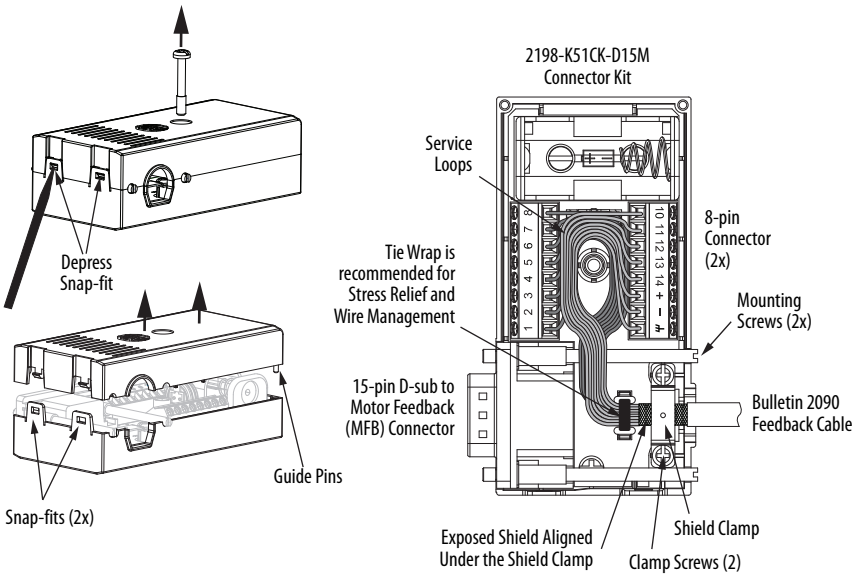
Follow these steps to install the connector kit.

1. Remove Phillips head screw from cover.
2. Depress the snap-fits with a small screw driver or probe and pull cover in line with the base to remove.
3. Route signal wires/drain wire to the proper terminals.

   See Connector Data on page 3, for the 16-pin terminal pinout.
4. Tighten terminal screws to achieve 0.2 N•m (1.77 lb•in), maximum torque.
5. To achieve a high-frequency bond between the shield braid and clamp, apply the shield clamp to exposed cable shield.

IMPORTANT	The purpose of the shield clamp is to provide a proper ground and improve system performance. To achieve higher performance, it is critical to clamp the exposed braid under the shield clamp.

6. Attach a tie wrap (customer-supplied) for stress relief.
7. Tighten clamp screws to achieve 0.35 N•m (3.097 lb•in), maximum torque.



8. Replace the cover and install cover screw.

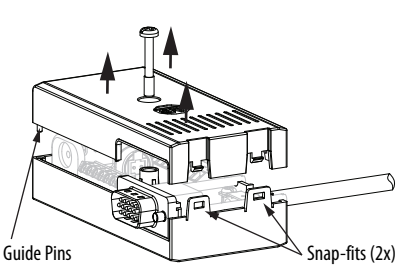
   Tighten cover screw to achieve 0.35 N•m (3.097 lb•in), maximum torque.

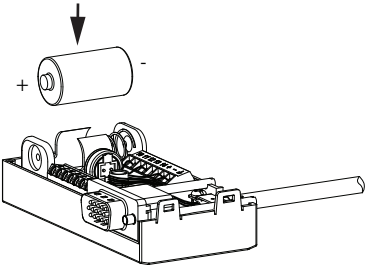
Install or Replace Battery

A 3.6V, ER14252, or equivalent, 1/2AA size battery is required for absolute position backup of TLP motor. To install the battery, do the following.

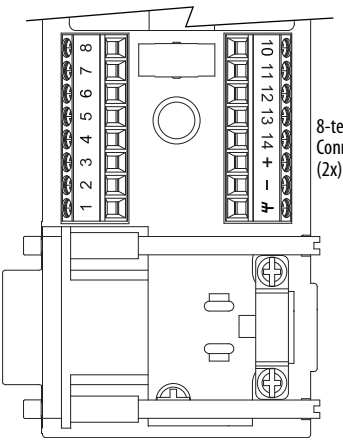
1. Open the cover by removing the screw and depress the two snap-fits.
2. Insert the battery as shown.
3. Replace the cover and install the cover screw.

   Tighten cover screw to achieve 0.35 N•m (3.097 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 (1)		White/Gray
7	EPWR_9V		Orange
8	S3		White/Yellow
10	DATA–	IM–	White/Green
11	TS+		White/Orange
12	S1		White/Blue
13	S2		Yellow
14	EPWR_5V		Gray
+	Battery +		– (2)
–	Battery -		– (2)
⏚	Drain		Shield

(1) The ECOM and TS- connections are tied together and connect to the cable shield.
(2) For custom cables. Color determined by wire availability.

Connector Kit Specifications

Attribute	Value
Cable diameter	6.5…11.9 mm (0.26…0.47 in.)
Screw terminal wire size	0.08…1.5 mm^2 (28…16 AWG)
Recommended wire strip length	5 mm (0.20 in.) single conductor
Recommended torque Mounting screws Terminal screws Clamp and cover screws	 0.2 N•m (1.77 lb•in) 0.2 N•m (1.77 lb•in) 0.35 N•m (3.097 lb•in)
Kit contents	• Connector kit • Parts bag containing: – 1 cover screw, and 1 spare, M3 – 2 clamp screws, and 1 spare, M2.3 – 1 shield clamp

Additional Resources

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

Resource	Description
Kinetix Servo Drives Specifications Technical Data, publication KNX-TD003	Provides product specifications for the Kinetix Integrated Motion over EtherNet/IP network, Integrated Motion over Sercos interface, EtherNet/IP networking, and component servo drive families.
Kinetix Motion Accessories Specifications Technical Data, publication KNX-TD004	Provides product specifications for Bulletin 2090 motor and interface cables, low-profile connector kits, drive power components, and other servo drive accessory items.
Kinetix 5100 Single-axis EtherNet/IP Servo Drives Users Manual, publication 2198-UM004	Information on how to install, configure, start, and troubleshoot your Kinetix 5100 servo drive system.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website: rok.auto/certifications	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at http://www.rockwellautomation.com/global/literature-library/overview.page.

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