

Tachometer Feedback Board Replacement

Contents

This document shows how to remove and replace a tachometer feedback board in a 1395 DC drive.

What This Kit Contains

Using the table below, verify that you have received the appropriate items in your kit:

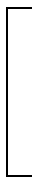
For this part:	You should receive this quantity:
tachometer feedback board	1
electrostatic discharge (ESD) strap	1

Other Items Needed

Before you begin, be sure you also have the following:

- Tools you will need to:
 - Loosen and tighten screws (slotted screwdriver)
 - Test for voltage (multimeter)
- Documentation:
 - Your drive system schematics
 - Publication 1395-5.40, *Bulletin 1395 Digital DC Drive–User Manual*
 - Publication 2361-5.01, *Bulletin 1395 Digital DC Drive in Bulletin 2361 Motor Control Center for Drive Systems–User Manual*

As applicable



- Publication 1395-5.12, *1395 Discrete Adapter Board–Installation and Operation Manual*
- Publication 1395-5.55, *Bulletin 1395 Digital Reference Adapter Board–Hardware/Software Reference Manual*

Safety Precautions

The following general precautions apply when working on drives:



ATTENTION: Only those familiar with the drive system, the products used in the system, and the associated machinery should plan or implement the installation, startup, and future maintenance of the system. Failure to comply can result in personal injury and/or equipment damage.

ATTENTION: Verify that all sources of AC and DC power are deenergized and locked out or tagged out in accordance with the requirements of ANSI/NFPA 70E, Part II.

ATTENTION: The system may contain stored energy devices. To avoid the hazard of electrical shock, verify that all voltage on capacitors has been discharged before attempting to service, repair, or remove a drive system or its components. You should only attempt the procedures in this manual if you are qualified to do so and are familiar with solid-state control equipment and the safety procedures in publication NFPA 70E.

ATTENTION: When servicing any unit, do not drop any nuts, bolts, washers, etc. inside the unit, as they may cause a short circuit on power up.

ATTENTION: This drive system contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static control precautions are required when installing, testing, or repairing this assembly. Component damage can result if ESD control procedures are not followed. If you are not familiar with static control procedures, refer to Rockwell Automation publication 8000-4.5.2, *Guarding Against Electrostatic Damage* or any other applicable ESD protection handbook.

Special Instructions

Important: You will need to reuse parts that are removed from the drive. Place parts, in the order removed, on a clean surface.

Important: Some washers, such as clamp and Belleville washers, have only one correct orientation.

Preliminary Steps

Before replacing the tachometer feedback board, shut off the drive power, wait five minutes for the voltage to discharge, open the drive door; and remove any Lexan™ shielding as necessary.

Removing the Tachometer Feedback Board

1. Using a voltmeter, test the voltage across the three phases, then across the board terminals.

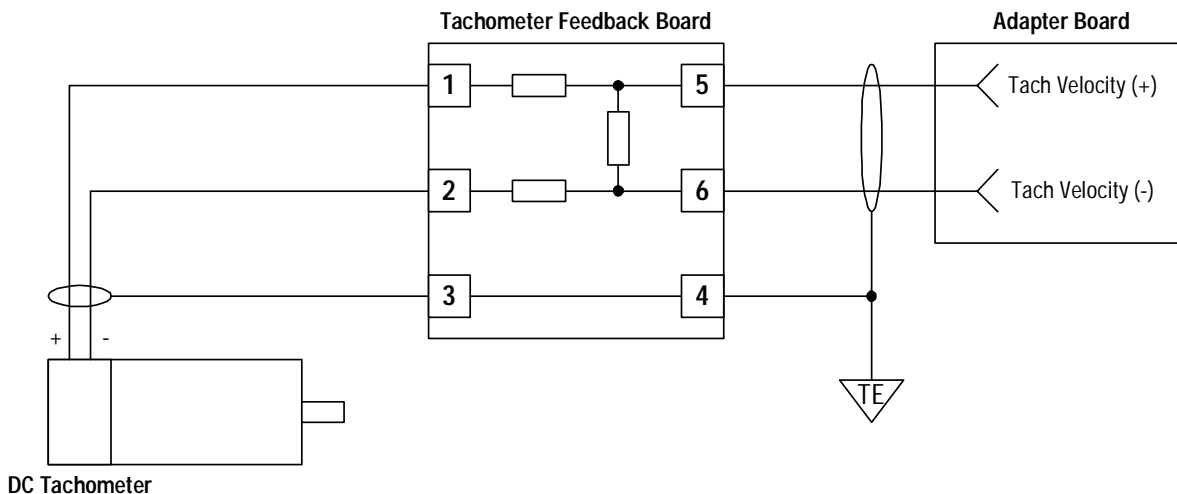


ATTENTION: If there is any voltage present, remove the source of the voltage and check for voltages again before proceeding to the next step.

2. Observe the wiring and tag wires as necessary.
3. Disconnect the tachometer leads (terminals 1, 2, and 3).
4. Disconnect the adapter board leads (terminals 5 and 6).
5. Disconnect the wire to TE (terminal 4).
6. Snap the board out.

Installing The Tachometer Feedback Board

Information for grounding, wiring, and scaling a tachometer is given in the installation section of publication 1395-5.40, *Bulletin 1395 Digital DC Drive—User Manual*.



Kit Catalog Number	Input Voltage (From Tachometer)	Old 2361 Option Code	New 2361 Option Code
2361-SPP01A	0-33V	14TFB	14T033
2361-SPP02A	34-46V	14TFB	14T046
2361-SPP03A	47-70V	14TFB	14T070
2361-SPP04A	71-125V	14TFB	14T125
2361-SPP05A	126-178V	14TFB	14T178
2361-SPP06A	179-250V	14TFB	14T250

Tachometer Feedback Board	Discrete Adapter Board	Digital Reference Adapter Board
Terminal 5 (+)	TB3-24 (+)	TB3-33 (+)
Terminal 6 (-)	TB3-23 (-)	TB3-34 (-)

1. Put on the ESD strap which is included in the kit to protect circuit boards from electrostatic discharges.
2. Verify that the board is properly sized for the tachometer rating.



ATTENTION: The digital reference adapter board can be severely damaged by input voltages greater than ± 10 V.

3. Secure the board to the drive.
4. Connect the tachometer leads to terminals 1 (+) and 2 (-) on the board, and connect the tachometer common lead to terminal 3 on the board.
5. For connection to a discrete adapter board, wire terminal 5 (+) to TB3-24 (+), and wire terminal 6 (-) to TB3-23 (-).

For connection to a digital reference adapter board, wire terminal 5 (+) to TB3-33 (+), and wire terminal 6 (-) to TB3-34 (-).

6. Wire terminal 4 to TE.

Concluding Steps

After installing the board, replace any Lexan shielding and secure the door. Dispose of the old parts according to your company procedures and local codes.

Lexan is a trademark of General Electric Corp.



Rockwell Automation helps its customers receive a superior return on their investment by bringing together leading brands in industrial automation, creating a broad spectrum of easy-to-integrate products. These are supported by local technical resources available worldwide, a global network of system solutions providers, and the advanced technology resources of Rockwell.



Worldwide representation.

Argentina • Australia • Austria • Bahrain • Belgium • Bolivia • Brazil • Bulgaria • Canada • Chile • China, People's Republic of • Colombia • Costa Rica • Croatia • Cyprus • Czech Republic • Denmark • Dominican Republic • Ecuador • Egypt • El Salvador • Finland • France • Germany • Ghana • Greece • Guatemala • Honduras • Hong Kong • Hungary • Iceland • India • Indonesia • Iran • Ireland • Israel • Italy • Jamaica • Japan • Jordan • Korea • Kuwait • Lebanon • Macau • Malaysia • Malta • Mexico • Morocco • The Netherlands • New Zealand • Nigeria • Norway • Oman • Pakistan • Panama • Peru • Philippines • Poland • Portugal • Puerto Rico • Qatar • Romania • Russia • Saudi Arabia • Singapore • Slovakia • Slovenia • South Africa, Republic of • Spain • Sweden • Switzerland • Taiwan • Thailand • Trinidad • Tunisia • Turkey • United Arab Emirates • United Kingdom • United States • Uruguay • Venezuela

Rockwell Automation Headquarters, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414 382-2000, Fax: (1) 414 382-4444

Rockwell Automation European Headquarters SA/NV, avenue Hermann Debrouxlaan, 46, 1160 Brussels, Belgium, Tel: (32) 2 663 06 00, Fax: (32) 2 663 06 40

Rockwell Automation Asia Pacific Headquarters, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2867 4788, Fax: (852) 2508 1846