

Power with Brake Connector Kit for TL-Series (Bulletin TLY) Servo Motors

Catalog Number 2090-KPBM6-16AA

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About the TL-Series Power with Brake Connector Kit

Use this connector kit to build your own power cable, or power with brake cable, for use with any of these TL-Series servo motors:

IMPORTANT

This kit is compatible only with power cables from a TLY-A110, TLY-A120, TLY-A130, TLY-A220, TLY-A230, TLY-A2530, TLY-A2540, or TLY-A310 servo motor.

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](#) available from your local Rockwell Automation sales office or online at <http://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.

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

Before You Begin

Identify the wire colors and pinouts specific to your TL-Series (Bulletin TLY) motor by referring to the Power Connector information on [page 6](#).



ATTENTION: To prevent electrical shock, disconnect the connector, motor, and drive from the power source before installing or servicing.

This device should be used only in an enclosure that prevents exposure to contaminants.



ATTENTION: When installing a cable, restrain it so that uneven tension or flexing at the connector does not occur.

Excessive and uneven force at the cable connector may result in damage to the housing and contacts as the cable flexes.

Failure to observe this safety procedure could result in damage to the motor and its components.

You should also refer to the manual for your drive to determine pinouts and wire connections appropriate to these connections.

TL-Series (Bulletin TLY) motors are compatible with these Allen-Bradley drives:

- Kinetix 300
- Kinetix 2000
- Kinetix 6000
- Kinetix 6200
- Kinetix 6500
- Ultra3000
- Ultra5000

Refer to the Parts List on [page 4](#) for wire sizes compatible with this connector kit.

Parts List

These items are supplied in the connector kit.

Item	Qty.	Wire Size mm ² (AWG)	Insulation Diameter mm (in.)	Insulation Strip Length mm (in.)	Tyco AMP Part No.
Power sockets	8	0.8...1.4 (18...16)	2.54 (0.10) max	2.5 (0.1)	66101-4
Brake sockets	15				66505-9
Housing	1	N/A			205839-3
Backshell ⁽¹⁾	1	N/A			206070-8

(1) The maximum cable diameter, including wiring and jacket material, allowed by this backshell is 11.51 mm (0.45 in.).

Tool List

Use these tools to assemble the connector kit.

IMPORTANT Tools are not provided in the connector kit.

Required Tools

Item	Tyco AMP Part No.
Hand crimp tool - power contacts	58495-1
Extraction tool - power contact	305183
Extraction tool - ground contact	725840-1
Insertion tool - power, brake, and ground contacts	91002-1
Wire cutter	N/A
Wire stripper	
Screwdriver, size 0 or 1 Phillips	
Needle-nose pliers (optional)	

Assemble the Power with Brake Connector Kit

Follow these steps to assemble your TL-Series (Bulletin TLY) connector kit.



ATTENTION: To prevent electrical shock, disconnect the connector, motor, and drive from the power source before installing or servicing.

This device should be used only in an enclosure that prevents exposure to contaminants.

1. Slide the backshell onto the cable.
2. Remove the insulation from the end of the wires to expose a maximum of 2.5 mm (0.1 in.) of wire.
3. Crimp a socket on each wire.
4. Refer to the [Parts List](#) on [page 4](#) for the correct socket type. Refer to the [Power Connector](#) table on [page 6](#) for the correct wire and connector position for each wire.
5. Insert the socket of each wire into the appropriate position at the back of the connector housing.
6. Ground the cable shield.
7. Screw the backshell onto the connector housing.
8. Select the type of backshell clamp, and determine its appropriate orientation.

The type and orientation of the backshell clamp is dependent on your application.

9. Tighten the backshell clamp screws until the backshell clamp applies sufficient pressure on the cable jacket to retain the cable.

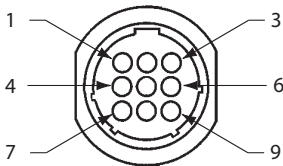
IMPORTANT Do not over-tighten the backshell clamp screws.
Applying excessive force may damage the threads in the plastic backshell.

Power Connector

This table shows the pin connections for the power connector on a TL-Series motor.

Motor Power Connections		
Pin	Signal	Wire Color ⁽²⁾
1	U Phase	Red
2	V Phase	Black
3	W Phase	White
4	Reserved	—
5	Ground	Green/Yellow
6	Reserved	—
7	MBRK+ ⁽¹⁾	Yellow
8	Reserved	—
9	MBRK- ⁽¹⁾	Blue

Power Cable Pinouts



Front of Tyco AMP 206705-2 Housing

(1) Brake pins are to be used only with brake motors, catalog numbers TLY-A/Bxxx-xxx4xx.

(2) The wire is internal to the TL-Series motor. For consistency, wires of the same color should be used in any cable.

Additional Resources

These documents contain additional information about related Rockwell Automation products.

Resource	Description
Kinetix 300 Single-axis Servo Drives User Manual, publication 2097-UM001	How to install, set up, and troubleshoot a servo-drive system.
Kinetix 2000 Multi-axis Servo Drives User Manual, publication 2093-UM001	
Kinetix 6000 Multi-axis Servo Drives User Manual, publication 2094-UM001	
Kinetix 6200 and Kinetix 6500 Modular Multi-axis Servo Drives User Manual, publication 2094-UM002	
Ultra3000 Digital Servo Drive Installation Manual, publication 2098-IN003	
Ultra3000 Digital Servo Drive Integration Manual, publication 2098-IN005	
Ultra5000 Intelligent Positioning Drives Installation Manual, publication 2098-IN001	
Allen-Bradley Industrial Automation Glossary, publication AG-7.1	A glossary of industrial automation terms and abbreviations.
System Design for Control of Electrical Noise Reference Manual, publication GMC-RM001	Information, examples, and techniques designed to minimize system failures caused by electrical noise.
Kinetix Motion Control Selection Guide, publication GMC-SG001	Specifications, motor/servo-drive system combinations, and accessories for Kinetix motion control products.

You can view or download publications at <http://rockwellautomation.com/literature>. To order paper copies of technical documentation, contact your local Rockwell Automation distributor or 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, 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, 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 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.

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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 [BA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

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