

Bulletin 2097 AC Line Filters

Catalog Numbers 2097-F1, 2097-F2, 2097-F4, 2097-F5, 2097-F6

Topic	Page
About the AC Line Filters	1
Important User Information	2
Before You Begin	3
Install the AC Line Filter (side-mount)	4
Install the AC Line Filter (rear-mount)	5
Bulletin 2097 AC Line Filter Specifications	8
Additional Resources	8

About the AC Line Filters

This publication provides installation instructions for the Bulletin 2097 AC Line Filters. The 2097-Ex AC Line Filters apply to Kinetix 300 and Kinetix 350 servo drives. Use these instructions for installing and wiring your AC Line Filter. For more information refer to the user manual available for your drive listed in [Additional Resources on page 8](#).

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://www.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.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited.

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

For general guidelines when laying out your panel and mounting your AC line filter, refer to the System Design for Control of Electrical Noise Reference Manual, publication [GMC-RM001](#). For guidelines specific to your application, refer to [Additional Resources page 8](#) for the user manual.



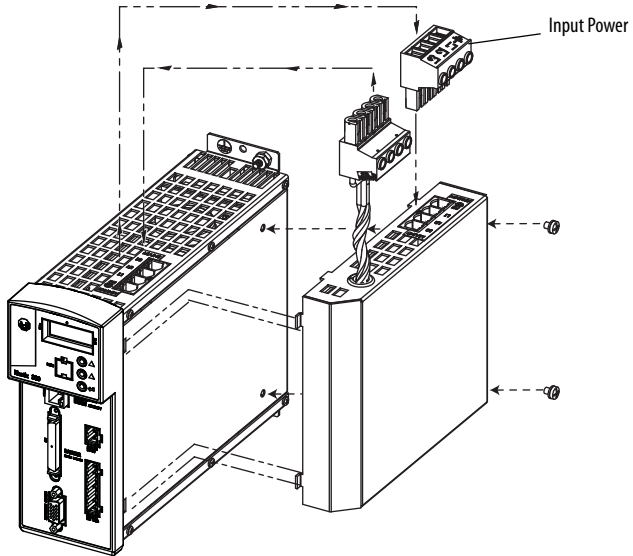
ATTENTION: To avoid personal injury or damage to equipment due to hazardous voltages, follow these guidelines when installing your AC line filter. NEC and local regulations always take precedence.

- Disconnect mains power prior to installation.
 - Verify that the rated voltage is compatible with the local supply voltage.
 - Connect the earth ground connection first when making connections.
-

Install the AC Line Filter (side-mount)

The following steps apply to the installation of AC line filter, catalog numbers 2097-F1 and 2097-F2.

1. Use Figure 2 on page 7 to determine the space required on the right side of your drive to install your side-mount AC line filter.
Adjust drive location as necessary.
2. Mount the AC line filter to the drive with two M4 x 0.7 steel machine screws and torque to 1.1 N•m (9.8 lb•in).

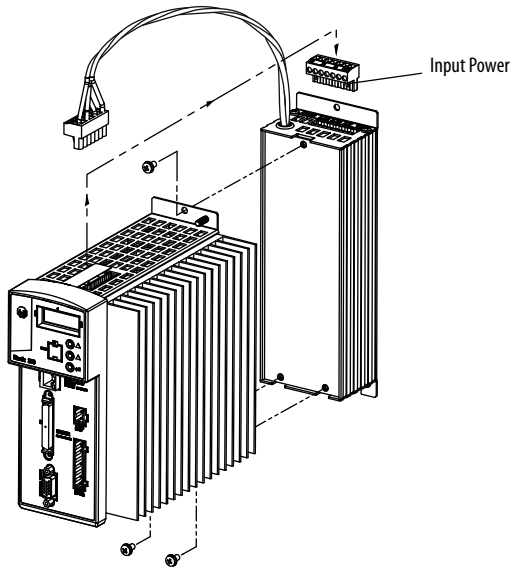


3. Mount drive and filter assembly to the cabinet panel by using three M4 x 0.7 steel machine screws and torque to 1.1 N•m (9.8 lb•in).

Install the AC Line Filter (rear-mount)

The following steps apply to the installation of your AC line filter, catalog numbers 2097-F4, 2097-F5, and 2097-F6.

1. Use Figure 3 on page Z to determine the cabinet space required to install your rear-mount AC line filter.
Rear-mount AC line filters require additional cabinet depth; adjust cabinet as necessary.
2. Mount the AC line filter to the panel with three M4 x 0.7 steel machine screws and torque to 1.1 N•m (9.8 lb•in).
3. Mount the drive to the AC line filter with three M4 x 0.7 steel machine screws and torque to 1.1 N•m (9.8 lb•in).



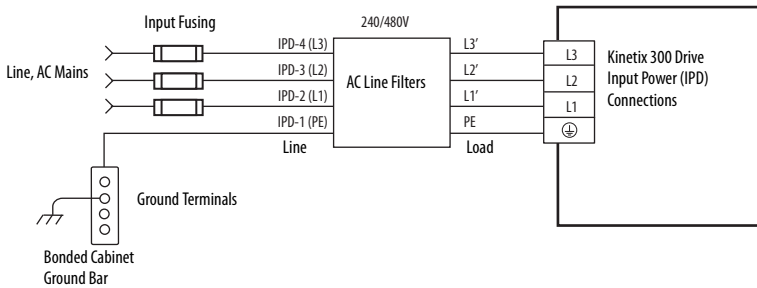
4. Mount the drive and AC line filter assembly on the panel.

Wire the AC Line Filter

Connect the AC line filter as shown in these examples. Refer to the System Design for Control of Electrical Noise Reference Manual, publication [GMC-RM001](#), for proper high-frequency (HF) bonding techniques to improve overall system performance.

TIP Replacement connector sets (catalog number 2097-CONN1) are available. Sets include general purpose power input (IPD) header, back-up power (BP) header, shunt resistor and DC bus (BC) header, motor power (MP) header, and safe torque off (STO) header.

Figure 1 Wiring Example for the AC Line Filter



IPD Connector Wiring Specifications

Cat. No.	Input Power	Connects to Terminals		Recommended Wire Size mm ² (AWG)	Strip Length mm (in.)	Torque Value N•m (lb•in)
		Pin	Signal			
2097-F1 2097-F2 2097-F4 2097-F5 2097-F6	240/480V AC	IPD-1 IPD-2 IPD-3 IPD-4	PE L1 L2 L3	14 AWG (2.5mm ²)	7 (0.28)	0.5 (4.5)

AC Line Filter Dimensions

Mounting dimensions for side and rear-mount AC line filters.

Figure 2 AC Line Filter (side-mount) Dimensions Catalog Numbers 2097-F1 and 2097-F2

Dimension are in mm (in.).

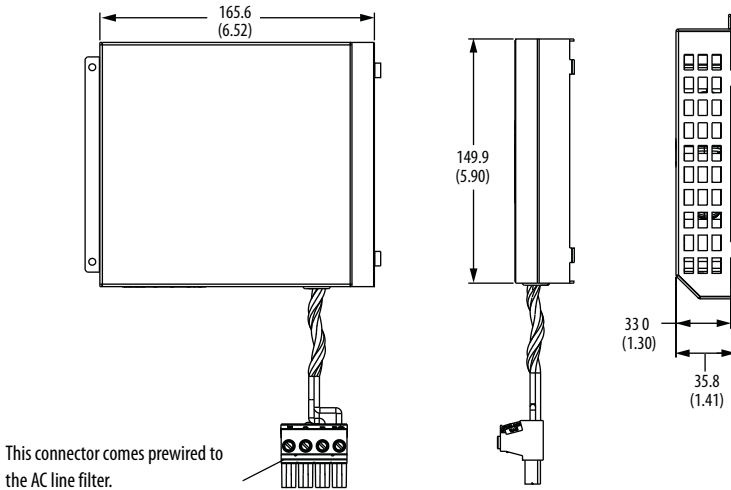
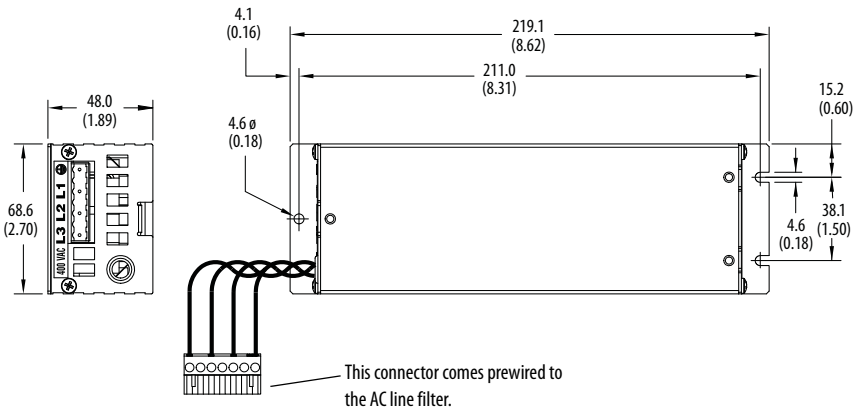


Figure 3 AC Line Filter (rear-mount) Dimension Catalog Numbers 2097-F4, 2097-F5, and 2097-F6

Dimension are in mm (in.).



Bulletin 2097 AC Line Filter Specifications

Cat. No.	Installation	Current A	Weight, approx kg (lb)
2097-F1	Side-mount	24.0	0.6 (0.13)
2097-F2	Side-mount	10.0	0.6 (0.13)
2097-F4	Rear-mount	4.4	0.8 (0.18)
2097-F5	Rear-mount	6.9	0.8 (0.18)
2097-F6	Rear-mount	15.0	0.8 (0.18)

Additional Resources

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

Resource	Description
Kinetix 300 EtherNet/IP Indexing Servo Drives User Manual, publication 2097-UM001	Provides instructions on mounting and programming the drive and lists technical specifications.
Kinetix 350 Single-axis EtherNet/IP Servo Drives User Manual, publication 2097-UM002	
Kinetix 300 EtherNet/IP Indexing Servo Drives Installation Instructions, publication 2097-IN001	Provides instructions on mounting the drive and lists technical specifications.
Kinetix 350 Single-axis EtherNet/IP Servo Drives Installation Instructions, publication 2097-IN008	
Kinetix Servo Drives Specifications Technical Data, publication GMC-TD003	Provides technical specifications for Kinetic servo drive products and accessories.

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

Allen-Bradley, Kinetix, Rockwell Software, and Rockwell Automation are trademarks of Rockwell Automation, Inc.

Trademarks not belonging to Rockwell Automation are property of their respective companies.

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA. Tel: (1) 414.382.2000. Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium. Tel: (32) 2 663 0600. Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong. Tel: (852) 2887 4788. Fax: (852) 2508 1846

Publication 2097-IN003D-EN-P - November 2011

Supersedes Publication 2097-IN003C-EN-P - June 2010

PN-124734

Copyright © 2011 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.



1 3 3 6 0 1 3 5