



AC Line Filters

Description	Cat. No.
Single-phase (250...300V ac)	2090-UXLF-106
	2090-UXLF-110
	2090-UXLF-123
	2090-UXLF-132
	2090-UXLF-136
	2090-XXLF-TC116
Three-phase (250V ac)	2090-UXLF-336
	2090-UXLF-350

Description	Cat. No.	Cat. No.
Three-phase (500...520V ac)	2090-UXLF-HV323	2090-XXLF-TC316
	2090-UXLF-HV330	2090-XXLF-TC350
	2090-UXLF-HV350	2090-XXLF-TC365
	2090-XXLF-X330B	2090-XXLF-TC3100
	2090-XXLF-375	2090-XXLF-TC3150
	2090-XXLF-375B	2090-XXLF-TC3200
	2090-XXLF-3100	2090-XXLF-TC3250

About This Publication

This publication contains installation instructions for ac line filters used with Rockwell Automation servo drive systems. Included are mounting and wiring instructions, and mounting dimensions.

For product specifications, refer to the Kinetix Motion Control Selection Guide, publication GMC-SG001.

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://literature.rockwellautomation.com>) 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.

<p>WARNING</p> 	<p>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.</p>
<p>IMPORTANT</p>	<p>Identifies information that is critical for successful application and understanding of the product.</p>
<p>ATTENTION</p> 	<p>Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you to identify a hazard, avoid a hazard, and recognize the consequences.</p>
<p>SHOCK HAZARD</p> 	<p>Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.</p>
<p>BURN HAZARD</p> 	<p>Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.</p>

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 on page 11 for the user manual available for your servo drive.

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.

IMPORTANT

Remove corrosion, oil, or grease from bus bar mountings by scrubbing surfaces with a dry scrubbing pad. Do not touch cleaned surfaces with bare hands to prevent further contamination.

TIP

The Bulletin 2094 mounting brackets, catalog number 2094-XNBRKT-1, are designed to save panel space by letting you mount the Kinetix 6000 power rail or line interface module (LIM) over the ac line filter.

Refer to the 2094 Mounting Brackets Installation Instructions, publication 2094-IN008, for more information.

Installing the AC Line Filter

Follow these steps to install your ac line filter.

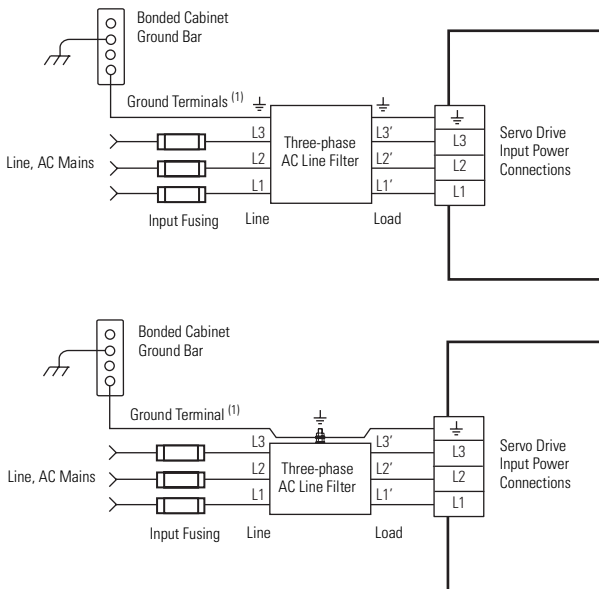
1. Determine the location for your ac line filter on the panel.

Refer to Additional Resources on page 11 for the user manual with specific information regarding your servo-drive system layout. Position the ac line filter as close to the drive as possible.

2. Mount the ac line filter on the panel.

Refer to Product Dimensions on page 5 for mounting dimensions. Use proper high-frequency (HF) bonding techniques to improve overall system performance.

3. Connect the ac line filter as shown in these examples.



⁽¹⁾ Ground terminal designators could also be PE/PE' or E/E'.

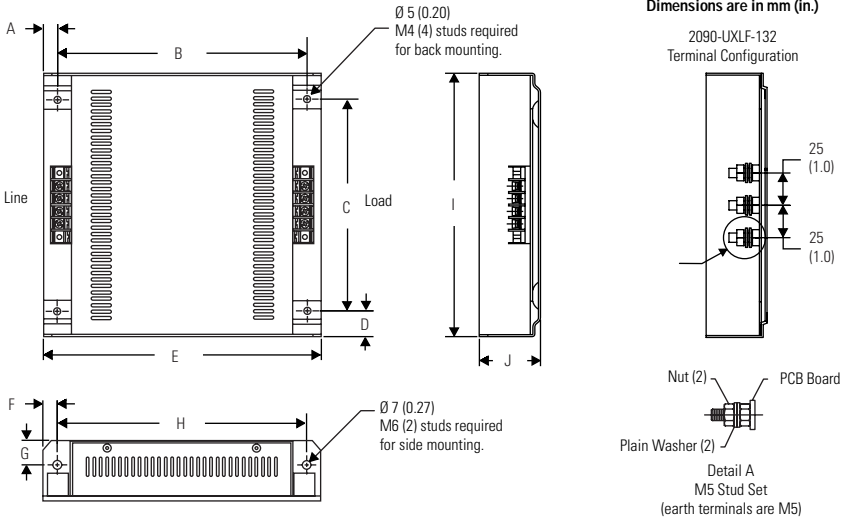
These examples show a three-phase ac line filter. Single-phase ac line filter installation is similar. For additional wiring information, refer to the appropriate user manual for interconnect diagrams specific to your servo drive application.

Product Dimensions

Mounting dimensions for ac line filters are given on the following pages.

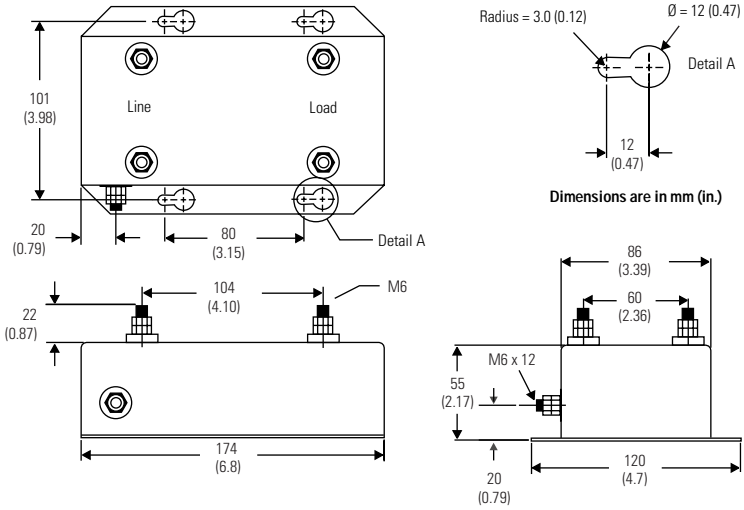
AC Line Filter Dimensions

2090-UXLF-106, 2090-UXLF-110, 2090-UXLF-123, 2090-UXLF-132, 2090-UXLF-HV323

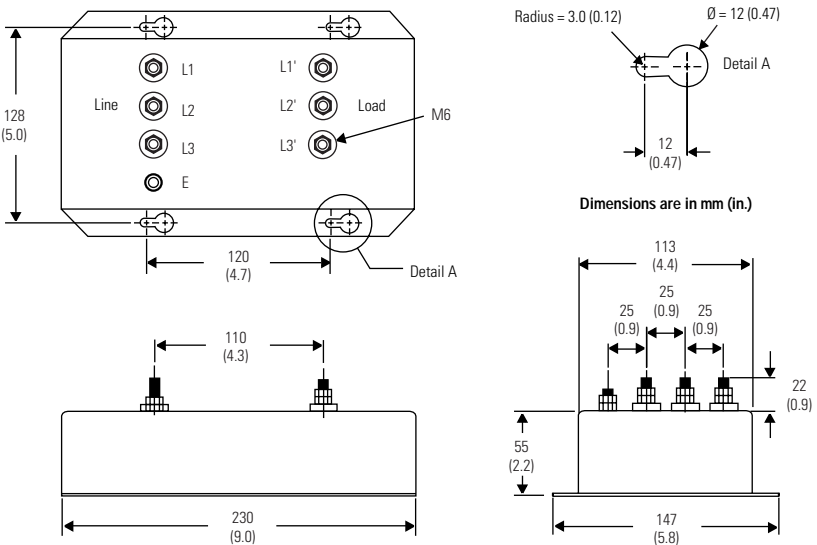


Cat. No.	A	B	C	D	E	F	G	H	I	J
	mm (in.)									
2090-UXLF-106	9.0 (0.35)	152.0 (5.99)	55.0 (2.17)	18.0 (0.71)	170.0 (6.69)	9.0 (0.35)	10.0 (0.39)	152.0 (5.99)	92.0 (3.62)	25.0 (0.98)
2090-UXLF-110			104.0 (4.0)				16.0 (0.63)		145.0 (5.71)	40.0 (1.58)
2090-UXLF-123	11.0 (0.43)	192.0 (7.56)	164.0 (6.46)	20.0 (0.79)	214.0 (8.42)	11.0 (0.43)	19.0 (0.75)	192.0 (7.56)	204 (8.04)	47.0 (1.85)
2090-UXLF-132										
2090-UXLF-HV323										

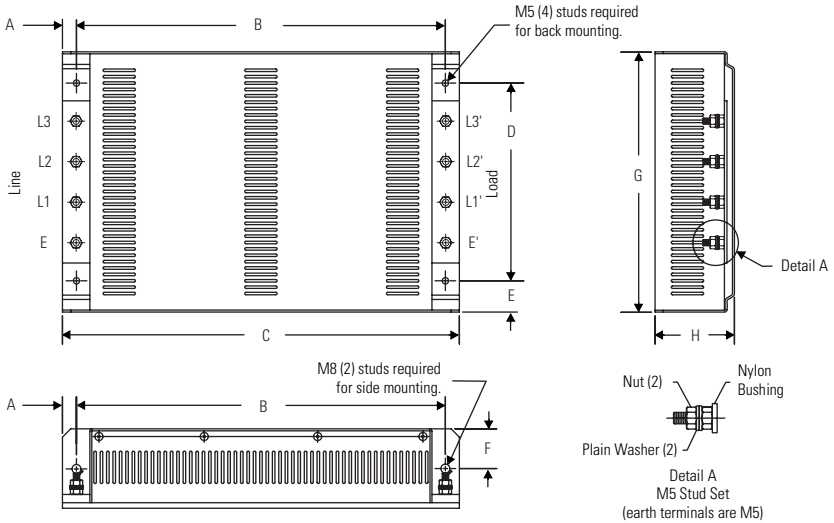
**AC Line Filter Dimensions
2090-UXLF-136**



**AC Line Filter Dimensions
2090-UXLF-336 and 2090-UXLF-350**



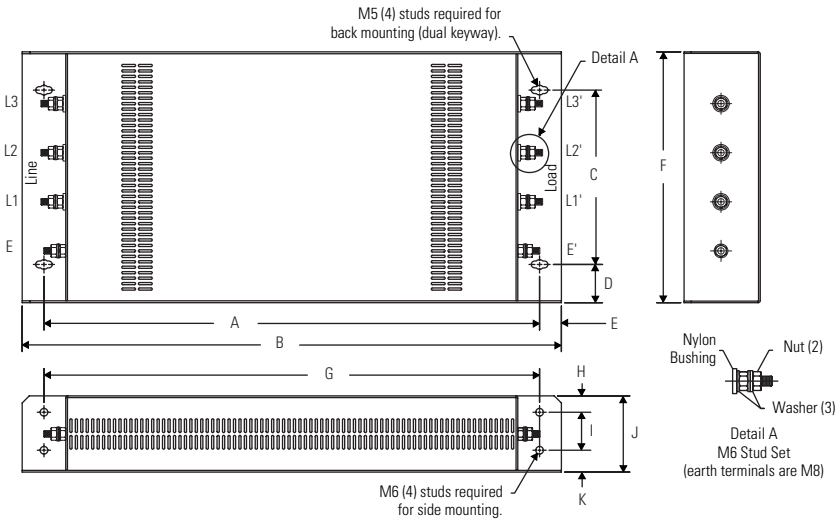
AC Line Filters Dimensions 2090-UXLF-HV330 and 2090-XXLF-X330B



Cat. No.	A	B	C	D	E	F	G	H
	mm (in.)							
2090-UXLF-HV330	11.0 (0.4)	338 (13.3)	360 (14.2)	145 (5.7)	29.5 (1.1)	16.0 (0.63)	204 (8.0)	40.0 (1.6)
2090-XXLF-X330B	15.0 (0.6)	330 (13.0)		155 (6.1)	20.0 (0.8)	32.5 (1.3)	195 (7.7)	65.0 (2.5)

AC Line Filter Dimensions

2090-UXLF-HV350, 2090-XXLF-375, 2090-XXLF-375B, and 2090-XXLF-3100

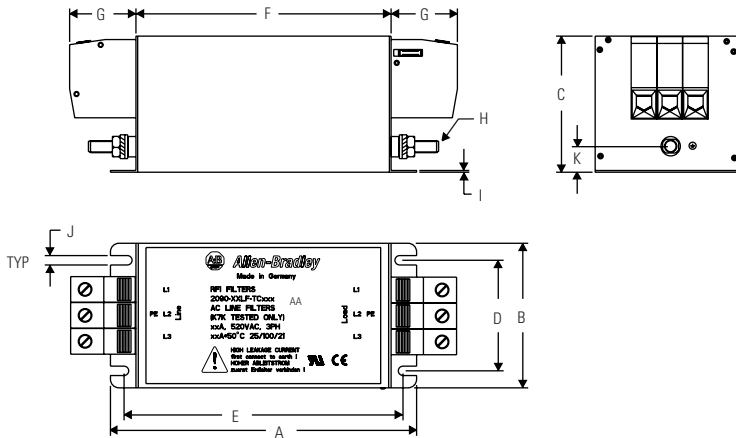


Cat. No.	A	B	C	D	E	F
	mm (in.)					
2090-UXLF-HV350	578 (22.7)	618 (24.3)	160 (6.3)	35 (1.4)	20 (0.8)	230 (9.0)
2090-XXLF-375 2090-XXLF-375B	646 (25.4)	686 (27.0)	192 (7.5)			262 (10.3)
2090-XXLF-3100	741 (29.2)	785 (30.9)	215 (8.4)	30 (1.2)	21.5 (0.85)	275 (10.8)

Cat. No.	G	H	I	J	K
	mm (in.)				
2090-UXLF-HV350	578 (22.7)	15 (0.6)	35 (1.4)	70 (2.7)	20 (0.8)
2090-XXLF-375 2090-XXLF-375B	646 (25.4)		47 (1.8)	80 (3.1)	18 (0.7)
2090-XXLF-3100	741 (29.2)				

AC Line Filter Dimensions

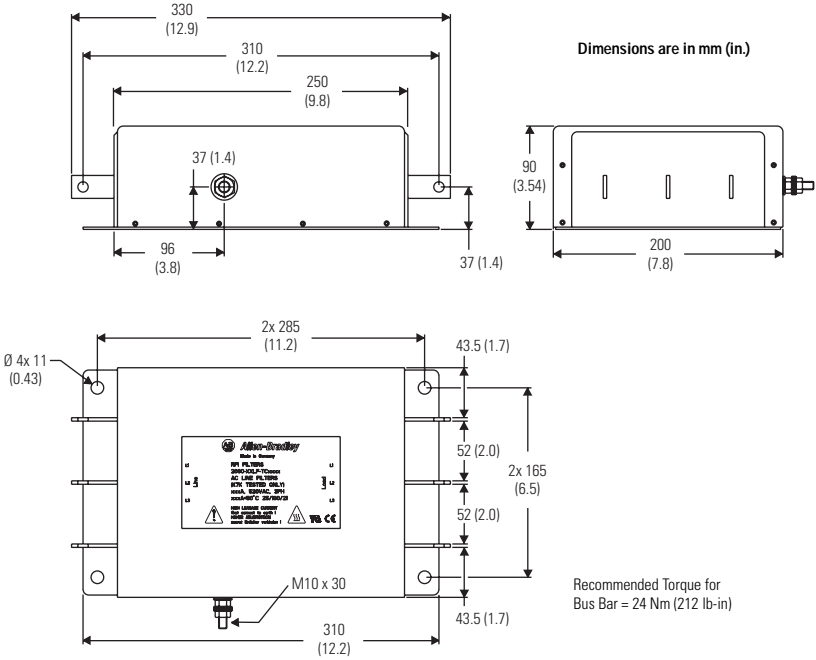
2090-XXLF-TC316, 2090-XXLF-TC350, 2090-XXLF-TC365, and 2090-XXLF-TC3100



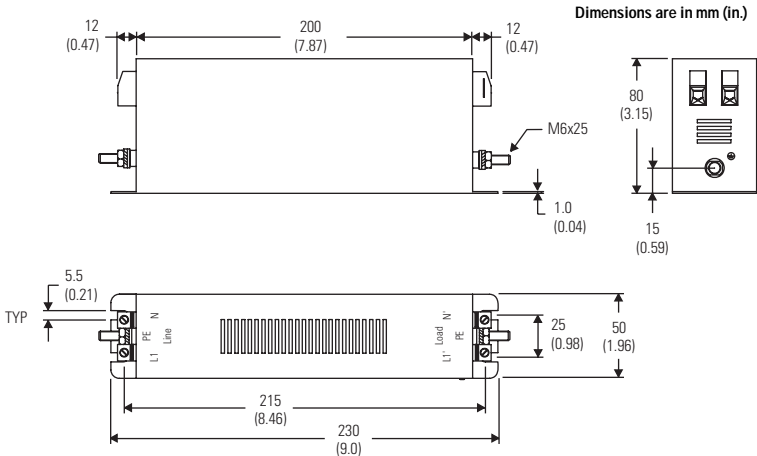
Cat. No.	A	B	C	D	E	F
	mm (in.)					
2090-XXLF-TC316	230 (9.0)	50 (1.96)	80 (3.15)	25 (0.98)	215 (8.46)	200 (7.87)
2090-XXLF-TC350 2090-XXLF-TC365	180 (7.08)	85 (3.35)		65 (2.56)	164 (6.45)	150 (5.90)
2090-XXLF-TC3100	240 (9.45)	95 (3.74)	90 (3.54)	75 (2.95)	223 (8.78)	210 (8.27)

Cat. No.	G	H	I	J	K
	mm (in.)				
2090-XXLF-TC316	12 (0.47)	M6x25	1.0 (0.04)	5.5 (0.21)	15 (0.59)
2090-XXLF-TC350 2090-XXLF-TC365	39 (1.53)				
2090-XXLF-TC3100	43 (1.69)	M8x40	1.5 (0.06)	5.5 (0.21)	16 (0.63)

AC Line Filter Dimensions 2090-XXLF-TC3150, 2090-XXLF-TC3200, and 2090-XXLF-TC3250



AC Line Filter Dimensions 2090-XXLF-TC116



Additional Resources

The following documents contain additional information concerning related Allen-Bradley products.

Resource	Description
Kinetix 2000 Multi-axis Servo Drive User Manual, publication 2093-UM001	Information on system layout, including the ac line filter for your Kinetix motion control servo drive.
Kinetix 6000 Multi-axis Servo Drive User Manual, publication 2094-UM001	
Kinetix 7000 High Power Servo Drive User Manual, publication 2099-UM001	
Ultra3000 Digital Servo Drive Installation Manual, publication 2098-IN003	
Ultra5000 Intelligent Positioning Drive Installation Manual, publication 2098-IN001	
Ultra1500 Digital Servo Amplifier User Manual, publication 2092-UM001	
Kinetix Motion Control Selection Guide, publication GMC-SG001	Kinetix motion control drive/motor specifications, combinations, and accessories including ac line filters.
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.
EMC Noise Management DVD, GMC-SP004	
Rockwell Automation Configuration and Selection Tools, website http://ab.com/e-tools	Online product selection and system configuration tools, including AutoCAD (DXF) drawings.
Rockwell Automation Product Certification, website http://rockwellautomation.com/products/certification	For declarations of conformity (DoC) currently available from Rockwell Automation.
National Electrical Code, Published by the National Fire Protection Association of Boston, MA.	An article on wire sizes and types for grounding electrical equipment.

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

Installation Assistance

If you experience a problem with a hardware module 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 module up and running.

United States	1.440.646.3223 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

New Product Satisfaction Return

Rockwell 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, it may need to be returned.

United States	Contact your distributor. You must provide a Customer Support case number (see phone number above to obtain one) to your distributor in order to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for return procedure.

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