

1321 Power Conditioning Products

Bulletin Numbers 1321-3R Series D, 1321-3RA Series D, 1321-3RB Series D, 1321-RWR Series B, 1321-3TH Series A, 1321-3TW Series A, 1321-Mxxx Series A, 1321-DC Series A and B

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Don't Ignore the Cost of Power Line Disturbance



For information on Bulletin Numbers 1321-3R* Series A, B, C; and 1321-RWR Series A, see Power Conditioning Products Technical Data, publication [1321-TD002](#).

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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 consequence.

IMPORTANT Identifies information that is critical for successful application and understanding of the product.

These labels may also be on or inside the equipment to provide specific precautions.



SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.



ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

The following icon may appear in the text of this document.



Identifies information that is useful and can help to make a process easier to do or easier to understand.

Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Updated Agency Approvals	8
Updated dimensions: 1321-3RB250-A, 1321-3R750-A, and 1321-3R750-B	12
Updated Environmental Specification for UL	14

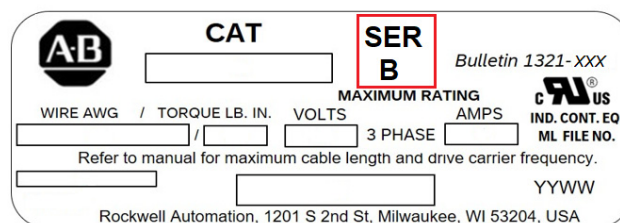
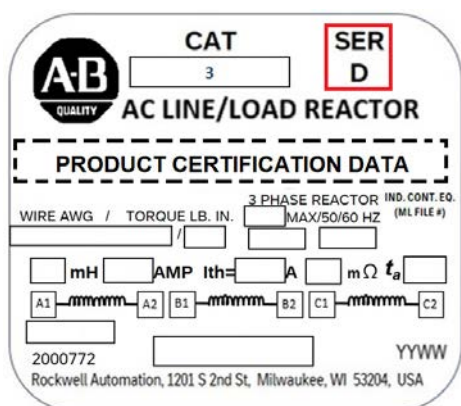


Product Overview

Allen-Bradley reactors help keep equipment running longer by absorbing many of the power line disturbances that can shut down your drive. Allen-Bradley isolation transformers can provide both voltage change and isolation for your variable speed drive. These designs are harmonic compensated and insulated gate bi-polar transistor (IGBT) protected to help assure optimum performance in the presence of harmonics.

IMPORTANT This publication covers several series of products. Verify your series letter before you begin.

Example Product Labels with Product Series Location



PRODUCT ID LABEL RWR

Storage Guidelines

1321 Line Reactor products that are not installed and energized immediately should follow the storage guidelines. Following these guidelines will help reduce the appearance of oxidation from forming on the laminate surface and edges.

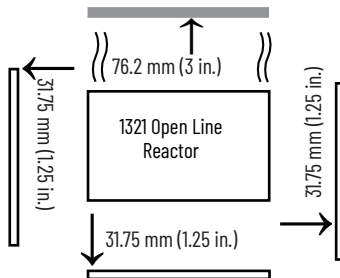
- Do not remove the protective packaging.
- Do not store the product outdoors or in an unprotected area.
- Do not store the product in an area where it is exposed to a corrosive atmosphere.
- Do not store the product where condensation could occur.
- Store the product in a climate-controlled building with adequate air circulation.
- Store the product in a clean, dust free, and dry atmosphere.
- Maintain a relative humidity level of less than 60% non-condensing.
- Limit rate of relative humidity change to less than 10% per hour.
- Store products on a vapor barrier membrane to help prevent water vapor migration.



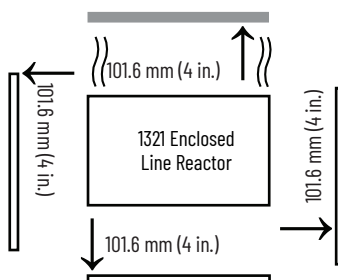
ATTENTION: The presence of oxidation does not indicate performance issues.

Mounting Clearance

The figure that follows shows the required mounting clearance. The ventilation clearance on open line reactors must have a minimum of 31.75 mm (1.25 in.) from all surfaces, such as walls and other equipment.



For the enclosed version of the line reactor, the ventilation clearance must have a minimum of 101.6 mm (4 in.) from all surfaces, such as walls and other equipment. The figure that follows shows the mounting clearances.



Noise and Vibration

Reactors that are installed in more confining electrical rooms, when connected to the load, will exhibit higher (than standard) sound levels. Reactors will exhibit higher than normal sound levels if installed on suspended floors that may resonate. Reactors installed in close proximity to each other can also experience a resonant frequency between them that will result in higher than normal sound levels.



ATTENTION: Sound levels for reactors can vary, follow local codes and standards for hearing protection needs.

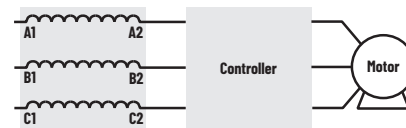
1321-3R, 1321-3RA, and 1321-3RB Series D Line Reactors

Applying Allen-Bradley Line Reactors

At the Input of the Drive

At the input of a drive, a line reactor helps protect against surges or spikes on the incoming power lines and help reduce harmonic distortion.

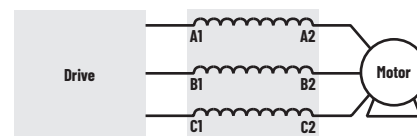
- Eliminate spurious tripping
- Extend semiconductor life
- Reduce harmonic distortion
- Improve true power factor
- Reduce voltage notching
- Meet IEEE-519 or EN-61800



At the Output of the Drive

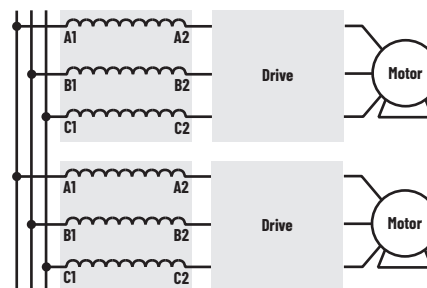
In long motor lead applications, Allen-Bradley load reactors that are located between the drive and motor help reduce dv/dt and motor terminal peak voltages. The use of a load reactor also helps protect the drive from surge currents that are caused by rapid changes in the load.

- Protect motors from long lead effects
- Reduce output voltage dv/dt
- Extend semiconductor life
- Reduce surge currents
- Reduce motor temperature
- Reduce audible motor noise



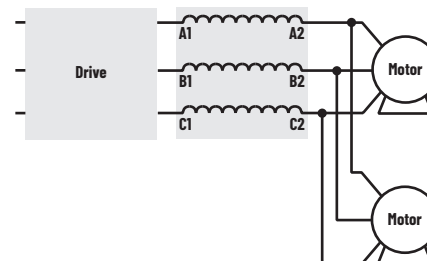
With Multiple Drives

Multiple drives on a common power line should each have their own line reactor. Individual line reactors provide filtering between each drive to help reduce any crosstalk while providing optimum surge protection for each drive.



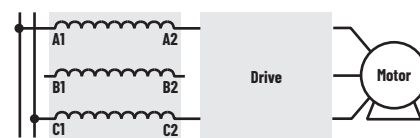
With Multiple Motors

When multiple motors are controlled by one drive, a line reactor can typically be used between the drive and all of the motors. Size the line reactor based on the total motor/load horsepower.



With Single-Phase Input

A three-phase reactor can be used for single-phase applications by routing each of the two input power conductors to the outside two coils and leaving the center coil disconnected. The sum of the inductance of the two coils is the total inductance that is applied to the circuit. Contact Rockwell Automation Technical Support for assistance in specifying the proper reactor.



Selecting the Correct Impedance Rating

Why is the Correct Impedance Rating Important?

Selecting the correct impedance rating is critical for your job. An impedance value that is too low may not limit peak current. An impedance value that is too high may reduce input voltage. Allen-Bradley line reactors offer two impedance ratings.

3% Impedance Rated Reactors to Reduce Spurious Trips

Allen-Bradley line reactors that are rated at 3% are typically sufficient to absorb line spikes and motor current surges and will help prevent spurious tripping of drive and circuit breakers in most applications.

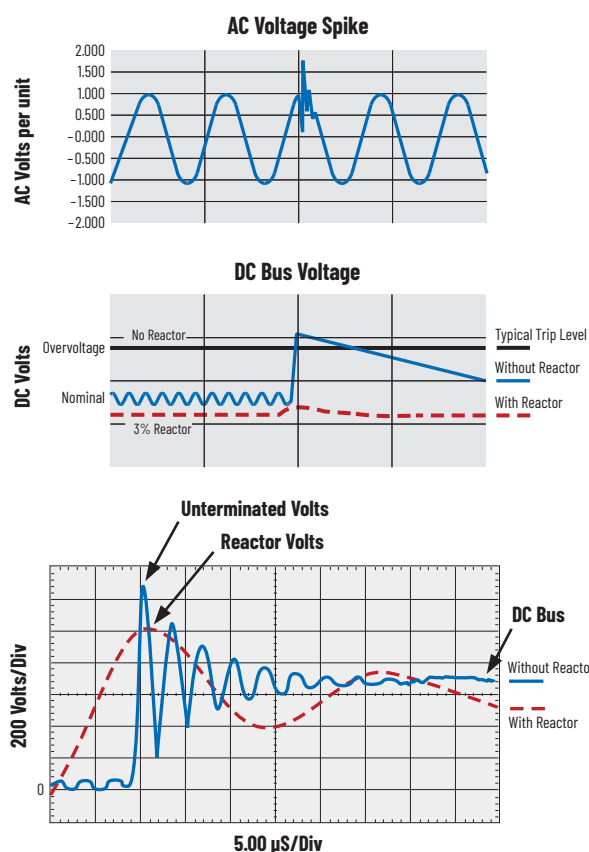
5% Impedance Rated Reactors to Reduce Harmonic Content

Allen-Bradley reactors that are rated at 5% are best for reducing harmonic current and frequencies. These line reactors help comply with IEEE-519 (not normally used as load reactors).

Voltage Spike Protection

Voltage spikes on AC power lines can cause elevation of the DC bus voltage, which may cause the drive to trip on an overvoltage condition.

3% impedance reactors are effective at helping to protect drives against voltage spikes and spurious tripping. Allen-Bradley line reactors absorb these line spikes which help protect the drive from spurious tripping and damage.



Motor Protection

Allen-Bradley load reactors can help protect motors from high peak voltages.

For IGBT drive applications with long drive-to-motor lead lengths, Allen-Bradley load reactors can help protect against fast dv/dt rise times.

Catalog Number Explanation

Position Number

1-4	6	7	8	10
1321	-	3	R	4 - B
a		b	c	d e

a

Product	
Code	Type
1321	1321 Power Component

b

Phases	
Code	Description
3	Three-Phase

c

Device	
Code	Description
R, RB	Reactor, NEMA/UL Type Open
RA/RAB ⁽¹⁾	Reactor, NEMA/UL Type 1

(1) RAB is only available in cabinet style 2 or 3.

d

Fundamental Amps	
Code	Amps
1	1
2	2
4	4
8	8
12	12
18	18
25	25
35	35
45	45
55	55
80	80
100	100
130	130
160	160
200	200
250	250
320	320
400	400
500	500
600	600
750	750
850	850
1000	1000

e

Inductance Rating	
Code	Description
A	Each reactor current rating has four inductance ratings also available. See the IP00 dimension table.
B	
C	
D	

See [Typical Termination Types and Specifications on page 9](#) for dimensions.

Common Specifications

Specification		Rating
Material	Enclosures	IP11 (NEMA/UL Type 1) – Sheet steel in accordance with UL, NEMA requirements
		IP00 (Open) or IP20 (Open – with finger-safe terminals)
	Terminations ⁽¹⁾	1...45 A (fundamental) Ratings – Finger guard IP20 terminal block
		55...200 A (fundamental) Ratings – Solid tin-plated aluminum box lugs
Harmonic Compensation	All line reactors are compensated for the additional currents and high frequencies that are caused by the presence of harmonics	
General Protection	Impedance	1.5%, 3%, or 5% based on the fundamental current ratings
	Overload Rating	200% of fundamental current for 30 minutes 300% of fundamental current for 1 minute
	dv/dt Protection	Meets NEMA MG-1, part 31
Electrical	Maximum Rated Voltage	600V AC (units with terminal blocks) 690V AC (units with box lugs or tab terminals)
	Maximum Switching Freq.	20 kHz
	Fundamental Frequency	Line/Load – 50/60 Hz
	Temperature Rise	135 °C (275 °F) average
	Dielectric Strength	4000 Volts rms (5656 volts peaks)
	Inductance Curve (Typical)	100% at 100% current 100% at 150% current ≤ 750 A, 100% at 125% current > 750 A 50% at 350% current (minimum) ≤ 750 A
	Inductance Tolerance	±10%
	Insulation System	Class N: 200 °C (392 °F) < 80 A; Class R: 220 °C (428 °F) ≥ 80 A
	Impregnation	High bond strength solventless epoxy, 220 °C, UL94HB recognized, or pre-catalyzed polyester
Environmental	Ambient Temperature	50 °C (122 °F) Open Style Reactor (maximum) 40 °C (104 °F) Enclosed Style Reactor (maximum)
	Altitude	1000 meters (3280 feet)
	Storage Temperature (all const.)	-40...+70 °C (-40...+158 °F)
	Humidity	5...95% noncondensing
Agency Approvals	cULus / cURus UL 508 CSA C22.2 No. 14	File E196302 UL UL recognized: NEMA/UL Open Type (3R and 3RB) UL listed: NEMA/UL Type 1 (enclosed) units (3RA and 3RAB) Note: Short Circuit rating not required under Exception No.1 of UL508A SB4.2.1 effective 4/25/06.
	CE	Certified to EN61558-2-20:2011 and EN61558-1:2005
	Morocco	Compliance to NM EN 61800-5-1
	UKCA	Compliance to EN 61800-3, EN 61800-5-1, EN IEC 63000

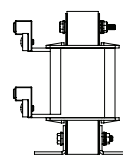
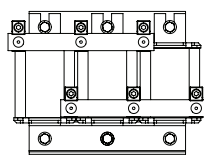
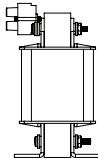
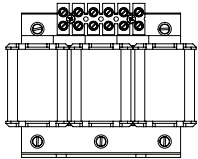
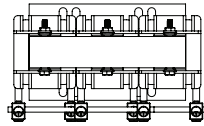
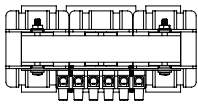
(1) For 250 A rating, see the [Termination](#) section of this document for additional information.

(2) For applications with reactors rated 250 A or greater with Tin-plated aluminum-tab terminals, cable-style connections are recommended. Hardware included on certain models.

Termination

Reactors are supplied with either an integral-mounted terminal block, box lugs, or tin-plated aluminum-tabs which are front facing or side facing. See the tables that follow and the [Catalog Number Explanation](#) for specific information. The '3R' and '3RA' designations for the 1321 line reactors indicate the following: 3R = Open Enclosure Line Reactor and 3RA = NEMA 1 Enclosure Line Reactor. The dimensions and weights that are provided on the pages that follow are for estimating purposes only. Tab orientation may vary. Use specific hardware provided with product.

Typical Termination Types and Specifications

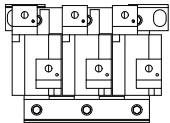
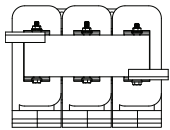
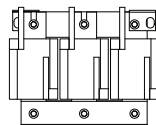
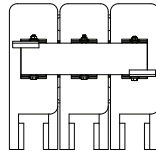


20, 65, or 85 A Terminal Blocks

Box Lugs

Reactor Catalog Number		Termination	Max/Min Wire Size	Max Torque
IP00 (Open) or IP20 ⁽¹⁾	IP11 (NEMA/UL Type 1)	Type	mm ² (AWG)	N•m (lb•in)
1321-3R1-A to 1321-3R4-D	1321-3RA1-A to 1321-3RA4-D	50 A Terminal Block	0.5...10 (#20...#8 CU)	0.8 (7.2)
1321-3R8-A to 1321-3R35-B	1321-3RA8-A to 1321-3RA35-B	65 A Terminal Block	0.5...16 (#20...#6 CU)	1.47 (13.0)
1321-3R35-C to 1321-3R45-C	1321-3RA35-C to 1321-3RA45-C	85 A Terminal Block	0.75...25 (#18...#4 CU)	2.26 (20.0)
1321-3R55-A to 1321-3R130-C	1321-3RA55-A to 1321-3RA130-C	Box Lug	16...70 (#6...2/0 CU)	13.56 (120.0)
1321-3R160-A to 1321-3R200-C	1321-3RA160-A to 1321-3RA200-C	Box Lug	16...120 (#6...250 kcmil)	31.07 (275.0)

(1) 1321-3R1-A...1321-3R45-C are IP20. 1321-3R55-A...1321-3R200-C are IP00.

Front Facing Tin-plated
Aluminum-tabs

Side Facing Tin-plated Aluminum-tabs

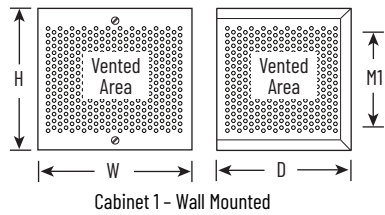
Reactor Catalog Number		Termination	Contact Surface (H x W)	Hole Diameter	Max Torque
IP00 (Open) or IP20 (R, RB)	IP11 (NEMA/UL Type 1) (RA, RAB)	Type	mm (in.)	mm (in.)	N•m (lb•in)
1321-3RB250-A to 1321-3RB250-C	1321-3RAB250-A to 1321-3RAB250-C	Front Facing Tin-plated Aluminum-tab	38.10 x 38.10 (1.5 x 1.5)	10.31 (0.406)	20.34 (180.0)
1321-3RB320-A to 1321-3R500-A	1321-3RAB320-A to 1321-3RA500-A	Front Facing Tin-plated Aluminum-tab	50.8 x 38.1 (2.0 x 1.5)	10.31 (0.406)	20.34 (180.0)
1321-3R500-B to 1321-3R750-C	1321-3RA500-B to 1321-3RA750-C	Side Facing Tin-plated Aluminum-tab	101.6 x 63.5 (4.0 x 2.5)	13.49 (0.531)	50.84 (450.0)
1321-3R850-A to 1321-3R1000-C	1321-3RA850-A to 1321-3RA1000-C	Front Facing Tin-plated Aluminum-tab	76.2 x 88.9 (3.0 x 3.5)	(x4) 13.46 (0.531)	5.84 (450.0)

For installation instructions, see 1321 Power Conditioning Products, publication [1321-PC001](#).

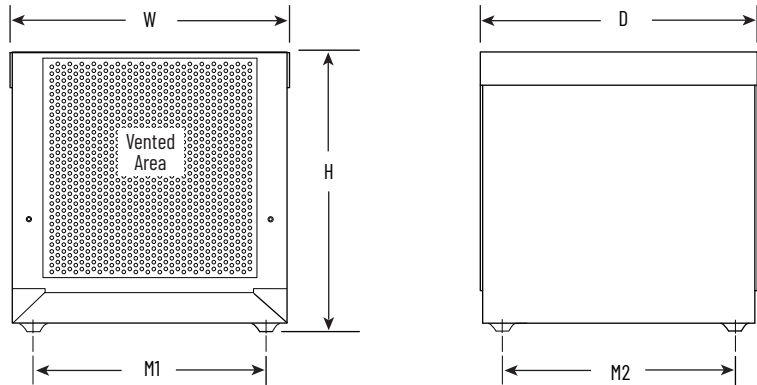
Mounting Dimensions and Weights

IMPORTANT The dimensions and weights that are provided on the following pages are for estimating purposes only. Conduit entry locations for floor-mounted enclosures are the responsibility of the installer. Contact your Rockwell Automation sales office if certified drawings are required for planning and installation.

IP11 (NEMA/UL Type 1)

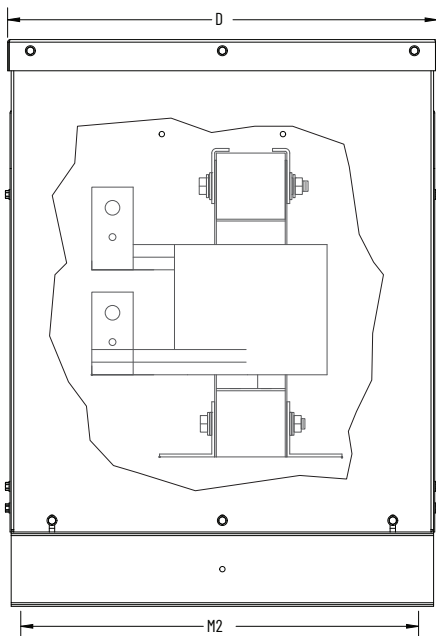
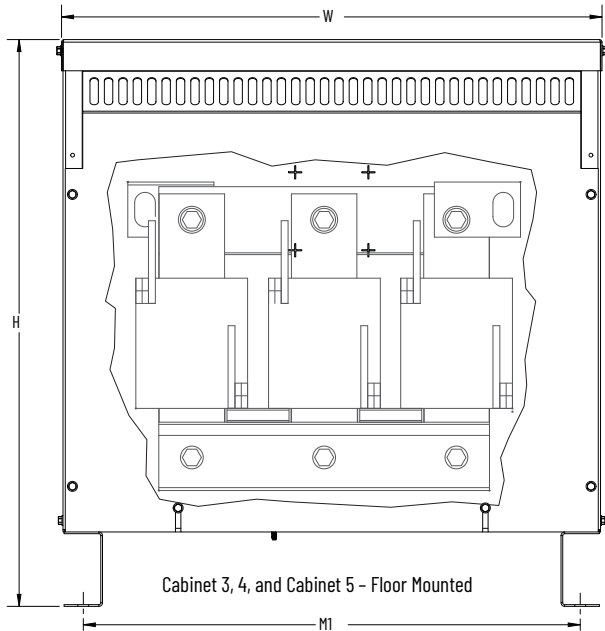


Catalog Number	Unit	Dimensions in mm (in.) and Weights in kg (lb)				
		H	W	D	M1	Weight (Cabinet Only)
1321-3RA1-A to 1321-3RA18-B	Cabinet 1	203 (8.0)	211 (8.3)	163 (6.4)	152 (6.0)	1.81 (4.0)



Cabinet 2 - Floor Mounted

Catalog Number	Unit	Dimensions in mm (in.) and Weights in kg (lb)					
		H	W	D	Feet M1	Feet M2	Weight (Cabinet Only)
1321-3RA18-C to 1321-3RAB250-A	Cabinet 2	340 (13.4)	333 (13.1)	333 (13.1)	279 (11.0)	279 (11.0)	6.4 (14.0)

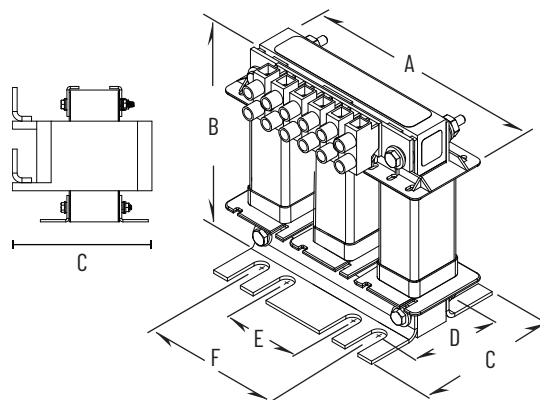


Catalog Number	Unit	Dimensions in mm (in.) and Weights in kg (lb)					
		H	W	D	Feet M1	Feet M2	Weight ⁽¹⁾ (Cabinet Only)
1321-3RAB250-B to 1321-3RA500-A	Cabinet 3	610 (24.0)	432 (17.0)	432 (17.0)	373 (14.7)	396 (15.6)	19.96 (44.0)
1321-3RA500-B to 1321-3RA850-B	Cabinet 4	749 (29.5)	716 (28.2)	569 (22.4)	658 (25.9)	533 (21.0)	35.8 (79.0)
1321-3RA850-C to 1321-3RA1000-C	Cabinet 5	899 (35.4)	810 (31.9)	683 (26.9)	752 (29.6)	648 (25.5)	49 (108.0)

(1) For total weight - add enclosure weight to specific reactor weight.

IP00/Open

Use the reactor outline shown to reference dimensions in the Sizing Guidelines. Dimensions A, B, and C show the width, height, and depth, respectively. Dimensions D, E, and F show the mounting dimensions. This diagram is for reference only - your actual product may differ in terminal location and type, as well as the number and type of mounting options. All dimensions are for reference only and should not be used for manufacturing purposes.

**Sizing Guidelines**

Fundamental amps are used for sizing the reactor to be equal to or slightly higher than the total motor FLA. Sizing reactors to drive ampere ratings alone may result in mis-sizing the reactor. 1321-3R1...3R35B are open slot and 1321-3R35C...3R1000C are closed slot.

Sizing Guidelines

Catalog Number	Fundamental Amps	Inductance - mH (Based on Fundamental Amps)	Watts Loss	Dimensions in mm (in.) and Weight in kg (lb)						
				A	B	C (1)	D (2) (3)	E	F	Weight (apx.)
1321-3R1-A	1	100	8	106.7 (4.2)	104.1 (4.1)	76.2 (3.0)	46 (1.8)	37 (1.4)	65 (2.6)	1.7 (3.7)
1321-3R1-B		50	5	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.1 (2.5)
1321-3R1-C		36	4	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.1 (2.5)
1321-3R1-D		18	3	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.0 (2.3)
1321-3R2-A	2	12	9	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.0 (2.3)
1321-3R2-B		20	19	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.1 (2.4)
1321-3R2-C		32	18	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.3 (2.8)
1321-3R2-D		6	6	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.1 (2.2)
1321-3R4-A	4	3	9	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.1 (2.2)
1321-3R4-B		6.5	14	106.7 (4.2)	104.1 (4.1)	66 (2.6)	36 (1.4)	37 (1.4)	65 (2.6)	1.2 (2.7)
1321-3R4-C		9	17	106.7 (4.2)	104.1 (4.1)	76.2 (3.0)	46 (1.8)	37 (1.4)	65 (2.6)	1.7 (3.8)
1321-3R4-D		12	20	106.7 (4.2)	104.1 (4.1)	83.8 (3.3)	52 (2.1)	37 (1.4)	65 (2.6)	2.0 (4.5)
1321-3R8-A	8	1.5	10	149.9 (5.9)	124.5 (4.9)	78.7 (3.1)	43 (1.7)	51 (2.0)	76.2 (3.0)	2.0 (4.5)
1321-3R8-B		3	16	149.9 (5.9)	124.5 (4.9)	78.7 (3.1)	43 (1.7)	51 (2.0)	76.2 (3.0)	2.2 (4.8)
1321-3R8-C		5	21	149.9 (5.9)	124.5 (4.9)	88.9 (3.5)	52 (2.1)	51 (2.0)	76.2 (3.0)	3.2 (6.9)
1321-3R8-D		7.5	28	149.9 (5.9)	124.5 (4.9)	88.9 (3.5)	52 (2.1)	51 (2.0)	76.2 (3.0)	3.2 (7.0)
1321-3R12-A	12	1.25	16	149.9 (5.9)	124.5 (4.9)	78.7 (3.1)	43 (1.7)	51 (2.0)	76.2 (3.0)	2.2 (4.8)
1321-3R12-B		2.5	23	149.9 (5.9)	124.5 (4.9)	78.7 (3.1)	43 (1.7)	51 (2.0)	76.2 (3.0)	2.4 (5.3)
1321-3R12-C		4.2	30	149.9 (5.9)	124.5 (4.9)	94.0 (3.7)	59 (2.3)	51 (2.0)	76.2 (3.0)	3.7 (8.1)
1321-3R18-A	18	0.8	17	149.9 (5.9)	124.5 (4.9)	78.7 (3.1)	43 (1.7)	51 (2.0)	76.2 (3.0)	2.3 (5.1)
1321-3R18-B		1.5	25	149.9 (5.9)	124.5 (4.9)	88.9 (3.5)	52 (2.1)	51 (2.0)	76.2 (3.0)	3.2 (7.1)
1321-3R18-C		2.5	31	182.9 (7.2)	147.6 (5.8)	96.5 (3.8)	57 (2.2)	76 (3.0)	—	5.2 (11.5)
1321-3R25-A	25	0.5	21	182.4 (7.2)	147.6 (5.8)	91.4 (3.6)	51 (2.0)	76 (3.0)	—	4.0 (8.8)
1321-3R25-B		1.2	39	182.4 (7.2)	147.6 (5.8)	91.4 (3.6)	51 (2.0)	76 (3.0)	—	4.5 (10.0)
1321-3R25-C		1.8	40	182.4 (7.2)	147.6 (5.8)	114.3 (4.5)	79 (2.8)	76 (3.0)	—	6.9 (15.2)
1321-3R35-A	35	0.4	25	182.4 (7.2)	147.6 (5.8)	96.5 (3.8)	57 (2.2)	76 (3.0)	—	5.0 (11.1)
1321-3R35-B		0.8	42	182.4 (7.2)	147.6 (5.8)	96.5 (3.8)	57 (2.2)	76 (3.0)	—	5.1 (11.2)
1321-3R35-C		1.2	44	227.8 (9.0)	182.9 (7.2)	116.8 (4.6)	83 (3.3)	76 (3.0)	108 (4.3)	10.6 (23.3)
1321-3R45-A	45	0.3	29	227.8 (9.0)	182.9 (7.2)	116.8 (4.6)	83 (3.3)	76 (3.0)	108 (4.3)	9.0 (19.8)
1321-3R45-B		0.7	46	227.8 (9.0)	182.9 (7.2)	116.8 (4.6)	83 (3.3)	76 (3.0)	108 (4.3)	9.9 (21.8)
1321-3R45-C		1.2	63	227.8 (9.0)	182.9 (7.2)	129.5 (5.1)	96 (3.8)	76 (3.0)	108 (4.3)	12.6 (27.8)

Sizing Guidelines (Continued)

Catalog Number	Fundamental Amps	Inductance - mH (Based on Fundamental Amps)	Watts Loss	Dimensions in mm (in.) and Weight in kg (lb)						
				A	B	C (1)	D (2) (3)	E	F	Weight (apx.)
1321-3R55-A	55	0.25	32	227.8 (9.0)	174.0 (6.9)	116.8 (4.6) 5.4	83 (3.3)	76 (3.0)	108 (4.3)	8.9 (19.6)
1321-3R55-B		0.5	50	227.8 (9.0)	174.0 (6.9)	116.8 (4.6) 5.4	83 (3.3)	76 (3.0)	108 (4.3)	9.5 (21.0)
1321-3R55-C		0.85	61	227.8 (9.0)	174.0 (6.9)	129.5 (5.1) 5.9	96 (3.8)	76 (3.0)	108 (4.3)	12.6 (27.8)
1321-3R80-A	80	0.2	59	228.6 (9.0)	203.2 (8.0)	157.5 (6.2)	83 (3.3)	76 (3.0)	108 (4.3)	12.7 (28.0)
1321-3R80-B		0.4	82	233.7 (9.2)	200.7 (7.9)	172.7 (6.8)	96 (3.8)	76 (3.0)	108 (4.3)	15 (33.0)
1321-3R80-C		0.7	106	292.1 (11.5)	218.4 (8.6)	208.3 (8.2)	111 (4.4)	92 (3.63)	141.7 (5.6)	22.7 (50.0)
1321-3R100-A	100	0.15	59	228.6 (9.0)	200.7 (7.9)	165.1 (6.5)	83 (3.3)	76 (3.0)	108 (4.3)	13.2 (29.0)
1321-3R100-B		0.3	94	238.8 (9.4)	200.7 (7.9)	175.3 (6.9)	96 (3.8)	76 (3.0)	108 (4.3)	15.9 (35.0)
1321-3R100-C		0.45	108	292.1 (11.5)	218.4 (8.6)	195.6 (7.7)	111 (4.4)	92 (3.63)	141.7 (5.6)	24.5 (54.0)
1321-3R130-A	130	0.1	71	259.1 (10.2)	210.8 (8.3)	170.2 (6.7)	83 (3.3)	76 (3.0)	108 (4.3)	13.6 (30.0)
1321-3R130-B		0.2	117	259.1 (10.2)	210.8 (8.3)	210.8 (8.3)	108 (4.3)	76 (3.0)	108 (4.3)	17.2 (38.0)
1321-3R130-C		0.3	116	292.1 (11.5)	215.9 (8.5)	226.1 (8.9)	117 (4.6)	92 (3.63)	141.7 (5.6)	25.4 (56.0)
1321-3R160-A	160	0.075	71	259.1 (10.2)	200.7 (7.9)	190.5 (7.5)	108 (4.3)	76 (3.0)	108 (4.3)	20.0 (44.0)
1321-3R160-B		0.15	112	289.6 (11.4)	218.4 (8.6)	218.4 (8.6)	98 (3.9)	92 (3.63)	141.7 (5.6)	20.4 (45.0)
1321-3R160-C		0.23	131	289.6 (11.4)	218.4 (8.6)	228.6 (9.0)	123 (4.9)	92 (3.63)	141.7 (5.6)	29.5 (65.0)
1321-3R200-A	200	0.055	83	256.5 (10.1)	188.0 (7.4)	195.6 (7.7)	108 (4.3)	76 (3.0)	108 (4.3)	16.3 (36.0)
1321-3R200-B		0.11	142	256.5 (10.1)	203.2 (8.0)	233.7 (9.2)	122 (4.8)	76 (3.0)	108 (4.3)	22.2 (49.0)
1321-3R200-C		0.185	146	284.5 (11.2)	218.4 (8.6)	259.1 (10.2)	142 (5.6)	92 (3.63)	141.7 (5.6)	34.9 (77.0)
1321-3RB250-A	250	0.045	122	256.5 (10.1)	203.2 (8.0)	266.7 (10.5)	108 (4.3)	76 (3.0)	108 (4.3)	18.1 (40.0)
1321-3RB250-B		0.09	116	284.5 (11.2)	231.1 (9.1)	241.3 (9.5)	124 (4.9)	92 (3.63)	141.7 (5.6)	29.5 (65.0)
1321-3RB250-C		0.15	178	381.0 (15.0)	287.0 (11.3)	251.5 (9.9)	155 (6.1)	117 (4.6)	182.89 (7.2)	52.2 (115.0)
1321-3RB320-A	320	0.04	149	284.5 (11.2)	218.4 (8.6)	218.4 (8.6)	123 (4.9)	92.2 (3.6)	141.7 (5.6)	27.7 (61.0)
1321-3RB320-B		0.075	222	284.5 (11.2)	218.4 (8.6)	243.8 (9.6)	149 (5.9)	92.2 (3.6)	141.7 (5.6)	37.2 (82.0)
1321-3RB320-C		0.125	241	360.7 (14.2)	289.6 (11.4)	299.7 (11.8)	181 (7.1)	117 (4.6)	182.9 (7.2)	57.6 (127.0)
1321-3RB400-A	400	0.03	146	284.5 (11.2)	231.1 (9.1)	259.1 (10.2)	136 (5.4)	92.2 (3.6)	141.7 (5.6)	32.6 (72.0)
1321-3RB400-B		0.06	203	355.6 (14.0)	289.6 (11.4)	279.4 (11.0)	168 (6.6)	117 (4.6)	182.9 (7.2)	49.9 (110.0)
1321-3RB400-C		0.105	285	360.7 (14.2)	289.6 (11.4)	320.0 (12.6)	193 (7.6)	117 (4.6)	182.9 (7.2)	64.4 (142.0)
1321-3R500-A	500	0.025	158	284.5 (11.2)	231.1 (9.1)	297.2 (11.7)	136 (5.4)	92.2 (3.6)	141.7 (5.6)	34.9 (77.0)
1321-3R500-B		0.05	242	368.3 (14.5)	299.7 (11.8)	355.6 (14.0)	181 (7.1)	117 (4.6)	182.9 (7.2)	57.6 (127.0)
1321-3R500-C		0.085	308	368.3 (14.5)	299.7 (11.8)	414.0 (16.3)	231 (9.1)	117 (4.6)	182.9 (7.2)	85.7 (189.0)
1321-3R600-A	600	0.02	222	368.3 (14.5)	299.7 (11.8)	304.8 (12.0)	155 (6.1)	117 (4.6)	182.9 (7.2)	49.9 (110.0)
1321-3R600-B		0.04	279	368.3 (14.5)	299.7 (11.8)	348.0 (13.7)	193 (7.6)	117 (4.6)	182.9 (7.2)	66.7 (147.0)
1321-3R600-C		0.065	355	368.3 (14.5)	299.7 (11.8)	419.1 (16.5)	257 (10.1)	117 (4.6)	182.9 (7.2)	99.4 (219.0)
1321-3R750-A	750	0.015	227	368.3 (14.5)	299.7 (11.8)	345.4 (13.6)	168 (6.6)	117 (4.6)	182.9 (7.2)	54.4 (120.0)
1321-3R750-B		0.029	327	373.4 (14.7)	365.8 (14.4)	373.4 (14.7)	183 (7.2)	117 (4.6)	182.9 (7.2)	93.0 (205.0)
1321-3R750-C		0.048	433	381.0 (15.0)	365.8 (14.4)	391.2 (15.4)	208 (8.2)	117 (4.6)	182.9 (7.2)	111.6 (246.0)
1321-3R850-A	850	0.015	293	365.8 (14.4)	365.8 (14.4)	315.0 (12.4)	206 (8.1)	117 (4.6)	182.9 (7.2)	66.7 (147.0)
1321-3R850-B		0.027	386	365.8 (14.4)	365.8 (14.4)	327.7 (12.9)	219 (8.6)	117 (4.6)	182.9 (7.2)	78.9 (174.0)
1321-3R850-C		0.042	386	365.8 (14.4)	365.8 (14.4)	393.7 (15.5)	282 (11.1)	117 (4.6)	182.9 (7.2)	118.9 (262.0)
1321-3R1000-B	1000	0.022	507	375.9 (14.8)	373.4 (14.7)	368.3 (14.5)	231 (9.1)	117 (4.6)	182.9 (7.2)	89.4 (197.0)
1321-3R1000-C		0.038	480	375.9 (14.8)	373.4 (14.7)	419.1 (16.5)	282 (11.1)	117 (4.6)	182.9 (7.2)	121.6 (268.0)

(1) Dimension C is measured at the widest point of the line reactor. This could be at the base or at the terminal depending on the catalog number. See [Typical Termination Types and Specifications on page 9](#) for examples of line reactor types.

(2) Removable lifting rings are supplied with the unit.

(3) For closed slot units, the center dimension is measured from the center of the slot. For open slots, the center dimension is measure from the inner most radii.

1321 Reflective Wave Reduction (RWR) Series B Devices

Description of Reflected Wave Phenomenon

The inverter section of a drive does not produce sinusoidal voltage, but rather a series of voltage pulses created from the DC bus. These pulses travel down the motor cables to the motor and then reflected back to the drive. The reflection is dependent on the rise time of the drive output voltage, cable characteristics, cable length, and motor impedance. If the voltage reflection is combined with another subsequent pulse, peak voltages can be at a destructive level. An IGBT drive output may have reflected wave transient voltage stresses of up to twice (2 pu or per unit) the DC bus voltage between its own output wires. Multiple drive output wires in a single conduit or wire tray further increase output wire voltage stress between multi-drive output wires that are touching. Drive #1 may have a (+) 2 pu stress while drive #2 may simultaneously have a (-) 2 pu stress.

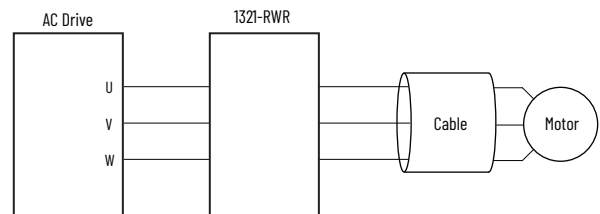
For more details, see the Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication [DRIVES-IN001](#).

Applying RWR Devices

At the Output of the Drive

In long motor lead applications, an Allen-Bradley 1321 RWR located between the drive and motor helps to reduce dv/dt and motor terminal peak voltages. The use of an RWR device also helps protect the drive from surge currents that are caused by rapid changes in the load.

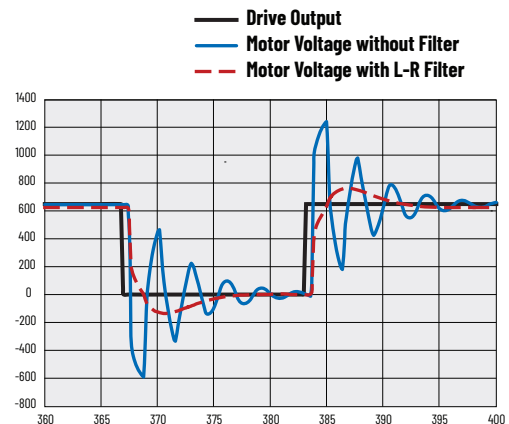
- Protect motors from long lead effects
- Reduce output voltage dv/dt
- Extend semiconductor life
- Reduce surge currents
- Reduce motor temperature
- Reduce audible motor noise



Motor Protection

Allen-Bradley RWR devices can help protect motors from high peak voltages.

For IGBT drive applications with long drive-to-motor lead lengths, Allen-Bradley RWR devices can help protect against fast dv/dt rise times.



Catalog Number Explanation

IMPORTANT 1321-RWR products replace existing 1204-RWR products. However, 1204-RWRC modules (RWR and Common Mode Choke assembly) are still available.

1-8		Position		11		12	
1321 – RWR		8		D		P	
a		b		c		d	
a		b1		b2			
Product		Rating		Rating			
Code	Type	400-480V AC		600V AC			
1321-RWR	Reflective Wave Reduction Device	Fundamental Amps		Fundamental Amps			
C		Code		Code			
Voltage Rating		Voltage		Voltage			
D	400/480V AC	8		8			
E	600V AC	12		12			
d		18		18			
Enclosure		25		25			
Code		Description		Code			
P		Panel Mount		35			
		45		45			
		55		55			
		80		80			
		100		100			
		130		130			
		160		160			
		200		200			
		250		250			
		320		320			

Specifications

Specification		Rating
Material	Enclosures	IP00 (Open)
	Terminations	1...45 A (fundamental) Ratings – Finger guard IP20 terminal block
		55...320 A (fundamental) Ratings – Solid tin-plated aluminum box lugs
		200...400 A (fundamental) Ratings – Tin-plated aluminum-tab terminals ⁽¹⁾
Harmonic Compensation	All line reactors are compensated for the additional currents and high frequencies that are caused by the presence of harmonics	401 A and above – Tin-plated aluminum-tab terminals ⁽¹⁾
General Protection	Impedance	3%
	Overload Rating	300% of fundamental current for (1) minute
IGBT Protection	First turn triple insulated offering protection up to 16 kV	16,000 Volts per microsecond dv/dt protection 20 kHz maximum switching frequency
Electrical	Maximum Rated Voltage	600V AC, 50/60 Hz frequency
	Maximum Switching Freq.	4 kHz
	Temperature Rise	115 °C (239 °F)
	Dielectric Strength	4000 Volts rms (5600 volts peaks)
	Inductance Curve	100% at 100% current, 100% at 150% current, 50% at 350% current
	Insulation System	Class H (180 °C or better)
	Impregnation	High bond strength epoxy impregnation, 4000V high dielectric strength
Environmental	Ambient Temperature	45 °C (113 °F)
	U.L. Recognized	UL-508 - IP00
	CE	Not certified
	Storage Temperature (all const.)	-40...+70°C (-40...+158°F)
	Humidity	5...95% noncondensing

(1) For applications with RWR devices rated 200 A or more, cable-style connections are recommended.

Termination

Allen-Bradley 1321-RWR devices rated 45 amps (fundamental) and below are supplied with an integral mounted terminal block. Devices that are rated 55...160 amps (fundamental) are supplied with box lugs. Devices rated 200...400 amps (fundamental) can be supplied with box lugs or tin-plated aluminum-tabs. Above 400 amps (fundamental), solid tin-plated aluminum-tabs are used.

Approximate Dimensions, Weights, Wire Size, and Terminal Blocks

The dimensions and weights that are provided on the following page is for estimating purposes only. Contact your Rockwell Automation sales office if certified drawings are required for planning and installation.

Approximate Dimensions, Weights, Wire Size, and Terminal Blocks

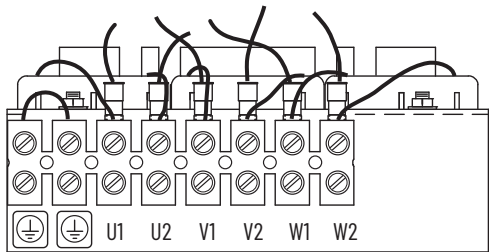
Catalog No.	Fund.	Cont.	VOLTS	Wire Size	Watts Loss		Figure	Dimensions mm (in.)							Weight kg (lb)
	Amps	Amps		mm ² (AWG)	400V	600V		A	B	C	D	E	F	G	
1321-RWR8-DP	8	12	400V	0.5...16 (20...6)	377	524	1	282.6 (11.13)	298.5 (11.75)	151.13 (5.95)	7.4 (0.29)	7.4 x 11.6 (0.29 x 0.46)		3.81 (8.4)	
1321-RWR8-EP			600V												
1321-RWR12-DP	12	18	400V	0.5...16 (20...6)	386	401	1	282.6 (11.13)	298.5 (11.75)	151.13 (5.95)	7.4 (0.29)	7.4 x 11.6 (0.29 x 0.46)		4.04 (8.9)	
1321-RWR12-EP			600V												
1321-RWR18-DP	18	27	400V	0.5...16 (20...6)	388	536	1	282.6 (11.13)	298.5 (11.75)	151.13 (5.95)	7.4 (0.29)	7.4 x 11.6 (0.29 x 0.46)		5.53 (12.2)	
1321-RWR18-EP			600V												
1321-RWR25-DP	25	37.5	400V	0.5...16 (20...6)	403	553	1	282.6 (11.13)	298.5 (11.75)	176.78 (6.96)	7.4 (0.29)	7.4 x 11.6 (0.29 x 0.46)		6.40 (14.1)	
1321-RWR25-EP			600V												
1321-RWR35-DP	35	52.5	400V	0.5...16 (20...6)	411	421	1	282.6 (11.13)	317.5 (12.50)	176.78 (6.96)	7.4 (0.29)	7.4 x 11.6 (0.29 x 0.46)		7.17 (15.8)	
1321-RWR35-EP			600V												
1321-RWR45-DP	45	67.5	400V	0.75...25 (18...4)	406	561	2	320.29 (12.61)	386.33 (15.21)	158.8 (6.25)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)		15.56 (34.3)	
1321-RWR45-EP			600V												
1321-RWR55-DP	55	82.5	400V	Per NEC	416	566	3	320.7 (12.63)	370.84 (14.6)	146.81 (5.78)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	152.4 (6.0)	190.5 (7.5)	16.10 (35.5)
1321-RWR55-EP			600V												
1321-RWR80-DP	80	120	400V	Per NEC	453	348	3	322.3 (12.69)	382.52 (15.06)	179.58 (7.07)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	152.4 (6.0)	190.5 (7.5)	20.41 (45.0)
1321-RWR80-EP			600V												
1321-RWR100-DP	100	150	400V	Per NEC	446	361	3	320.7 (12.63)	380.49 (14.98)	187.96 (7.4)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	152.4 (6.0)	190.5 (7.5)	20.64 (45.5)
1321-RWR100-EP			600V												
1321-RWR130-DP	130	195	400V	Per NEC	575	440	3	317.5 (12.50)	381.51 (15.02)	312.65 (9.12)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	152.4 (6.0)	190.5 (7.5)	22.23 (49.0)
1321-RWR130-EP			600V												
1321-RWR160-DP	160	240	400V	Per NEC	574	439	3	355.6 (14.00)	429.51 (16.91)	229.87 (9.05)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	182.9 (7.2)	228.6 (9.0)	26.76 (59.0)
1321-RWR160-EP			600V												
1321-RWR200-DP	200	300	400V	Per NEC	600	594	3	317.5 (12.50)	394.21 (15.52)	245.87 (9.68)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	152.4 (6.0)	190.5 (7.5)	27.67 (61.0)
1321-RWR200-EP			600V												
1321-RWR250-DP	250	375	400V	Per NEC	577	442	3	358.8 (14.13)	419.86 (16.53)	274.32 (10.8)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	182.9 (7.2)	228.6 (9.0)	34.93 (77.0)
1321-RWR250-EP			600V												
1321-RWR320-DP	320	480	400V	Per NEC	458	N/A	3	358.8 (14.13)	429.77 (16.92)	252.22 (9.93)	10.5 (0.41)	10.3 x 17.9 (0.41 x 0.70)	182.9 (7.2)	228.6 (9.0)	43.09 (95.0)

1321-RWR Assembly Components

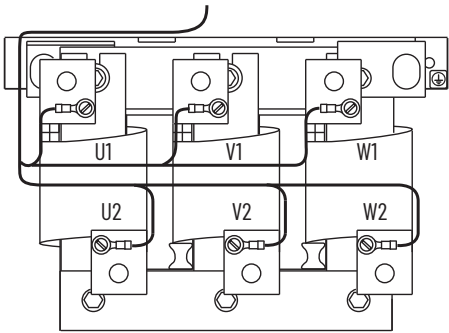
400/480V			
Reactor	Resistor		Wire Size (AWG)
	Ohms (Ω)	Watts	
1321-3R8-B	50	250	14...12
1321-3R12-B	50	250	14...12
1321-3R18-B	50	250	14...12
1321-3R25-B	50	250	10
1321-3R35-B	50	250	8...6
1321-3R45-B	50	250	6
1321-3R55-B	50	250	4
1321-3R80-B	50	250	2/0
1321-3R100-B	50	250	2/0
1321-3R130-B	50	300	2/0
1321-3R160-B	50	300	4/0
1321-3R200-B	50	300	250 MCM
1321-3RB250-B	50	300	350 MCM
1321-3R320-B	50	300	500 MCM

600V			
Reactor	Resistor		Wire Size (AWG)
	Ohms (Ω)	Watts	
1321-3R8-B	50	360	14...12
1321-3R12-B	50	360	14...12
1321-3R18-B	50	360	14...12
1321-3R25-B	50	360	10
1321-3R35-B	50	360	8...6
1321-3R45-B	50	360	6
1321-3R55-B	50	375	4
1321-3R80-B	50	375	2/0
1321-3R100-B	50	375	2/0
1321-3R130-B	50	420	2/0
1321-3R160-B	50	420	4/0
1321-3R200-B	50	420	250 MCM
1321-3RB250-B	50	420	350 MCM

Terminal Block Details



Details Figure 1 and Figure 2



Details Figure 3

Dimension Reference

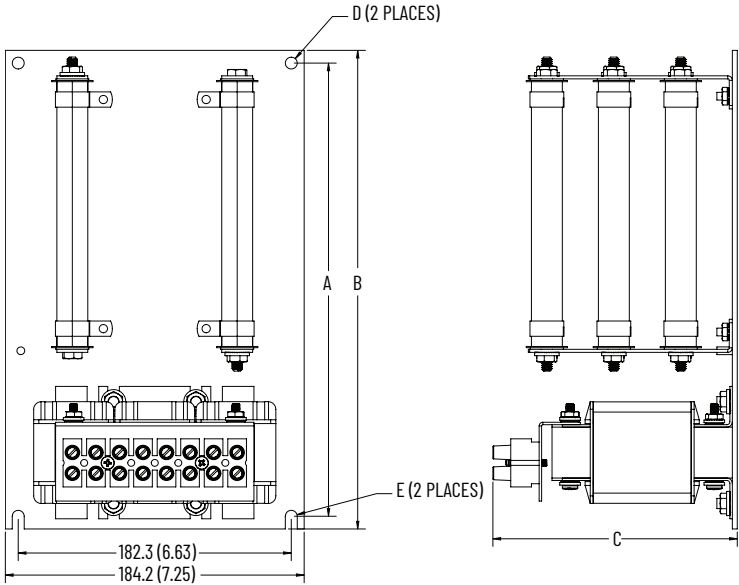


Figure 1

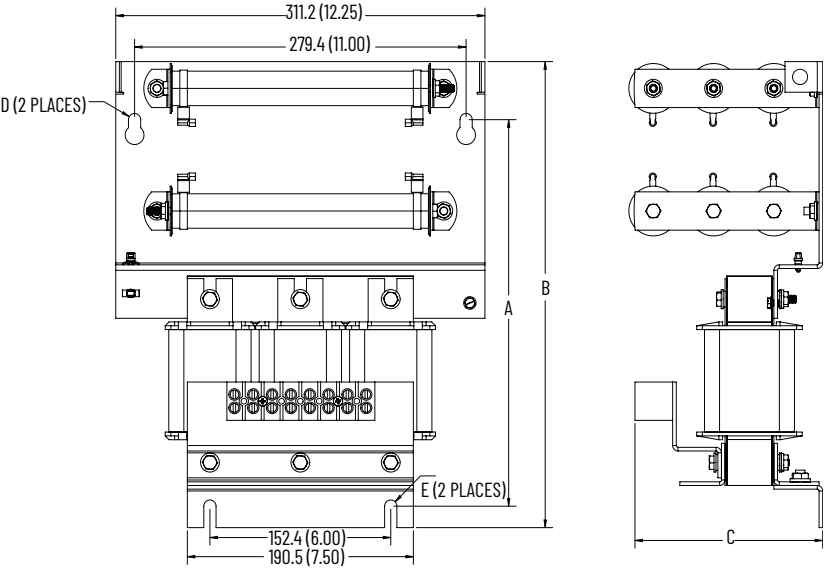


Figure 2

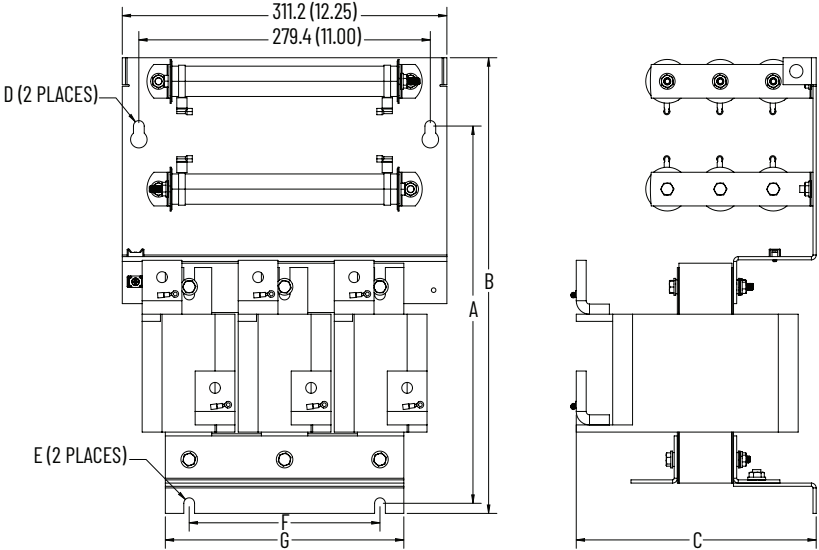


Figure 3

1321-3TH/3TW Series Three-Phase Isolation Transformers

Allen-Bradley 1321 Isolation Transformers are designed to meet the standard horsepower, voltage ratings, and harmonics of the Allen-Bradley variable speed drives.

Catalog Number Explanation

1-4

1321

a

-

6

3

b

-

7

T

c

-

8

W

d

-

9

005

e

-

11

A

f

-

12

B

g

a

Product	
Code	Type
1321	Power Component

b

Phases	
Code	Description
3	Three-Phase

c

Device	
Code	Description
T	Transformer

d

Mounting	
Code	Description
W *	Wall
H	Floor

e

Rating	
Code	kVA
005	5
007	7.5
011	11
014	14
020	20
027	27
034	34
040	40
051	51
063	63
075	75
093	93
118	118
145	145
175	175
220	220
275	275
330	330
440	440
550	550
660	660
770	770
880	880

f

Primary Voltage	
Code	Voltage
A	230V AC
B	460V AC
C	575V AC
X	208V AC

g

Secondary Voltage	
Code	Voltage
A	230V AC
B	460V AC
C	575V AC
X	208V AC

* These ship with an additional bracket which allows wall mounting.

Specifications

Specifications

Specification		Rating
Electrical	General	Delta primary, wye secondary, 60 Hz, aluminum wound, neutral terminal available for customer use
	Standard Voltage Taps	5.0...175 kVA, 1...5.0% FCAN and FCBN
		220...880 kVA, 1...2.5% FCAN and FCBN ±10%
	Insulation System	Class 220
		150 °C rise over 40 °C ambient
Environmental		Peak 40 °C ambient with 30 °C 24-hour average
	Efficiency	98% (2% losses)
	Elevation	Up to 1000 meters. Above 1000 meters, consult factory for derating
	U.L. Listed	File E112313
	Storage Temperature (all const.)	-40...+70°C (-40...+158°F)
	Humidity	5...95% noncondensing

Specifications (Continued)

Specification		Rating
Construction	Enclosure	NEMA/UL Type 3R (IP32)
		Heavy duty ventilated enclosure with metal screens that help protect all vents and finished in ANSI 61 grey
	Termination	Transformers up to 75 kVA have integral high and low voltage lugs that are installed, suitable for copper or aluminum cable installation
	Conduit Entry	Standard knockouts on all enclosures
General	Mounting	5...51 kVA units suitable for either floor or wall mounting. 63...75 kVA units suitable for floor, wall, or ceiling mounting with mounting kit 1321-3TWM2 (Style NH3). Larger units are floor mount only
	Impedance	4...6% impedance (nominal)
	Short Circuit Capability	Meets UL short circuit withstand capability
	Overload Rating	Windings that are designed to withstand overcurrent of 150% of rated load for 60 Seconds or 200% of rated load for 30 Seconds
	Duty Cycle	(1) start every (2) hours
	Thermostats	Thermostats with 1 N.C. contact in each coil, which are wired in series and integral on all units
	K-factor	4

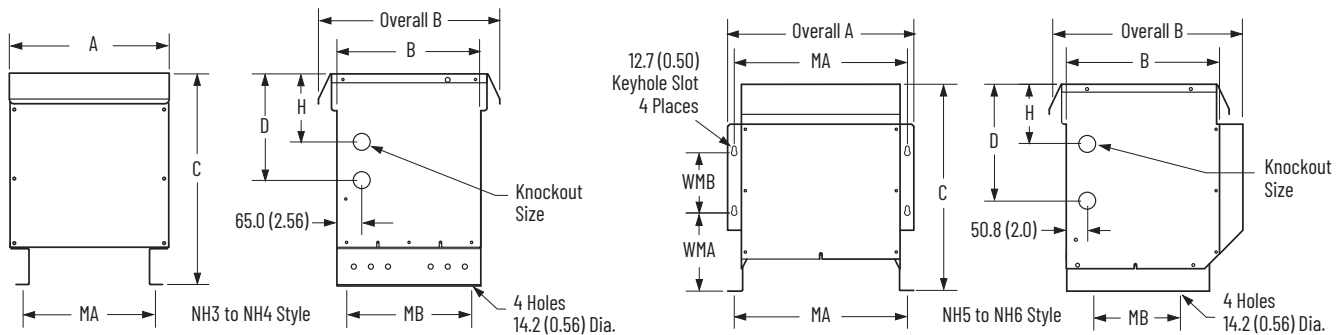
Approximate Mounting Dimensions

IP32, NEMA/UL Type 3R - Styles NH3 Through NH4

Dimensions in mm (in.)

Style	A	Overall A	B	Overall B	C	D	H	K	MA	MB	WMB	WMA
NH3	660.4 (26.00)	—	533.4 (21.00)	635.0 (25.00)	66.0 (38.00)	609.6 (24.00)	355.6 (14.00)	50.8 x 76.2 (2.00 x 3.00)	546.1 (21.50)	482.6 (19.00)	—	—
NH4	812.8 (32.00)	—	647.7 (25.50)	749.3 (29.50)	68.0 (41.00)	609.6 (24.00)	304.8 (12.00)	50.8 x 76.2 (2.00 x 3.00)	596.9 (23.50)	596.9 (23.50)	—	—
NH5 (1)	425.5 (16.75)	492.8 (19.40)	381.0 (15.00)	513.1 (20.20)	546.1 (21.50)	304.8 (12.00)	152.4 (6.00)	35.1 x 44.4 (1.38 x 1.75)	457.2 (18.00)	228.6 (9.00)	177.8 (7.00)	184.4 (7.26)
NH6 (1)	546.1 (21.50)	607.1 (23.90)	495.3 (19.50)	730.3 (28.75)	730.3 (28.75)	431.8 (17.00)	215.9 (8.50)	35.1 x 44.4 (1.38 x 1.75)	577.9 (22.75)	228.6 (9.00)	203.2 (8.00)	247.1 (9.73)

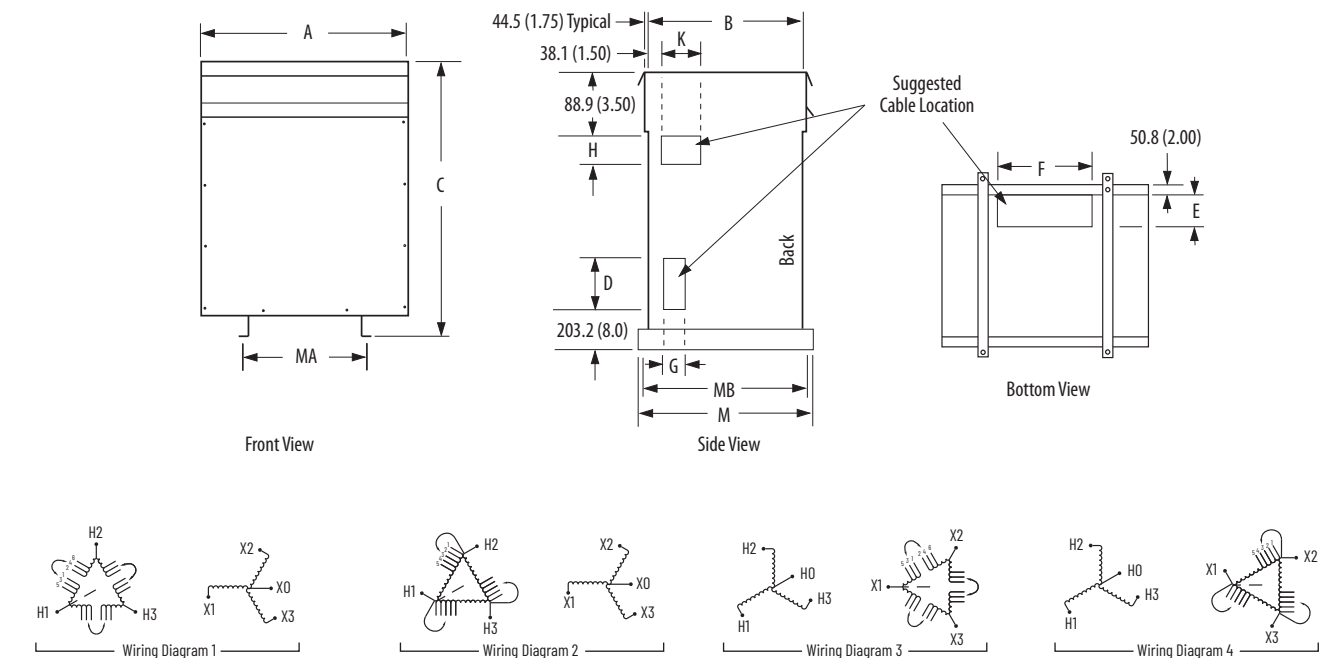
(1) Enclosure Styles NH1 and NH2 are replaced by NH5 and NH6 for 1321-3TH005 through 1321-3TH051 transformer ratings.



IP32, NEMA/UL Type 3R - Styles NJ1 Through NJ6

Dimensions in mm (in.)

Style	A	B	C	D	E	F	G	H	K	M	MA	MB
NJ1	1003.3 (39.50)	762.0 (30.00)	1308.1 (51.50)	254.0 (10.00)	190.5 (7.50)	546.1 (21.50)	203.2 (8.00)	165.1 (6.50)	342.9 (13.50)	863.6 (34.00)	609.6 (24.00)	812.8 (32.00)
NJ2	1239.1 (48.50)	836.6 (34.00)	1498.6 (59.00)	330.2 (13.00)	215.9 (8.50)	635.0 (25.00)	228.6 (9.00)	215.9 (8.50)	393.7 (15.50)	965.2 (38.00)	698.5 (27.50)	914.4 (36.00)
NJ3	1308.1 (51.50)	990.6 (39.00)	1676.4 (66.00)	406.4 (16.00)	241.3 (9.50)	800.1 (31.50)	254.0 (10.00)	292.1 (11.50)	457.2 (18.00)	1092.2 (43.00)	863.6 (34.00)	1041.4 (41.00)
NJ6	1625.6 (64.00)	1016.0 (40.00)	1727.2 (68.00)	406.4 (16.00)	266.7 (10.50)	952.5 (37.50)	279.4 (11.00)	292.1 (11.50)	457.2 (18.00)	1117.6 (44.00)	1016.0 (40.00)	1066.8 (42.00)



Wiring Diagrams, Ratings, and Weights

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
5	1321-3TW005-AA	NH5	230	230	1	63.5 (140)
	1321-3TW005-AB	NH5	230	460	3	63.5 (140)
	1321-3TW005-AC	NH5	230	575	3	63.5 (140)
	1321-3TW005-BA	NH5	460	230	1	63.5 (140)
	1321-3TW005-BB	NH5	460	460	1	63.5 (140)
	1321-3TW005-BC	NH5	460	575	3	63.5 (140)
	1321-3TW005-CA	NH5	575	230	1	63.5 (140)
	1321-3TW005-CB	NH5	575	460	1	63.5 (140)
	1321-3TW005-CC	NH5	575	575	1	63.5 (140)
	1321-3TW005-XX	NH5	208	208	1	63.5 (140)
7.5	1321-3TW007-AA	NH5	230	230	1	63.5 (140)
	1321-3TW007-AB	NH5	230	460	3	63.5 (140)
	1321-3TW007-AC	NH5	230	575	3	63.5 (140)
	1321-3TW007-BA	NH5	460	230	1	63.5 (140)
	1321-3TW007-BB	NH5	460	460	1	63.5 (140)
	1321-3TW007-BC	NH5	460	575	3	63.5 (140)
	1321-3TW007-CA	NH5	575	230	1	63.5 (140)
	1321-3TW007-CB	NH5	575	460	1	63.5 (140)
	1321-3TW007-CC	NH5	575	575	1	63.5 (140)
	1321-3TW007-XX	NH5	208	208	1	63.5 (140)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
11	1321-3TW011-AA	NH5	230	230	1	70.3 (155)
	1321-3TW011-AB	NH5	230	460	3	70.3 (155)
	1321-3TW011-AC	NH5	230	575	3	70.3 (155)
	1321-3TW011-BA	NH5	460	230	1	70.3 (155)
	1321-3TW011-BB	NH5	460	460	1	70.3 (155)
	1321-3TW011-BC	NH5	460	575	3	70.3 (155)
	1321-3TW011-CA	NH5	575	230	1	70.3 (155)
	1321-3TW011-CB	NH5	575	460	1	70.3 (155)
	1321-3TW011-CC	NH5	575	575	1	70.3 (155)
	1321-3TW011-XX	NH5	208	208	1	70.3 (155)
14	1321-3TW014-AA	NH5	230	230	1	79.4 (175)
	1321-3TW014-AB	NH5	230	460	3	79.4 (175)
	1321-3TW014-AC	NH5	230	575	3	79.4 (175)
	1321-3TW014-BA	NH5	460	230	1	79.4 (175)
	1321-3TW014-BB	NH5	460	460	1	79.4 (175)
	1321-3TW014-BC	NH5	460	575	3	79.4 (175)
	1321-3TW014-CA	NH5	575	230	1	79.4 (175)
	1321-3TW014-CB	NH5	575	460	1	79.4 (175)
	1321-3TW014-CC	NH5	575	575	1	79.4 (175)
	1321-3TW014-XX	NH5	208	208	1	79.4 (175)

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Wiring Diagrams, Ratings, and Weights (Continued)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
20	1321-3TW020-AA	NH6	230	230	2	104.3 (230)
	1321-3TW020-AB	NH6	230	460	4	104.3 (230)
	1321-3TW020-AC	NH6	230	575	4	104.3 (230)
	1321-3TW020-BA	NH6	460	230	2	104.3 (230)
	1321-3TW020-BB	NH6	460	460	2	104.3 (230)
	1321-3TW020-BC	NH6	460	575	4	104.3 (230)
	1321-3TW020-CA	NH6	575	230	2	104.3 (230)
	1321-3TW020-CB	NH6	575	460	2	104.3 (230)
	1321-3TW020-CC	NH6	575	575	2	104.3 (230)
	1321-3TW020-XX	NH6	208	208	2	104.3 (230)
27	1321-3TW027-AA	NH6	230	230	2	113.4 (250)
	1321-3TW027-AB	NH6	230	460	4	113.4 (250)
	1321-3TW027-AC	NH6	230	575	4	113.4 (250)
	1321-3TW027-BA	NH6	460	230	2	113.4 (250)
	1321-3TW027-BB	NH6	460	460	2	113.4 (250)
	1321-3TW027-BC	NH6	460	575	4	113.4 (250)
	1321-3TW027-CA	NH6	575	230	2	113.4 (250)
	1321-3TW027-CB	NH6	575	460	2	113.4 (250)
	1321-3TW027-CC	NH6	575	575	2	113.4 (250)
	1321-3TW027-XX	NH6	208	208	2	113.4 (250)
34	1321-3TW034-AA	NH6	230	230	2	127.0 (280)
	1321-3TW034-AB	NH6	230	460	4	127.0 (280)
	1321-3TW034-AC	NH6	230	575	4	127.0 (280)
	1321-3TW034-BA	NH6	460	230	2	127.0 (280)
	1321-3TW034-BB	NH6	460	460	2	127.0 (280)
	1321-3TW034-BC	NH6	460	575	4	127.0 (280)
	1321-3TW034-CA	NH6	575	230	2	127.0 (280)
	1321-3TW034-CB	NH6	575	460	2	127.0 (280)
	1321-3TW034-CC	NH6	575	575	2	127.0 (280)
	1321-3TW034-XX	NH6	208	208	2	127.0 (280)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
40	1321-3TW040-AA	NH6	230	230	2	145.2 (320)
	1321-3TW040-AB	NH6	230	460	4	145.2 (320)
	1321-3TW040-AC	NH6	230	575	4	145.2 (320)
	1321-3TW040-BA	NH6	460	230	2	145.2 (320)
	1321-3TW040-BB	NH6	460	460	2	145.2 (320)
	1321-3TW040-BC	NH6	460	575	4	145.2 (320)
	1321-3TW040-CA	NH6	575	230	2	145.2 (320)
	1321-3TW040-CB	NH6	575	460	2	145.2 (320)
	1321-3TW040-CC	NH6	575	575	2	145.2 (320)
	1321-3TW051-AA	NH6	230	230	2	190.5 (420)
51	1321-3TW051-AB	NH6	230	460	4	190.5 (420)
	1321-3TW051-AC	NH6	230	575	4	190.5 (420)
	1321-3TW051-BA	NH6	460	230	2	190.5 (420)
	1321-3TW051-BB	NH6	460	460	2	190.5 (420)
	1321-3TW051-BC	NH6	460	575	4	190.5 (420)
	1321-3TW051-CA	NH6	575	230	2	190.5 (420)
	1321-3TW051-CB	NH6	575	460	2	190.5 (420)
	1321-3TW051-CC	NH6	575	575	2	190.5 (420)
	1321-3TH063-AA	NH3	230	230	2	244.9 (540)
	1321-3TH063-AB	NH3	230	460	4	244.9 (540)
63	1321-3TH063-AC	NH3	230	575	4	244.9 (540)
	1321-3TH063-BA	NH3	460	230	2	244.9 (540)
	1321-3TH063-BB	NH3	460	460	2	244.9 (540)
	1321-3TH063-BC	NH3	460	575	4	244.9 (540)
	1321-3TH063-CA	NH3	575	230	2	244.9 (540)
	1321-3TH063-CB	NH3	575	460	2	244.9 (540)
	1321-3TH063-CC	NH3	575	575	2	244.9 (540)
	1321-3TH075-AA	NH3	230	230	2	263.1 (580)
	1321-3TH075-AB	NH3	230	460	4	263.1 (580)
	1321-3TH075-AC	NH3	230	575	4	263.1 (580)
75	1321-3TH075-BA	NH3	460	230	2	263.1 (580)
	1321-3TH075-BB	NH3	460	460	2	263.1 (580)
	1321-3TH075-BC	NH3	460	575	4	263.1 (580)
	1321-3TH075-CA	NH3	575	230	2	263.1 (580)
	1321-3TH075-CB	NH3	575	460	2	263.1 (580)
	1321-3TH075-CC	NH3	575	575	2	263.1 (580)

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Wiring Diagrams, Ratings, and Weights (Continued)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
93	1321-3TH093-AA	NH3	230	230	2	285.8 (630)
	1321-3TH093-AB	NH3	230	460	4	285.8 (630)
	1321-3TH093-AC	NH3	230	575	4	285.8 (630)
	1321-3TH093-BA	NH3	460	230	2	285.8 (630)
	1321-3TH093-BB	NH3	460	460	2	285.8 (630)
	1321-3TH093-BC	NH3	460	575	4	285.8 (630)
	1321-3TH093-CA	NH3	575	230	2	285.8 (630)
	1321-3TH093-CB	NH3	575	460	2	285.8 (630)
	1321-3TH093-CC	NH3	575	575	2	285.8 (630)
118	1321-3TH118-AA	NH3	230	230	2	328.9 (725)
	1321-3TH118-AB	NH3	230	460	4	328.9 (725)
	1321-3TH118-AC	NH3	230	575	4	328.9 (725)
	1321-3TH118-BA	NH3	460	230	2	328.9 (725)
	1321-3TH118-BB	NH3	460	460	2	328.9 (725)
	1321-3TH118-BC	NH3	460	575	4	328.9 (725)
	1321-3TH118-CA	NH3	575	230	2	328.9 (725)
	1321-3TH118-CB	NH3	575	460	2	328.9 (725)
	1321-3TH118-CC	NH3	575	575	2	328.9 (725)
145	1321-3TH145-AA	NH4	230	230	2	408.2 (900)
	1321-3TH145-AB	NH4	230	460	4	408.2 (900)
	1321-3TH145-AC	NH4	230	575	4	408.2 (900)
	1321-3TH145-BA	NH4	460	230	2	408.2 (900)
	1321-3TH145-BB	NH4	460	460	2	408.2 (900)
	1321-3TH145-BC	NH4	460	575	4	408.2 (900)
	1321-3TH145-CA	NH4	575	230	2	408.2 (900)
	1321-3TH145-CB	NH4	575	460	2	408.2 (900)
	1321-3TH145-CC	NH4	575	575	2	408.2 (900)
175	1321-3TH175-AA	NH4	230	230	2	453.6 (1000)
	1321-3TH175-AB	NH4	230	460	4	453.6 (1000)
	1321-3TH175-AC	NH4	230	575	4	453.6 (1000)
	1321-3TH175-BA	NH4	460	230	2	453.6 (1000)
	1321-3TH175-BB	NH4	460	460	2	453.6 (1000)
	1321-3TH175-BC	NH4	460	575	4	453.6 (1000)
	1321-3TH175-CA	NH4	575	230	2	453.6 (1000)
	1321-3TH175-CB	NH4	575	460	2	453.6 (1000)
	1321-3TH175-CC	NH4	575	575	2	453.6 (1000)
220	1321-3TH220-AA	NJ1	230	230	2	589.7 (1300)
	1321-3TH220-AB	NJ1	230	460	4	589.7 (1300)
	1321-3TH220-AC	NJ1	230	575	4	589.7 (1300)
	1321-3TH220-BA	NJ1	460	230	2	589.7 (1300)
	1321-3TH220-BB	NJ1	460	460	2	589.7 (1300)
	1321-3TH220-BC	NJ1	460	575	4	589.7 (1300)
	1321-3TH220-CA	NJ1	575	230	2	589.7 (1300)
	1321-3TH220-CB	NJ1	575	460	2	589.7 (1300)
	1321-3TH220-CC	NJ1	575	575	2	589.7 (1300)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
275	1321-3TH275-AA	NJ1	230	230	2	680.4 (1500)
	1321-3TH275-AB	NJ1	230	460	4	680.4 (1500)
	1321-3TH275-AC	NJ1	230	575	4	680.4 (1500)
	1321-3TH275-BA	NJ1	460	230	2	680.4 (1500)
	1321-3TH275-BB	NJ1	460	460	2	680.4 (1500)
	1321-3TH275-BC	NJ1	460	575	4	680.4 (1500)
	1321-3TH275-CA	NJ1	575	230	2	680.4 (1500)
	1321-3TH275-CB	NJ1	575	460	2	680.4 (1500)
	1321-3TH275-CC	NJ1	575	575	2	680.4 (1500)
330	1321-3TH330-AA	NJ1	230	230	2	771.1 (1700)
	1321-3TH330-AB	NJ1	230	460	4	771.1 (1700)
	1321-3TH330-AC	NJ1	230	575	4	771.1 (1700)
	1321-3TH330-BA	NJ1	460	230	2	771.1 (1700)
	1321-3TH330-BB	NJ1	460	460	2	771.1 (1700)
	1321-3TH330-BC	NJ1	460	575	4	771.1 (1700)
	1321-3TH330-CA	NJ1	575	230	2	771.1 (1700)
	1321-3TH330-CB	NJ1	575	460	2	771.1 (1700)
	1321-3TH330-CC	NJ1	575	575	2	771.1 (1700)
440	1321-3TH440-AA	NJ2	230	230	1	907.2 (2000)
	1321-3TH440-AB	NJ2	230	460	3	907.2 (2000)
	1321-3TH440-AC	NJ2	230	575	3	907.2 (2000)
	1321-3TH440-BA	NJ2	460	230	1	907.2 (2000)
	1321-3TH440-BB	NJ2	460	460	1	907.2 (2000)
	1321-3TH440-BC	NJ2	460	575	3	907.2 (2000)
	1321-3TH440-CA	NJ2	575	230	1	907.2 (2000)
	1321-3TH440-CB	NJ2	575	460	1	907.2 (2000)
	1321-3TH440-CC	NJ2	575	575	1	907.2 (2000)
550	1321-3TH550-AA	NJ2	230	230	1	1134.0 (2500)
	1321-3TH550-AB	NJ2	230	460	3	1134.0 (2500)
	1321-3TH550-AC	NJ2	230	575	3	1134.0 (2500)
	1321-3TH550-BA	NJ2	460	230	1	1134.0 (2500)
	1321-3TH550-BB	NJ2	460	460	1	1134.0 (2500)
	1321-3TH550-BC	NJ2	460	575	3	1134.0 (2500)
	1321-3TH550-CA	NJ2	575	230	1	1134.0 (2500)
	1321-3TH550-CB	NJ2	575	460	1	1134.0 (2500)
	1321-3TH550-CC	NJ2	575	575	1	1134.0 (2500)

continued on next page

Wiring Diagrams, Ratings, and Weights (Continued)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
660	1321-3TH660-AA	NJ3	230	230	1	1360.8 (3000)
	1321-3TH660-AB	NJ3	230	460	3	1360.8 (3000)
	1321-3TH660-AC	NJ3	230	575	3	1360.8 (3000)
	1321-3TH660-BA	NJ3	460	230	1	1360.8 (3000)
	1321-3TH660-BB	NJ3	460	460	1	1360.8 (3000)
	1321-3TH880-BC	NJ6	460	575	3	1678.3 (3700)
	1321-3TH880-CA	NJ6	575	230	1	1678.3 (3700)
	1321-3TH880-CB	NJ6	575	460	1	1678.3 (3700)
	1321-3TH880-CC	NJ6	575	575	1	1678.3 (3700)
	1321-3TH660-BC	NJ3	460	575	3	1360.8 (3000)
	1321-3TH660-CA	NJ3	575	230	1	1360.8 (3000)
	1321-3TH660-CB	NJ3	575	460	1	1360.8 (3000)
	1321-3TH660-CC	NJ3	575	575	1	1360.8 (3000)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
770	1321-3TH770-AA	NJ3	230	230	1	1587.6 (3500)
	1321-3TH770-AB	NJ3	230	460	3	1587.6 (3500)
	1321-3TH770-AC	NJ3	230	575	3	1587.6 (3500)
	1321-3TH770-BA	NJ3	460	230	1	1587.6 (3500)
	1321-3TH770-BB	NJ3	460	460	1	1587.6 (3500)
	1321-3TH770-BC	NJ3	460	575	3	1587.6 (3500)
	1321-3TH770-CA	NJ3	575	230	1	1587.6 (3500)
	1321-3TH770-CB	NJ3	575	460	1	1587.6 (3500)
	1321-3TH770-CC	NJ3	575	575	1	1587.6 (3500)
	1321-3TH880-AA	NJ6	230	230	1	1678.3 (3700)
880	1321-3TH880-AB	NJ6	230	460	3	1678.3 (3700)
	1321-3TH880-AC	NJ6	230	575	3	1678.3 (3700)
	1321-3TH880-BA	NJ6	460	230	1	1678.3 (3700)
	1321-3TH880-BB	NJ6	460	460	1	1678.3 (3700)

1321-Mxxx Common Mode Chokes

1321-Mxxx Common Mode Chokes can be installed with the following Allen-Bradley AC drives.

- PowerFlex® 4-Class
- PowerFlex 520-Series
- PowerFlex 7-Class
- PowerFlex 750-Series
- 1305
- 1336 PLUS™
- 1336 PLUS™ II
- 1336 IMPACT™
- 1336 FORCE™

When installed at the drive output the common mode choke helps to guard against interference with other electrical equipment (Programmable Controllers, sensors, analog circuits, and so forth). In addition, reducing the PWM carrier frequency reduces the effects and lowers the risk of common mode noise interference.

Catalog Number Explanation

Position

1-4

6

7

1321

-

M

009

a

b

c

a

Product	
Code	Type
1321	Power Component

b

Device	
Code	Description
M	Common Mode Choke

c

Current Rating	
Code	Amps
001 *	1
009	9
048	48
055	55
180	180
670	670

* Same core as 1321-M009. Can be used in place of the M009, M048, or M180 if the terminal block and windings typical of those ratings are not desired.

Ratings

PowerFlex AC Drives

Choke Type	Used With	Ratings	Catalog Number
Open Style, 1A	All PowerFlex Drives	Communication Cables, Analog Signal Cables, and so forth	1321-M001
Open Style, 9A (with terminal strip)	PowerFlex 4M/4/40/40P	0.2...1.1 kW (0.25...2 HP), 100...115V 0.2...1.5 kW (0.25...2 HP), 200...240V 0.4...2.2 kW (0.5...3 HP), 380...480V	1321-M009
	PowerFlex 400	2.2 kW (3 HP) 400...480V	
	PowerFlex 520-Series	0.2...1.1 kW (0.25...1.5 HP), 100...120V 0.2...1.1 kW (0.25...2 HP), 208...240V 0.4...2.2 kW (0.5...3 HP), 400...480V	
	PowerFlex 7-Class	0.3...2.2 kW (0.5...3 HP), 208...230V 0.4...4 kW (0.5...5 HP), 400...480V	
	PowerFlex 750-Series	0.75...4 kW (0.5...5 HP), 400...480V	
Open Style, 48A	PowerFlex 4M/4/40/40P	2.2...7.5 kW (3...10 HP), 200...240V 2.2...11 kW (3...15 HP), 380...480V 2.2...11 kW (3...15 HP), 600V	1321-M048
	PowerFlex 400	2.2...11 kW (3...15 HP), 200...240V 4...22 kW (5...30 HP), 380...480V	
	PowerFlex 520-Series	0.2...14 kW (3...20 HP), 200...240V 4...22 kW (5...30 HP), 400...480V 5.5...22 kW (7.5...30 HP), 600V	
	PowerFlex 7-Class	2.2...11 kW (3...15 HP), 208...240V 4...22 kW (5...30 HP), 400...480V 5.5...37 kW (10...40 HP), 600V	
	PowerFlex 750-Series	5.5...22 kW (7.5...30 HP), 400...480V 5.5...37 kW (7.5...40 HP), 600...690V	
Open Style, 55A	PowerFlex 7-Class	14 kW (20 HP), 208...240V 22...30 kW (30...40 HP), 400...480V 45 kW (50 HP), 600V	1321-M055
	PowerFlex 750-Series	22...30 kW (30...40 HP), 400...480V 45 kW (50 HP), 600...690V	
Open Style, 180A	PowerFlex 7-Class	14...44 kW (20...60 HP), 208...240V 30...110 kW (40...150 HP), 400...480V 45...132 kW (50...150 HP), 600V	1321-M180
	PowerFlex 750-Series	30...90 kW (40...125 HP), 400...480V 45...132 kW (50...150 HP), 600...690V	
Open Style, 670A	PowerFlex 7-Class	55...75 kW (75...100 HP), 208...240V 149...373 kW (200...500 HP), 400...480V 149...522 kW (200...700 HP), 600V	1321-M670
	PowerFlex 750-Series	110...447 kW (150...600 HP), 400...480V 149...597 kW (200...800 HP), 600...690V	

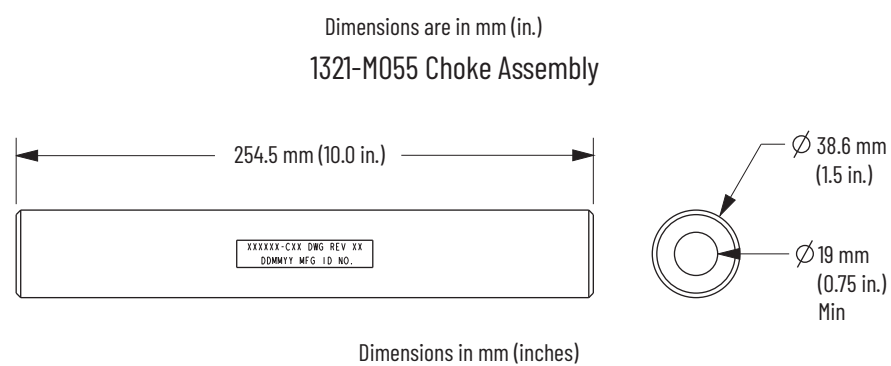
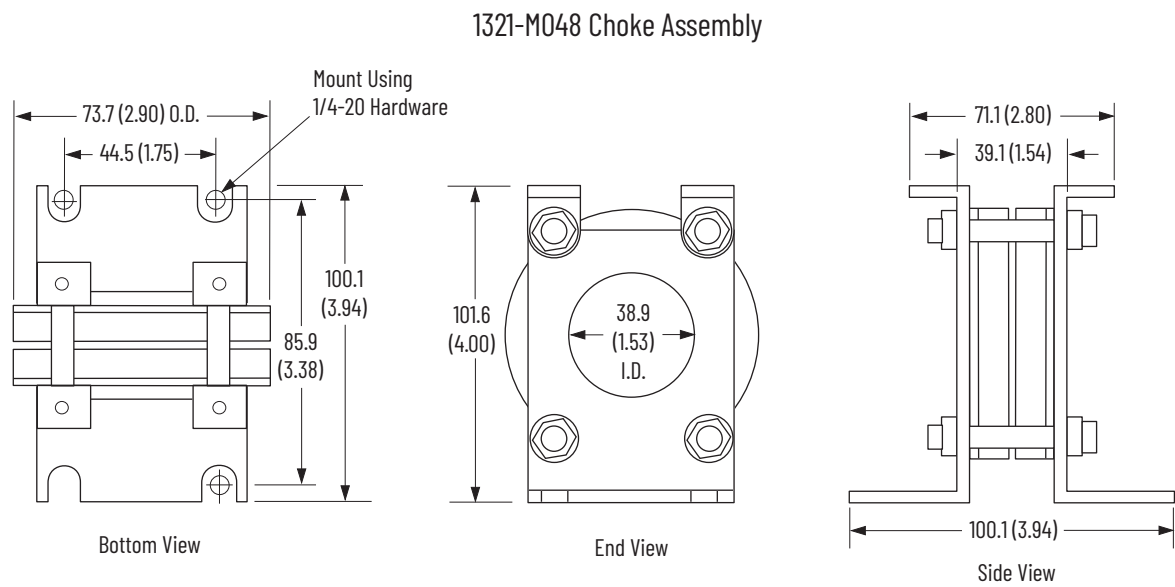
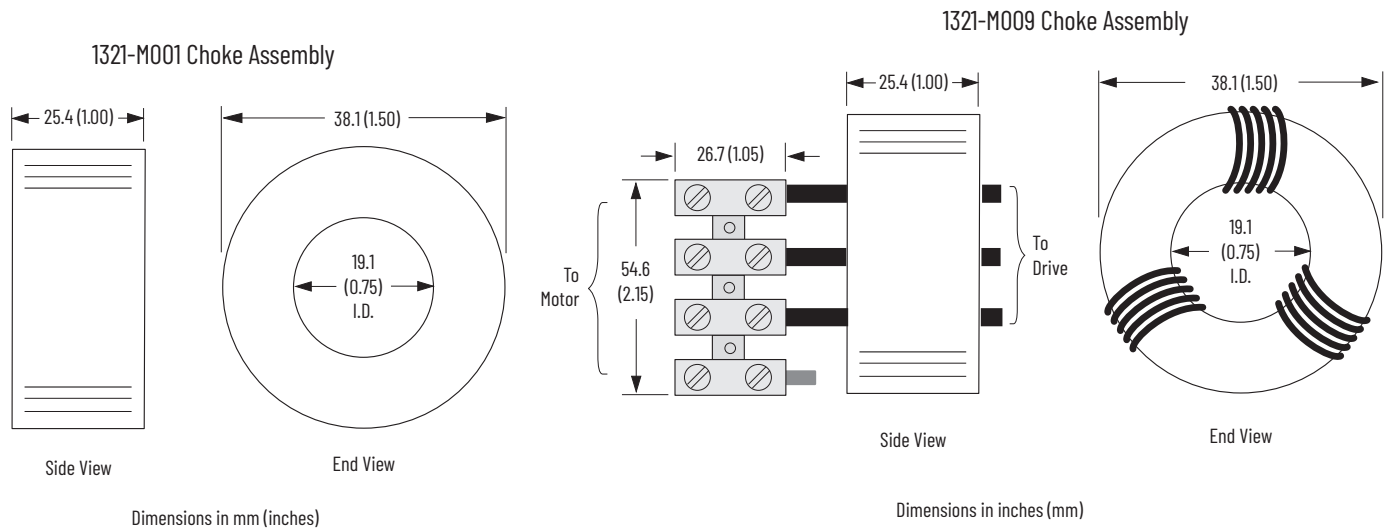
Allen-Bradley Legacy AC Drives

Choke Type	Used With	Ratings	Catalog Number
Open Style, 1A	All Legacy Drives	Communication Cables, Analog Signal Cables, and so forth	1321-M001
Open Style, 9A (with terminal strip)	1305, 1336 PLUS, and 1336 PLUS II	0.37...2.2 kW (0.5...2 HP), 230V 0.37...3.7 kW (0.5...5 HP), 480V	1321-M009
	1336 IMPACT	0.37...3.7 kW (0.5...5 HP), 480V	
	1336 FORCE	0.75 kW (1 HP), 230V 0.75...2.2 kW (1...3 HP), 480V and 600V	

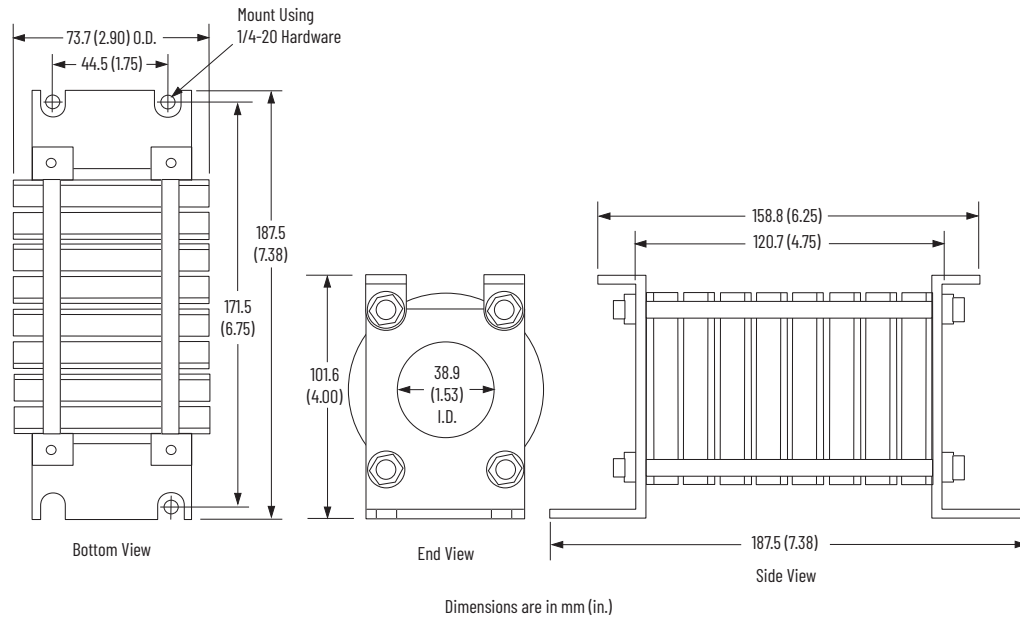
Allen-Bradley Legacy AC Drives (Continued)

Choke Type	Used With	Ratings	Catalog Number
Open Style, 48A	1336 PLUS and 1336 PLUS II	2.2...11 kW (3...15 HP), 230V 5.5...22 kW (7.5...30 HP), 480V 0.75...30 kW (1...40 HP), 600V	1321-M048
	1336 IMPACT	5.5...22 kW (7.5...30 HP), 480V 5.5...30 kW (7.5...40 HP), 600V	
	1336 FORCE	2.2...11 kW (3...15 HP), 230V 2.2...22 kW (3...30 HP), 480V 0.75...30 kW (1...40 HP), 600V	
Open Style, 55A	1336 PLUS II	14 kW (20 HP), 230V 22...30 kW (30...40 HP), 480V 45 kW (50 HP), 600V	1321-M055
	1336 IMPACT	22...30 kW (30...40 HP), 480V 45 kW (50 HP), 600V	
Open Style, 180A	1336 PLUS and 1336 PLUS II	15...45 kW (20...60 HP), 230V 30...112 kW (40...150 HP), 480V 37...112 kW (50...150 HP), 600V	1321-M180
	1336 IMPACT	30...112 kW (40...150 HP), 480V 37...93 kW (50...125 HP), 600V	
	1336 FORCE	15...45 kW (20...60 HP), 230V 30...112 kW (40...150 HP), 480V 37...112 kW (50...150 HP), 600V	
Open Style, 670A	1336 PLUS and 1336 PLUS II	56...93 kW (75...125 HP), 230V 112...448 kW (150...600 HP), 480V 149...448 kW (200...600 HP), 600V	1321-M670
	1336 IMPACT	112...448 kW (150...600 HP), 480V 149...448 kW (200...600 HP), 600V	
	1336 FORCE	56...93 kW (75...125 HP), 230V 112...448 kW (150...600 HP), 480V 149...448 kW (200...600 HP), 600V	

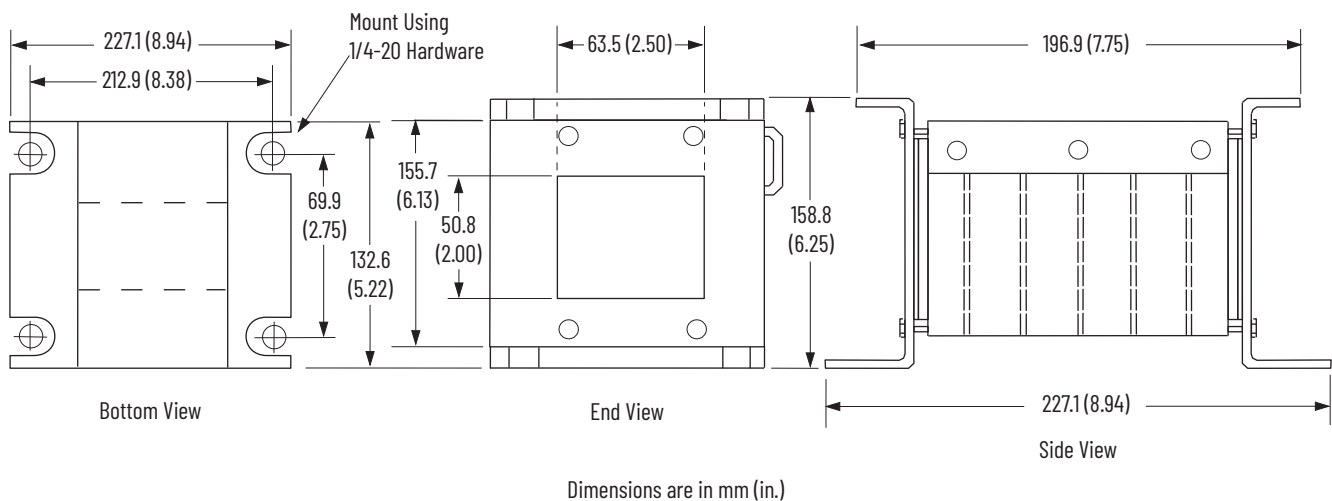
Approximate Mounting Dimensions



1321-M180 Choke Assembly



1321-M670 Choke Assembly

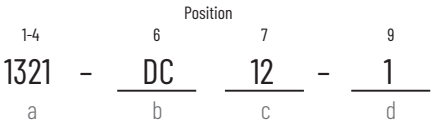


1321-DC DC Link Chokes

1321-DC DC Link Chokes can be installed with Frame C PowerFlex 40 and all PowerFlex 400 drives. Add DC Link Chokes in series with the internal DC Bus to:

- Reduce AC input line harmonics
- Help meet IEEE-519 limits
- Absorb voltage/current spikes
- Reduce AC ripple on DC bus
- Reduce dv/dt and di/dt rates
- Solve spurious overvoltage tripping
- Reduce DC bus transient overvoltage

Catalog Number Explanation



a	
Product	
Code	Type
1321	Power Component

b	
Device	
Code	Description
DC	DC Link Choke

c	
Current Rating	
Code	Amps
9	9
12	12
18	18
25	25
32	32
40	40

d	
Inductance Rating	
Code	Description
1	Each DC Link Choke current rating may have more than one inductance rating. Refer to Ratings for specific values.
2	
3	
4	

Specifications

Specification	Rating
General	UL-508 component that is recognized (File E196302)
	1000 Volts DC maximum
	For ripple frequency of 300 Hz or 360 Hz
	50 °C temperature rise
	Suitable for 40 °C ambient temperature
	Class B insulation system (130 °C)
	Suitable for ripple current of 10% peak-to-peak
	Touch-safe terminals in many ratings
Storage Temperature (all const.)	-40...+70°C (-40...+158°F)
Humidity	5...95% noncondensing

Special Features

- Solid copper box lug type terminals on most sizes
- Specially constructed and epoxy impregnated for low noise
- Customized ratings also available - contact the factory for custom mounting, inductance, current or ripple requirements

Ratings

Catalog Number	Type	DC Amps	mH	Watts	Lug Size	Torque N·m (lb·in)
1321-DC9-2	Open Style	9	3.22	7	22-14	4.5 (39.8)
1321-DC12-1	Open Style	12	1	5	22-14	4.5 (39.8)
1321-DC12-2	Open Style	12	2.1	7	18-4	20 (177.02)
1321-DC18-1	Open Style	18	0.65	5	18-4	20 (177.02)
1321-DC18-4	Open Style	18	3.75	17	18-4	20 (177.02)
1321-DC25-4	Open Style	25	1.75	13	18-4	20 (177.02)
1321-DC32-1	Open Style	32	0.85	11	18-4	20 (177.02)
1321-DC32-2	Open Style	32	1.62	14	18-4	20 (177.02)
1321-DC32-3	Open Style	32	2.68	21	18-4	20 (177.02)
1321-DC40-2	Open Style	40	0.75	15	18-4	20 (177.02)
1321-DC40-4	Open Style	40	2	29	18-4	20 (177.02)

Approximate Mounting Dimensions

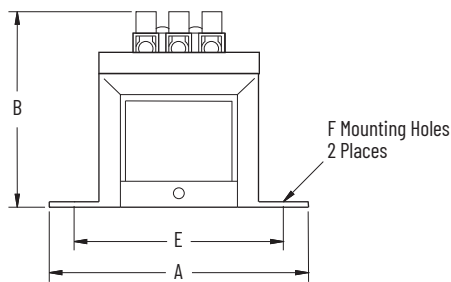


Figure 1

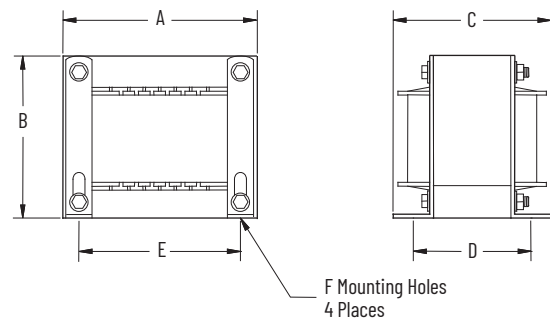


Figure 2

Catalog Number	Figure	Dimensions in mm (in.)					
		A	B	C	D	E	F
1321-DC9-2	1	95.3 (3.75)	82.6 (3.25)	50.8 (2)	(—)	79.5 (3.13)	47.5 DIA. (0.187 DIA.)
1321-DC12-1	1	95.3 (3.75)	82.6 (3.25)	44.5 (1.75)	(—)	79.5 (3.13)	47.5 DIA. (0.187 DIA.)
1321-DC12-2	2	96.8 (3.81)	114.3 (4.5)	71.6 (2.82)	50.8 (2)	79.5 (3.13)	5.2 x 8.3 (0.203 x 0.328)
1321-DC18-1	1	95.3 (3.75)	82.6 (3.25)	50.8 (2)	(—)	79.5 (3.13)	47.5 DIA. (0.187 DIA.)
1321-DC18-4	2	117.6 (4.63)	133.4 (5.25)	101.6 (4)	63.5 (2.5)	95.3 (3.75)	5.2 x 8.3 (0.203 x 0.328)
1321-DC25-4	2	96.8 (3.81)	114.3 (4.5)	76.2 (3)	63.5 (2.5)	79.5 (3.13)	5.2 x 8.3 (0.203 x 0.328)
1321-DC32-1	2	96.8 (3.81)	114.3 (4.5)	84.3 (3.32)	63.5 (2.5)	79.5 (3.13)	5.2 x 8.3 (0.203 x 0.328)
1321-DC32-2	2	117.6 (4.63)	133.4 (5.25)	108.0 (4.25)	76.2 (3)	95.3 (3.75)	5.2 x 8.3 (0.203 x 0.328)
1321-DC32-3	2	117.6 (4.63)	133.4 (5.25)	133.4 (5.25)	101.6 (4)	95.3 (3.75)	5.2 x 8.3 (0.203 x 0.328)
1321-DC40-2	2	96.8 (3.81)	114.3 (4.5)	95.3 (3.75)	76.2 (3)	79.5 (3.13)	5.2 x 8.3 (0.203 x 0.328)
1321-DC40-4	2	165.1 (6.5)	166.4 (6.55)	152.4 (6)	85.9 (3.38)	134.9 (5.31)	7.1 x 13.2 (0.28 x 0.52)

Notes:

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001	Basic information that is needed to properly wire and ground PWM AC drives.
American Standards, Configurations, and Ratings: Introduction to Motor Circuit Design, publication IC-AT001	Provides an overview of American motor circuit design based on methods that are outlined in the NEC.
Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication IC-TD002	Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies.
Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1	Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components.
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.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

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Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

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AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000
EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600
ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608
UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800

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