

# Don't Ignore the Cost of Power Line Disturbance

**Allen-Bradley 1321 Reactors and Isolation Transformers Can Contain It!**

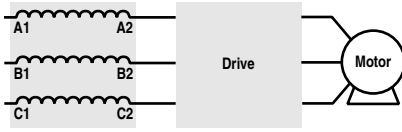


**The Benefits** – Allen-Bradley reactors help keep equipment running longer by absorbing many of the power line disturbances which can shut down your drive. Allen-Bradley isolation transformers can provide both voltage change and isolation for your variable speed drive. These designs are harmonic compensated and IGBT protected to assure optimum performance in the presence of harmonics.

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## Applying Allen-Bradley Reactors

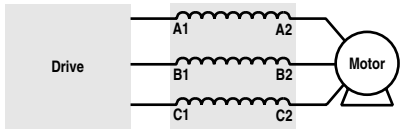


### At the Input of the Drive

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

- Eliminate Nuisance Tripping
- Improve True Power Factor
- Extend Semiconductor Life
- Reduce Voltage Notching
- Reduce Harmonic Distortion
- Meet IEEE-519 or EN-61800

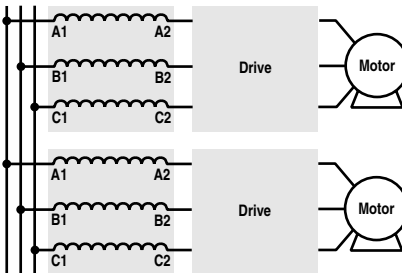
### At the Output of the Drive



In long motor lead applications, Allen-Bradley load reactors 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 caused by rapid changes in the load.

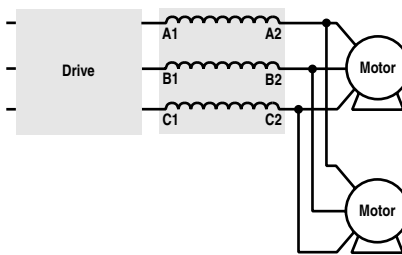
- Protect Motors from Long Lead Effects
- Reduce Surge Currents
- Reduce Output Voltage dv/dt
- Reduce Motor Temperature
- Extend Semiconductor Life
- Reduce Audible Motor Noise

### 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 more than one motor is controlled by a single drive, a single line reactor can typically be used between the drive and all the motors. Size the line reactor based on the total motor/load horsepower.

## Selecting the Correct Impedance Rating

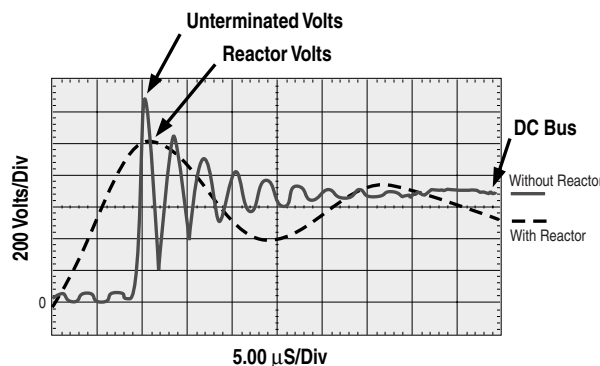
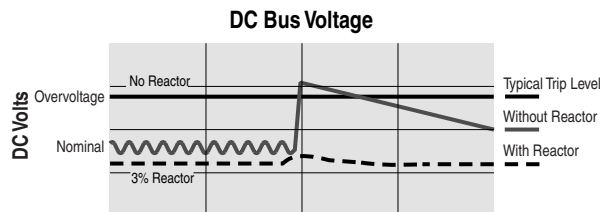
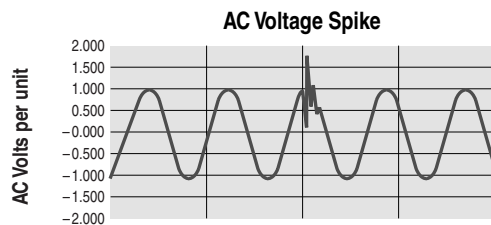
Selecting the correct impedance rating is critical for your job. An impedance value too low may not limit peak current. Too high of an impedance may reduce input voltage. Allen-Bradley line reactors offer two impedance ratings.

### 3% Impedance Rated Reactors to Reduce Nuisance Trips

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

### 5% Impedance Rated Reactors to Reduce Harmonic Content

Allen-Bradley reactors 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 very effective at protecting drives against voltage spikes and nuisance tripping. Allen-Bradley line reactors absorb these line spikes protecting the drive from nuisance 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.

### 1321-3R and -3RA Series Specifications

#### Material

Enclosures	IP11 (NEMA Type 1) — Sheet steel in accordance with UL, NEMA and CSA requirements. IP00 (Open)
Terminations	1-45 Amp (fundamental) Ratings – Finger guard IP20 terminal block. 80-200 Amp (fundamental) Ratings – Solid copper box lugs. 250-400 Amp (fundamental) Ratings – Copper tab terminals. 401 Amps and Above – Copper tab terminals.

#### Harmonic Compensation

All line reactors are compensated for the additional currents and high frequencies caused by the presence of harmonics.

#### General Protection

Impedance	3% or 5% based on the fundamental current ratings.
Overload Rating	300% of fundamental current for (1) minute.

#### IGBT Protection

First turn triple insulated offering protection up to 16kV.

- 16,000 Volts per Microsecond dv/dt Protection
- 20 kHz Maximum Switching Frequency

#### Electrical

Max. Rated Voltage	600VAC, 50/60Hz frequency.
Max. Switching Freq.	20kHz.
Temperature Rise	115 degrees C.
Dielectric Strength	4,000 volts rms (5,600 volts peak).
Inductance Curve	100% at 100% current. 100% at 150% current. 50% at 350% current.
Insulation System	Class H (180 degrees C or better).
Impregnation	High bond strength epoxy impregnation. 4,000V high dielectric strength.

#### Environmental

Ambient Temperature	40 degrees C.
U.L. Recognized	UL-506 IP00 (Open).
U.L. Listed	UL-508 IP20 (NEMA Type 1).
International	Conforms to IEC-289 and VDE 0550.
CSA Certified	CSA C22.2
EC	EN 60076

## 1321 Line Reactors

### 1321-3R and -3RA Termination

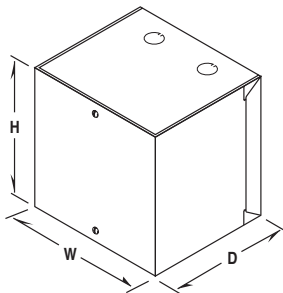
Allen-Bradley reactors rated 45 Amps (fundamental) and below are supplied with an integral mounted terminal block. Reactors rated from 55 to 200 Amps (fundamental) are supplied with box lugs. Reactors rated 250 to 400 Amps (fundamental) can be supplied with box lugs or copper tabs. Above 400 Amps (fundamental), solid copper tabs are used.

### 1321-3R and -3RA Series Wire Size and Torque

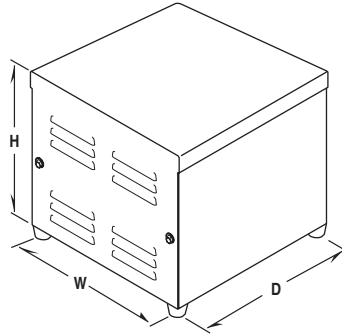
Catalog Number IP00 (Open)	Max./Min. Wire Size mm <sup>2</sup> (AWG)	Max. Torque Nm (lb.-in.)
1321-3R1-A to 1321-3R8-D	2.1-0.3 (22-14)	0.51 (4.5)
1321-3R12-A to 1321-3R35-B	16.0-0.3 (22-5)	1.81 (16)
1321-3R35-C to 1321-3R45-C	21.2-0.8 (18-4)	2.26 (20)
1321-3R55-A to 1321-3R100-C	21.2-13.3 (6--4)	5.09 (45)
	53.3-33.6 (2-1/0)	5.65 (50)
1321-3R130-A to 1321-3R200-C	107.2-33.6 (2-4/0)	16.95 (150)
1321-3RB250-A to 1321-3RB400-C	Copper Tab	N/A
1321-3R500-A to 1321-3RA1000-C	Copper Tab	N/A

Catalog Number IP11 (NEMA Type 1)	Max./Min. Wire Size mm <sup>2</sup> (AWG)	Max. Torque Nm (lb.-in.)
1321-3RA1-A to 1321-3RA8-D	2.1-0.3 (22-14)	0.51 (4.5)
1321-3RA12-A to 1321-3RA35-B	16.0-0.3 (22-5)	1.81 (16)
1321-3RA35-C to 1321-3RA45-C	21.2-0.8 (18-4)	2.26 (20)
1321-3RA55-C to 1321-3RA100-C	21.2-13.3 (6-4)	5.09 (45)
	53.3-33.6 (2-1/0)	5.65 (50)
1321-3RA130-A to 1321-3RA200-C	107.2-33.6 (2-4/0)	16.95 (150)
1321-3RAB250-A to 1321-3RAB400-C	Copper Tab	N/A
1321-3RA500-A to 1321-3RA1000-C	Copper Tab	N/A

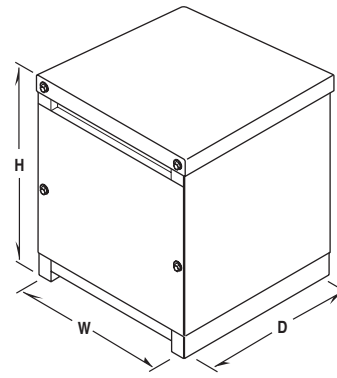
### 1321-3RA Series Mounting Dimensions and Weights — IP11 (NEMA Type 1)



IP11 (NEMA Type 1) — Cabinet 1  
(Wall Mounted)



IP11 (NEMA Type 1) — Cabinet 2  
(Floor Mounted)

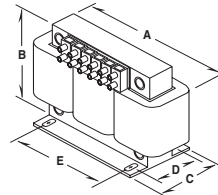


IP11 (NEMA Type 1) — Cabinet 3 and 4  
(Floor Mounted)

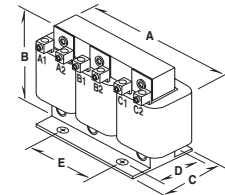
Catalog Number	Type	IP11 (NEMA Type 1) – Dimensions in mm (in.) and Weights in kg (lbs.)				
		H	W	D	Weight (Cabinet Only)	Total Weight
1321-3RA1-A to 1321-3RA18-C	Cabinet 1 (Wall Mounted)	203 (8)	203 (8)	152 (6)	3.2 (7)	3.2 (7) + Weight of Open Style Line Reactor on Page 6
1321-3RA25-A to 1321-3RAB250-A-	Cabinet 2 (Floor Mounted)	330 (13)	330 (13)	330 (13)	14.1 (31)	14.1 (31) + Weight of Open Style Line Reactor on Page 6
1321-3RAB250-B to 1321-3RAB400-C	Cabinet 3 (Floor Mounted)	610 (24)	432 (17)	432 (17)	20.4 (45)	20.4 (45) + Weight of Open Style Line Reactor on Page 6
1321-3RA750-A to 1321-3RA1000-C	Cabinet 4 (Floor Mounted)	762 (30)	610 (24)	610 (24)	37.7 (83)	37.7 (83) + Weight of Open Style Line Reactor on Page 6

# 1321 Line Reactors

## 1321-3R Series Mounting Dimensions and Weights — IP00 (Open)



IP00 (Open) —  
45 Amps (fundamental) and Below



IP00 (Open) —  
80 Amps (fundamental) and Above

Catalog Number	Fundamental Amps	Maximum Continuous Amps	Inductance (Based on Fundamental Amps)	Watt Loss	IP00 (Open) — Dimensions in mm (in.) and Weights in kg (lbs.)					
					A	B	C	D	E	Weight
1321-3R1-A	1	1.5	100.0 mh	14 W	112 (4.40)	104 (4.10)	79 (3.10)	60 (2.35)	37 (1.44)	1.8 (4)
1321-3R1-B	1	1.5	50.0 mh	14.8 W	107 (4.22)	104 (4.10)	66 (2.60)	47 (1.85)	37 (1.44)	1.8 (4)
1321-3R2-C	1	1.5	36.0 mh	12 W	107 (4.22)	102 (4.03)	66 (2.60)	47 (1.85)	37 (1.44)	1.8 (4)
1321-3R2-D	1	1.5	18.0 mh	5 W	112 (4.40)	104 (4.10)	66 (2.60)	47 (1.85)	37 (1.44)	1.8 (4)
1321-3R2-A	2	3	12.0 mh	7.5 W	112 (4.40)	104 (4.10)	70 (2.75)	50 (1.98)	37 (1.44)	1.8 (4)
1321-3R2-B	2	3	20.0 mh	11.3 W	112 (4.40)	104 (4.10)	70 (2.75)	50 (1.98)	37 (1.44)	1.8 (4)
1321-3R2-C	2	3	32.0 mh	16 W	112 (4.40)	104 (4.10)	70 (2.75)	50 (1.98)	37 (1.44)	1.8 (4)
1321-3R2-D	2	3	6.0 mh	10.7 W	112 (4.40)	104 (4.10)	70 (2.75)	44 (1.73)	37 (1.44)	1.4 (3)
1321-3R4-A	4	6	3.0 mh	14.5 W	112 (4.40)	104 (4.10)	76 (3.00)	50 (1.98)	37 (1.44)	1.8 (4)
1321-3R4-B	4	6	6.5 mh	20 W	112 (4.40)	104 (4.10)	76 (3.00)	50 (1.98)	37 (1.44)	1.8 (4)
1321-3R4-C	4	6	9.0 mh	20 W	112 (4.40)	104 (4.10)	86 (3.38)	60 (2.35)	37 (1.44)	2.3 (5)
1321-3R4-D	4	6	12.0 mh	21 W	112 (4.40)	104 (4.10)	92 (3.62)	66 (2.60)	37 (1.44)	2.7 (6)
1321-3R8-A	8	12	1.5 mh	19.5 W	152 (6.00)	127 (5.00)	76 (3.00)	53 (2.10)	51 (2.00)	3.1 (7)
1321-3R8-B	8	12	3.0 mh	29 W	152 (6.00)	127 (5.00)	76 (3.00)	53 (2.10)	51 (2.00)	3.6 (8)
1321-3R8-C	8	12	5.0 mh	25.3 W	152 (6.00)	127 (5.00)	85 (3.35)	63 (2.48)	51 (2.00)	4.9 (11)
1321-3R8-D	8	12	7.5 mh	28 W	152 (6.00)	127 (5.00)	89 (3.50)	69 (2.70)	51 (2.00)	5.9 (13)
1321-3R12-A	12	18	1.25 mh	26 W	152 (6.00)	127 (5.00)	76 (3.00)	53 (2.10)	51 (2.00)	4.1 (9)
1321-3R12-B	12	18	2.5 mh	31 W	152 (6.00)	127 (5.00)	76 (3.00)	53 (2.10)	51 (2.00)	4.5 (10)
1321-3R12-C	12	18	4.2 mh	41 W	152 (6.00)	127 (5.00)	91 (3.60)	69 (2.73)	51 (2.00)	8.2 (18)
1321-3R18-A	18	27	0.8 mh	36 W	152 (6.00)	133 (5.25)	79 (3.10)	54 (2.13)	51 (2.00)	4.1 (9)
1321-3R18-B	18	27	1.5 mh	43 W	152 (6.00)	133 (5.25)	86 (3.40)	63 (2.48)	51 (2.00)	5.4 (12)
1321-3R18-C	18	27	2.5mh	43W	183 (7.20)	146 (5.76)	92 (3.63)	66 (2.60)	76 (3.00)	7.3 (16)
1321-3R25-A	25	37.5	0.5 mh	48 W	183 (7.20)	146 (5.76)	85 (3.35)	60 (2.35)	76 (3.00)	4.9 (11)
1321-3R25-B	25	37.5	1.2 mh	52 W	183 (7.20)	146 (5.76)	85 (3.35)	60 (2.35)	76 (3.00)	6.3 (14)
1321-3R25-C	25	37.5	2.0 mh	61 W	183 (7.20)	146 (5.76)	104 (4.10)	79 (3.10)	76 (3.00)	8.1 (18)
1321-3R35-A	35	52.5	0.4 mh	49 W	193 (7.60)	146 (5.76)	91 (3.60)	66 (2.60)	76 (3.00)	6.3 (14)
1321-3R35-B	35	52.5	0.8 mh	54 W	183 (7.20)	147 (5.80)	95 (3.75)	70 (2.75)	76 (3.00)	7.3 (16)
1321-3R35-C	35	52.5	1.2 mh	54 W	229 (9.00)	187 (7.35)	118 (4.66)	80 (3.16)	76 (3.00)	13.6 (30)
1321-3R45-A	45	67.5	0.3 mh	54 W	229 (9.00)	187 (7.35)	118 (4.66)	80 (3.16)	76 (3.00)	10.4 (23)
1321-3R45-B	45	67.5	0.7 mh	62 W	229 (9.00)	187 (7.35)	118 (4.66)	80 (3.16)	76 (3.00)	12.7 (28)
1321-3R45-C	45	67.5	1.2 mh	65 W	229 (9.00)	184 (7.25)	135 (5.30)	93 (3.66)	76 (3.00)	17.7 (39)
1321-3R55-A	55	82.5	0.25 mh	64 W	229 (9.00)	187 (7.35)	118 (4.66)	80 (3.16)	76 (3.00)	10.9 (24)
1321-3R55-B	55	82.5	0.5 mh	67 W	229 (9.00)	187 (7.35)	118 (4.66)	80 (3.16)	76 (3.00)	12.3 (27)
1321-3R55-C	55	82.5	0.85 mh	71 W	229 (9.00)	184 (7.25)	142 (5.60)	99 (3.90)	76 (3.00)	18.6 (41)
1321-3R80-A	80	120	0.2 mh	82 W	274 (10.80)	216 (8.50)	139 (5.47)	88 (3.47)	92 (3.63)	19.5 (43)
1321-3R80-B	80	120	0.4 mh	86 W	274 (10.80)	216 (8.50)	139 (5.47)	88 (3.47)	92 (3.63)	23.1 (51)
1321-3R80-C	80	120	0.7 mh	96 W	274 (10.80)	210 (8.26)	156 (6.16)	106 (4.16)	92 (3.63)	25.0 (55)
1321-3R100-A	100	150	0.15 mh	94 W	274 (10.80)	217 (8.55)	139 (5.48)	84 (3.30)	92 (3.63)	21.3 (47)
1321-3R100-B	100	150	0.3 mh	84 W	274 (10.80)	210 (8.25)	144 (5.66)	93 (3.66)	92 (3.63)	23.1 (51)
1321-3R100-C	100	150	0.45 mh	108 W	274 (10.80)	210 (8.25)	156 (6.16)	106 (4.16)	92 (3.63)	33.6 (74)
1321-3R130-A	130	195	0.1 mh	108 W	229 (9.00)	179 (7.04)	118 (4.66)	80 (3.16)	76 (3.00)	13.2 (29)
1321-3R130-B	130	195	0.2 mh	180 W	274 (10.80)	213 (8.40)	144 (5.66)	93 (3.66)	92 (3.63)	25.9 (57)
1321-3R130-C	130	195	0.3 mh	128 W	279 (11.00)	216 (8.50)	156 (6.16)	106 (4.16)	92 (3.63)	29.0 (64)
1321-3R160-A	160	240	0.075 mh	116 W	274 (10.80)	211 (8.30)	131 (5.16)	80 (3.16)	92 (3.63)	18.1 (40)
1321-3R160-B	160	240	0.15 mh	149 W	274 (10.80)	211 (8.30)	152 (6.00)	88 (3.47)	92 (3.63)	22.7 (50)

## 1321 Line Reactors

### 1321-3R Series Mounting Dimensions and Weights — IP00 (Open) (continued)

Catalog Number	Fundamental Amps	Maximum Continuous Amps	Inductance (Based on Fundamental Amps)	Watt Loss	IP00 (Open) – Dimensions in mm (in.) and Weights in kg (lbs.)					
					A	B	C	D	E	Weight
1321-3R160-C	160	240	0.23 mh	138 W	292 (11.50)	216 (8.50)	229 (9.00)	118 (4.69)	92 (3.63)	30.4 (67)
1321-3R200-A	200	300	.055 mh	124 W	274 (10.80)	211 (8.30)	152 (6.00)	106 (4.16)	92 (3.63)	21.8 (48)
1321-3R200-B <sup>ⓐ</sup>	200	300	.110 mh	168 W	274 (10.80)	211 (8.30)	210 (8.25)	112 (4.41)	92 (3.63)	30.4 (67)
1321-3R200-C <sup>ⓐ</sup>	200	300	.185 mh	146 W	274 (10.80)	211 (8.30)	229 (9.00)	150 (5.91)	92 (3.63)	45.4 (100)
1321-3RB250-A <sup>ⓐ</sup>	250	375	.045 mh	154 W	274 (10.80)	211 (8.30)	229 (9.00)	106 (4.19)	92 (3.63)	30.8 (68)
1321-3RB250-B <sup>ⓐ</sup>	250	375	.090 mh	231 W	366 (14.40)	290 (11.40)	254 (10.00)	131 (5.16)	117 (4.60)	48.1 (106)
1321-3RB250-C <sup>ⓐ</sup>	250	375	.150 mh	219 W	366 (14.40)	284 (11.20)	286 (11.25)	148 (5.82)	117 (4.60)	63.5 (140)
1321-3RB320-A <sup>ⓐ</sup>	320	480	.040 mh	224 W	366 (14.40)	288 (11.35)	254 (10.00)	131 (5.16)	117 (4.60)	49.9 (110)
1321-3RB320-B <sup>ⓐ</sup>	320	480	.075 mh	264 W	366 (14.40)	286 (11.25)	267 (10.50)	149 (5.88)	117 (4.60)	56.7 (125)
1321-3RB320-C <sup>ⓐ</sup>	320	480	.125 mh	351 W	381 (15.00)	286 (11.25)	330 (13.00)	181 (7.13)	117 (4.60)	86.2 (190)
1321-3RB400-A <sup>ⓐ</sup>	400	500	.030 mh	231 W	368 (14.50)	286 (11.25)	254 (10.00)	131 (5.16)	117 (4.60)	45.4 (100)
1321-3RB400-B <sup>ⓐ</sup>	400	500	.060 mh	333 W	394 (15.50)	286 (11.25)	307 (12.10)	172 (6.76)	117 (4.60)	70.3 (155)
1321-3RB400-C <sup>ⓐ</sup>	400	500	.105 mh	293 W	394 (15.50)	286 (11.25)	368 (14.50)	184 (7.26)	117 (4.60)	90.7 (200)
1321-3R500-A <sup>ⓐ</sup>	500	625	.025 mh	266 W	394 (15.50)	291 (11.45)	267 (10.50)	140 (5.50)	117 (4.60)	54.4 (120)
1321-3R500-B <sup>ⓐ</sup>	500	625	.050 mh	340 W	394 (15.50)	292 (11.50)	381 (15.00)	172 (6.76)	117 (4.60)	81.7 (180)
1321-3R500-C <sup>ⓐ</sup>	500	625	.085 mh	422 W	394 (15.50)	292 (11.50)	375 (14.75)	248 (9.76)	117 (4.60)	131.5 (290)
1321-3R600-A <sup>ⓐ</sup>	600	750	.020 mh	307 W	394 (15.50)	292 (11.50)	330 (13.00)	134 (5.26)	117 (4.60)	72.6 (160)
1321-3R600-B <sup>ⓐ</sup>	600	750	.040 mh	414 W	394 (15.50)	279 (11.00)	330 (13.00)	172 (6.76)	117 (4.60)	95.3 (210)
1321-3R600-C <sup>ⓐ</sup>	600	750	.065 mh	406 W	394 (15.50)	290 (11.40)	394 (15.50)	235 (9.26)	117 (4.60)	131.5 (290)
1321-3R750-A <sup>ⓐ</sup>	750	937.5	.015 mh	427 W	559 (22.00)	419 (16.50)	291 (11.45)	168 (6.63)	183 (7.20)	90.7 (200)
1321-3R750-B <sup>ⓐ</sup>	750	937.5	.029 mh	630 W	559 (22.00)	419 (16.50)	356 (14.00)	203 (8.01)	183 (7.20)	140.6 (310)
1321-3R750-C <sup>ⓐ</sup>	750	937.5	.048 mh	552 W	559 (22.00)	425 (16.75)	457 (18.00)	235 (9.26)	183 (7.20)	181.4 (400)
1321-3R750-E <sup>ⓐ</sup>	750	937.5	.060 mh	810 W	559 (22.00)	427 (16.80)	483 (19.00)	267 (10.50)	183 (7.20)	251.3 (554)
1321-3R850-A <sup>ⓐ</sup>	850	1062.5	.015 mh	799 W	516 (20.30)	427 (16.80)	305 (12.00)	244 (9.60)	183 (7.20)	133.8 (295)
1321-3R850-B <sup>ⓐ</sup>	850	1062.5	.027 mh	756 W	559 (22.00)	427 (16.80)	381 (15.00)	203 (8.00)	183 (7.20)	156.5 (345)
1321-3R850-C <sup>ⓐ</sup>	850	1062.5	.042 mh	758 W	572 (22.50)	419 (16.50)	457 (18.00)	229 (9.00)	183 (7.20)	199.6 (440)
1321-3R1000-B <sup>ⓐ</sup>	1000	1250	.022 mh	964 W	516 (20.30)	427 (16.80)	457 (18.00)	216 (8.50)	183 (7.20)	247.2 (545)
1321-3R1000-C <sup>ⓐ</sup>	1000	1250	.038 mh	960 W	516 (20.30)	427 (16.80)	457 (18.00)	273 (10.80)	183 (7.20)	252.7 (557)

<sup>ⓐ</sup> Removable lifting rings supplied.

## 1321-R Series Specifications

### Material

Terminations

Tin-plated copper. All terminals have terminal designation (L1, L2, L3, etc.) stamped on them.

Mounting Attitude

Mounting on subpanel or floor of cabinet. Four (4) holes are provided for mounting on a flat surface. Holes are sized for 1/4" bolts.

### Electrical

Inductance

Inductance to be determined by shorting together L4-L5-L6 and testing for 50 or 60Hz inductive reactance at rated current by a separate balanced and adjustable 3-phase voltage source connected to L1, L2 & L3.

Insulation System

Class H (180 degrees C or better).

Construction

Core and coils vacuum impregnated and baked.

### Environmental

Ambient Temperature

60 degrees C maximum, 0 degrees C minimum.

Altitude

Maximum altitude 1000 meters (3281 feet).

Relative Humidity

5 to 95% non-condensing.

Cooling

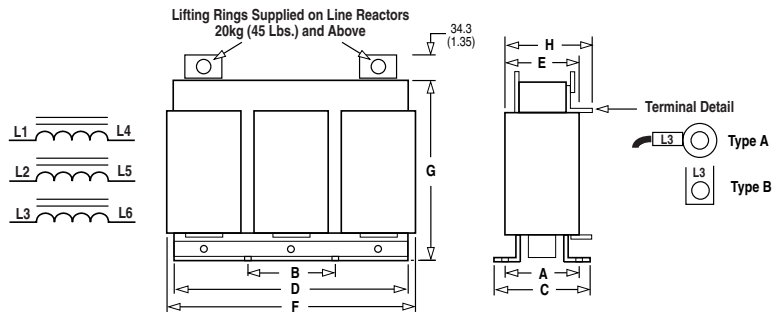
Natural convection.

Rating

Insulation materials U.L. Recognized. Spacing complies with UL-508 Table 47.1 Column A and CSA C22.2 No. 14-M1987 Table 6 Group A.

# 1321 Line Reactors

## 1321-R Series Mounting Dimensions and Weights



### IP00 (Open) — 230 Volt

Catalog Number	kVA	Rated Current (RMS)	Saturated Current (RMS)	Inductance per Phase ( $\mu H \pm 10\%$ )	Terminal Type	Terminal Hole Dia.	Dimensions in mm (in.) and Weights in kg (lbs.)								
							A	B	C	D	E Max.	F Max.	G Max.	H Max.	Weight
1321-R019A	0.185	15.5	32.6	681.7	A	6.76 (0.266)	50.8 (2.00)	50.8 (2.00)	76.2 (3.00)	121.9 (4.80)	44.5 (1.75)	139.7 (5.50)	139.7 (5.50)	101.6 (4.00)	4.1 (9)
1321-R055A	0.55	45.7	96	231	A	6.76 (0.266)	73.2 (2.88)	61.0 (2.40)	98.6 (3.88)	152.4 (6.00)	76.2 (3.00)	177.8 (7.00)	146.1 (5.75)	127.0 (5.00)	8.3 (18)
1321-R080A	0.79	65.3	137.2	162	A	6.76 (0.266)	76.2 (3.00)	76.2 (3.00)	114.3 (4.50)	190.5 (7.50)	63.50 (2.50)	215.90 (8.50)	184.2 (7.25)	114.3 (4.50)	10.0 (22)
1321-R110A	1.10	89.8	188.6	118	A	6.76 (0.266)	79.5 (3.13)	76.2 (3.00)	104.9 (4.13)	190.5 (7.50)	85.9 (3.38)	228.6 (9.00)	177.8 (7.00)	114.3 (4.50)	14.1 (31)
1321-R180A	1.76	147.0	308.7	72	A	8.33 (0.328)	104.9 (4.13)	76.2 (3.00)	130.3 (5.13)	190.5 (7.50)	127.0 (5.00)	235.0 (9.25)	182.9 (7.20)	165.1 (6.50)	20.4 (45)
1321-R260A	2.54	212.3	445.8	50	B	8.33 (0.328)	117.6 (4.63)	91.4 (3.60)	155.7 (6.13)	228.6 (9.00)	127.0 (5.00)	279.4 (11.00)	222.3 (8.75)	168.4 (6.63)	36.3 (80)
1321-R345A	3.37	286.7	602	38.5	B	9.78 (0.385)	143.0 (5.63)	91.4 (3.60)	181.1 (7.13)	228.6 (9.00)	152.4 (6.00)	304.8 (12.0)	228.6 (9.00)	143.8 (7.63)	45.4 (100)

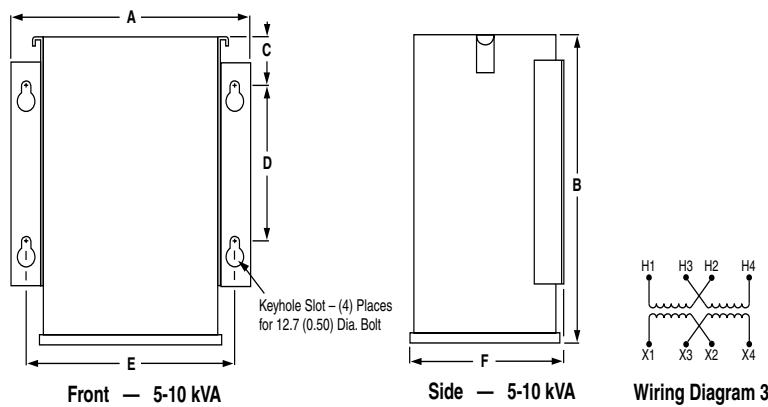
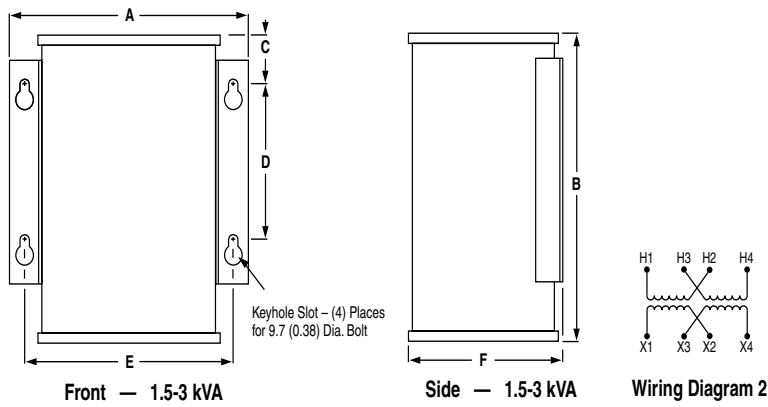
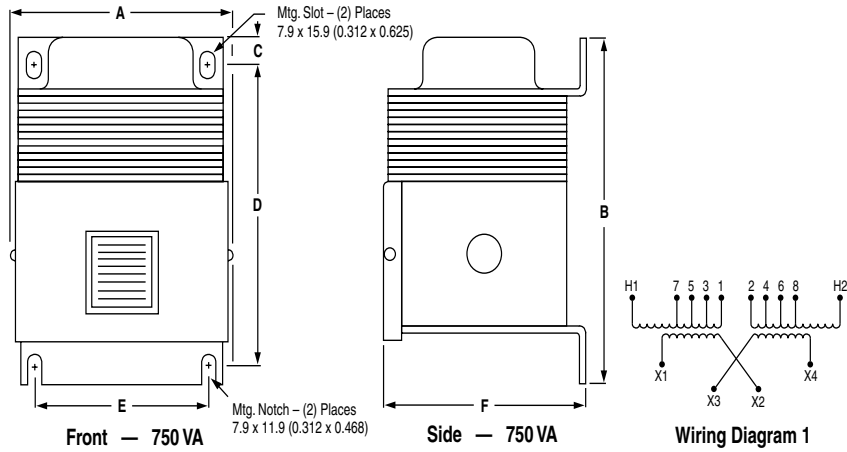
### IP00 (Open) — 380/415/460 Volt

Catalog Number	kVA	Rated Current (RMS)	Saturated Current (RMS)	Inductance per Phase ( $\mu H \pm 10\%$ )	Terminal Type	Terminal Hole Dia.	Dimensions in mm (in.) and Weights in kg (lbs.)								
							A	B	C	D	E Max.	F Max.	G Max.	H Max.	Weight
1321-R019B	0.371	15.5	32.6	1363	A	6.76 (0.266)	63.5 (2.50)	50.8 (2.00)	88.9 (3.50)	121.9 (4.80)	44.5 (1.75)	44.5 (1.75)	139.7 (5.50)	101.6 (4.00)	5.4 (12)
1321-R055B	1.10	45.7	96	462	A	6.76 (0.266)	112.5 (4.43)	61.0 (2.40)	137.9 (5.43)	152.4 (6.00)	112.5 (4.43)	180.3 (7.10)	146.1 (5.75)	165.1 (6.50)	15.4 (34)
1321-R080B	1.58	65.3	137.2	324	A	6.76 (0.266)	117.6 (4.63)	76.2 (3.00)	155.7 (6.13)	190.5 (7.50)	117.6 (4.63)	228.6 (9.00)	184.2 (7.25)	177.8 (7.00)	20.9 (46)
1321-R110B	2.15	89.8	188.6	235	A	6.76 (0.266)	130.3 (5.13)	76.2 (3.00)	168.4 (6.63)	190.5 (7.50)	139.7 (5.50)	228.6 (9.00)	177.8 (7.00)	203.2 (8.00)	24.9 (55)
1321-R180B	3.52	147.0	308.7	144	B	8.33 (0.328)	133.4 (5.25)	76.2 (3.60)	171.5 (6.75)	228.6 (9.00)	139.7 (5.50)	279.4 (11.00)	222.3 (8.75)	184.2 (7.25)	34.5 (76)
1321-R260B	5.10	212.3	445.8	100	B	8.33 (0.328)	158.8 (6.25)	91.4 (3.60)	196.9 (7.75)	228.6 (9.00)	165.1 (6.50)	279.4 (11.00)	222.3 (8.75)	209.6 (8.25)	45.4 (100)
1321-R345B	6.89	286.7	602	77	B	9.78 (0.385)	184.2 (7.25)	91.4 (3.60)	222.3 (8.75)	228.6 (9.00)	190.5 (7.50)	304.8 (12.00)	228.6 (9.00)	235.0 (9.25)	54.4 (120)



# 1321 Isolation Transformers

## 1321-1T Series 1-Phase Mounting Dimensions and Wiring Diagrams



### 1321-1T Series 1-Phase Specifications

1-Phase  
 60 Hz  
 Primary Volts: 240/480  
 Secondary Volts 120/240  
 180 Insulation Class  
 Enclosure Type 1, 2 and 3R  
 CSA LR 14328  
 U.L. 42G7 Listed

750 VA		Primary Voltage	Secondary Voltage	Hz	Dimensions are in mm (in.)						Wiring Diagram
kVA	Catalog Number				A	B	C	D	E	F	
0.75	1321-1T007-DC	240/480	120/240	60	145 (5.69)	230 (9.06)	15 (0.59)	209 (8.22)	111 (4.38)	118 (4.63)	1
1.5	1321-1T015-DC	240/480	120/240	60	251 (9.88)	270 (10.63)	35 (1.38)	102 (4)	216 (8.5)	165 (6.5)	2
2	1321-1T020-DC	240/480	120/240	60	251 (9.88)	268 (10.56)	45 (1.75)	102 (4)	216 (8.5)	168 (6.56)	2
3	1321-1T030-DC	240/480	120/240	60	273 (10.75)	313 (12.31)	33 (1.31)	152 (6)	232 (9.13)	181 (7.13)	2
5	1321-1T050-DC	240/480	120/240	60	351 (13.81)	410 (16.13)	64 (2.5)	203 (8)	305 (12)	224 (8.81)	3
7.5	1321-1T075-DC	240/480	120/240	60	348 (13.69)	410 (16.13)	64 (2.5)	203 (8)	305 (12)	224 (8.81)	3
10	1321-1T100-DC	240/480	120/240	60	351 (13.81)	406 (16)	64 (2.5)	203 (8)	305 (12)	222 (8.75)	3

### 1321-3TH/3TW Series 3-Phase Specifications

#### **Electrical**

Delta primary, wye secondary.

60 Hz.

Aluminum wound.

Neutral terminal available for customer use.

Standard Voltage Taps 7.5-175 kVA 1-5.0% FCAN & FCBN.  
220-880 kVA 1-2.5% FCAN & FCBN.

Insulation System

- Class 220
- 150 degrees C Rise Over 40 degrees C Ambient
- Peak 40 degrees C Ambient with 30 degrees C 24 Hour Avg.

#### **Environmental**

Elevation Up to 1,000 Meters. Above 1,000 Meters consult factory for derating.

U.L. Listed File E112313.

CSA Certified File LR3902.

#### **Construction**

Enclosure Heavy duty ventilated enclosure finished in ANSI 61 grey. IP32 (NEMA Type 3R).

Termination Front accessible separate high and low voltage terminations, suitable for copper or aluminum cable installation.

Conduit Entry Standard knockouts on units up to 175 kVA.

Mounting 7.5-118 kVA units suitable for either floor/wall or ceiling mounting with mounting kits 1321-3TWM1 (style NH1-NH2) and 1321-3TWM2 (style NH3). Larger units are floor mounted only.

#### **General**

Impedance 4-6% impedance (nominal).

Short Circuit Capability Meets UL and CSA short circuit withstand capability.

Overload Rating Windings 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, wired in series.

K Factor 4

#### **Custom Options**

50Hz units.

Electrostatic shield (60dB attenuation typical).

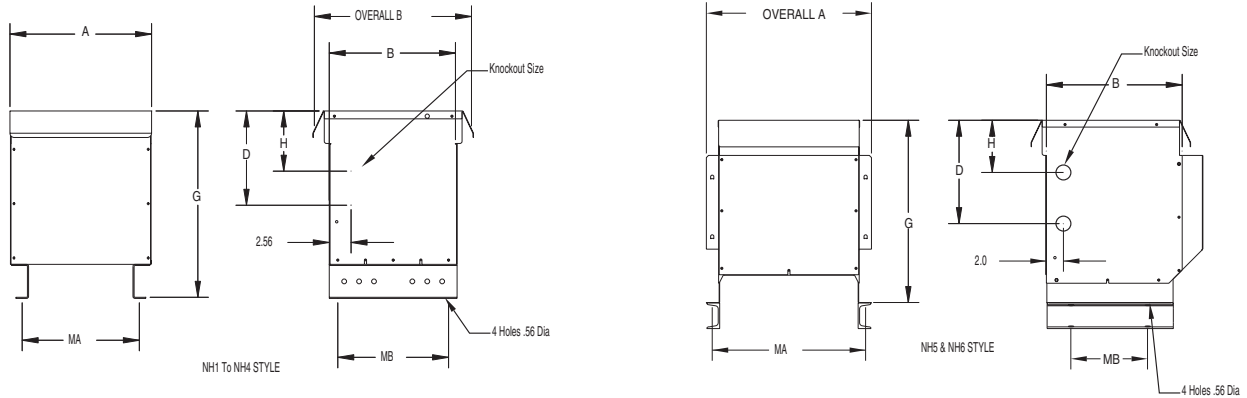
NEMA Type 2 or IP20 (NEMA Type 1).

Core and coil construction (open).

Additional HP or kVA sizes, voltages, extra primary taps, copper wound units, etc.

# 1321 Isolation Transformers

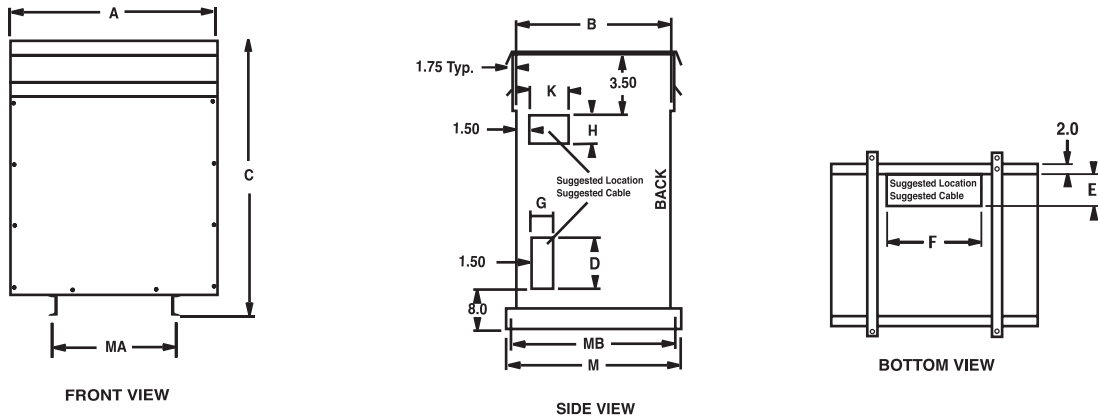
## 1321-3TH Series 3-Phase Mounting Dimensions



NEMA Type 3R (IP32), Styles NH1 through NH4 – Dimensions in in. (mm)

Size	A	B	C	D	E	F	G	H	K	MA	MB
NH3	26.00 (660.40)	21.00 (533.40)	38.00 (66.00)	24.00 (609.60)	2.50 (63.50)	4.75 (120.65)	18.00 (457.20)	13.00 (330.2)	2.00x3.00 (50.80x76.20)	21.50 (546.10)	19.00 (482.60)
NH4	32.00 (812.80)	25.50 (647.70)	41.00 (68.00)	24.00 (609.60)	2.50 (63.50)	—	—	12.00 (304.80)	2.00x3.00 (50.80x76.20)	23.50(596.90)	23.50(596.90)
NH5 (1)	19.40 (492.75)	20.20 (513.00)	21.50 (546.10)	12.00 (304.80)	2.50 (63.50)	—	—	6.00 (152.40)	2.00x3.00 (50.80x76.20)	18.00 (457.20)	9.00 (228.6)
NH6	32.00 (812.80)	25.50 (647.70)	41.00 (68.00)	24.00 (609.60)	2.50 (63.50)	3.75 (95.25)	20.00(508.00)	13.00 (330.2)	2.00x3.00 (50.80x76.20)	23.50 (596.90)	22.00 (558.80)

(1) Enclosure Styles NH1 and NH2 are replaced by NH5 and NH6 through 1321-3TH005 - 132103TH051 ratings.

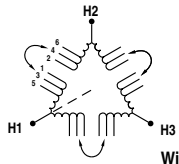


NEMA Type 3R (IP32), Styles NJ1 through NJ6 – Dimensions in in. (mm)

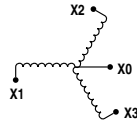
Size	A	B	C	D	E	F	G	H	K	M	MA	MB
NJ1	39.5 (1003.3)	30.0 (762.0)	51.5 (1308.1)	10.0 (254.0)	7.5 (190.5)	21.5 (546.1)	8.0 (203.2)	6.5 (165.1)	13.5 (342.9)	34.0 (863.6)	24.0 (609.6)	32.0 (812.8)
NJ2	48.5 (1239.1)	34.0 (836.6)	59.0 (1498.6)	13.0 (330.2)	8.5 (215.9)	25.0 (635.0)	9.0 (228.6)	8.5 (215.9)	15.5 (393.7)	38.0 (965.2)	27.5 (698.5)	36.0 (914.4)
NJ3	51.5 (1308.1)	39.0 (990.6)	66.0 (1676.4)	16.0 (406.4)	9.5 (241.3)	31.5 (800.1)	10.0 (254.0)	11.5 (292.1)	18.0 (457.2)	43.0 (1092.2)	34.0 (863.6)	41.0 (1041.4)
NJ6	64.0 (1625.6)	40.0 (1016.0)	68.0 (1727.2)	16.0 (406.4)	10.5 (266.7)	37.5 (952.5)	11.0 (279.4)	11.5 (292.1)	18.0 (457.2)	44.0 (1117.6)	40.0 (1016.0)	42.0 (1066.8)

# 1321 Isolation Transformers

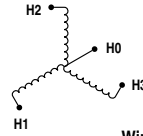
## 1321-3TH Series 3-Phase Wiring Diagrams, Ratings and Weights



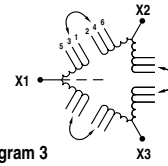
Wiring Diagram 1



Wiring Diagram 2



Wiring Diagram 3



Wiring Diagram 4

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
5	1321-3TW005-AA	NH5	230	230	1	63.5 (140)
5	1321-3TW005-AB	NH5	230	460	3	63.5 (140)
5	1321-3TW005-AC	NH5	230	575	3	63.5 (140)
5	1321-3TW005-BA	NH5	460	230	1	63.5 (140)
5	1321-3TW005-BB	NH5	460	460	1	63.5 (140)
5	1321-3TW005-BC	NH5	460	575	3	63.5 (140)
5	1321-3TW005-CA	NH5	575	230	1	63.5 (140)
5	1321-3TW005-CB	NH5	575	460	1	63.5 (140)
5	1321-3TW005-CC	NH5	575	575	1	63.5 (140)
7.5	1321-3TW007-AA	NH5	230	230	1	63.5 (140)
7.5	1321-3TW007-AB	NH5	230	460	3	63.5 (140)
7.5	1321-3TW007-AC	NH5	230	575	3	63.5 (140)
7.5	1321-3TW007-BA	NH5	460	230	1	63.5 (140)
7.5	1321-3TW007-BB	NH5	460	460	1	63.5 (140)
7.5	1321-3TW007-BC	NH5	460	575	3	63.5 (140)
7.5	1321-3TW007-CA	NH5	575	230	1	63.5 (140)
7.5	1321-3TW007-CB	NH5	575	460	1	63.5 (140)
7.5	1321-3TW007-CC	NH5	575	575	1	63.5 (140)
11	1321-3TW011-AA	NH5	230	230	1	70.3 (155)
11	1321-3TW011-AB	NH5	230	460	3	70.3 (155)
11	1321-3TW011-AC	NH5	230	575	3	70.3 (155)
11	1321-3TW011-BA	NH5	460	230	1	70.3 (155)
11	1321-3TW011-BB	NH5	460	460	1	70.3 (155)
11	1321-3TW011-BC	NH5	460	575	3	70.3 (155)
11	1321-3TW011-CA	NH5	575	230	1	70.3 (155)
11	1321-3TW011-CB	NH5	575	460	1	70.3 (155)
11	1321-3TW011-CC	NH5	575	575	1	70.3 (155)
14	1321-3TW014-AA	NH5	230	230	1	79.4 (175)
14	1321-3TW014-AB	NH5	230	460	3	79.4 (175)
14	1321-3TW014-AC	NH5	230	575	3	79.4 (175)
14	1321-3TW014-BA	NH5	460	230	1	79.4 (175)
14	1321-3TW014-BB	NH5	460	460	1	79.4 (175)
14	1321-3TW014-BC	NH5	460	575	3	79.4 (175)
14	1321-3TW014-CA	NH5	575	230	1	79.4 (175)
14	1321-3TW014-CB	NH5	575	460	1	79.4 (175)
14	1321-3TW014-CC	NH5	575	575	1	79.4 (175)
20	1321-3TW020-AA	NH6	230	230	2	104.3 (230)
20	1321-3TW020-AB	NH6	230	460	4	104.3 (230)
20	1321-3TW020-AC	NH6	230	575	4	104.3 (230)
20	1321-3TW020-BA	NH6	460	230	2	104.3 (230)
20	1321-3TW020-BB	NH6	460	460	2	104.3 (230)
20	1321-3TW020-BC	NH6	460	575	4	104.3 (230)
20	1321-3TW020-CA	NH6	575	230	2	104.3 (230)
20	1321-3TW020-CB	NH6	575	460	2	104.3 (230)
20	1321-3TW020-CC	NH6	575	575	2	104.3 (230)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
27	1321-3TW027-AA	NH6	230	230	2	113.4 (250)
27	1321-3TW027-AB	NH6	230	460	4	113.4 (250)
27	1321-3TW027-AC	NH6	230	575	4	113.4 (250)
27	1321-3TW027-BA	NH6	460	230	2	113.4 (250)
27	1321-3TW027-BB	NH6	460	460	2	113.4 (250)
27	1321-3TW027-BC	NH6	460	575	4	113.4 (250)
27	1321-3TW027-CA	NH6	575	230	2	113.4 (250)
27	1321-3TW027-CB	NH6	575	460	2	113.4 (250)
27	1321-3TW027-CC	NH6	575	575	2	113.4 (250)
34	1321-3TW034-AA	NH6	230	230	2	127.0 (280)
34	1321-3TW034-AB	NH6	230	460	4	127.0 (280)
34	1321-3TW034-AC	NH6	230	575	4	127.0 (280)
34	1321-3TW034-BA	NH6	460	230	2	127.0 (280)
34	1321-3TW034-BB	NH6	460	460	2	127.0 (280)
34	1321-3TW034-BC	NH6	460	575	4	127.0 (280)
34	1321-3TW034-CA	NH6	575	230	2	127.0 (280)
34	1321-3TW034-CB	NH6	575	460	2	127.0 (280)
34	1321-3TW034-CC	NH6	575	575	2	127.0 (280)
40	1321-3TW040-AA	NH6	230	230	2	145.2 (320)
40	1321-3TW040-AB	NH6	230	460	4	145.2 (320)
40	1321-3TW040-AC	NH6	230	575	4	145.2 (320)
40	1321-3TW040-BA	NH6	460	230	2	145.2 (320)
40	1321-3TW040-BB	NH6	460	460	2	145.2 (320)
40	1321-3TW040-BC	NH6	460	575	4	145.2 (320)
40	1321-3TW040-CA	NH6	575	230	2	145.2 (320)
40	1321-3TW040-CB	NH6	575	460	2	145.2 (320)
40	1321-3TW040-CC	NH6	575	575	2	145.2 (320)
51	1321-3TW051-AA	NH6	230	230	2	190.5 (420)
51	1321-3TW051-AB	NH6	230	460	4	190.5 (420)
51	1321-3TW051-AC	NH6	230	575	4	190.5 (420)
51	1321-3TW051-BA	NH6	460	230	2	190.5 (420)
51	1321-3TW051-BB	NH6	460	460	2	190.5 (420)
51	1321-3TW051-BC	NH6	460	575	4	190.5 (420)
51	1321-3TW051-CA	NH6	575	230	2	190.5 (420)
51	1321-3TW051-CB	NH6	575	460	2	190.5 (420)
51	1321-3TW051-CC	NH6	575	575	2	190.5 (420)
63	1321-3TH063-AA	NH3	230	230	2	244.9 (540)
63	1321-3TH063-AB	NH3	230	460	4	244.9 (540)
63	1321-3TH063-AC	NH3	230	575	4	244.9 (540)
63	1321-3TH063-BA	NH3	460	230	2	244.9 (540)
63	1321-3TH063-BB	NH3	460	460	2	244.9 (540)
63	1321-3TH063-BC	NH3	460	575	4	244.9 (540)
63	1321-3TH063-CA	NH3	575	230	2	244.9 (540)
63	1321-3TH063-CB	NH3	575	460	2	244.9 (540)
63	1321-3TH063-CC	NH3	575	575	2	244.9 (540)

## 1321 Isolation Transformers

### 1321-3TH Series 3-Phase Wiring Diagrams, Ratings and Weights *(continued)*

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
75	1321-3TH075-AA	NH3	230	230	2	263.1 (580)
75	1321-3TH075-AB	NH3	230	460	4	263.1 (580)
75	1321-3TH075-AC	NH3	230	575	4	263.1 (580)
75	1321-3TH075-BA	NH3	460	230	2	263.1 (580)
75	1321-3TH075-BB	NH3	460	460	2	263.1 (580)
75	1321-3TH075-BC	NH3	460	575	4	263.1 (580)
75	1321-3TH075-CA	NH3	575	230	2	263.1 (580)
75	1321-3TH075-CB	NH3	575	460	2	263.1 (580)
75	1321-3TH075-CC	NH3	575	575	2	263.1 (580)
93	1321-3TH093-AA	NH3	230	230	2	285.8 (630)
93	1321-3TH093-AB	NH3	230	460	4	285.8 (630)
93	1321-3TH093-AC	NH3	230	575	4	285.8 (630)
93	1321-3TH093-BA	NH3	460	230	2	285.8 (630)
93	1321-3TH093-BB	NH3	460	460	2	285.8 (630)
93	1321-3TH093-BC	NH3	460	575	4	285.8 (630)
93	1321-3TH093-CA	NH3	575	230	2	285.8 (630)
93	1321-3TH093-CB	NH3	575	460	2	285.8 (630)
93	1321-3TH093-CC	NH3	575	575	2	285.8 (630)
118	1321-3TH118-AA	NH3	230	230	2	328.9 (725)
118	1321-3TH118-AB	NH3	230	460	4	328.9 (725)
118	1321-3TH118-AC	NH3	230	575	4	328.9 (725)
118	1321-3TH118-BA	NH3	460	230	2	328.9 (725)
118	1321-3TH118-BB	NH3	460	460	2	328.9 (725)
118	1321-3TH118-BC	NH3	460	575	4	328.9 (725)
118	1321-3TH118-CA	NH3	575	230	2	328.9 (725)
118	1321-3TH118-CB	NH3	575	460	2	328.9 (725)
118	1321-3TH118-CC	NH3	575	575	2	328.9 (725)
145	1321-3TH145-AA	NH4	230	230	2	408.2 (900)
145	1321-3TH145-AB	NH4	230	460	4	408.2 (900)
145	1321-3TH145-AC	NH4	230	575	4	408.2 (900)
145	1321-3TH145-BA	NH4	460	230	2	408.2 (900)
145	1321-3TH145-BB	NH4	460	460	2	408.2 (900)
145	1321-3TH145-BC	NH4	460	575	4	408.2 (900)
145	1321-3TH145-CA	NH4	575	230	2	408.2 (900)
145	1321-3TH145-CB	NH4	575	460	2	408.2 (900)
145	1321-3TH145-CC	NH4	575	575	2	408.2 (900)
175	1321-3TH175-AA	NH4	230	230	2	453.6 (1000)
175	1321-3TH175-AB	NH4	230	460	4	453.6 (1000)
175	1321-3TH175-AC	NH4	230	575	4	453.6 (1000)
175	1321-3TH175-BA	NH4	460	230	2	453.6 (1000)
175	1321-3TH175-BB	NH4	460	460	2	453.6 (1000)
175	1321-3TH175-BC	NH4	460	575	4	453.6 (1000)
175	1321-3TH175-CA	NH4	575	230	2	453.6 (1000)
175	1321-3TH175-CB	NH4	575	460	2	453.6 (1000)
175	1321-3TH175-CC	NH4	575	575	2	453.6 (1000)
220	1321-3TH220-AA	NJ1	230	230	2	589.7 (1300)
220	1321-3TH220-AB	NJ1	230	460	4	589.7 (1300)
220	1321-3TH220-AC	NJ1	230	575	4	589.7 (1300)
220	1321-3TH220-BA	NJ1	460	230	2	589.7 (1300)
220	1321-3TH220-BB	NJ1	460	460	2	589.7 (1300)
220	1321-3TH220-BC	NJ1	460	575	4	589.7 (1300)
220	1321-3TH220-CA	NJ1	575	230	2	589.7 (1300)
220	1321-3TH220-CB	NJ1	575	460	2	589.7 (1300)
220	1321-3TH220-CC	NJ1	575	575	2	589.7 (1300)
275	1321-3TH275-AA	NJ1	230	230	2	680.4 (1500)
275	1321-3TH275-AB	NJ1	230	460	4	680.4 (1500)
275	1321-3TH275-AC	NJ1	230	575	4	680.4 (1500)
275	1321-3TH275-BA	NJ1	460	230	2	680.4 (1500)
275	1321-3TH275-BB	NJ1	460	460	2	680.4 (1500)

kVA	Catalog Number	Style	Primary Voltage	Secondary Voltage	Wiring Diagram	Weight kg (lbs.)
275	1321-3TH275-BC	NJ1	460	575	4	680.4 (1500)
275	1321-3TH275-CA	NJ1	575	230	2	680.4 (1500)
275	1321-3TH275-CB	NJ1	575	460	2	680.4 (1500)
275	1321-3TH275-CC	NJ1	575	575	2	680.4 (1500)
330	1321-3TH330-AA	NJ1	230	230	2	771.1 (1700)
330	1321-3TH330-AB	NJ1	230	460	4	771.1 (1700)
330	1321-3TH330-AC	NJ1	230	575	4	771.1 (1700)
330	1321-3TH330-BA	NJ1	460	230	2	771.1 (1700)
330	1321-3TH330-BB	NJ1	460	460	2	771.1 (1700)
330	1321-3TH330-BC	NJ1	460	575	4	771.1 (1700)
330	1321-3TH330-CA	NJ1	575	230	2	771.1 (1700)
330	1321-3TH330-CB	NJ1	575	460	2	771.1 (1700)
330	1321-3TH330-CC	NJ1	575	575	2	771.1 (1700)
440	1321-3TH440-AA	NJ2	230	230	1	907.2 (2000)
440	1321-3TH440-AB	NJ2	230	460	3	907.2 (2000)
440	1321-3TH440-AC	NJ2	230	575	3	907.2 (2000)
440	1321-3TH440-BA	NJ2	460	230	1	907.2 (2000)
440	1321-3TH440-BB	NJ2	460	460	1	907.2 (2000)
440	1321-3TH440-BC	NJ2	460	575	3	907.2 (2000)
440	1321-3TH440-CA	NJ2	575	230	1	907.2 (2000)
440	1321-3TH440-CB	NJ2	575	460	1	907.2 (2000)
440	1321-3TH440-CC	NJ2	575	575	1	907.2 (2000)
550	1321-3TH550-AA	NJ2	230	230	1	1134.0 (2500)
550	1321-3TH550-AB	NJ2	230	460	3	1134.0 (2500)
550	1321-3TH550-AC	NJ2	230	575	3	1134.0 (2500)
550	1321-3TH550-BA	NJ2	460	230	1	1134.0 (2500)
550	1321-3TH550-BB	NJ2	460	460	1	1134.0 (2500)
550	1321-3TH550-BC	NJ2	460	575	3	1134.0 (2500)
550	1321-3TH550-CA	NJ2	575	230	1	1134.0 (2500)
550	1321-3TH550-CB	NJ2	575	460	1	1134.0 (2500)
550	1321-3TH550-CC	NJ2	575	575	1	1134.0 (2500)
660	1321-3TH660-AA	NJ3	230	230	1	1360.8 (3000)
660	1321-3TH660-AB	NJ3	230	460	3	1360.8 (3000)
660	1321-3TH660-AC	NJ3	230	575	3	1360.8 (3000)
660	1321-3TH660-BA	NJ3	460	230	1	1360.8 (3000)
660	1321-3TH660-BB	NJ3	460	460	1	1360.8 (3000)
660	1321-3TH660-BC	NJ3	460	575	3	1360.8 (3000)
660	1321-3TH660-CA	NJ3	575	230	1	1360.8 (3000)
660	1321-3TH660-CB	NJ3	575	460	1	1360.8 (3000)
660	1321-3TH660-CC	NJ3	575	575	1	1360.8 (3000)
770	1321-3TH770-AA	NJ3	230	230	1	1587.6 (3500)
770	1321-3TH770-AB	NJ3	230	460	3	1587.6 (3500)
770	1321-3TH770-AC	NJ3	230	575	3	1587.6 (3500)
770	1321-3TH770-BA	NJ3	460	230	1	1587.6 (3500)
770	1321-3TH770-BB	NJ3	460	460	1	1587.6 (3500)
770	1321-3TH770-BC	NJ3	460	575	3	1587.6 (3500)
770	1321-3TH770-CA	NJ3	575	230	1	1587.6 (3500)
770	1321-3TH770-CB	NJ3	575	460	1	1587.6 (3500)
770	1321-3TH770-CC	NJ3	575	575	1	1587.6 (3500)
880	1321-3TH880-AA	NJ6	230	230	1	1678.3 (3700)
880	1321-3TH880-AB	NJ6	230	460	3	1678.3 (3700)
880	1321-3TH880-AC	NJ6	230	575	3	1678.3 (3700)
880	1321-3TH880-BA	NJ6	460	230	1	1678.3 (3700)
880	1321-3TH880-BB	NJ6	460	460	1	1678.3 (3700)
880	1321-3TH880-BC	NJ6	460	575	3	1678.3 (3700)
880	1321-3TH880-CA	NJ6	575	230	1	1678.3 (3700)
880	1321-3TH880-CB	NJ6	575	460	1	1678.3 (3700)
880	1321-3TH880-CC	NJ6	575	575	1	1678.3 (3700)

## 1321 Common Mode Chokes

### 1321-M Common Mode Chokes

1321-M Common Mode Chokes can be installed with 1305, 1336 PLUS, 1336 PLUS II, 1336 IMPACT™ and 1336 FORCE™ AC drives. When installed at the drive output the common mode choke helps to guard against interference with other electrical equipment (Programmable Controllers, sensors, analog circuits, etc.). In addition, reducing the PWM carrier frequency reduces the effects and lowers the risk of common mode noise interference.

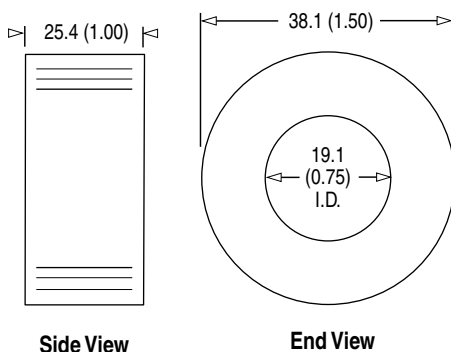
### 1321-M Common Mode Choke Ratings

Choke Type	Used With	Ratings	Catalog Number
Open Style, 1A	All Drives	Communication Cables Analog Signal Cables, etc.	1321-M001
Open Style, 9A (with terminal strip)	1305, 1336 PLUS and 1336 PLUS II	0.5-2HP (0.37-2.2kW) 230V 0.5-5HP (0.37-3.7kW) 480V	1321-M009
	1336 IMPACT	0.5-5HP (0.37-3.7kW) 480V	
	1336 FORCE	1HP (0.75kW) 230V 1-3HP (0.75-2.2kW) 480V	
Open Style, 48A	1336 PLUS and 1336 PLUS II	3-15HP (2.2-11kW) 230V 7.5-30HP (5.5-22kW) 480V 1-40HP (0.75-30kW) 600V	1321-M048
	1336 IMPACT	7.5-30HP (5.5-22kW) 480V 7.5-40HP (5.5-30kW) 600V	
	1336 FORCE	3-15HP (2.2-11kW) 230V 3-30HP (2.2-22kW) 480V 1-40HP (0.75-30kW) 600V	
Open Style, 180A	1336 PLUS and 1336 PLUS II	20-60HP (15-45kW) 230V 40-x150HP (30-112kW) 480V 50-150HP (37-112kW) 600V	1321-M180
	1336 IMPACT	40-x150HP (30-112kW) 480V 50-125HP (37-93kW) 600V	
	1336 FORCE	20-60HP (15-45kW) 230V 40-x150HP (30-112kW) 480V 50-150HP (37-112kW) 600V	
Open Style, 670A	1336 PLUS and 1336 PLUS II	75-125HP (56-93kW) 230V 150-600HP (112-448kW) 480V 200-600HP (149-448kW) 600V	1321-M670
	1336 IMPACT	150-600HP (112-448kW) 480V 200-600HP (149-448kW) 600V	
	1336 FORCE	75-125HP (56-93kW) 230V 150-600HP (112-448kW) 480V 200-600HP (149-448kW) 600V	

### 1321-M Mounting Dimensions

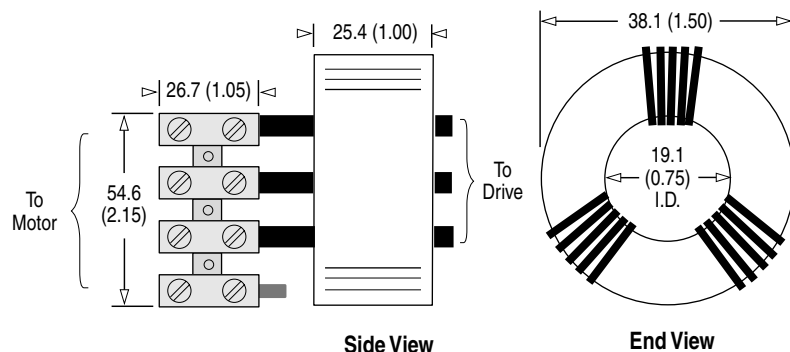
#### 1321-M001

Dimensions are in mm (in.)



#### 1321-M009

Dimensions are in mm (in.)

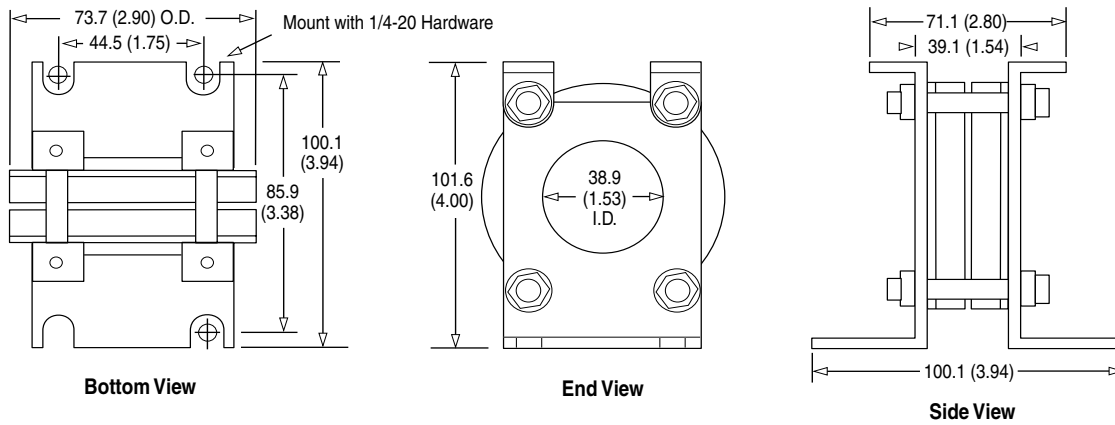


## 1321 Common Mode Chokes

### 1321-M Mounting Dimensions (continued)

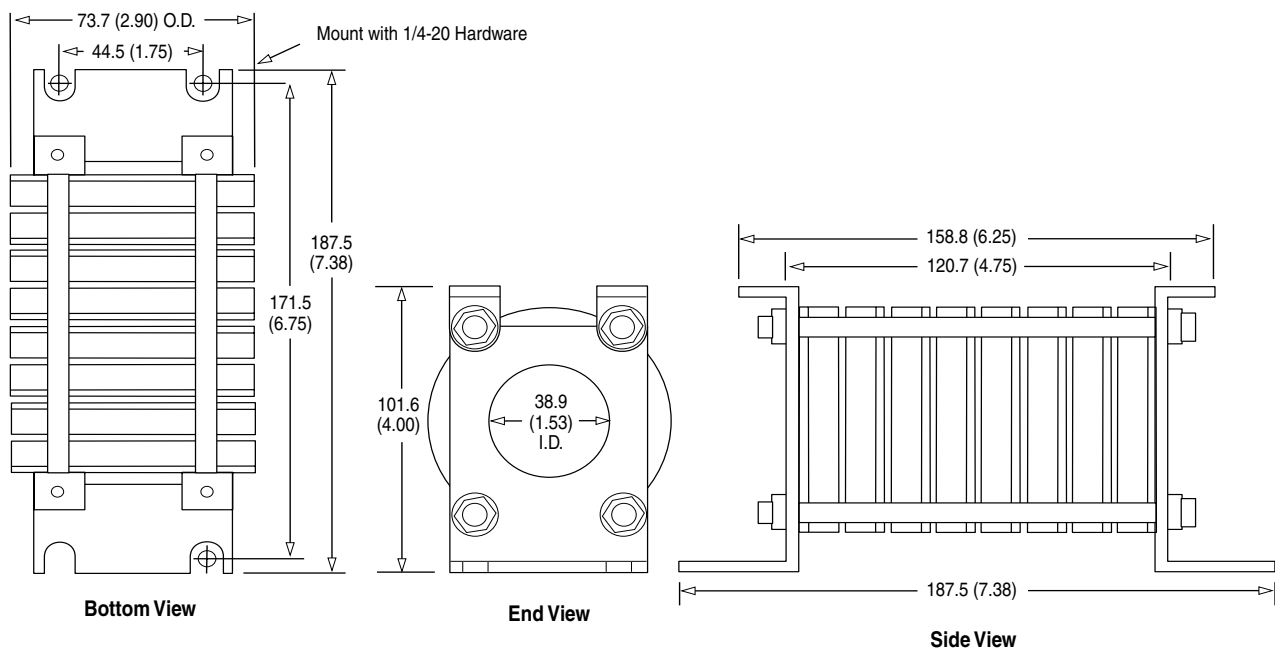
#### 1321-M048

Dimensions are in mm (in.)



#### 1321-M180

Dimensions are in mm (in.)



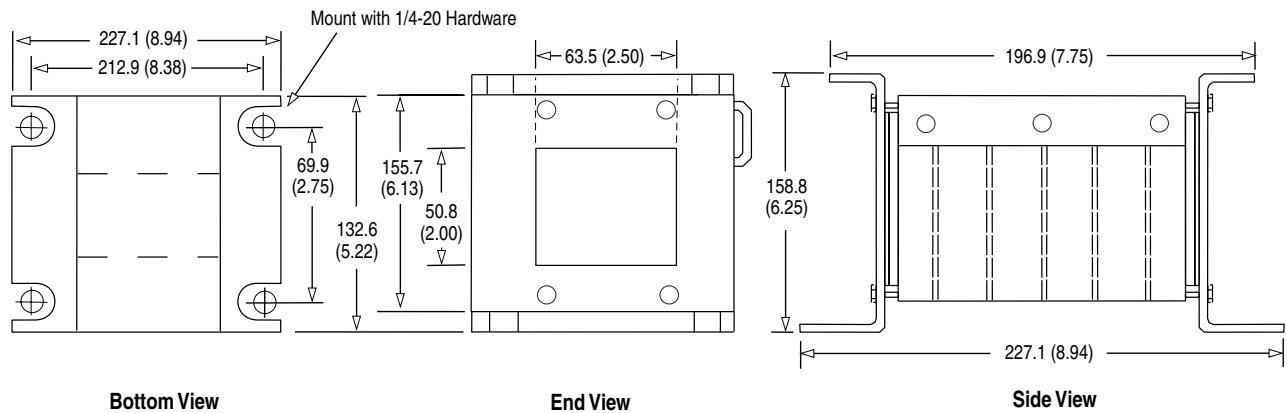
1321-M670 – See Back Page

## 1321 Common Mode Chokes

### 1321-M Mounting Dimensions (continued)

#### 1321-M670

Dimensions are in mm (in.)



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