

# **MTE SERIES RLW**

## **World REACTORS**

### USER INSTALLATION MANUAL



Form: RLW-UIM-E  
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## **IMPORTANT USER INFORMATION NOTICE**

MTE Series RLW reactors are components designed to improve the reliability of three or single phase AC adjustable frequency drives, DC drives and a wide variety of other types of power electronic equipment. In addition they provide input line current harmonic mitigation and 100 foot long lead protection for inverter fed motors. MTE reactors are available in a large number of current ratings and a variety of inductance values. The suitability of a reactor for a specific application must therefore be ultimately determined by the customer. In no event will MTE Corporation assume responsibility or liability for any direct or consequential damages resulting from the use or application of reactors. Nor will MTE Corporation assume patent liability with respect to the use of information, circuits or equipment described in this instruction manual.



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## IMPORTANT SAFETY INFORMATION WARNING

# ***ONLY A QUALIFIED ELECTRICIAN CAN CARRY OUT THE ELECTRICAL INSTALLATION OF LINE/LOAD REACTORS***



### **WARNING**

High voltage is used in the operation of line/load reactors. Use Extreme caution to avoid contact with high voltage when operating, installing or repairing equipment containing line/load reactors.

***INJURY OR DEATH MAY RESULT IF SAFETY PRECAUTIONS ARE NOT OBSERVED.***

Line/load reactors are used in conjunction with inverters, or other electrical equipment that may feedback lethal voltages. Follow the safety instructions in the equipment used with the reactor in addition to the safety instruction in this manual.



### **WARNING**

The opening of the branch circuit protective device may be an indication that a fault current has been interrupted. To reduce the risk of fire or electrical shock, line/load reactors should be examined and replaced if damaged.

## IMPORTANT SAFETY INFORMATION WARNING, CONT.



### WARNING

An upstream disconnect/protection device must be used as required by the National Electrical Code (NEC).



### WARNING

Even if the upstream disconnect/protection device is open, a drive or inverter downstream of the line/load reactor may feedback high voltage to the reactor. The inverter or drive safety instructions must be followed. **INJURY OR DEATH MAY RESULT IF THE DRIVE SAFETY PRECAUTIONS ARE NOT OBSERVED.**



### WARNING

The frame of line/load reactors must be grounded at least at one of the reactor's mounting holes.



### WARNING

Only spare parts obtained from MTE Corporation or an authorized MTE distributor can be used

## **INTRODUCTION**

This manual was specifically developed to assist in the installation, interconnection and operation of MTE Corporation Series RLW reactors

This manual is intended for use by personnel experienced in the operation and maintenance of electronic drives, inverters and similar types of power electronic equipment. Because of the high voltages required by the equipment connected to line/load reactors and the potential dangers presented by rotating machinery, it is essential that all personnel involved in the operation and maintenance of line/load reactors know and practice the necessary safety precautions for this type of equipment. Personnel should read and understand the instructions contained in this manual before installing, operating or servicing line/load reactors and the drive to which the reactor is connected.

### **Upon Receipt of a Reactor:**

MTE Line/load Reactors have been subjected to demanding factory tests before shipment. Carefully inspect the shipping container for damage that may have occurred in transit. Then unpack the filter and carefully inspect for any signs of damage. Save the shipping container for future transport of the reactor.

***In the event of damage, please contact and file a claim with the freight carrier involved immediately.***

If the equipment is not going to be put into service upon receipt, cover and store the reactor in a clean, dry location. After storage, ensure that the equipment is dry and that no condensation has accumulated on the reactor before applying power.

### **Repair/Exchange Procedure**

MTE Corporation requires a Returned Material Authorization Number before it can accept any reactors that qualify for return or repair. If problems or questions arise during installation, setup, or operation of the filter, please call us for assistance at:

Phone: 1-262-253-8200

FAX: 1-262-253-8222

## Reactor Installation

MTE world reactors are available in open construction and in NEMA 1 and NEMA 3R enclosures. Open reactors are designed for mounting within an appropriate electrical equipment enclosure. Reactors rated 300 amperes RMS and under are designed for mounting in both a vertical and horizontal position. Larger reactors must be mounted in a horizontal position typically on the floor of the enclosure. Include the power dissipation of the reactor along with all the other components located in the enclosure to determine the internal temperature rise and cooling requirements of the enclosure.

Reactors may be located in any region of the enclosure where the ambient temperature does not exceed 45 degrees C. Allow a minimum side clearances of four (4) inches and vertical clearances of six (6) inches for proper heat dissipation and access. Do not locate the reactor next to resistors or any other component with operating surface temperatures above 125 degree C.

Select a well-ventilated, dust-free area away from direct sunlight, rain or moisture. Do not install in or near a corrosive environment. Avoid locations where the reactor will be subjected to excessive vibrations.

### **NEMA 1 and NEMA 3R Enclosed world Reactor Installation**

MTE RLW reactors mounted in enclosures with part number, CAB-8, are designed for wall mounting. All other enclosures are designed for floor mounting and only RLW reactors 200 Amps and higher are available in a NEMA 3R enclosure.



### **WARNING**

**MTE NEMA 1 and NEMA 3R enclosures designed for floor mounting must be mounted with the enclosure base horizontal for proper ventilation. Wall mounting a floor mounted enclosure with the base against the wall will cause the reactor to overheat resulting in equipment damage.**

Allow a minimum side, front, and back clearances of twelve (12) inches and vertical clearances of eighteen (18) inches for proper heat dissipation and access. Do not locate the enclosure next to resistors or any other component with operating surface temperatures above 125 degree C.

Select a well-ventilated, dust-free area away from direct sunlight, rain or moisture where the ambient temperature does not exceed 40 degrees C.

***Do not install in or near a corrosive environment.***

Avoid locations where the reactor will be subjected to excessive vibrations.

Where desirable, reactors or enclosures may be mounted on vibration isolating pads to reduce audible noise. Standard vibration control pads made from neoprene or natural rubber and selected for the weight of the enclosed reactor are effective.

## Power Wiring Connection



### **WARNING**

**Input and output power wiring to the reactor should be performed by authorized personnel in accordance with the NEC and all local electrical codes and regulations.**

Verify that the power source to which the reactor is to be connected is in agreement with the nameplate data on the reactor. A fused disconnect switch or circuit breaker should be installed between the reactor and its source of power in accordance with the requirements of the NEC and all local electrical codes and regulations. Refer to the drive, inverter, or other electrical equipment user manual for selection of the correct fuse rating and class.

The reactor is suitable for use on a circuit capable of delivering not more than 65,000 rms symmetrical amperes at 480 volts when protected by Bussmann type JJS, KTK, KTK-R, SPP or T class fuses.

Reactors are designed for use with copper conductors with a minimum temperature rating of 75 degrees C. Table 2 lists the wire range and terminal block torque requirements for the power input and output connections by reactor part number. Table 3 lists the optional lug kits and lug torque requirements for reactors with copper tab terminals by reactor part number.

Refer to Figure 7 for typical electrical diagrams describing the application of reactors in both line and load applications. For reactors supplied as a component part of a drive system or a component part of power electronic apparatus follow the interconnection diagram supplied by the System Engineer.

Where desirable, a flexible conduit connection to the reactor enclosure should be made to reduce audible noise.



### **WARNING**

**Failure to connect reactors supplied as a component part of a drive system or other power electronic system according to the system interconnection diagram supplied by the System Engineer will result in equipment damage, injury, or death.**



### **WARNING**

**If a line reactor or a line reactor and a load reactor are used with a drive equipped with a bypass circuit, the reactors must be removed from the motor circuit in the bypass mode. Damage to the motor and other equipment will result if this warning is not observed.**



**Input and Output Terminal Specifications – Terminal Blocks**

**Table 2**

<b>Catalog Number</b>	<b>Watts Loss (Watts)</b>	<b>Inductance (mH)</b>	<b>Wire Range (AWG)</b>	<b>Terminal Torque (in – lbs)</b>
RLW-00P501	2.3	22.0	22 – 10	5
RLW-00P503	3.6	46.0	22 – 10	5
RLW-00P505	4.8	74.0	22 – 10	5
RLW-00P506	5.4	92.0	22 – 10	5
RLW-0P7501	4.2	15.0	22 – 10	5
RLW-0P7503	6.6	31.0	22 – 10	5
RLW-0P7505	8.8	49.0	22 – 10	5
RLW-0P7506	10.1	61.0	22 – 10	5
RLW-01P101	4.8	10.0	22 – 10	5
RLW-01P103	7.8	21.0	22 – 10	5
RLW-01P105	10.1	33.0	22 – 10	5
RLW-01P106	11.9	42.0	22 – 10	5
RLW-01P601	6.9	6.9	22 – 10	5
RLW-01P603	10.9	14.0	22 – 10	5
RLW-01P605	15.0	23.0	22 – 10	5
RLW-01P606	17.7	29.0	22 – 10	5
RLW-02P101	9.0	5.3	22 – 10	5
RLW-02P103	14.3	11.0	22 – 10	5
RLW-02P105	19.6	18.0	22 – 10	5
RLW-02P106	22.3	22.0	22 – 10	5
RLW-03P401	12.3	3.2	22 – 10	5
RLW-03P403	19.6	6.8	22 – 10	5
RLW-03P405	13.8	11.0	22 – 10	5
RLW-03P406	23.0	14.0	22 – 10	5
RLW-04P801	19.2	2.3	22 – 10	5
RLW-04P803	26.5	4.8	22 – 10	5
RLW-04P805	31.5	7.7	22 – 10	5
RLW-04P806	37.5	10.0	22 – 10	5
RLW-07P601	40.1	1.5	22 – 10	5
RLW-07P603	37.2	3.0	22 – 10	5
RLW-07P605	47.8	4.8	22 – 10	5
RLW-07P606	53.8	6.0	22 – 10	5

**Input and Output Terminal Specifications – Terminal Blocks**

**Table 2, Cont.**

<b>Catalog Number</b>	<b>Watts Loss (Watts)</b>	<b>Inductance (mH)</b>	<b>Wire Range (AWG)</b>	<b>Terminal Torque (in – lbs)</b>
RLW-001101	26.8	1.0	22 – 10	5
RLW-001103	40.9	2.1	22 – 10	5
RLW-001105	54.4	3.3	22 – 10	5
RLW-001106	59.1	4.2	22 – 10	5
RLW-001401	32.7	0.8	22 – 10	5
RLW-001403	48.2	1.6	22 – 10	5
RLW-001405	60.6	2.6	22 – 10	5
RLW-001406	66	3.3	22 – 10	5
RLW-002101	38.3	0.53	14 – 6	18
RLW-002103	57.4	1.1	14 – 6	18
RLW-002105	73.5	1.8	14 – 6	18
RLW-002106	78	2.2	14 – 6	18
RLW-002801	48.2	0.39	14 – 6	18
RLW-002803	66.8	0.82	14 – 6	18
RLW-002805	93.8	1.3	14 – 6	18
RLW-002806	110.6	1.6	14 – 6	18
RLW-003501	68.6	0.35	14 – 6	18
RLW-003503	102.9	0.71	14 – 6	18
RLW-003505	121.9	1.2	14 – 6	18
RLW-003507	204	2.12	14 – 6	18
RLW-004601	77.9	0.3	14 – 6	18
RLW-004603	99.8	0.55	14 – 6	18
RLW-004605	179.3	0.98	14 – 6	18
RLW-004607	192	0.0016	14 – 6	18
RLW-005501	67.5	0.27	6 – 0	6-4(45) & 2-0(50)
RLW-005503	109.7	0.48	6 – 0	6-4(45) & 2-0(50)
RLW-005505	149.7	0.75	6 – 0	6-4(45) & 2-0(50)
RLW-005507	283	1.33	6 – 0	6-4(45) & 2-0(50)
RLW-006501	87.4	0.19	6 – 0	6-4(45) & 2-0(50)
RLW-006503	105.3	0.38	6 – 0	6-4(45) & 2-0(50)
RLW-006505	214.5	0.64	6 – 0	6-4(45) & 2-0(50)
RLW-006507	191	1.1	6 – 0	6-4(45) & 2-0(50)
RLW-008301	119.3	0.17	6 – 0	6-4(45) & 2-0(50)
RLW-008303	155.1	0.29	6 – 0	6-4(45) & 2-0(50)
RLW-008305	197.5	0.51	6 – 0	6-4(45) & 2-0(50)
RLW-008307	240	0.91	6 – 0	6-4(45) & 2-0(50)
RLW-010401	94	0.12	6 – 0	6-4(45) & 2-0(50)
RLW-010403	199.5	0.23	6 – 0	6-4(45) & 2-0(50)
RLW-010405	208.6	0.375	6 – 0	6-4(45) & 2-0(50)
RLW-010407	256	0.67	6 – 0	6-4(45) & 2-0(50)

**Input and Output Terminal Specifications – Lug Kits\***

**Table 3**

Catalog Number	Watts Loss (Watts)	Inductance (mH)	Terminal Type	Lug Kit Part Number	Lug Wire Range (AWG)	Lug Torque (in - lbs)
RLW-013001	131.5	0.095	Copper Tab	LUGKIT-003		
RLW-013003	152.5	0.18				
RLW-013005	197.6	0.3				
RLW-013007	480	0.56				
RLW-016001	109.5	0.08			2	150
RLW-016003	194.5	0.155			1/0 - 2/0	180
RLW-016005	309.3	0.26			4/0	250
RLW-016007	561	0.47				
RLW-020001	158.5	0.06				
RLW-020003	223.5	0.115				
RLW-020005	293	0.2				
RLW-020007	509	0.34				
RLW-025001	275.6	0.05			Copper Tab	LUGKIT-002
RLW-025003	284.2	0.095				
RLW-025005	402	0.16				
RLW-025007	465	0.27				
RLW-032201	300	0.05				
RLW-032203	383	0.07				
RLW-032205	494	0.13				
RLW-032207	780	0.225				
RLW-041401	333	0.033				
RLW-041403	531	0.066				
RLW-041405	588	0.11				
RLW-041407	1007	0.185				
RLW-051501	314	0.025	2/0	180		
RLW-051503	496	0.05	3/0 - 4/0	250		
RLW-051505	695	0.08	250 - 350	325		
RLW-051507	1096	0.15	500	375		
RLW-060001	375	0.02				
RLW-060003	747	0.04				
RLW-060005	780	0.065				
RLW-060007	1190	0.12				
RLW-075001	468	0.017				
RLW-075003	838	0.035				
RLW-075005	858	0.055				
RLW-075007	1426	0.095				

\*Note: Optional LUGKIT-002 and LUGKIT-003 contains six (6) lugs for line and load connection. Proper wire gauge must be selected in accordance with the requirements of the NEC and all local electrical codes and regulations.

## **Grounding**

A stud is provided on enclosed reactors for grounding the enclosure. The enclosure must be grounded. Open reactors must be grounded at the designated grounding terminal or the reactor mounting holes if no designated grounding terminal is provided.

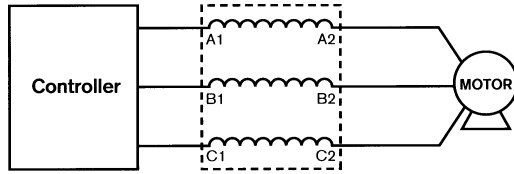


### **WARNING**

**The frame of line/load reactors must be grounded at the designated grounding terminal or one of the reactor mounting holes if no designated grounding terminal is provided. The enclosure of reactors supplied in enclosures must be grounded.**

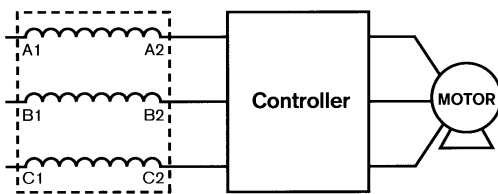
**INJURY OR DEATH MAY RESULT IF SAFETY PRECAUTIONS ARE NOT OBSERVED.**

## Connection Diagrams



Load reactor connections

**Note** RLW requires current de-rating for load applications see RLW-TRM for selection tables

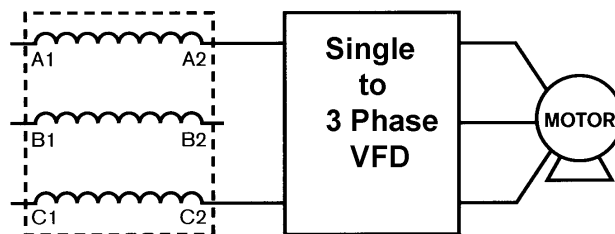


Conventional Line side reactor to VFD connections

**Note;** Actual marking of U1 -U2, V1-V2, W1-W2 designations on reactor terminals in place of A1-A2, B1-B2, C1-C2 as shown to left.

### Single phase connection

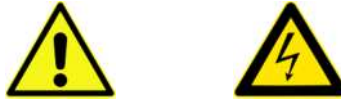
Standard three phase reactors may be used for single phase applications. Refer to *Application Note* AN0102 for proper selection. Application Notes are available on our website at [www.mtecorp.com](http://www.mtecorp.com).



## **STARTUP**

### **Safety Precautions**

Before startup, observe the following warnings and instructions:



### **WARNING**

A Reactor is at line potential when the Reactor is connected to the utility. This voltage is extremely dangerous and may cause death or severe injury if you come in contact with it.



### **WARNING**

High voltage is used in the operation of line/load reactors. Use Extreme caution to avoid contact with high voltage when operating, installing or repairing equipment containing reactors. RLW reactors are used in conjunction with inverters, or other electrical equipment that may feedback lethal voltages.

Follow the safety instructions in the equipment used with the reactor in addition to the safety instruction in this manual.

**INJURY OR DEATH MAY RESULT IF SAFETY PRECAUTIONS ARE NOT OBSERVED.**

### **Sequence of Operation**

- 1. Read and follow safety precautions.**
- 2. After installation, ensure that:**
  - All Reactor ground terminals are connected to ground.
  - Power wiring to the utility, drive and motor is in accordance with the interconnection diagrams supplied by the System Engineer.
- 3. Check that moisture has not condensed on the Reactor. If moisture is present, do not proceed with startup until the moisture has been removed.**
- 4. Proceed with startup according to the instructions provided by the system supplier.**

## **STARTUP, Cont.**



### **WARNING**

Reactors are a component part of an electrical system. Do not proceed with startup until the system startup instructions provided by the System Engineer are understood and followed. Injury, death and damage to equipment may result if the system startup instructions are not followed.

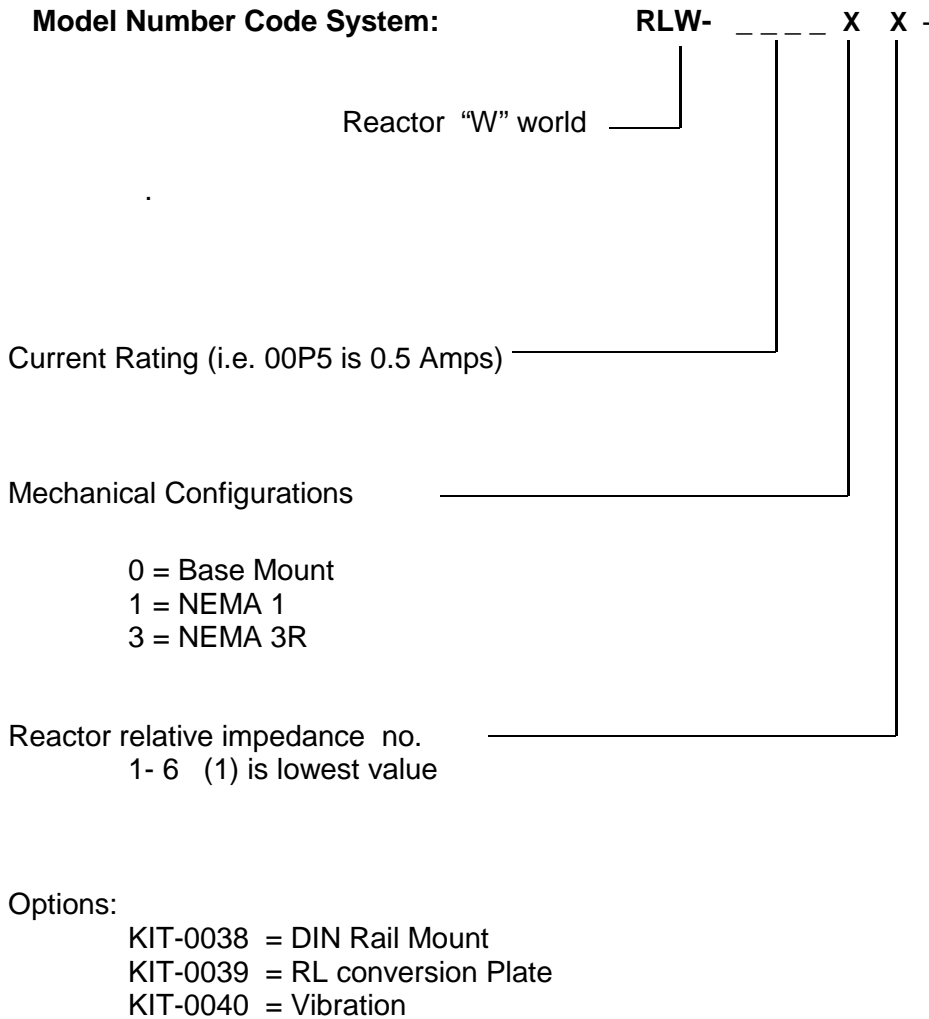


### **WARNING**

Use extreme caution to avoid contact with line voltage when checking for power.

**INJURY OR DEATH MAY RESULT IF SAFETY PRECAUTIONS ARE NOT OBSERVED.**

## Model Code Part Number Configuration





## Mechanical Data

### Open Panel

RMS Amps	Open Part Number			Dimension in inches					
	Open PN	Wt	Fig	A width	B Height	C Depth	D	E	F
0.5	RLW-00P501	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-00P503	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-00P505	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-00P506	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
0.75	RLW-0P7501	1.4	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-0P7503	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-0P7505	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-0P7506	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
1.1	RLW-01P101	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-01P103	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-01P105	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-01P106	1.7	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
1.6	RLW-01P601	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-01P603	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-01P605	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-01P606	1.7	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
2.1	RLW-02P101	1.5	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-02P103	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-02P105	1.7	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-02P106	1.7	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
3.4	RLW-03P401	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-03P403	1.6	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-03P405	2.7	<a href="#">3</a>	4.4	5	2.8	2.0	1.4	-
	RLW-03P406	2.8	<a href="#">3</a>	4.4	5	2.8	2.0	1.4	-
4.8	RLW-04P801	1.7	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-04P803	1.8	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-04P805	2.8	<a href="#">3</a>	4.4	5	2.8	2.0	1.4	-
	RLW-04P806	4	<a href="#">3</a>	4.4	5	3.1	2.1	1.4	-
7.6	RLW-07P601	1.8	<a href="#">1-2</a>	4.5	3.7	1.5	0.0	4	-
	RLW-07P603	2.8	<a href="#">3</a>	4.4	5	2.8	2.0	1.4	-
	RLW-07P605	4.1	<a href="#">3</a>	4.4	5	3.1	2.1	1.4	-
	RLW-07P606	4.2	<a href="#">3</a>	4.4	5	3.1	2.1	1.4	-
11	RLW-001101	2.7	<a href="#">3</a>	4.4	5	2.8	2.0	1.4	-
	RLW-001103	4.2	<a href="#">3</a>	4.4	5	3.1	2.1	1.4	-
	RLW-001105	5.3	<a href="#">3</a>	4.4	5	3.5	2.6	1.4	-
	RLW-001106	7.1	<a href="#">3</a>	6	5.8	2.9	2.1	2	-
14	RLW-001401	2.8	<a href="#">3</a>	4.4	5.3	2.8	2.0	1.4	-
	RLW-001403	4.3	<a href="#">3</a>	4.4	5	3.1	2.1	1.4	-
	RLW-001405	7.1	<a href="#">3</a>	6	5.8	2.9	2.1	2	-
	RLW-001406	9.4	<a href="#">3</a>	6	5.8	3.3	2.5	2	-

Note: DIN rail kit only available for figure 1-2 units only.  
 Dimensional details contained here depict overall reactor sizes. See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.

Open Panel, Cont.

RMS Amps	Open Part Number			Dimension in inches					
	Open PN	Wt	Fig	A width	B Height	C Depth	D	E	F
21	RLW-002101	4.2	<a href="#">3</a>	4.4	5.3	3.3	2.4	1.4	-
	RLW-002103	7.2	<a href="#">3</a>	6	6.1	2.9	2.1	2	-
	RLW-002105	10	<a href="#">3</a>	6	6.1	3.3	2.5	2	-
	RLW-002106	13.3	<a href="#">3</a>	7.2	7	3.8	2.3	3	-
28	RLW-002801	5.1	<a href="#">3</a>	4.4	5.3	3.5	2.6	1.4	-
	RLW-002803	9.5	<a href="#">3</a>	6	6.1	3.3	2.5	2	-
	RLW-002805	10.4	<a href="#">3</a>	6	6.1	3.3	2.3	2	-
	RLW-002806	14.3	<a href="#">3</a>	7.2	7	3.8	2.3	3	-
35	RLW-003501	10	<a href="#">3</a>	6	6	3.5	2.73	2	3
	RLW-003503	13	<a href="#">3</a>	7.2	6	3.75	2.25	3	-
	RLW-003505	18	<a href="#">3</a>	7.2	6	4.3	2.75	3	-
	RLW-003507	16	<a href="#">3</a>	9	8.3	4.6	3.24	3	4.26
46	RLW-004601	13	<a href="#">3</a>	7.2	6	3.75	2.25	3	-
	RLW-004603	17	<a href="#">3</a>	7.2	6	4.3	2.75	3	-
	RLW-004605	24	<a href="#">3</a>	9	8.3	4.8	3.24	3	4.26
	RLW-004607	29	<a href="#">3</a>	9	8.3	5.1	3.5	3	4.26
55	RLW-005501	18	<a href="#">3</a>	7.2	6	4	2.75	3	-
	RLW-005503	20	<a href="#">3</a>	7.2	6	4.25	2.75	3	-
	RLW-005505	26	<a href="#">3</a>	9	7	6.5	3.24	3	4.26
	RLW-005507	35	<a href="#">3</a>	9	7	7.25	3.86	3	4.26
65	RLW-006501	18	<a href="#">3</a>	7.2	6	4	4.25	3	-
	RLW-006503	22	<a href="#">3</a>	7.2	6	4.25	2.75	3	-
	RLW-006505	26	<a href="#">3</a>	9	7	6.5	3.24	3	4.26
	RLW-006507	44	<a href="#">3</a>	9	7	7.25	4.24	3	4.26
83	RLW-008301	19	<a href="#">3</a>	7.2	6	4.25	2.75	3	-
	RLW-008303	26	<a href="#">3</a>	9	7	6.5	3.24	3	4.26
	RLW-008305	35	<a href="#">3</a>	9	7	6.75	3.74	3	4.26
	RLW-008307	54	<a href="#">3</a>	9	7	7.75	4.74	3	4.26
104	RLW-010401	22	<a href="#">3</a>	7.2	6	6.5	2.75	3	4.26
	RLW-010403	28	<a href="#">3</a>	9	7	7	3.24	3	4.26
	RLW-010405	41	<a href="#">3</a>	9	7	7.25	4.24	3	4.26
	RLW-010407	57	<a href="#">3</a>	9	7	7.75	4.76	3	4.26
130	RLW-013001	26	<a href="#">3</a>	9.25	7.5	6.75	3.25	3	4.26
	RLW-013003	37	<a href="#">3</a>	9.25	7.5	6.75	3.75	3	4.26
	RLW-013005	52	<a href="#">3</a>	9.25	7.5	8.25	4.75	3	4.26
	RLW-013007	80	<a href="#">3</a>	10.8	8.75	9	5.52	3.63	5.58
160	RLW-016001	34	<a href="#">3</a>	9.25	7.5	6.75	3.75	3	4.26
	RLW-016003	49	<a href="#">3</a>	9.25	7.5	8.25	4.75	3	4.26
	RLW-016005	53	<a href="#">3</a>	9.25	7.5	8.25	4.75	3	4.26
	RLW-016007	75	<a href="#">3</a>	10.8	8.5	8.5	6.37	3.63	5.58

Dimensional details contained here depict overall reactor sizes. See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.

**Open Panel, Cont.**

RMS Amps	Open Part Number			Dimension in inches					
	Open PN	Wt	Fig	A width	B Height	C Depth	D	E	F
200	RLW-020001	34	<a href="#">3</a>	9.25	7.5	7	0.375	3	4.26
	RLW-020003	49	<a href="#">3</a>	9.25	7.5	8.25	4.75	3	4.26
	RLW-020005	75	<a href="#">3</a>	10.8	8.25	9	5.87	3.63	5.58
	RLW-020007	91	<a href="#">3</a>	10.8	8.75	10	7.12	3.63	5.58
250	RLW-025001	35	<a href="#">3</a>	9.25	7.5	7.5	3.75	3	4.26
	RLW-025003	55	<a href="#">3</a>	9.25	7.5	8.5	4.75	3	4.26
	RLW-025005	75	<a href="#">3</a>	10.8	8.75	9	5.87	3.63	5.58
	RLW-025007	121	<a href="#">3</a>	10.8	8.5	11.75	8.02	3.63	5.58
322	RLW-032201	57	<a href="#">3</a>	9.25	7.5	9	4.75	3	4.26
	RLW-032203	76	<a href="#">3</a>	10.8	8.75	8.5	5.37	3.63	5.58
	RLW-032205	108	<a href="#">3</a>	9	8.75	11	7.37	3.63	5.58
	RLW-032207	172	<a href="#">3</a>	14.4	11.5	12.5	8.08	4.6	7.2
414	RLW-041401	78	<a href="#">3</a>	9	8.75	9.5	5.37	3.63	5.58
	RLW-041403	98	<a href="#">3</a>	9	8.75	11.5	6.87	3.63	5.58
	RLW-041405	125	<a href="#">3</a>	9	8.75	12.5	7.37	3.63	5.58
	RLW-041407	197	<a href="#">3</a>	14.4	11.5	13.5	9.62	4.6	7.2
515	RLW-051501	81	<a href="#">3</a>	9	8.75	9.5	5.37	3.63	5.58
	RLW-051503	118	<a href="#">3</a>	9	8.75	12	6.37	3.63	5.58
	RLW-051505	193	<a href="#">3</a>	14.4	11.5	13.5	9.62	4.6	5.9
	RLW-051507	248	<a href="#">3</a>	14.4	11.5	13.75	8.71	4.6	7.2
600	RLW-060001	86	<a href="#">3</a>	9	8.75	10.5	5.37	3.63	5.58
	RLW-060003	144	<a href="#">3</a>	14.4	11.5	12.5	8.12	4.6	5.9
	RLW-060005	204	<a href="#">3</a>	14.4	11.5	13.75	8.62	3.63	5.58
	RLW-060007	292	<a href="#">3</a>	14.4	11.5	15.5	10.21	4.6	7.2
750	RLW-075001	105	<a href="#">3</a>	9	8.75	11.5	6.87	3.63	5.58
	RLW-075003	179	<a href="#">3</a>	14.4	11.5	12.5	7.62	4.6	7.2
	RLW-075005	245	<a href="#">3</a>	14.4	11.5	15	8.62	4.6	7.2
	RLW-075007	348	<a href="#">3</a>	14.4	11.5	22	11.62	4.6	7.2

*Dimensional details contained here depict overall reactor sizes. See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.*

**Mechanical Data, Cont.**

**Enclosed Reactor**

RMS Amps	Part Number	NEMA 1	
		Weight/LBS.	Figure
0.5	RLW-00P511	8.5	<a href="#">4</a>
	RLW-00P513	8.5	<a href="#">4</a>
	RLW-00P515	8.6	<a href="#">4</a>
	RLW-00P516	8.6	<a href="#">4</a>
0.75	RLW-0P7511	8.4	<a href="#">4</a>
	RLW-0P7513	8.5	<a href="#">4</a>
	RLW-0P7515	8.5	<a href="#">4</a>
	RLW-0P7516	8.6	<a href="#">4</a>
1.1	RLW-01P111	8.5	<a href="#">4</a>
	RLW-01P113	8.6	<a href="#">4</a>
	RLW-01P115	8.6	<a href="#">4</a>
	RLW-01P116	8.7	<a href="#">4</a>
1.6	RLW-01P611	8.5	<a href="#">4</a>
	RLW-01P613	8.6	<a href="#">4</a>
	RLW-01P615	8.6	<a href="#">4</a>
	RLW-01P616	8.7	<a href="#">4</a>
2.1	RLW-02P111	8.5	<a href="#">4</a>
	RLW-02P113	8.6	<a href="#">4</a>
	RLW-02P115	8.7	<a href="#">4</a>
	RLW-02P116	8.7	<a href="#">4</a>
3.4	RLW-03P411	8.6	<a href="#">4</a>
	RLW-03P413	8.6	<a href="#">4</a>
	RLW-03P415	9.7	<a href="#">4</a>
	RLW-03P416	9.8	<a href="#">4</a>
4.8	RLW-04P811	8.7	<a href="#">4</a>
	RLW-04P813	8.8	<a href="#">4</a>
	RLW-04P815	9.8	<a href="#">4</a>
	RLW-04P816	11.0	<a href="#">4</a>
7.6	RLW-07P611	8.8	<a href="#">4</a>
	RLW-07P613	9.8	<a href="#">4</a>
	RLW-07P615	11.1	<a href="#">4</a>
	RLW-07P616	11.2	<a href="#">4</a>
11	RLW-001111	9.7	<a href="#">4</a>
	RLW-001113	11.2	<a href="#">4</a>
	RLW-001115	12.3	<a href="#">4</a>
	RLW-001116	14.1	<a href="#">4</a>
14	RLW-001411	9.8	<a href="#">4</a>
	RLW-001413	11.3	<a href="#">4</a>
	RLW-001415	14.1	<a href="#">4</a>
	RLW-001416	27.4	<a href="#">5</a>

***Dimensional details contained here depict overall reactor sizes. See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.***

**Enclosed Reactor, Cont.**

RMS Amps	Part Number	NEMA 1	
		Weight/LBS.	Figure
21	RLW-002111	22.2	<a href="#">5</a>
	RLW-002113	25.2	<a href="#">5</a>
	RLW-002115	28.0	<a href="#">5</a>
	RLW-002116	31.3	<a href="#">5</a>
28	RLW-002811	23.1	<a href="#">5</a>
	RLW-002813	27.5	<a href="#">5</a>
	RLW-002815	28.4	<a href="#">5</a>
	RLW-002816	32.3	<a href="#">5</a>
35	RLW-003511	28.0	<a href="#">5</a>
	RLW-003513	31.0	<a href="#">5</a>
	RLW-003515	36.0	<a href="#">5</a>
	RLW-003517	34.0	<a href="#">5</a>
46	RLW-004611	31.0	<a href="#">5</a>
	RLW-004613	35.0	<a href="#">5</a>
	RLW-004615	42.0	<a href="#">5</a>
	RLW-004617	47.0	<a href="#">5</a>
55	RLW-005511	36.0	<a href="#">5</a>
	RLW-005513	38.0	<a href="#">5</a>
	RLW-005515	44.0	<a href="#">5</a>
	RLW-005517	53.0	<a href="#">5</a>
65	RLW-006511	36.0	<a href="#">5</a>
	RLW-006513	40.0	<a href="#">5</a>
	RLW-006515	44.0	<a href="#">5</a>
	RLW-006517	62.0	<a href="#">5</a>
83	RLW-008311	37.0	<a href="#">5</a>
	RLW-008313	44.0	<a href="#">5</a>
	RLW-008315	53.0	<a href="#">5</a>
	RLW-008317	72.0	<a href="#">5</a>
104	RLW-010411	40.0	<a href="#">5</a>
	RLW-010413	46.0	<a href="#">5</a>
	RLW-010415	59.0	<a href="#">5</a>
	RLW-010417	75.0	<a href="#">5</a>
130	RLW-013011	44.0	<a href="#">5</a>
	RLW-013013	55.0	<a href="#">5</a>
	RLW-013015	70.0	<a href="#">5</a>
	RLW-013017	98.0	<a href="#">5</a>
160	RLW-016011	52.0	<a href="#">5</a>
	RLW-016013	67.0	<a href="#">5</a>
	RLW-016015	80.0	<a href="#">6</a>
	RLW-016017	102.0	<a href="#">6</a>

*Dimensional details contained here depict overall reactor sizes. See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.*

**Enclosed Reactor, Cont.**

RMS		NEMA 1			NEMA 3R	
Amps	Part Number	Weight/LBS.	Figure	Part Number	Weight/LBS.	Figure
200	RLW-020011	61	<a href="#">6</a>	RLW-020031	118	<a href="#">7</a>
	RLW-020013	76	<a href="#">6</a>	RLW-020033	133	<a href="#">7</a>
	RLW-020015	102	<a href="#">6</a>	RLW-020035	159	<a href="#">7</a>
	RLW-020017	118	<a href="#">6</a>	RLW-020037	175	<a href="#">7</a>
250	RLW-025011	62	<a href="#">6</a>	RLW-025031	119	<a href="#">7</a>
	RLW-025013	82	<a href="#">6</a>	RLW-025033	139	<a href="#">7</a>
	RLW-025015	102	<a href="#">6</a>	RLW-025035	159	<a href="#">7</a>
	RLW-025017	148	<a href="#">6</a>	RLW-025037	205	<a href="#">7</a>
322	RLW-032211	84	<a href="#">6</a>	RLW-032231	141	<a href="#">7</a>
	RLW-032213	220	<a href="#">8</a>	RLW-032233	241	<a href="#">8</a>
	RLW-032215	252	<a href="#">8</a>	RLW-032235	273	<a href="#">8</a>
	RLW-032217	316	<a href="#">8</a>	RLW-032237	337	<a href="#">8</a>
414	RLW-041411	222	<a href="#">8</a>	RLW-041431	243	<a href="#">8</a>
	RLW-041413	242	<a href="#">8</a>	RLW-041433	263	<a href="#">8</a>
	RLW-041415	269	<a href="#">8</a>	RLW-041435	290	<a href="#">8</a>
	RLW-041417	341	<a href="#">8</a>	RLW-041437	362	<a href="#">8</a>
515	RLW-051511	225	<a href="#">8</a>	RLW-051531	246	<a href="#">8</a>
	RLW-051513	262	<a href="#">8</a>	RLW-051533	283	<a href="#">8</a>
	RLW-051515	337	<a href="#">8</a>	RLW-051535	358	<a href="#">8</a>
	RLW-051517	392	<a href="#">8</a>	RLW-051537	413	<a href="#">8</a>
600	RLW-060011	230	<a href="#">8</a>	RLW-060031	251	<a href="#">8</a>
	RLW-060013	288	<a href="#">8</a>	RLW-060033	309	<a href="#">8</a>
	RLW-060015	348	<a href="#">8</a>	RLW-060035	369	<a href="#">8</a>
	RLW-060017	436	<a href="#">8</a>	RLW-060037	457	<a href="#">8</a>
750	RLW-075011	249	<a href="#">8</a>	RLW-075031	270	<a href="#">8</a>
	RLW-075013	323	<a href="#">8</a>	RLW-075033	344	<a href="#">8</a>
	RLW-075015	389	<a href="#">8</a>	RLW-075035	410	<a href="#">8</a>
	RLW-075017	492	<a href="#">8</a>	RLW-075037	513	<a href="#">8</a>

*Dimensional details contained here depict overall reactor sizes. See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.*

## Factory Configured Options

### KIT-0038

DIN rail Mount.

A DIN rail mounting option is provided to utilize standard 35mm panel mounted DIN rail for securing the reactor via two steel mounting clips. The DIN rail kit is only available on snap channel reactors up to 7 amps and indicated by figure 1- 2 on mechanical table.

### KIT-0039

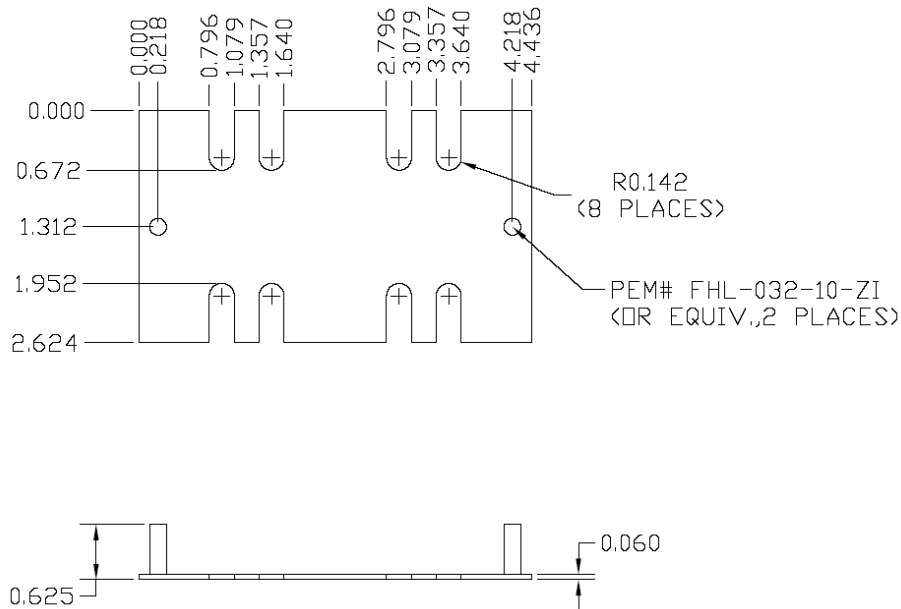
RL base mount converter plate.

The base plate adaptor option will allow the RLW to use existing RL bolt hole mounting patterns.

### KIT-0040

Vibration pads for enclosure mounting.

Vibration isolation for enclosed reactors may be fitted with an optional vibration pad to dampen cabinet vibrations from the reactor.



**KIT -0039 converter plate**

## Outline Drawings

See [mtecorp.com](http://mtecorp.com) for complete mechanical details and CAD drawing download.

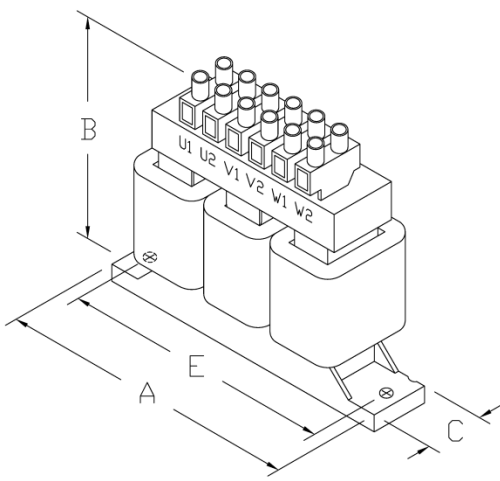


Figure 1 Snap Base Mount

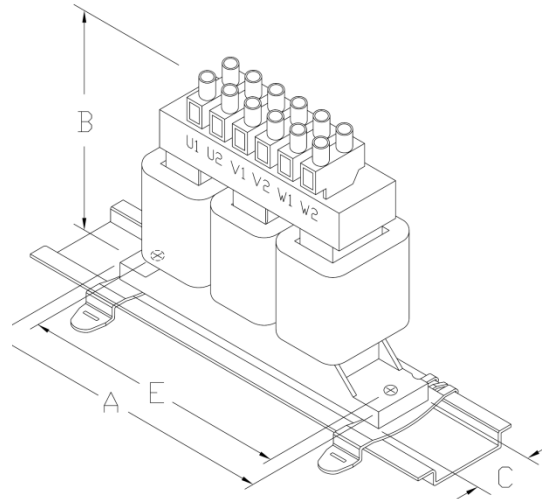


Figure 2 35mm DIN Mount option

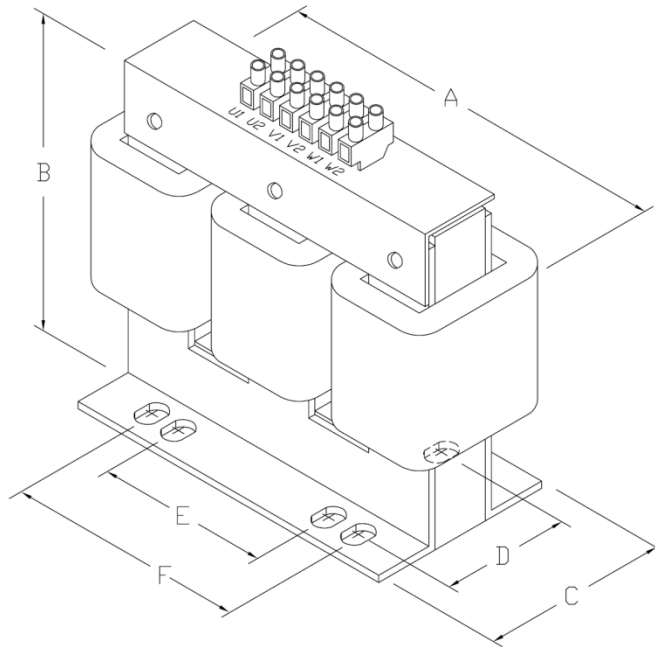


Figure 3 Standard Mounting



### Outline Drawings, Cont.

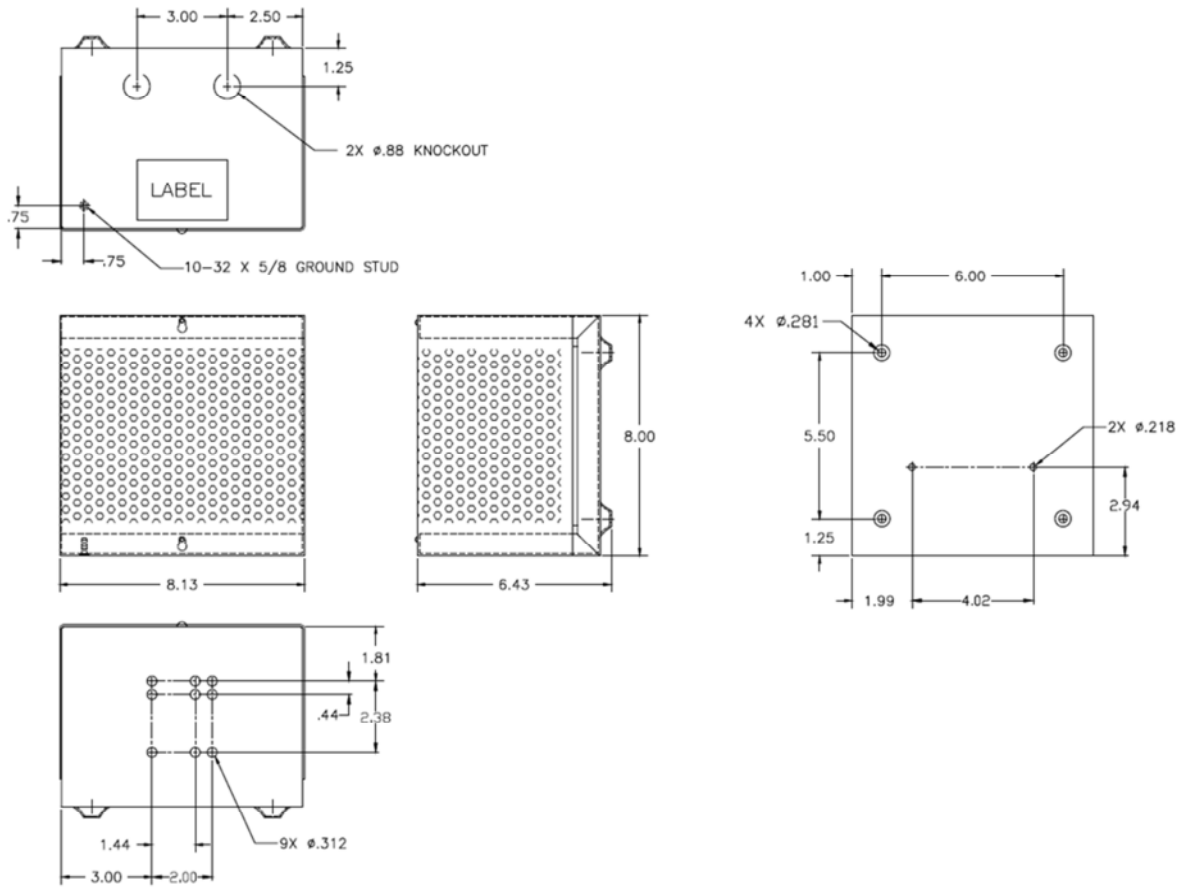


Figure 4 Cab - 8

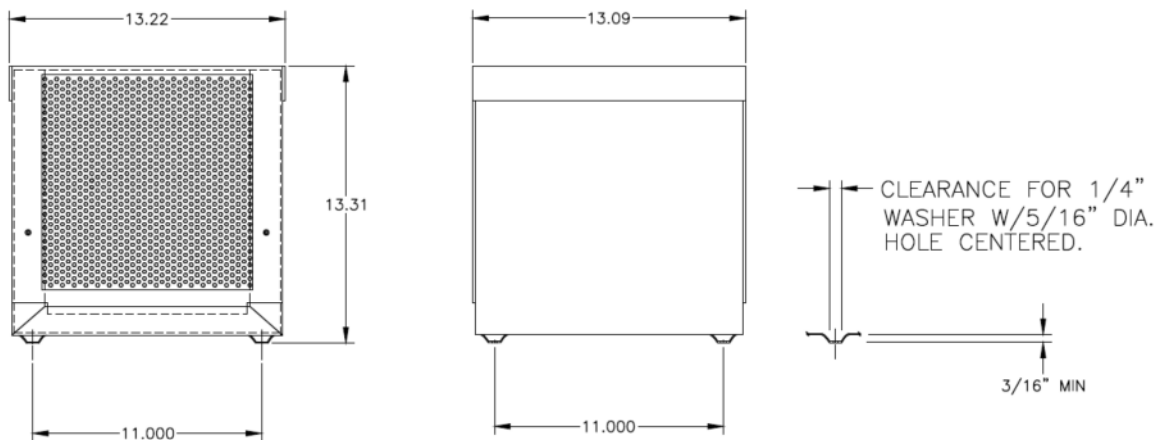


Figure 5 Cab 13V

## Outline Drawings, Cont.

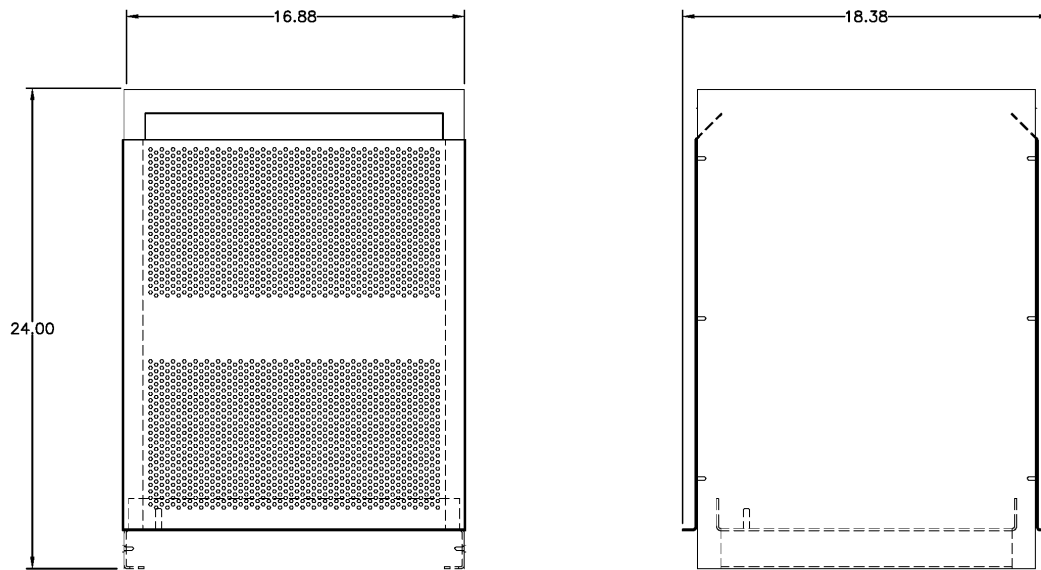


Figure 6 Cab 17V

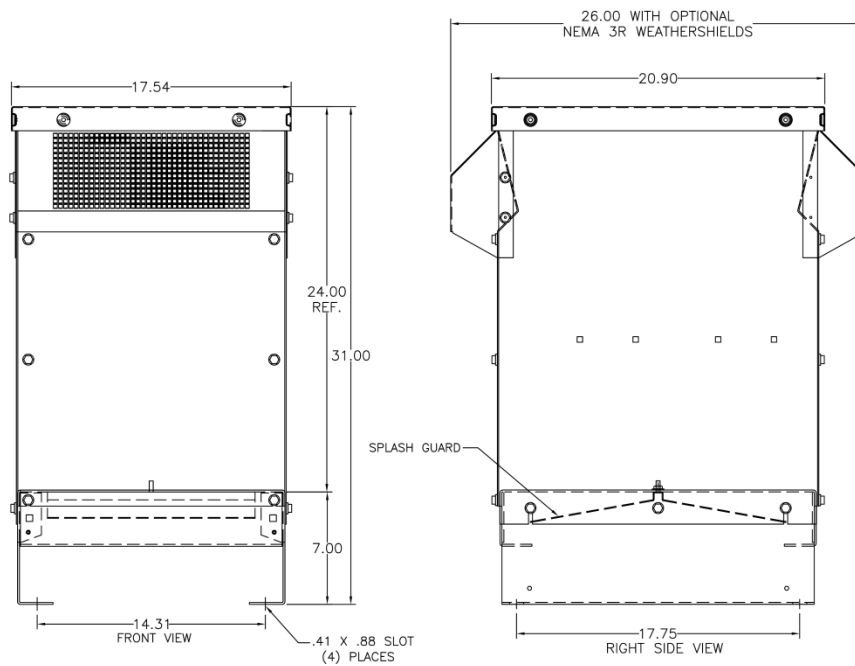


Figure 7 Cab 17C

### Outline Drawings, Cont.

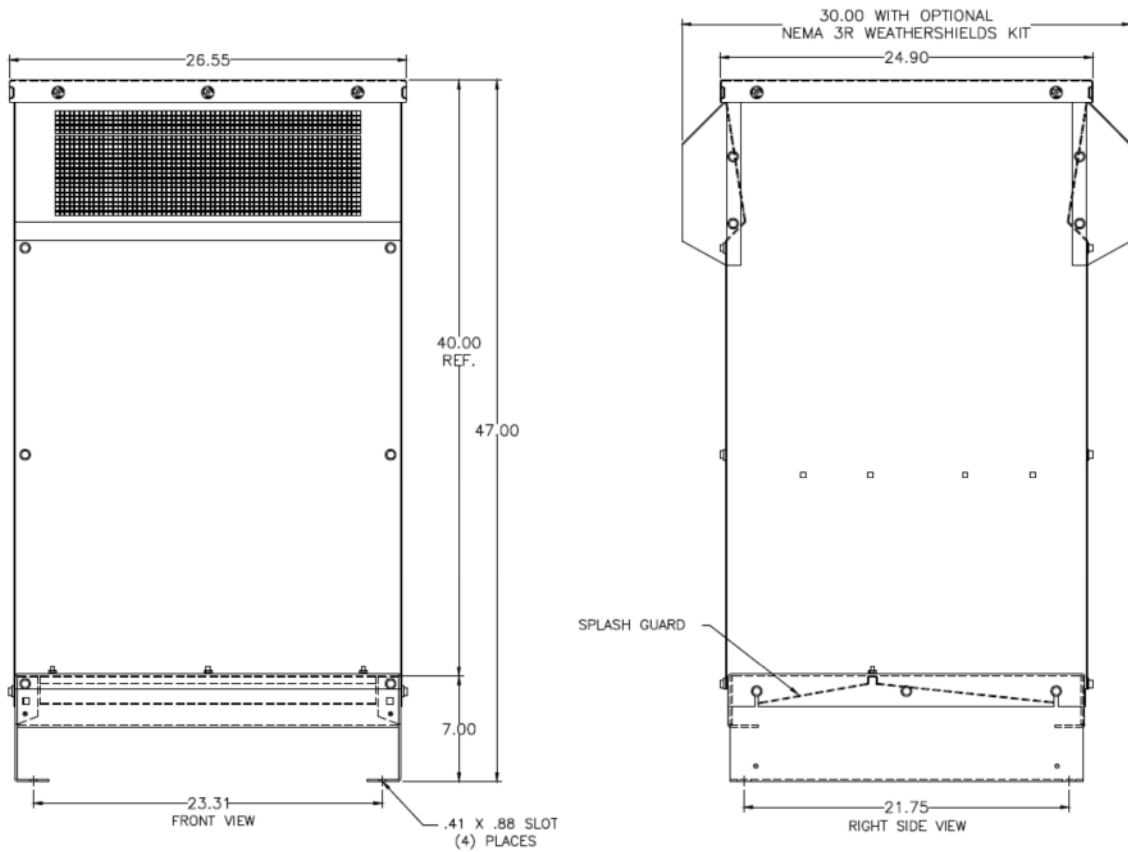


Figure 8 Cab 26C

## Specification Data

<b>Impedance basis</b>	Calculation: $\% Z = (I/V) \times 2\pi fL\sqrt{3} \times 100$
<b>Service Factor</b>	
<b>Line (continuous):</b>	100%, 150% for 10 seconds
<b>Load</b>	80% 100 foot long lead limit
<b>Overload Rating</b>	Line side 150% of RMS rating for 1 minute 200% of RMS rating for 10 seconds
<b>Maximum system voltage</b>	690 Volts
<b>Switching frequency</b>	Maximum 20 KHz Minimum 1 KHz
<b>Insulation system</b>	200° C
<b>Temperature rise</b>	140 C (average)
<b>Ambient temperature</b>	Full load: -40 to 50° C Open -40 to 45° C Enclosed -40 to 90° C Storage
<b>Altitude (de-rating)</b>	see altitude de-rating curve
<b>Fundamental frequency</b>	50/60 Hz de-rate above 60 Hz
<b>Inductance tolerance</b>	+/- 10%
<b>Inductance curve (typical)</b>	100% at 100% current 80% at 150% current 50% at 200% current
<b>Dielectric Strength</b>	4000 volts RMS (2200 volts peak repetitive)
<b>Max audible level at two meters:</b>	Line applications: 65 dBa Load applications: 76 dBa
<b>Approvals:</b>	Up to 600V: CE, UL-508, Type RL cUL per CSA C22.2 690V: CE. Consult Factory for UL on 690V
<p>Note: Short circuit rating not required under Exception No.1 of UL508A SB4.2.1 effective 4/25/06</p>	
<b>Enclosures:</b>	MTECab-8,13V,17V have NEMA1 Cab 12C and up are NEMA1rated as NEMA2 (Indoor rating with ripping water protection) MTE NEMA 3R is a type 3R outdoor rating
<b>DIN Rail Mount:</b>	2 spring steel screw mounts for 35mm rail With 10-32 screws

## Altitude Derating and Inductance Curve Charts

