Instructions for the Use, Operation and Maintenance of 5-15 kV VCP-W SMG&TD Ball Type

I.B. 66A5205H01
Effective June 2014

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Table Of Contents

⚠ WARNING

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE ATTEMPTING TO USE THIS DEVICE. IMPROPER USE CAN RESULT IN DEATH, BODILY INJURY AND/OR PROPERTY DAMAGE.

⚠ CAUTION

BECAUSE OF THE UNIQUE APPLICATION AND VAST VARIETY OF SYSTEM AND USER REQUIREMENTS, SPECIFIC OPERATING PROCEDURES MUST BE DEVELOPED BY THE USER. FAILURE TO DEVELOP THESE PROCEDURES COULD LEAD TO IMPROPER USE OR OTHER MORE SERIOUS CONSEQUENCES.

1-0 INTRODUCTION

Type Vac Clad-W switchgear assemblies are designed with all the bus work completely insulated for safety. Since the current carrying parts are not readily accessible, type VCP-W Manual Ground and Test Device is designed for insertion into the breaker compartment to gain access to the primary stationary contacts. It provides a convenient means to:

1. Ground a circuit for maintenance work;
2. Apply potential for cable testing; and,
3. Access both bus and line circuits for "phasing out" tests.

⚠ CAUTION

BECAUSE OF THE UNIQUE APPLICATION AND VAST VARIETY OF SYSTEM/USER REQUIREMENTS, SPECIFIC SAFE OPERATING PROCEDURES FOR THE USE OF THIS DEVICE MUST BE DEVELOPED BY THE USER.

1-1 DESCRIPTION

The device consists of a drawout element that can be inserted into a circuit breaker compartment in the same manner as a type VCP-W circuit breaker. It includes six terminals and ground bus connections. Each terminal is isolated from each other and the ground bus connection by insulating barriers. The upper and lower terminals are accessible upon opening the respective front hinged door. The ground connection is located in the lower front section of the device.

Vac Clad-W switchgear is a two-high arrangement. In the lower compartment the top terminals normally connect to the main bus and the bottom terminals normally connect to the incoming line or feeders. In an upper compartment, the opposite normally holds true, i.e., the top terminals connect to the incoming line or feeders and the bottom terminals connect to the main bus. This must be verified for each application. Because of this two-high arrangement, the bus and the line positions of the grounding and test device terminals will vary depending upon whether the device is used in an upper or lower compartment. Therefore, **it is most important that the bus or line terminals be correctly identified for each compartment before using this device.**

Figure #1: View of unit with the front cover open.

Code plates are provided to prevent insertion of 1200/2000 amp device into 3000 amp compartment and vice-versa. Type VCP-W manual grounding and test devices are also available with either the upper or the lower terminals only. Devices of the same rating with only the upper terminals or with only the lower terminals are coded to make them non-interchangeable by the addition of an overlay code plate 8243A53H01 in the breaker compartments.

1-2 OPERATION

⚠ WARNING

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE ATTEMPTING TO USE THIS DEVICE. IMPROPER USE CAN RESULT IN DEATH, BODILY INJURY AND/OR PROPERTY DAMAGE.

The following general safe practices are recommended:

- Store the device in a clean, dry area free from dust, dirt, moisture, etc.
- Keep all insulating surfaces, which include primary support insulation and insulation barriers, clean and dry.
- Check all primary circuit connections to make certain they are clean and tight.
- Permit only authorized trained personnel to use this device.
- Take extreme care while using this device to avoid contacting “Live” or “Hot” (energized) terminals.
- **Correctly identify line and bus terminals for the breaker compartment before using this device.**
- Check for correct code plate(s) on the device. Do not attempt to force the device into the Compartment. **See appendices A, B &C if you have code plate interference.**

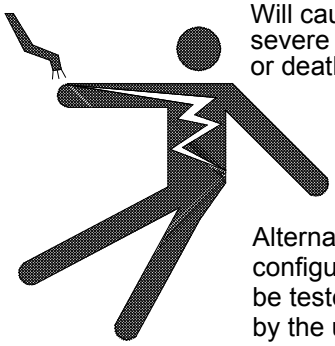
The grounding of either upper or lower terminals is accomplished by Connecting cables (not provided with the device) from either the upper Or the lower terminals to the device ground connections. Cable testing or “phasing out” test may be accomplished by connecting suitable test equipment, as required to the terminals.

⚠ CAUTION

BECAUSE OF THE UNIQUE APPLICATION AND VAST VARIETY OF SYSTEM AND USER REQUIREMENTS, SPECIFIC OPERATING PROCEDURES MUST BE DEVELOPED BY THE USER. FAILURE TO DEVELOP THESE PROCEDURES COULD LEAD TO IMPROPER USE OR OTHER MORE SERIOUS CONSEQUENCES.

1-3 Cables

WARNING THE PERFORMANCE OF THIS PRODUCT HAS BEEN TESTED AS FOLLOWS:



S# 691C861HO7

RATING	CABLE SIZE/LENGTH	CLAMP METHOD
25kA	3 CABLE SETS 6FT. LONG (EA.)	AB CHANCE BALL SOCKET SET T6002246
25kA	350 kcmil - 48" LONG ARC WELDING CABLE HW253-35001 WITH AYP350 CONNECTORS	AB CHANCE GROUNDING CLAMP C6002300
	EATON-68C5239G11	
31.5kA	500 kcmil - 48" LONG ARC WELDING CABLE HW253-50001	AB CHANCE GROUNDING CLAMP C6002300
	EATON-68C5239G12	

Figure 2: View of a warning statement showing the limitations of the cables used with this device

WARNING

WARNING: Eaton does not recommend that customers use single cable sets commercially sold in the market (contains a total of only three 2/O or 4/0 cables). These assemblies were found to not pass the current G&TD standard to a standard rating of 25 kA. Eaton was able to pass 25 kA via using three cable sets instead of the one set that is traditionally used (contains 9 cables). Eaton was able to pass 25 kA via using special 350 kcmil Copper cable assemblies (Style number 68C5239G11) and 31.5 kA via 500 kcmil Copper cable assemblies (Style number 68C5239G12).

350 and 500 kcmil – Copper Cable Assembly Supplier Contact Information:

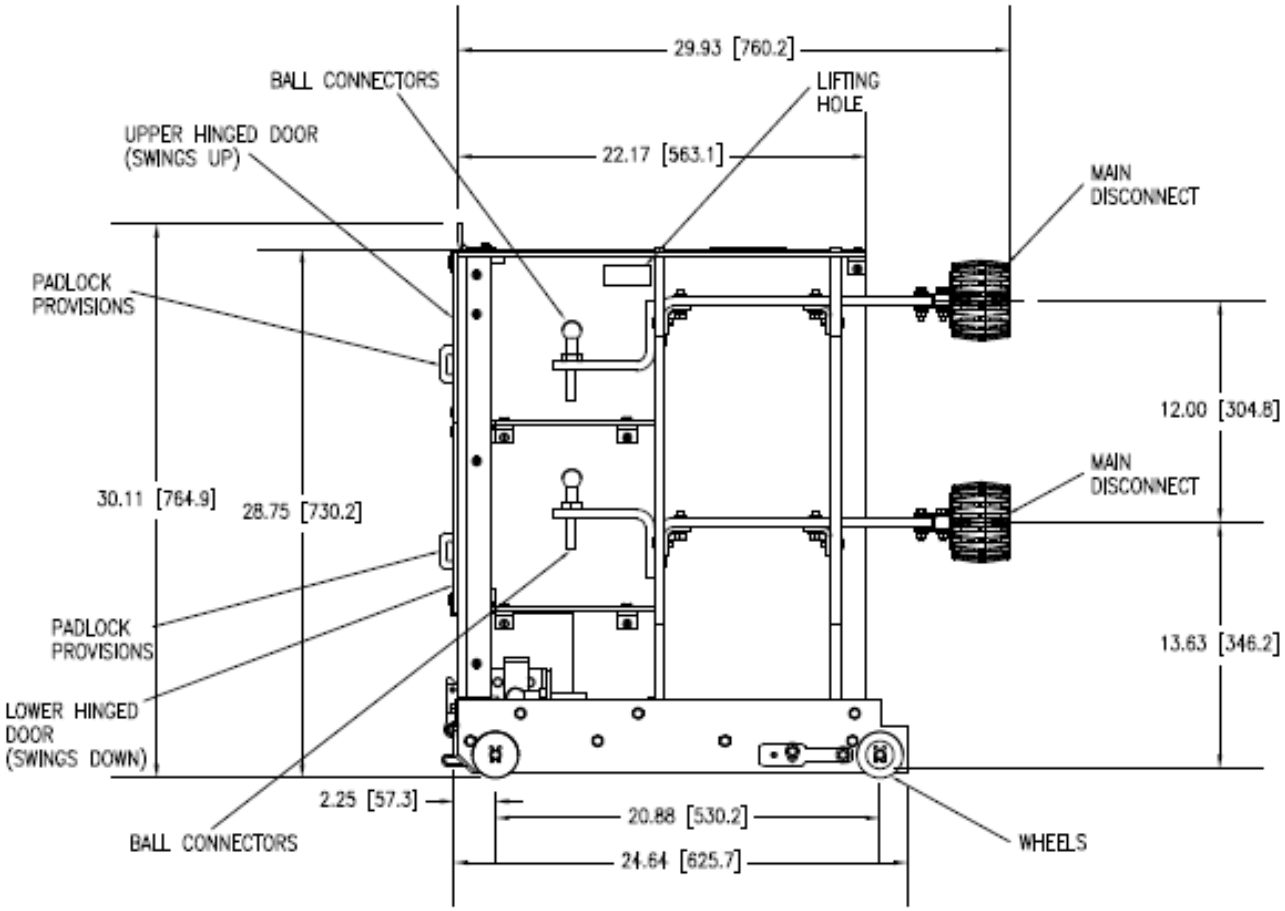
MONTI INCORPORATED
333 WEST SEYMOUR AVE
CINCINNATI, OH 45215-1825
CONTACT: ANDY CEEDDIA andyce@monti-inc.com
PHONE# 513-761-7775 FAX# 513-948-6858

WARNING: If a customer does not follow the cable selection stated above then the customer takes the full responsibility for the entire product and the liability associated with any issues that may arise.

1-4 Options

Style Number	Description
66A5291G01	Ball Type MG&TD, Top & Bottom, 1200/2000A
66A5291G02	Ball Type MG&TD, Top & Bottom, 3000A
66A5291G11	Ball Type MG&TD, Top & Bottom, 1200/200A, Direct Roll-On-Floor Wheels Installed*
66A5291G12	Ball Type MG&TD, Top & Bottom, 3000A, Direct Roll-On-Floor Wheels Installed*

*The Direct-Roll-On-Floor option is only for use with Direct-Roll-In breaker cells.



NOTE: SIDE SHEET REMOVED FOR CLARITY

NOTE: 3000A DISCONNECTS SHOWN, AVAILABLE WITH 1200 OR 2000A

Figure 3: Side view of unit showing components

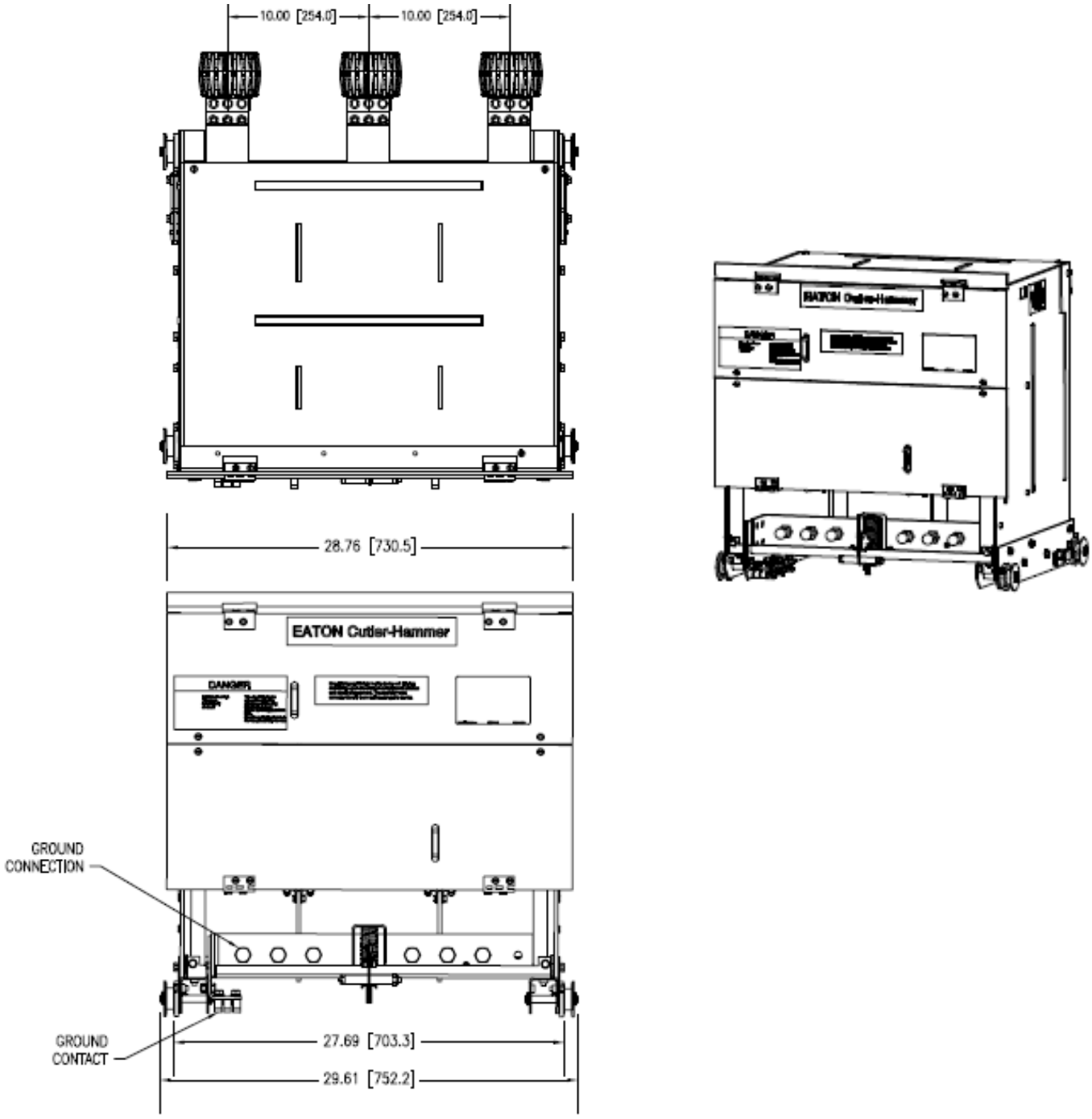


Figure 4: Front, Top and Isometric view of the product.

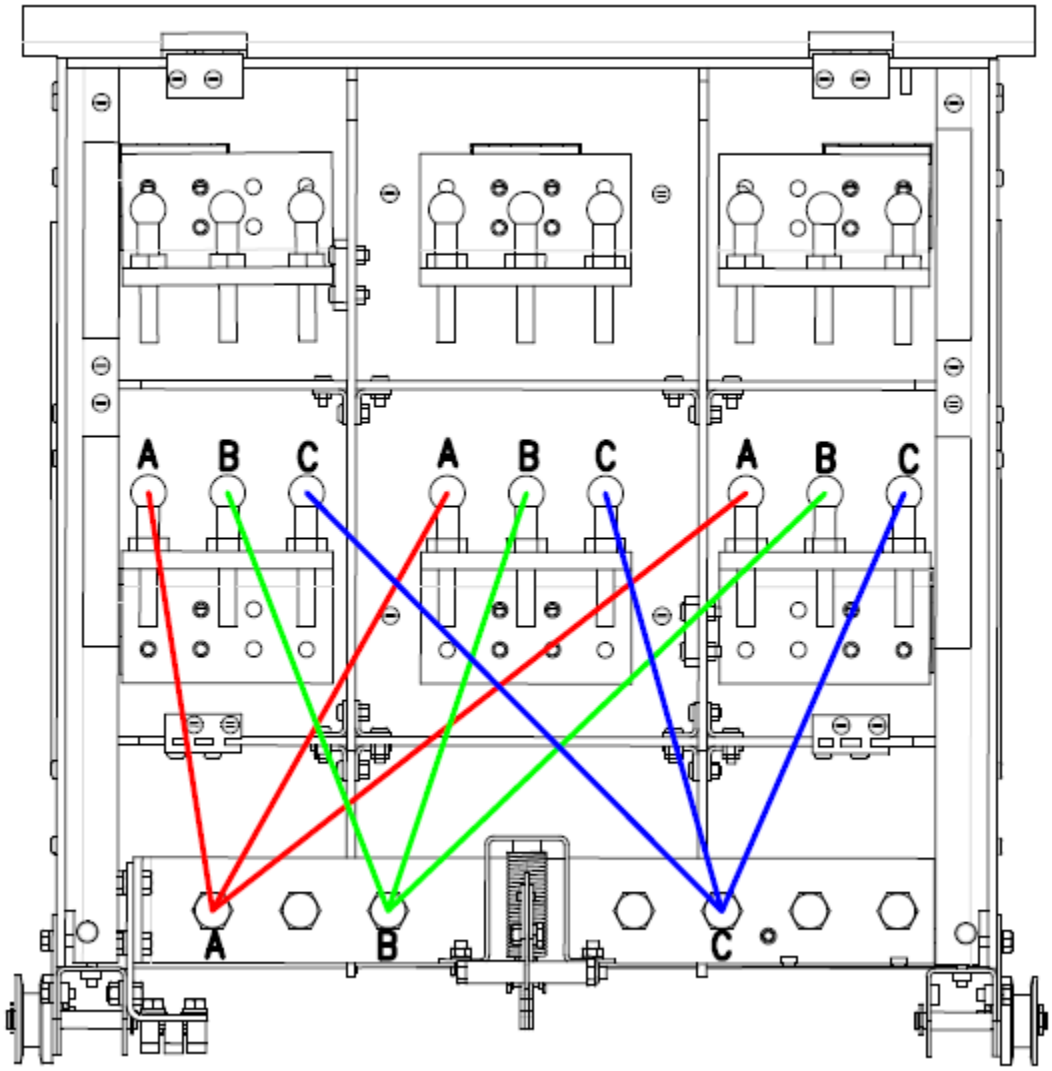


Figure 5: Typical mounting of a three Cable Ground Set. This unique mounting configuration is required in order to protect against single phase faults. The connection shown in this figure is for a bottom terminal connection. The same connection method should be used for a top connected system.

Figure 6: Reference picture of Ball Type Ground & Test Device wired using the three Cable Ground Set (9 total cables). This version is shown with the top terminals connected. The same connection method should be used for a bottom connected system.

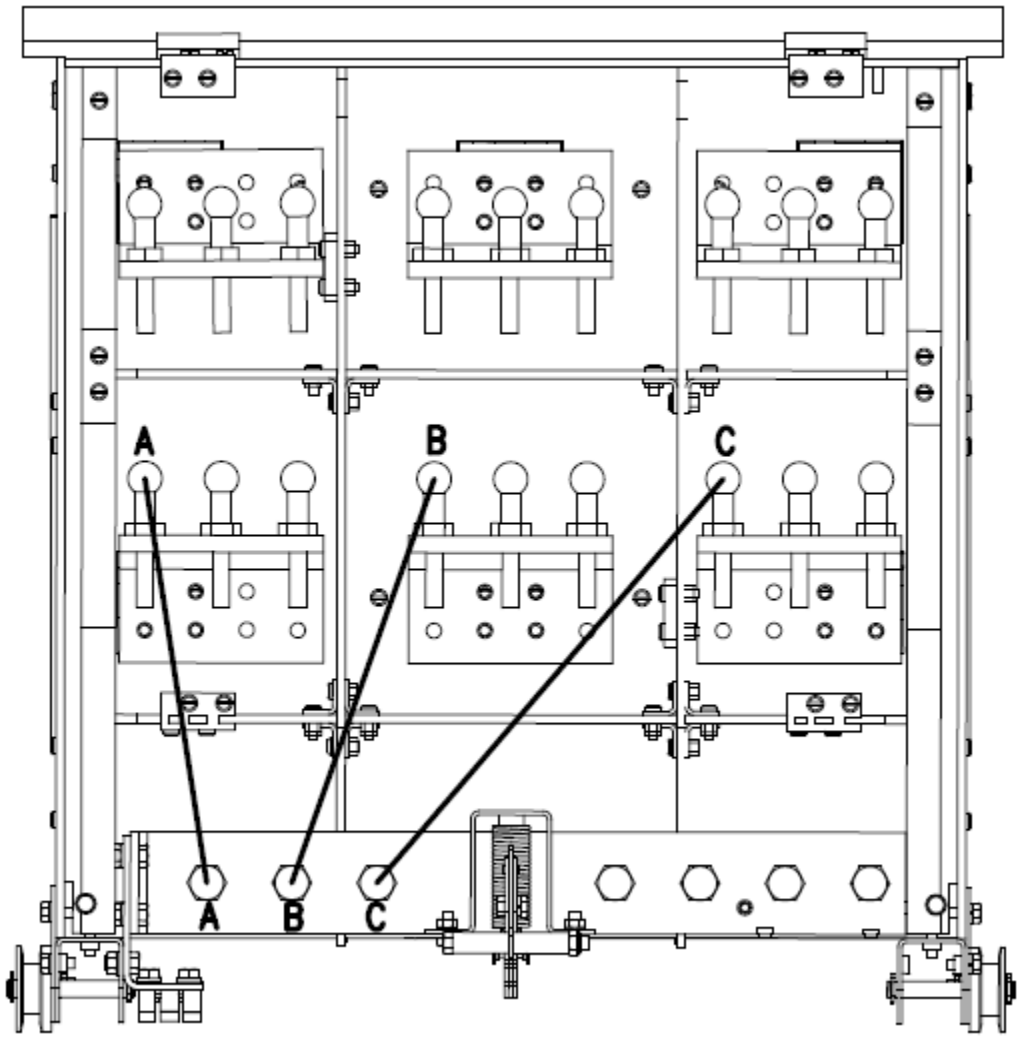


Figure 7: Typical mounting of a Single Cable Ground Set. Special cables are required for this type of connection (350 kcmil or 500 kcmil). The connection shown in this figure is for a bottom terminal connection. The same connection method should be used for a top connected system.

Appendix A – Code Plate Reference

The chart below shows a summary of the code plates that are on our Eaton breakers. In order to avoid an interference issue on this particular ground and test device you may need to change the code plates. We apologize for any inconvenience when you encounter code plate interference. The best solution for resolving the interference is to obtain code plates that match the breakers being used. We recommend ordering multiple plates for future use. Cross reference this list to find the correct code plates to use. See appendices B & C for information on making code plates.

Breaker Model	Current Rating	Cycle	Class	Breaker LH Code	Breaker LH Style Code Plate	Breaker RH Code	Breaker RH Style Code Plate
150VCP-W 25	1200	3	K=1	12000	8061A47H06	21011	8061A40H07
150VCP-W 25	1200	5	K=1	12000	8061A47H06	21012	8061A41H01
150VCP-W 25	2000	3	K=1	11000	8061A38H06	21011	8061A40H07
150VCP-W 25	2000	5	K=1	11000	8061A38H06	21012	8061A41H01
150VCP-W 25	3000	3	K=1	20000	8061A40H06	21011	8061A40H07
150VCP-W 25	3000	5	K=1	20000	8061A40H06	21012	8061A41H01
150VCP-W 25 C	1200	C	C	21010	8061A38H01	21102	8061A44H02
150VCP-W 25 C	2000	C	C	21010	8061A38H01	21101	8061A48H03
150VCP-W 25 C	3000	C	C	21010	8061A38H01	21110	8061A38H03
150VCP-W 40	1200	3	K=1	12000	8061A47H06	11011	8061A38H05
150VCP-W 40	1200	5	K=1	12000	8061A47H06	11012	8061A38H04
150VCP-W 40	2000	3	K=1	11000	8061A38H06	11011	8061A38H05
150VCP-W 40	2000	5	K=1	11000	8061A38H06	11012	8061A38H04
150VCP-W 40	3000	3	K=1	20000	8061A40H06	11011	8061A38H05
150VCP-W 40	3000	5	K=1	20000	8061A40H06	11012	8061A38H04
150VCP-W 40 C	1200	C	C	00010	8061A39H04	10102	8061A46H02
150VCP-W 40 C	2000	C	C	00010	8061A39H04	10101	8061A50H02
150VCP-W 40 C	3000	C	C	00010	8061A39H04	10110	8061A39H05
150VCP-W 50	1200	3	K=1	12000	8061A47H06	10011	8061A40H02
150VCP-W 50	1200	5	K=1	12000	8061A47H06	10012	8061A42H01
150VCP-W 50	2000	3	K=1	11000	8061A38H06	10011	8061A40H02
150VCP-W 50	2000	5	K=1	11000	8061A38H06	10012	8061A42H01
150VCP-W 50	3000	3	K=1	20000	8061A40H06	10011	8061A40H02
150VCP-W 50	3000	5	K=1	20000	8061A40H06	10012	8061A42H01
150VCP-W 50 C	1200	C	C	00010	8061A39H04	00102	8061A39H06
150VCP-W 50 C	2000	C	C	00010	8061A39H04	00101	8061A39H07
150VCP-W 50 C	3000	C	C	00010	8061A39H04	00110	8061A39H08
150VCP-W 63	1200	3	K=1	10010	8061A39H01	00002	8061A39H02
150VCP-W 63	1200	3	K=1	10010	8061A39H01	00002	8061A39H02
150VCP-W 63	1200	5	K=1	10020	8061A33H01	00002	8061A39H02
150VCP-W 63	1200	5	K=1	10020	8061A33H01	00002	8061A39H02

150VCP-W 63	2000	3	K=1	10010	8061A39H01	00001	8061A39H03
150VCP-W 63	2000	3	K=1	10010	8061A39H01	00001	8061A39H03
150VCP-W 63	2000	5	K=1	10020	8061A33H01	00001	8061A39H03
150VCP-W 63	2000	5	K=1	10020	8061A33H01	00001	8061A39H03
150VCP-W 63	3000	3	K=1	10010	8061A39H01	00010	8061A39H04
150VCP-W 63	3000	3	K=1	10010	8061A39H01	00010	8061A39H04
150VCP-W 63	3000	5	K=1	10020	8061A33H01	00010	8061A39H04
150VCP-W 63	3000	5	K=1	10020	8061A33H01	00010	8061A39H04
150VCP-W 63 C	1200	C	C	10000	8061A50H03	00002	8061A39H02
150VCP-W 63 C	2000	C	C	10000	8061A50H03	00001	8061A39H03
150VCP-W 63 C	3000	C	C	10000	8061A50H03	00010	8061A39H04
150VCP-W1000	1200	3	K>1	10010	8061A39H01	10002	8061A46H01
150VCP-W1000	1200	5	K>1	10020	8061A33H01	10002	8061A46H01
150VCP-W1000	2000	3	K>1	10010	8061A39H01	10001	8061A50H01
150VCP-W1000	2000	5	K>1	10020	8061A33H01	10001	8061A50H01
150VCP-W1000	3000	3	K>1	10010	8061A39H01	10010	8061A39H01
150VCP-W1000	3000	5	K>1	10020	8061A33H01	10010	8061A39H01
150VCP-W500	1200	3	K>1	22010	8061A37H01	22002	8061A43H01
150VCP-W500	1200	5	K>1	22020	8061A31H01	22002	8061A43H01
150VCP-W500	2000	3	K>1	22010	8061A37H01	22001	8061A47H01
150VCP-W500	2000	5	K>1	22020	8061A31H01	22001	8061A47H01
150VCP-W500	3000	3	K>1	22010	8061A37H01	22010	8061A37H01
150VCP-W500	3000	5	K>1	22020	8061A31H01	22010	8061A37H01
150VCP-W500 H	1200	3	K>1	22010	8061A37H01	21002	8061A44H01
150VCP-W500 H	1200	5	K>1	22020	8061A31H01	21002	8061A44H01
150VCP-W500 H	2000	3	K>1	22010	8061A37H01	21001	8061A48H01
150VCP-W500 H	2000	5	K>1	22020	8061A31H01	21001	8061A48H01
150VCP-W500 H	3000	3	K>1	22010	8061A37H01	21010	8061A38H01
150VCP-W500 H	3000	5	K>1	22020	8061A31H01	21010	8061A38H01
150VCP-W750	1200	3	K>1	21010	8061A38H01	21002	8061A44H01
150VCP-W750	1200	5	K>1	21020	8061A32H01	21002	8061A44H01
150VCP-W750	2000	3	K>1	21010	8061A38H01	21001	8061A48H01
150VCP-W750	2000	5	K>1	21020	8061A32H01	21001	8061A48H01
150VCP-W750	3000	3	K>1	21010	8061A38H01	21010	8061A38H01
150VCP-W750	3000	5	K>1	21020	8061A32H01	21010	8061A38H01
150VCP-W750 H	1200	3	K>1	21010	8061A38H01	10002	8061A46H01
150VCP-W750 H	1200	5	K>1	21020	8061A32H01	10002	8061A46H01
150VCP-W750 H	2000	3	K>1	21010	8061A38H01	10001	8061A50H01
150VCP-W750 H	2000	5	K>1	21020	8061A32H01	10001	8061A50H01
150VCP-W750 H	3000	3	K>1	21010	8061A38H01	10010	8061A39H01

150VCP-W750 H	3000	5	K>1	21020	8061A32H01	10010	8061A39H01
150VCP-WG 50	1200	3	K=1	10020	8061A33H01	00002	8061A39H02
150VCP-WG 50	2000	3	K=1	10020	8061A33H01	00001	8061A39H03
150VCP-WG 50	3000	3	K=1	10020	8061A33H01	00010	8061A39H04
150VCP-WG 63	1200	3	K=1	10020	8061A33H01	00002	8061A39H02
150VCP-WG 63	2000	3	K=1	10020	8061A33H01	00001	8061A39H03
150VCP-WG 63	3000	3	K=1	10020	8061A33H01	00010	8061A39H04
50VCP-W 25	1200	3	K=1	12002	8061A47H05	21011	8061A40H07
50VCP-W 25	1200	5	K=1	12002	8061A47H05	21012	8061A41H01
50VCP-W 25	2000	3	K=1	11002	3A74923H01	21011	8061A40H07
50VCP-W 25	2000	5	K=1	11002	3A74923H01	21012	8061A41H01
50VCP-W 25	3000	3	K=1	20002	8061A45H01	21011	8061A40H07
50VCP-W 25	3000	5	K=1	20002	8061A45H01	21012	8061A41H01
50VCP-W 25 C	1200	C	C	21012	8061A41H01	21102	8061A44H02
50VCP-W 25 C	2000	C	C	21012	8061A41H01	21101	8061A48H03
50VCP-W 25 C	3000	C	C	21012	8061A41H01	21110	8061A38H03
50VCP-W 40	1200	3	K=1	12002	8061A47H05	11011	8061A38H05
50VCP-W 40	1200	5	K=1	12002	8061A47H05	11012	8061A38H04
50VCP-W 40	2000	3	K=1	11002	3A74923H01	11011	8061A38H05
50VCP-W 40	2000	5	K=1	11002	3A74923H01	11012	8061A38H04
50VCP-W 40	3000	3	K=1	20002	8061A45H01	11011	8061A38H05
50VCP-W 40	3000	5	K=1	20002	8061A45H01	11012	8061A38H04
50VCP-W 40 C	1200	C	C	00012	8061A42H02	10102	8061A46H02
50VCP-W 40 C	2000	C	C	00012	8061A42H02	10101	8061A50H02
50VCP-W 40 C	3000	C	C	00012	8061A42H02	10110	8061A39H05
50VCP-W 50	1200	3	K=1	12002	8061A47H05	10011	8061A40H02
50VCP-W 50	1200	5	K=1	12002	8061A47H05	10012	8061A42H01
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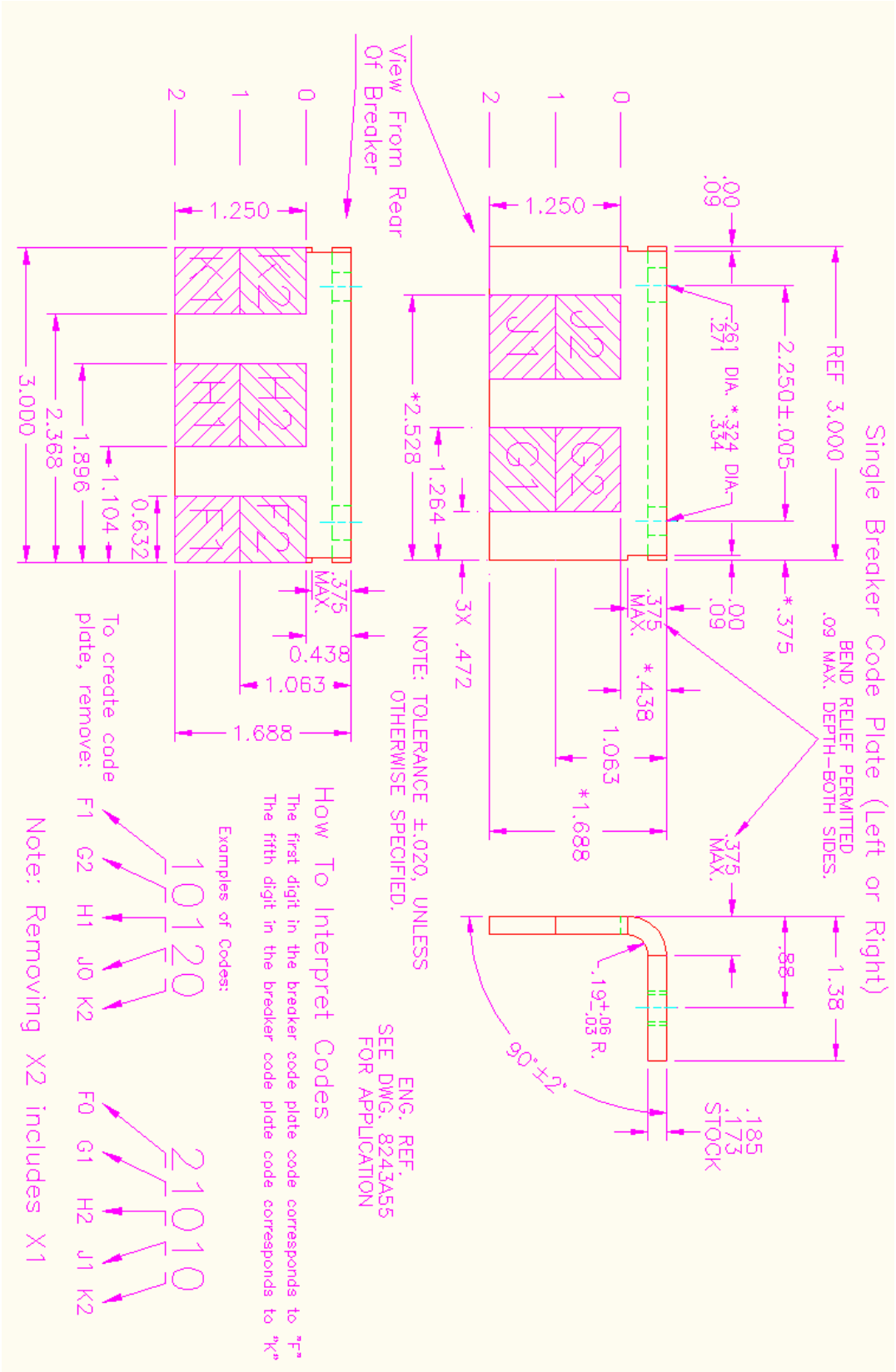
50VCP-W 50	3000	5	K=1	20002	8061A45H01	10012	8061A42H01
50VCP-W 50 C	1200	C	C	00012	8061A42H02	00102	8061A39H06
50VCP-W 50 C	2000	C	C	00012	8061A42H02	00101	8061A39H07
50VCP-W 50 C	3000	C	C	00012	8061A42H02	00110	8061A39H08
50VCP-W 63	1200	3	K=1	10012	8061A42H01	00002	8061A39H02
50VCP-W 63	1200	3	K=1	10012	8061A42H01	00002	8061A39H02
50VCP-W 63	1200	5	K=1	10022	8061A36H01	00002	8061A39H02
50VCP-W 63	1200	5	K=1	10022	8061A36H01	00002	8061A39H02
50VCP-W 63	2000	3	K=1	10012	8061A42H01	00001	8061A39H03
50VCP-W 63	2000	3	K=1	10012	8061A42H01	00001	8061A39H03
50VCP-W 63	2000	5	K=1	10022	8061A36H01	00001	8061A39H03

50VCP-W 63	2000	5	K=1	10022	8061A36H01	00001	8061A39H03
50VCP-W 63	3000	3	K=1	10012	8061A42H01	00010	8061A39H04
50VCP-W 63	3000	3	K=1	10012	8061A42H01	00010	8061A39H04
50VCP-W 63	3000	5	K=1	10022	8061A36H01	00010	8061A39H04
50VCP-W 63	3000	5	K=1	10022	8061A36H01	00010	8061A39H04
50VCP-W 63 C	1200	C	C	00012	8061A42H02	00002	8061A39H02
50VCP-W 63 C	2000	C	C	00012	8061A42H02	00001	8061A39H01
50VCP-W 63 C	3000	C	C	00012	8061A42H02	00010	8061A39H04
50VCP-W ND 250	1200	3	K>1	21212	8061A61H01	None	None
50VCP-W ND 250	1200	5	K>1	21222	8061A60H01	None	None
50VCP-W250	1200	3	K>1	21012	8061A41H01	21002	8061A44H01
50VCP-W250	1200	5	K>1	21022	8061A35H01	21002	8061A44H01
50VCP-W250	2000	3	K>1	21012	8061A41H01	21001	8061A48H01
50VCP-W250	2000	5	K>1	21022	8061A35H01	21001	8061A48H01
50VCP-W250	3000	3	K>1	21012	8061A41H01	21010	8061A38H01
50VCP-W250	3000	5	K>1	21022	8061A35H01	21010	8061A38H01
50VCP-W250 H	1200	3	K>1	21012	8061A41H01	10002	8061A46H01
50VCP-W250 H	1200	5	K>1	21022	8061A35H01	10002	8061A46H01
50VCP-W250 H	2000	3	K>1	21012	8061A41H01	10001	8061A50H01
50VCP-W250 H	2000	5	K>1	21022	8061A35H01	10001	8061A50H01
50VCP-W250 H	3000	3	K>1	21012	8061A41H01	10010	8061A39H01
50VCP-W250 H	3000	5	K>1	21022	8061A35H01	10010	8061A39H01
50VCP-W350	1200	3	K>1	10012	8061A42H01	10002	8061A46H01
50VCP-W350	1200	5	K>1	10022	8061A36H01	10002	8061A46H01
50VCP-W350	2000	3	K>1	10012	8061A42H01	10001	8061A50H01
50VCP-W350	2000	5	K>1	10022	8061A36H01	10001	8061A50H01
50VCP-W350	3000	3	K>1	10012	8061A42H01	10010	8061A39H01
50VCP-W350	3000	5	K>1	10022	8061A36H01	10010	8061A39H01
50VCP-WG 50	1200	3	K=1	10022	8061A36H01	00002	8061A39H02
50VCP-WG 50	2000	3	K=1	10022	8061A36H01	00001	8061A39H03
50VCP-WG 50	3000	3	K=1	10022	8061A36H01	00010	8061A39H04
50VCP-WG 63	1200	3	K=1	10022	8061A36H01	00002	8061A39H02
50VCP-WG 63	2000	3	K=1	10022	8061A36H01	00001	8061A39H03
50VCP-WG 63	3000	3	K=1	10022	8061A36H01	00010	8061A39H04
75VCP-W 40	1200	3	K=1	12001	8061A47H02	11011	8061A38H05
75VCP-W 40	1200	5	K=1	12001	8061A47H02	11012	8061A38H04
75VCP-W 40	2000	3	K=1	11001	8061A48H02	11011	8061A38H05
75VCP-W 40	2000	5	K=1	11001	8061A48H02	11012	8061A38H04
75VCP-W 40	3000	3	K=1	20001	8061A49H01	11011	8061A38H05

75VCP-W 40	3000	5	K=1	20001	8061A49H01	11012	8061A38H04
75VCP-W 50	1200	3	K=1	12001	8061A47H02	10011	8061A40H02
75VCP-W 50	1200	5	K=1	12001	8061A47H02	10012	8061A42H01
75VCP-W 50	2000	3	K=1	11001	8061A48H02	10011	8061A40H02
75VCP-W 50	2000	5	K=1	11001	8061A48H02	10012	8061A42H01
75VCP-W 50	3000	3	K=1	20001	8061A49H01	10011	8061A40H02
75VCP-W 50	3000	5	K=1	20001	8061A49H01	10012	8061A42H01
75VCP-W 50 C	1200	C	C	10011	8061A40H02	00102	8061A46H02
75VCP-W 50 C	2000	C	C	10011	8061A40H02	00101	8061A50H02
75VCP-W 50 C	3000	C	C	10011	8061A40H02	00110	8061A39H05
75VCP-W500	1200	3	K>1	20011	8061A40H01	20002	8061A45H01
75VCP-W500	1200	5	K>1	20021	8061A34H01	20002	8061A45H01
75VCP-W500	2000	3	K>1	20011	8061A40H01	20001	8061A49H01
75VCP-W500	2000	5	K>1	20021	8061A34H01	20001	8061A49H01
75VCP-W500	3000	3	K>1	20011	8061A40H01	20010	8061A51H01
75VCP-W500	3000	5	K>1	20021	8061A34H01	20010	8061A51H01

Appendix B – How To Make Breaker Plates



Appendix C – How To Make Cell Plates

5 CYCLE BREAKERS *		REMOVE MATERIAL AS BELOW	
BREAKER	RATING	LEFT PLATE *	RIGHT PLATE
50VCP-W250	1200A 2000A 3000A	A2 B2 D1 E2	A2 D1 E2 A1 D1 E2 B1 E1 E2
50VCP-W350	1200A 2000A 3000A	A2 B2 E1	A2 E1 A1 E1 B1 E2
75VCP-W500	1200A 2000A 3000A	A1 B2 E2	A2 E2 A1 E2 B1 E1
150VCP-W500	1200A 2000A 3000A	B2 D2 E2	A2 D2 E2 A1 D2 E2 B1 D1 E1
150VCP-W750	1200A 2000A 3000A	B2 D1 E2	A2 D1 E2 A1 D1 E2 B1 D1 E1
150VCP-W1000	1200A 2000A 3000A	B2 E1	A2 E1 A1 E1 B1 E2
50VCP-W250H	1200A 2000A 3000A	A2 B2 D1 E2	A2 E1 A1 E1 B1 E2
75VCP-W500H	1200A 2000A 3000A	A1 B2 E2	A2 E2 A1 E2 B1 E1
150VCP-W500H	1200A 2000A 3000A	B2 D2 E2	A2 D1 E2 A1 D1 E2 B1 D1 E1
150VCP-W750H	1200A 2000A 3000A	B2 D1 E2	A2 E1 A1 E1 B1 E1
50VCP-WND250	1200A	A2 B2 C2 D1 E2	NONE
50VCP-63KA	1200A 2000A 3000A	A2 B2 E1	A2 A1 B1
150VCP-63KA	1200A 2000A 3000A	B2 E1	A2 A1 B1
50VCP-WG50	1200A 2000A 3000A	A2 B2 E1	A2 A1 B1
50VCP-WG63	1200A 2000A 3000A	A2 B2 E1	A2 A1 B1
150VCP-WG50	1200A 2000A 3000A	B2 E1	A2 A1 B1
150VCP-WG63	1200A 2000A 3000A	B2 E1	A2 A1 B1

FIGURE 1

REMOVING	A2	INCLUDES	A1
	C2		C1
E2			E1

FIGURE 2

REMOVING	B2	INCLUDES	B1
D2			D1

FIGURE 3

FIGURE 4

ENGINEERING REFERENCE

1. DETAIL PLATES ARE SAME AS VAC-CLAD (693C436), EXCEPT C1 MATERIAL REMOVED VC-W FIGURE 1.
2. VAC-CLAD MOUNTS PLATES WITH .344/.334 DIA HOLE TO LEFT VC-W MOUNTS PLATES WITH .344X.469 RD END SLOT TO RIGHT (LEFT PLATE IS LEFT AS VIEWED FROM FRONT OF CELL FOR BOTH).
3. .25 THICK SPACERS MUST BE PLACED BETWEEN CODE PLATE AND MOUNTING PLATE FOR 50 VCP-W350 AND 150 VCP-W1000, 50VCP-63KA, 150VCP-63KA, 50VCP-WC50, 50VCP-WG63, 150VCP-WG50 AND 150VCP-WG63 ONLY, (SEE FIGURE 4).
4. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

CODE PLATE FOR VC-W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.

3 CYCLE BREAKERS *		REMOVE MATERIAL AS BELOW	
BREAKER	RATING	LEFT PLATE *	RIGHT PLATE
50VCP-W250	1200A 2000A 3000A	A2 B1 D1 E2	A2 D1 E2 A1 D1 E2 B1 D1 E2
50VCP-W350	1200A 2000A 3000A	A2 B1 E1	A2 E1 A1 E1 B1 E1
75VCP-W500	1200A 2000A 3000A	A1 B1 E2	A2 E2 A1 E2 B1 E2
150VCP-W500	1200A 2000A 3000A	B1 D2 E2	A2 D2 E2 A1 D2 E2 B1 D2 E2
150VCP-W750	1200A 2000A 3000A	B1 D1 E2	A2 D1 E2 A1 D1 E2 B1 D1 E2
150VCP-W1000	1200A 2000A 3000A	B1 E1	A2 E1 A1 E1 B1 E1
50VCP-W250H	1200A 2000A 3000A	A2 B1 D1 E2	A2 E1 A1 E1 B1 E1
75VCP-W500H	1200A 2000A 3000A	A1 B1 E2	A2 E1 A1 E1 B1 E1
150VCP-W500H	1200A 2000A 3000A	B1 D2 E2	A2 D1 E2 A1 D1 E2 B1 D1 E2
150VCP-W750H	1200A 2000A 3000A	B1 D1 E2	A2 E1 A1 E1 B1 E1
50VCP-WND250	1200A	A2 B1 C2 D1 E2	NONE
150VCP-63KA	1200A 2000A 3000A	B1 E1	A2 A1 B1
50VCP-63KA	1200A 2000A 3000A	A2 B1 E1	A2 A1 B1

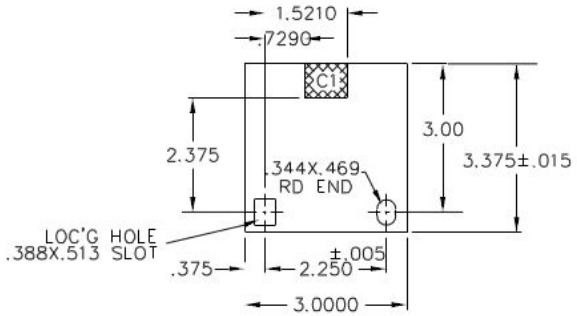
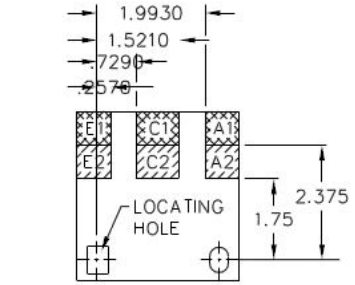
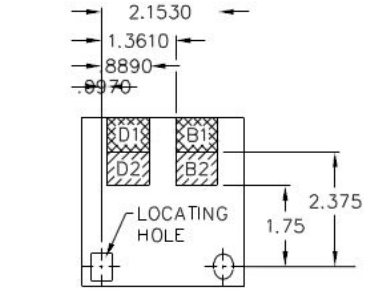


FIGURE 1



REMOVING	A2	INCLUDES	A1
	C2		C1
	E2		E1

FIGURE 2



REMOVING	B2	INCLUDES	B1
	D2		D1

FIGURE 3

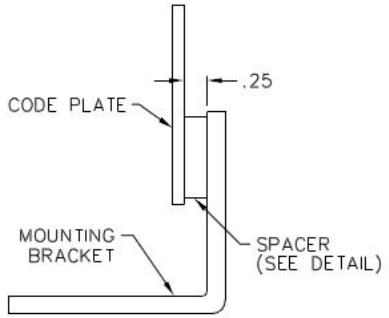
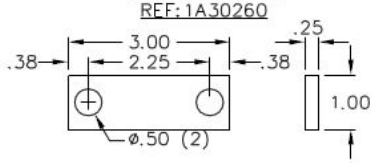


FIGURE 4

SPACER DETAIL
REF: 1A30260



CODE PLATE FOR VC-W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.

ENGINEERING REFERENCE

1. DETAIL PLATES ARE SAME AS VAC-CLAD (693C436), EXCEPT C1 MATERIAL REMOVED VC-W FIGURE 1.
2. VAC-CLAD MOUNTS PLATES WITH .344/.334 DIA HOLE TO LEFT VC-W MOUNTS PLATES WITH A .344X.469 RD END SLOT TO RIGHT (LEFT PLATE IS LEFT AS VIEWED FROM FRONT OF CELL FOR BOTH).
3. .25 THICK SPACERS MUST BE PLACED BETWEEN CODE PLATE AND AND MOUNTING PLATE FOR 50 VCP-W 350, 50VCP-63KA, 150VCP-W1000 AND 150VCP-63KA ONLY. (SEE FIGURE 4).
4. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

IEC BREAKERS *		REMOVE MATERIAL AS BELOW	
BREAKER	RATING	LEFT PLATE *	RIGHT PLATE
36 VCPW 25	630A 1250A 2000A	A2 B2 D2 E2	A2 B2 D2 E2 A2 D2 E2 A1 D2 E2
36 VCPW 32	1250A 2000A	A2 B2 D1 E2	A2 D1 E2 A1 D1 E2
36 VCPW 40	1250A 2000A	A2 B2 E2	A2 E2 A1 E2
72 VCPW 25	630A 1250A 2000A	A1 B2 D2 E2	A2 B2 D2 E2 A2 D2 E2 A1 D2 E2
72 VCPW 32	1250A 2000A	A1 B2 D1 E2	A2 D1 E2 A1 D1 E2
72 VCPW 40	1250A 2000A	A1 B2 E2	A2 E2 A1 E2
120 VCPW 25	630A 1250A 2000A	B2 D2 E2	A2 B2 D2 E2 A2 D2 E2 A1 D2 E2
120 VCPW 32	1250A 2000A	B2 D1 E2	A2 D1 E2 A1 D1 E2
120 VCPW 40	1250A 2000A	B2 E2	A2 E2 A1 E2
175 VCPW 25	1250A 2000A	B2 D2 E2	A2 D2 E2 A1 D2 E2
175 VCPW 32	1250A 2000A	B2 D1 E2	A2 D1 E2 A1 D1 E2
175 VCPW 40	1250A 2000A	B2 E2	A2 E2 A1 E2

ENGINEERING REFERENCE

1. DETAIL PLATES ARE SAME AS VAC-CLAD (693C436), EXCEPT C1 MATERIAL REMOVED VC-W FIGURE 1.
2. VAC-CLAD MOUNTS PLATES WITH .344/.334 DIA HOLE TO LEFT VC-W MOUNTS PLATES WITH A .344X.469 RD END SLOT TO RIGHT (LEFT PLATE IS LEFT AS VIEWED FROM FRONT OF CELL FOR BOTH).
3. REFER TO FIGURE 4 FOR LOCATION OF CODE PLATE.
4. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

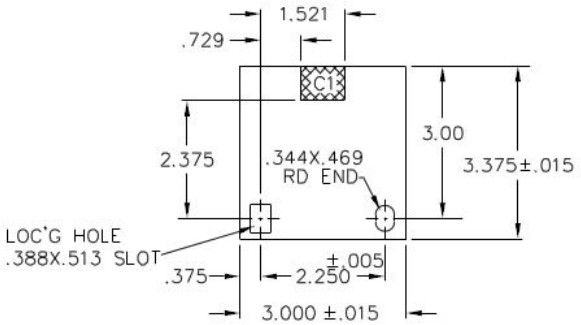
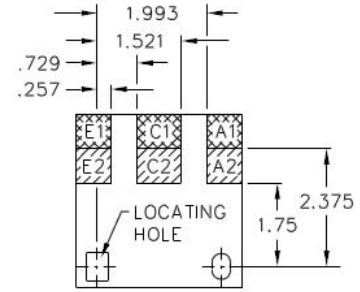
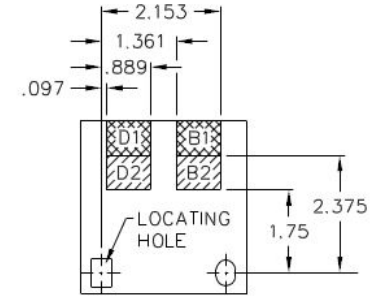


FIGURE 1



REMOVING	A2	INCLUDES	A1
	C2		C1
	E2		E1

FIGURE 2



REMOVING	B2	INCLUDES	B1
	D2		D1

FIGURE 3

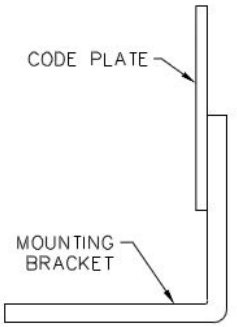


FIGURE 4

CODE PLATE FOR VC-W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.

				REMOVE MATERIAL AS BELOW	
	BREAKER TYPE	BREAKER	RATING	LEFT PLATE	RIGHT PLATE
ANSI	3 CYCLE BKR	270VCP-W16	600A 1200A 2000A	B1 D2 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
	5 CYCLE BKR	270VCP-W16	600A 1200A 2000A	B2 D2 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
IEC	3 CYCLE BKR	240VCP-W16	630A 1250A 2000A	B1 D2 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
	5 CYCLE BKR	240VCP-W16	630A 1250A 2000A	B2 D2 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
ANSI	3 CYCLE BKR	270VCP-W22	600A 1200A 2000A	B1 D1 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
	5 CYCLE BKR	270VCP-W22	600A 1200A 2000A	B2 D1 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
IEC	3 CYCLE BKR	240VCP-W20	630A 1250A 2000A	B1 D1 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
	5 CYCLE BKR	240VCP-W20	630A 1250A 2000A	B2 D1 E2	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
ANSI	3 CYCLE BKR	270VCP-W25	600A 1200A 2000A	B1 E1	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
	5 CYCLE BKR	270VCP-W25	600A 1200A 2000A	B2 E1	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
IEC	3 CYCLE BKR	240VCP-W25	630A 1250A 2000A	B1 E1	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
	5 CYCLE BKR	240VCP-W25	630A 1250A 2000A	B2 E1	A2 B2 D2 E2 A2 B2 D2 E2 A1 D2 E2
ANSI	3 CYCLE BKR	270VCP-W32	630A 1200A 2000A 2500A	B1 E2	A2 B2 D1 E2 A2 D1 E2 A1 D1 E2
	5 CYCLE BKR	270VCP-W32	630A 1200A 2000A 2500A	B2 E2	A2 B2 D1 E2 A2 D1 E2 A1 D1 E2
ANSI	3 CYCLE BKR	270VCP-W40	630A 1250A 2000A 2500A	B1 E1	A2 B2 E2 A2 E2 A1 E2 B1 E2
	5 CYCLE BKR	270VCP-W40	630A 1250A 2000A 2500A	B2 E1	A2 B2 E2 A2 E2 A1 E2 B1 E2

FIGURE 1

FIGURE 2

FIGURE 3

CODE PLATE FOR VC-W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.
3. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

TYPE C BREAKERS*		REMOVE MATERIAL AS BELOW	
BREAKER	RATING	LEFT PLATE *	RIGHT PLATE
50VCP-W25 C	1200A 2000A 3000A	A2 B1 C1 D1 E2 B1 C1 D1 E2	A2 C1 D1 E2 A1 C1 D1 E2
50VCP-W40 C	1200A 2000A 3000A	A2 B1 C1 E1 B1 C1 E1	A2 C1 E1 A1 C1 E1
50VCP-W50 C	1200A 2000A 3000A	A2 B1 C1 E1 B1 C1 E1	A2 C1 A1 C1 B1 C1
50VCP-W63 C	1200A 2000A 3000A	A2 B1 E1 B1 E1	A2 A1 B1
75VCP-W50 C	1200A 2000A 3000A	A1 B1 C1 E1 B1 C1 E1	A2 C1 A1 C1 B1 C1
150VCP-W25 C	1200A 2000A 3000A	B1 C1 D1 E2 B1 C1 D1 E2	A2 C1 D1 E2 A1 C1 D1 E2 B1 C1 D1 E2
150VCP-W40 C	1200A 2000A 3000A	B1 C1 E1 B1 C1 E1	A2 C1 E1 A1 C1 E1 B1 C1 E1
150VCP-W50 C	1200A 2000A 3000A	B1 C1 E1 B1 C1 E1	A2 C1 A1 C1 B1 C1
150VCP-W63 C	1200A 2000A 3000A	B1 C1 E1 B1 C1 E1	A2 A1 B1
150VCP-W63XC	1200A 2000A 3000A	B1 C1 E1 B1 C1 E1	A2 A1 B1
270VCP-W25 C	1200A 1600A	B1 C1 E1 B1 C1 E1	A2 C1 D1 E2 A1 C1 D1 E2
270VCP-W32 C	1200A 1600A	B1 C1 E1 B1 C1 E1	A2 C1 D1 E1 A1 C1 D1 E1
270VCP-W40 C	1200A 1600A	B1 C1 E1 B1 C1 E1	A2 C1 E1 A1 C1 E1

FIGURE 1

FIGURE 2

FIGURE 3

FIGURE 4

SPACER DETAIL
REF: 1A30260

ENGINEERING REFERENCE

1. DETAIL PLATES ARE SAME AS VAC-CLAD (693C436), EXCEPT C1 MATERIAL REMOVED VC-W FIGURE 1.
2. VAC-CLAD MOUNTS PLATES WITH .344/.334 DIA HOLE TO LEFT VC-W MOUNTS PLATES WITH A .344X.469 RD END SLOT TO RIGHT (LEFT PLATE IS LEFT AS VIEWED FROM FRONT OF CELL FOR BOTH).
3. .25 THICK SPACERS MUST BE PLACED BETWEEN CODE PLATE AND MOUNTING PLATE FOR 50VCP-W40 C, 50VCP-W50 C, 50VCP-W63 C, 150VCP-W40 C, 150VCP-50 C AND 150VCP-63 C ONLY, (SEE FIGURE 4).
4. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

CODE PLATE FOR VC-W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.

TYPE K=1 (5) CYCLE BREAKERS* REMOVE MATERIAL AS BELOW			
BREAKER	RATING	LEFT PLATE *	RIGHT PLATE
50VCP-W25	1200A 2000A 3000A	A2 C1 D2 E1 A2 C1 D1 E1 A2 C1 E2	A2 B1 C1 D1 E2
50VCP-W40	1200A 2000A 3000A	A2 C1 D2 E1 A2 C1 D1 E1 A2 C1 E2	A2 B1 C1 D1 E1
50VCP-W50	1200A 2000A 3000A	A2 C1 D2 E1 A2 C1 D1 E1 A2 C1 E2	A2 B1 C1 E1
50VCP-W63	1200A 2000A 3000A	A2 B2 C1 E1	A2 C1 A1 C1 B1 C1
75VCP-W40	1200A 2000A 3000A	A1 C1 D2 E1 A1 C1 D1 E1 A1 C1 E2	A2 B1 C1 D1 E1
75VCP-W50	1200A 2000A 3000A	A1 C1 D2 E1 A1 C1 D1 E1 A1 C1 E2	A2 B1 C1 E1
150VCP-W25	1200A 2000A 3000A	C1 D2 E1 C1 D1 E1 C1 E2	A2 B1 C1 D1 E2
150VCP-W40	1200A 2000A 3000A	C1 D2 E1 C1 D1 E1 C1 E2	A2 B1 C1 D1 E1
150VCP-W50	1200A 2000A 3000A	C1 D2 E1 C1 D1 E1 C1 E2	A2 B1 C1 E1
150VCP-W63	1200A 2000A 3000A	B2 C1 E1	A2 C1 A1 C1 B1 C1

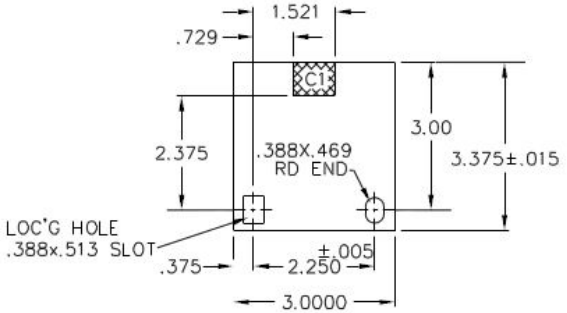
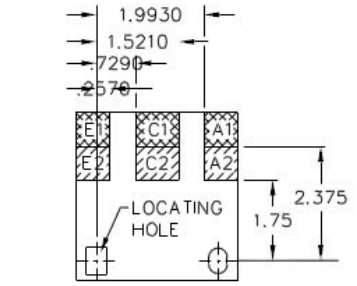
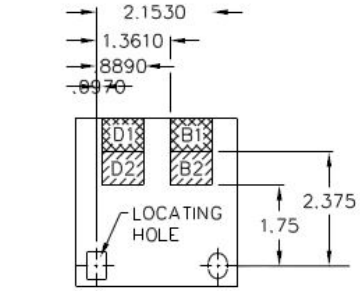


FIGURE 1



REMOVING	A2	INCLUDES	A1
	C2		C1
	E2		E1

FIGURE 2



REMOVING	B2	INCLUDES	B1
	D2		D1

FIGURE 3

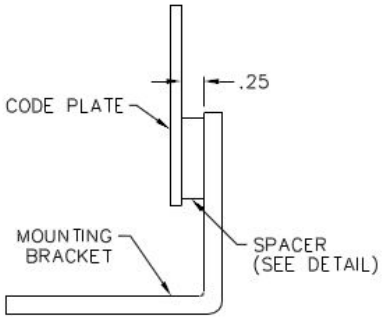
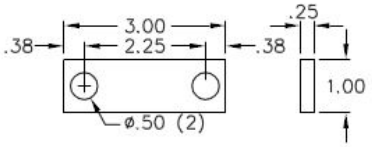


FIGURE 4

SPACER DETAIL
REF: 1A30260



CODE PLATE FOR VC-W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.

ENGINEERING REFERENCE

1. DETAIL PLATES ARE SAME AS VAC-CLAD (693C436), EXCEPT C1 MATERIAL REMOVED VC-W FIGURE 1.
2. VAC-CLAD MOUNTS PLATES WITH .344/.334 DIA HOLE TO LEFT VC-W MOUNTS PLATES WITH A .344X.469 RD END SLOT TO RIGHT (LEFT PLATE IS LEFT AS VIEWED FROM FRONT OF CELL FOR BOTH).
3. .25 THICK SPACERS MUST BE PLACED BETWEEN CODE PLATE AND AND MOUNTING PLATE FOR 50VCP-W40, 50VCP-W50, 50VCP-W63, 150VCP-W40, 150VCP-50 AND 150VCP-63 ONLY, (SEE FIGURE 4).
4. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

TYPE K=1 (3) CYCLE BREAKERS* REMOVE MATERIAL AS BELOW			
BREAKER	RATING	LEFT PLATE *	RIGHT PLATE
50VCP–W25	1200A 2000A 3000A	A2 C1 D2 E1 A2 C1 D1 E1 A2 C1 E2	A1 B1 C1 D1 E2
50VCP–W40	1200A 2000A 3000A	A2 C1 D2 E1 A2 C1 D1 E1 A2 C1 E2	A1 B1 C1 D1 E1
50VCP–W50	1200A 2000A 3000A	A2 C1 D2 E1 A2 C1 D1 E1 A2 C1 E2	A1 B1 C1 E1
50VCP–W63	1200A 2000A 3000A	A2 B1 C1 E1	A2 C1 A1 C1 B1 C1
75VCP–W40	1200A 2000A 3000A	A1 C1 D2 E1 A1 C1 D1 E1 A1 C1 E2	A1 B1 C1 D1 E1
75VCP–W50	1200A 2000A 3000A	A1 C1 D2 E1 A1 C1 D1 E1 A1 C1 E2	A1 B1 C1 E1
150VCP–W25	1200A 2000A 3000A	C1 D2 E1 C1 D1 E1 C1 E2	A1 B1 C1 D1 E2
150VCP–W40	1200A 2000A 3000A	C1 D2 E1 C1 D1 E1 C1 E2	A1 B1 C1 D1 E1
150VCP–W50	1200A 2000A 3000A	C1 D2 E1 C1 D1 E1 C1 E2	A1 B1 C1 E1
150VCP–W63	1200A 2000A 3000A	B1 C1 E1	A2 C1 A1 C1 B1 C1

ENGINEERING REFERENCE

1. DETAIL PLATES ARE SAME AS VAC–CLAD (693C436), EXCEPT C1 MATERIAL REMOVED VC–W FIGURE 1.
2. VAC–CLAD MOUNTS PLATES WITH .344/.334 DIA HOLE TO LEFT VC–W MOUNTS PLATES WITH A .344X.469 RD END SLOT TO RIGHT (LEFT PLATE IS LEFT AS VIEWED FROM FRONT OF CELL FOR BOTH).
3. .25 THICK SPACERS MUST BE PLACED BETWEEN CODE PLATE AND AND MOUNTING PLATE FOR 50VCP–W40, 50VCP–W50, 50VCP–W63, 150VCP–W40, 150VCP–50 AND 150VCP–63 ONLY, (SEE FIGURE 4).
4. MATERIAL TO BE .179 THICK LOW CARBON STEEL, TOLERANCES ±.010 UNLESS OTHERWISE SPECIFIED.

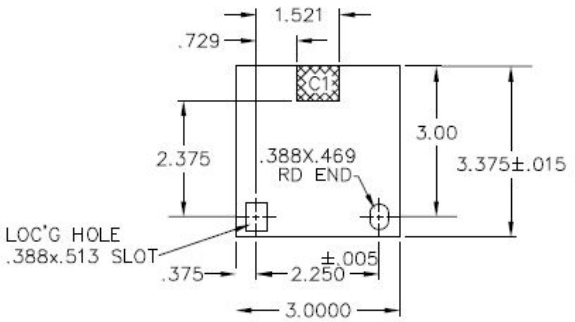
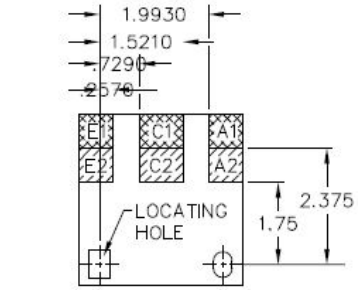
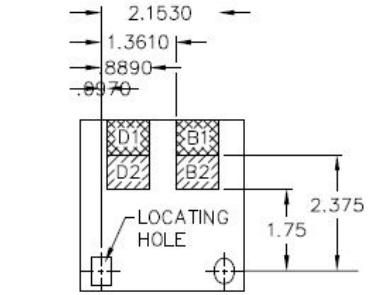


FIGURE 1



REMOVING	A2	INCLUDES	A1
	C2		C1
	E2		E1

FIGURE 2



REMOVING	B2	INCLUDES	B1
	D2		D1

FIGURE 3

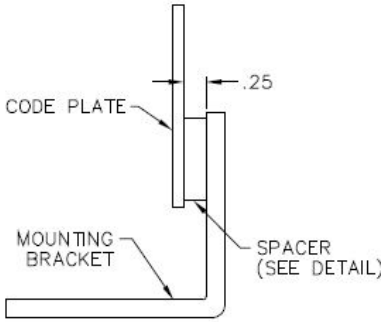
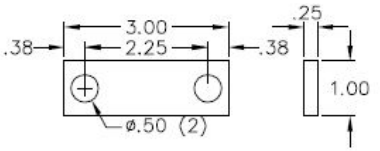


FIGURE 4

SPACER DETAIL
REF: 1A30260



CODE PLATE FOR VC–W CELLS

1. MAKE BLANK PLATE PER FIGURE 1.
2. REMOVE MATERIAL PER TABLE AND FIGURE 2 OR 3 AND ADD PROTECTIVE FINISH.