

## Switchboard (SB1, SB2, SB3)/ Power Panel (P4, P5) Kit SDG, SDGD for Branch Mounting Type VL DG Frame Breakers

### Installation Instructions

10. Reference fig. 9 - Installing the provision barrier (item 22). In the case of a provision, orient the barriers as shown in fig. 9. Insert the 10-24 socket-head cap-screw through the 0.228" holes in the barrier and through the 0.173" hole in the B-phase link and tighten. Repeat this step if there is another provision.

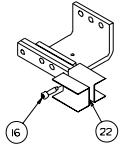


Figure 9

NOTE: If a Branch Neutral Lug Assembly is NOT Required, skip to Step 13.

NOTE: For switchboard applications, skip to Step 12.

11. Reference fig. 10 - Installing the Branch Neutral Lug assy. (item 21) in a Panelboard. The Branch Neutral is located at the bottom of the "Z-rails", or mirrored at the top depending upon the feed cable location. Two (2) different Neutral Lug assemblies are included in the kit, be sure to install the type pictured below. The Neutral lug assemblies can be mounted, as shown, on either side of the Branch Neutral depending on cable feed location. Torque all hardware as specified on the rear of the deadfront.

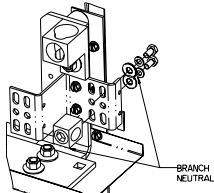


Figure 10  
PANELBOARD ONLY

12. Reference fig. 11 - Installing the Branch neutral lug (item 21) in a Switchboard. The branch Neutral is located at the bottom of the "Z-rails", or mirrored at the top depending upon the feed cable location. Two (2) different Neutral Lug assemblies are included in the kit, be sure to install the type pictured below. The Neutral Lug assemblies can be mounted, as shown, or on any available hole of the Branch neutral depending on the cable feed location. Torque all hardware as specified on the rear of the deadfront.

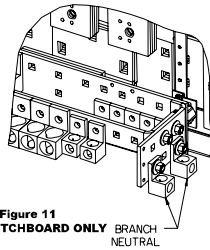


Figure 11  
SWITCHBOARD ONLY BRANCH  
NEUTRAL

13. Re-install the deadfront using one of the breaker cover plates supplied with this kit. Other filler plates may be required for proper fit. See filler plate kits listed on the rear of the deadfront.

This device/system may only be set up and used in conjunction with these instructions. Installation, maintenance and operation of this device/system may only be performed by qualified personnel. Within the context of these instructions, qualified persons are defined as persons who have the skills and knowledge related to the construction and operation of the electrical equipment and installations and have received safety training to recognize and avoid the hazards involved.

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### Installation Instructions

The following instructions are for the installation of Siemens VL DG Frame electronic trip breakers in switchboard (SB1, SB2, SB3) or shallow/deep panelboards (P4, P5). This kit will require 5" of unit space. The parts provided in this kit are for connections to a 3-phase / 3-wire or 3-phase / 4-wire system.



1. Lock off power supplying this equipment before working on it.

2. Reference fig. 1 - Remove the (2) gutter covers and all cover plates.

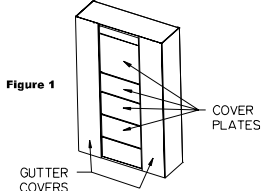


Figure 1

3. Reference fig. 2 - To mount a VL DG Frame breaker, 5" of empty unit space is required. To locate the mounting position, measure from the top deadfront support to the top of the empty unit space filler on the deadfront. Transfer this dimension from the deadfront support along the Z-rail and mark. This will be the unit space as shown on Fig. 4. After marking the Z-rail, remove the deadfront.

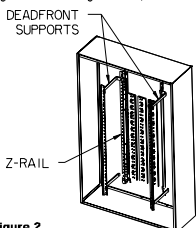


Figure 2

4. Open the shipping box and check the contents against the following list:

ITEM	DESCRIPTION	QTY.
1	INSTRUCTION MANUAL	1
2	A/C BOTTOM STRAP	2
3	A/C TOP STRAP	2
4	B PHASE STRAP	1
5	A/C BOTTOM LINK (OUTER HOLE DIA 0.173)	2
6	A/C TOP LINK (OUTER HOLE DIA 0.228)	2
7	B BOTTOM LINK (OUTER HOLE DIA 0.173)	1
8	B TOP LINK (OUTER HOLE DIA 0.228)	1
9	BARRIER	1
10	CHRISTMAS TREE RIVET	1
11	BREAKER MOUNTING BRACKET	2
12	STRAP-SECTION BUS HARDWARE KIT	1
13	1/4-20 X 1-1/4" SCREW	6
14	1/4-20 X 1/2" SCREW	4
15	1/4-20 X 3/8" SCREW	4
16	10-24 SOCKET HEAD CAP SCREW	6
17	CARD HOLDER	2
18	CIRCUIT ID CARD	2
19	8-32 X 3-1/4" SCREW	2
20	5" COVER PLATE	1
21	NEUTRAL LUG ASSY.	2
22	PROVISION BARRIER	4

5. Reference fig. 3 and fig. 4 - The first items to be installed are the B-phase strap and B-phase links (item 4, item 7 and item 8). Note that the 0.281" holes on the B-phase links (item 7 and 8) are offset and are not symmetrical as in A and C-phase links (items 5 and 6). Locate two 0.228" diameter holes on the B-phase of the section bus, 3.75" down from the top of 5.0" unit space selected. Insert two 1/4-20 thread-forming screws (see the mounting hardware kit, item 12, for proper length) through the two holes in the B-phase strap (item 4) and then into the 0.228" diameter holes on the B-phase bus and tighten. Orient the B-phase links as shown in fig. 3 with the 0.281" holes located away from the bend on the B phase strap (item 4). To install the B-phase links, insert two 1/4-20X1-1/4" screws (item 13) through two 0.281" holes on B top and bottom links (item 7 and item 8) and then into the 0.228" diameter holes on the B-phase strap and tighten. Torque all screws to the values specified on the rear of the deadfront.

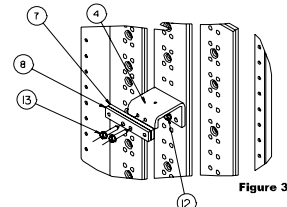


Figure 3

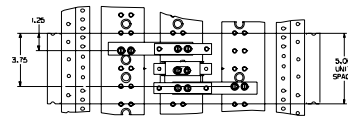


Figure 4

6. Reference fig. 5 - Attach the barrier (item 9) to B-phase strap. Insert the christmas tree rivet (item 10) through the 0.25" diameter hole in the barrier and into the 0.156" diameter hole in the B-phase strap. Push for a tight fit.

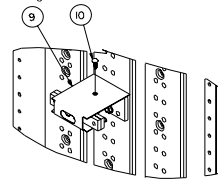


Figure 5

7. Reference fig. 4 and fig. 6 - Locate two 0.228" diameter holes in the A-phase section bus, 1-1/4" down from the top of 5.0" unit space selected. Insert two 1/4-20 thread-forming screws (see the mounting hardware kit, item 12, for proper length) through the two holes in the A-phase bus and tighten. To install the C-phase strap (item 2 and 3) locate two 0.228" diameter holes on the C-phase section bus 3.75" down from the top of 5.0" unit space selected. Insert two more 1/4-20 screws through the two holes in the strap and then into the 0.228" diameter holes in the C-phase section bus. To install A and C-phase links (item 5 and 6) repeat the installation steps similar to B-phase links installation, orienting the link bars as shown so as to have 1.375" vertically between centers of the link bars. Torque all screws to the values specified on the rear of the deadfront.

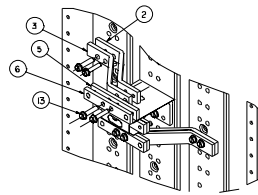


Figure 6

8. Reference fig. 7 - The mounting brackets (item 11) are to be mounted. Locate a 0.228" diameter hole on the left Z-rail 5/8" below the mounting screws of the A-phase strap. Insert one 1/4-20 X 3/8" screw (item 14) through the 0.312" diameter hole in the mounting bracket and then into the hole in the Z-rail and tighten. Orient the mounting bracket as shown, insert another 1/4-20 X 3/8" screw through the second 0.312" diameter hole in the mounting bracket and then into a 0.228" diameter hole in the Z-rail and tighten. Repeat the same steps to install the second mounting bracket onto the right hand Z-rail. Tighten screws securely.

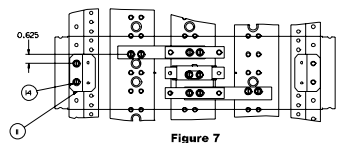


Figure 7

9. Reference fig. 8 - Install a circuit breaker by inserting one 10-24 socket head cap screw (item 16) into each of the three contacts on the line side of the breaker and into the 0.173" diameter holes in the phase links on the A, B and C-phase. Torque all connections to the values as specified on the rear of the deadfront. Insert two 8-32 screws (item 19) through the two breaker mounting holes on the load side and into the two tapped holes in the mounting bracket and tighten securely.

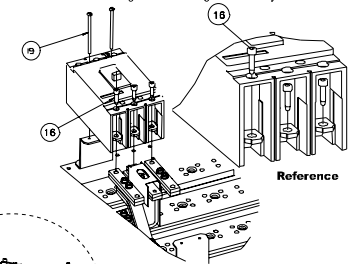


Figure 8

Deep Kit Reference

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