Spectra Series™ Power Panelboards & Switchboard Panels

ACT Transient-Voltage Surge Suppressors

Application

These kits are provided for installation of ACT Transient-Voltage Surge Suppressor (TVSS) in Spectra bolt-on and plug-in panels and switchboards. The catalog numbers and descriptions of the available units are listed in Table 1. The K suffix denotes field-installable kits.

All TVSS units are 7X ($9^5/8$") high and the minimum equipment width is a 27-inch wide Spectra panelboard or 35-inch wide Spectra switchboard.

Catalog Number	System Voltage, Vac	Configuration	Surge Current per Mode, kA
ATME120S065K	120/240	1Ø	65
ATME120S800K	120/240	1Ø	80
ATHE120S100K	120/240	1Ø	100
ATHE120S150K	120/240	1Ø	150
ATHE120S200K	120/240	1Ø	200
ATME120Y065K	208Y/120	3Ø, 4W	65
ATME120Y800K	208Y/120	3Ø, 4W	80
ATHE120Y100K	208Y/120	3Ø, 4W	100
ATHE120Y150K	208Y/120	3Ø, 4W	150
ATHE120Y200K	208Y/120	3Ø, 4W	200
ATME240D065K	240 Δ	3Ø, 3W	65
ATME240D080K	240 Δ	3Ø, 3W	80
ATHE240D100K	240 Δ	3Ø, 3W	100
ATHE240D150K	240 Δ	3Ø, 3W	150
ATHE240D200K	240 Δ	3Ø, 3W	200
ATME277Y065K	480Y/277	3Ø, 4W	65
ATME277Y080K	480Y/277	3Ø, 4W	80
ATHE277Y100K	480Y/277	3Ø, 4W	100
ATHE277Y150K	480Y/277	3Ø, 4W	150
ATHE277Y150K	480Y/277	3Ø, 4W	200
ATME480D065K	480 Δ	3Ø, 3W	65
ATME480D080K	480 Δ	3Ø, 3W	80
ATHE480D100K	480 Δ	3Ø, 3W	100
ATHE480D150K	480 Δ	3Ø, 3W	150
ATHE480D200K	480 Δ	3Ø, 3W	200
ATME240H065K	240/120 Δ	3Ø, 4W	65
ATME240H080K	240/120 Δ	3Ø, 4W	80
ATHE240H100K	240/120 Δ	3Ø, 4W	100
ATHE240H150K	240/120 Δ	3Ø, 4W	150
ATHE240H200K	240/120 Δ	3Ø, 4W	200

Table 1. Catalog numbers and specifications for ACT transient-voltage surge suppressor kits.

Installation

WARNING: Danger of electrical shock or injury. Turn OFF power ahead of the panelboard or switchboard before working inside the equipment or removing any component. Equipment is to be installed and maintained by properly trained and qualified personnel only.

The numbers in brackets in the text and figures refer to the items in Tables 2 and 3.

1. **Confirm the contents of the kit.** Figure 1 illustrates the contents of the kit, with the parts listed in Table 2. Figure 2 illustrates the hardware included in the kit ([1] in Table 2), with the parts listed in Table 3.

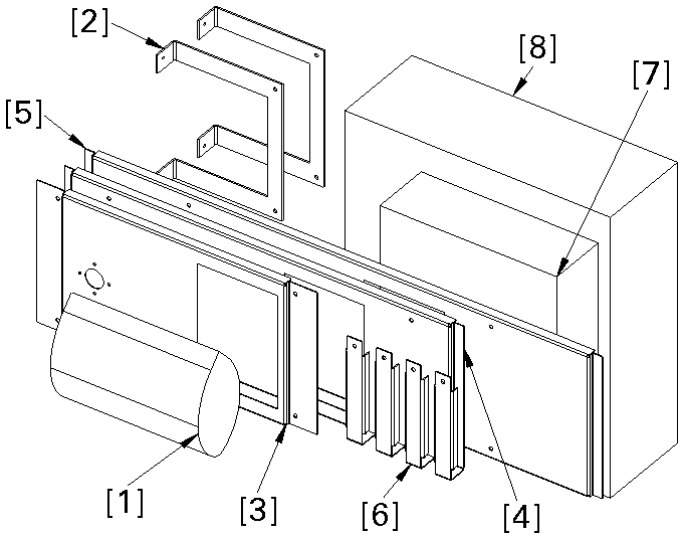

Figure 1. Typical TVSS kit contents.

Item	Description	Part #	Qty.
1	TVSS kit hardware	10082305G3	1
2	Cover support for 36W, 40W, 44W, and 45W	10083033P2	2
3	Cover for 27W, 31W and 35W	10087203G1	1
4	Cover for 36W and 40W	10087203G2	1
5	Cover for 44W and 45W	10087203G3	1
6	Cover support for 27W, 31W and 35W	252B1477P4	4
7	Neutral and ground wire kit	ATHMEGNDN	1
8	TVSS in package	TVSS_UNIT	1

Table 2. Parts list for the TVSS kit.

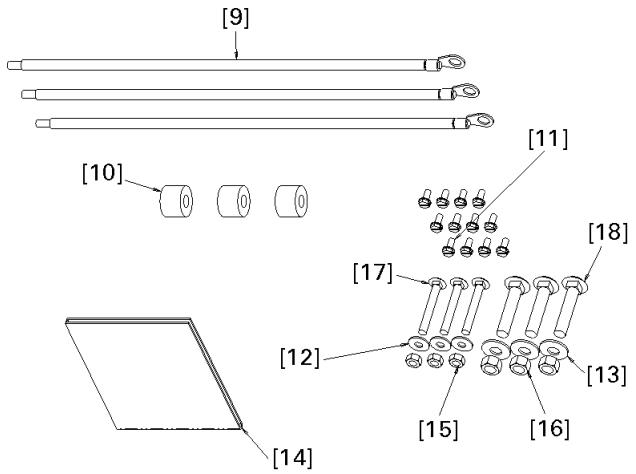

Figure 2. Contents of the hardware package [2] included with the TVSS kit.

Item	Description	Part #	Qty.
9	Cable assembly	10080794G1	3
10	Spacer, .70 inch	188A4381P9	3
11	Thread-forming screw, 10-32 x 7/16"	192A6976P189	12
12	Conical spring washer, 1/4"	75A105503P101	3
13	Conical spring washer, 3/8"	75A105503P102	3
14	TVSS instruction sheet	DEH40443	1
15	Nut, 1/4-20	N245P21B6	3
16	Nut, 3/8-16	N245P25B6	3
17	Carriage bolt, 1/4-20 x 2"	N657P21032B6	3
18	Carriage bolt, 3/8-16 x 2"	N657P25032B6	3

Table 3. Parts list for the hardware package [2].

2. Install TVSS bus cable assembly.

- *Bolt-on and single bus of plug-in assemblies, switchboard panels, and powerpanels.* Before installing, locate the side of the panel interior for which the dimension from the nearest vertical bus face to the inner face of the bus support rail is 2.75 inches, as indicated in Figure 3. The cable terminals will be mounted on this side of the bus.

  For each phase install a 1/4-20 x 2" carriage bolt [17] into a .281-inch square hole of the interior vertical bus, as shown in Figure 4. Use the uppermost holes in the 7X (9 5/8") space that the TVSS unit can reach. Slide a terminal of the cable assembly [9] onto each carriage bolt and rotate it so that the terminal barrel is located *below the front edge* of the vertical bus. Install a 1/4" spring washer [12] and a 1/4-20 nut [15] onto each bolt and tighten to 75 in.-lb.

- *Plug-in assemblies, switchboard panels, and panelboards with .281-inch square holes available (double bus).* For each phase, slide a spacer [10] between the vertical bus bars and install a 1/4-20 x 2" carriage bolt [17] into a .281-inch square hole located towards the front of the interior vertical bus, as shown in Figure 5. Use the uppermost holes in the 7X (9 5/8") space that the TVSS unit can reach.

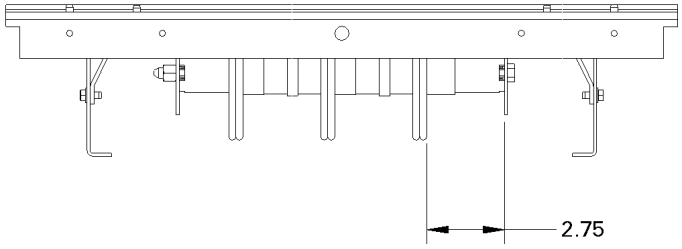

Figure 3. Top view of a bolt-on interior.

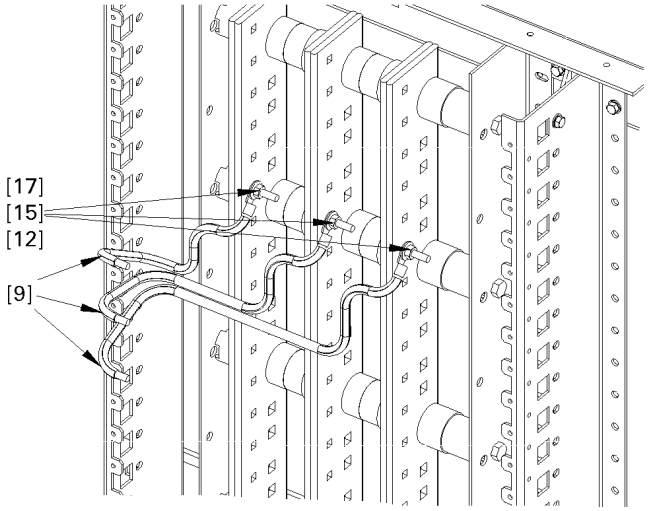

Figure 4. Bolt-on and single-bus plug-in assemblies.

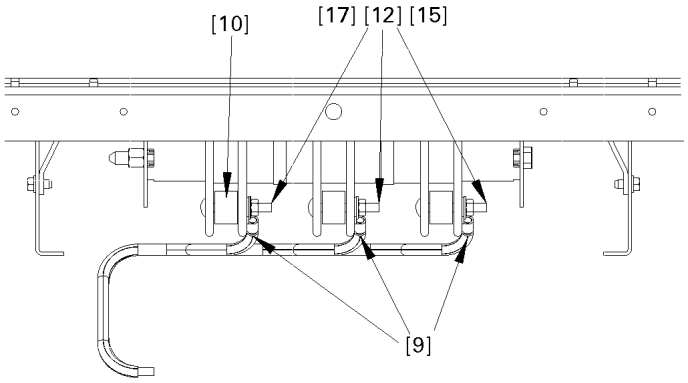

Figure 5. Plug-in assemblies with .281-inch square holes.

  Slide a terminal of the cable assembly [9] onto each carriage bolt and rotate it so that the terminal barrel is located *below the front edge* of the vertical bus. Install a 1/4" spring washer [12] and a 1/4-20 nut [15] onto each bolt and tighten to 75 in.-lb.

- *Plug-in assemblies and powerpanels without .281-inch square holes (double bus).* For each phase, slide a spacer [10] between the vertical bus bars and install a 3/8-16 x 2" carriage bolt [18] into a .406-inch square hole located toward the rear of the interior vertical bus, as shown in Figure 6. Use the uppermost holes in the 7X (9 5/8") space that the TVSS unit can reach. Slide a terminal of the cable assembly [9] onto each carriage bolt. Install a 3/8" spring washer [13] and a 3/8-16 nut [16] onto each bolt and tighten to 200 in.-lb.

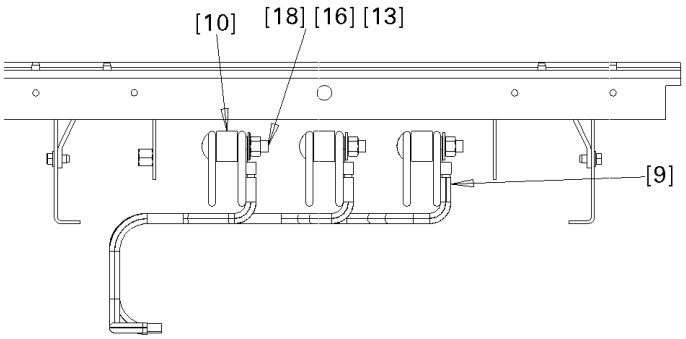

Figure 6. Plug-in assemblies without .281-inch square holes. (Interior spools are not shown for clarity.)

3. **Install ACT TVSS unit.** Route the cable assemblies through the circular holes in the ACT TVSS unit [8]. Secure the ACT TVSS unit to the side of the Z rail with four #10-32 x 7/16" thread-forming screws [11], as shown in Figure 7, and tighten to 22 in.-lb. Orient the unit so that the display is to the right and the disconnect switch is to the left.

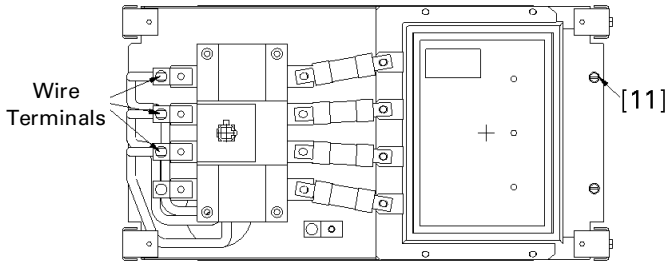

Figure 7. Installing the cable connections to the TVSS.

4. **Make cable connections to the TVSS.** Trim the cable assemblies [9] to the required length and strip 1/2 inch from the end of the cable. Connect the cable assemblies to the lugs provided in the TVSS unit and tighten the lug screws to 150 in.-lb. Insure that cables from the bus bars are connected to the proper terminals in the TVSS unit marked A phase, B phase, C phase or L1, L2, L3.
   a. **Install ground (and neutral cable if required).** Installation of the ground and neutral cables is described in the instructions included with the ATHMEGNDN kit [7].
5. **Install the filler supports.** For 27W, 31W, and 35W panels, mount four filler supports [6] to the Z rail of the vertical bus interior, as shown in Figure 8. For 36W, 40W, 44W, and 45W panels, mount two filler supports [2] to the Z rail, as shown in Figure 9. Secure the supports with 10-32 x 7/16" thread-forming screws [11] and tighten to 22 in.-lb.
6. **Install the handle shaft from item [8].** Insert the switch shaft onto the disconnect as shown in Figure 10. The set screw must be pointing upward (this ensures that the disconnect is in the OFF position). Install the switch shaft so that the switch shaft protrusion is pointing toward the right.

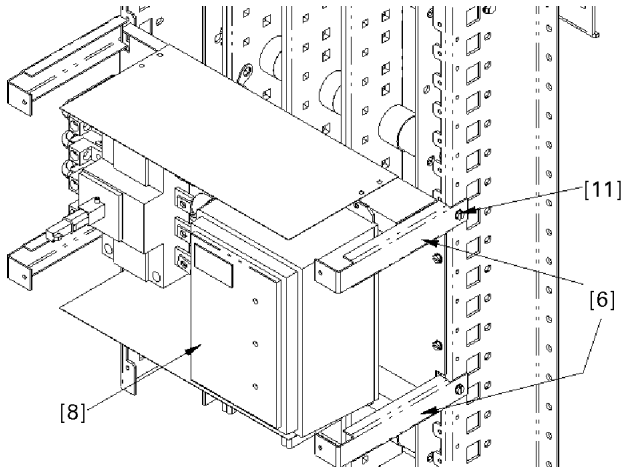

Figure 8. Filler supports for 27 and 31 wide panelboards or 35 wide switchboards.

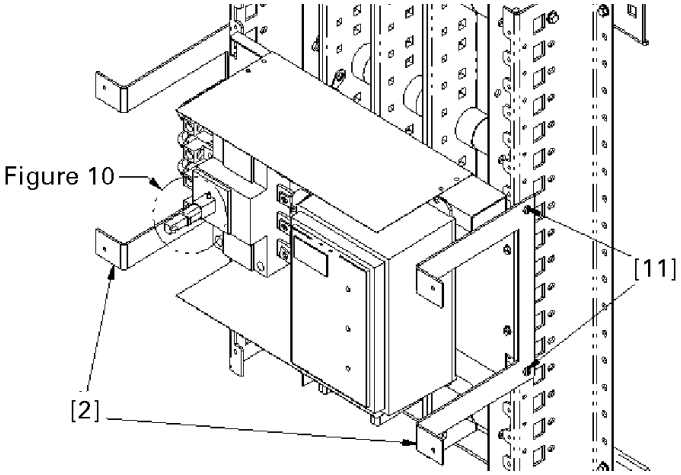

Figure 9. Filler supports for 36, 40, and 44 wide panelboard or 40 and 45 wide switchboard.

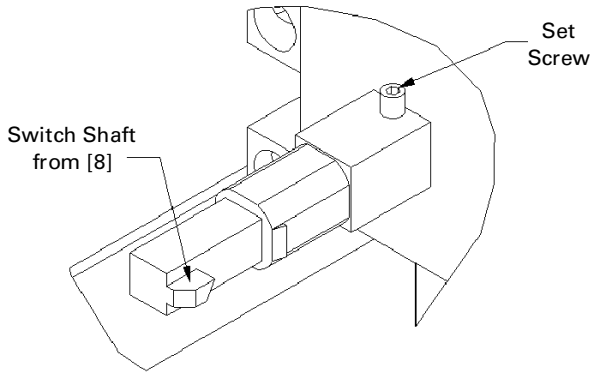

Figure 10. Installing the handle shaft.

7. **Install the disconnect handle.** Mount the disconnect handle as shown in Figure 11. The base of the handle must be oriented so that the OFF indicator is on top and the ON indicator is on the right. The handle must be pointing down. Cover selection ([3], [4], or [5]) is dependent on the width of the panelboard or switchboard.

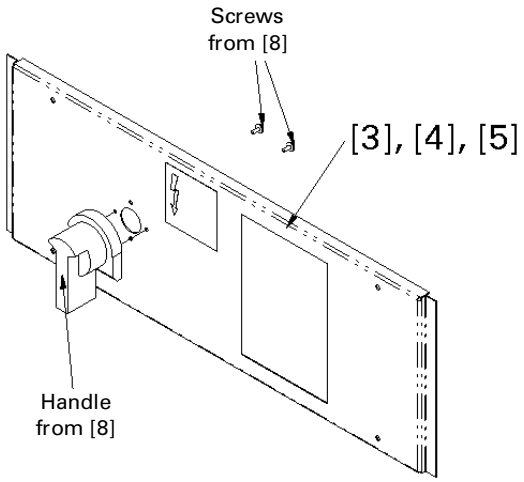

Figure 11. Handle from disconnect installed onto cover.

8. **Mount the filler plate assembly** to the filler supports, as shown in Figure 12. Secure with four 10-32 x 7/16" thread-forming screws [11] and tighten to 22 in.-lb.

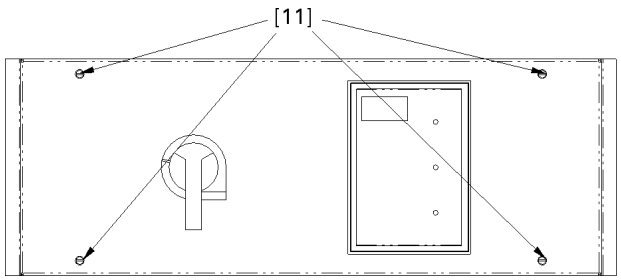

Figure 12. Mounting the filler plate assembly on the supports.

These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise that are not covered sufficiently for the purchaser's purposes, the matter should be referred to the GE Company.

GE Industrial Systems

General Electric Company
41 Woodford Ave., Plainville, CT 06062