

BRACKET KIT PN TGX:16152-1280

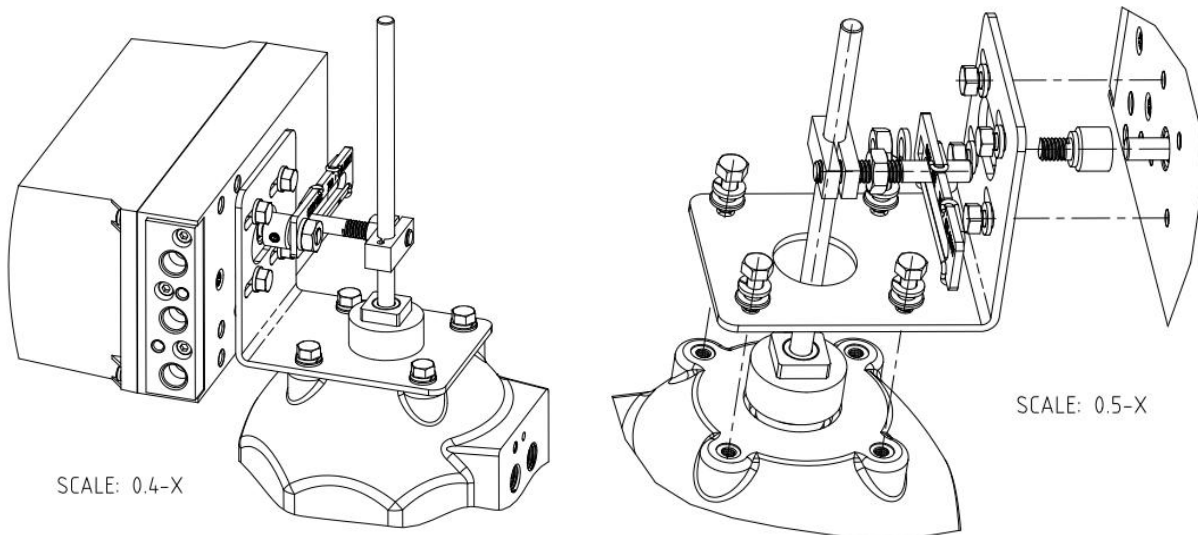
15900-796

Rev. 1

June, 2015

**SIPART PS2 Mounting Bracket Kit for
ASAHI Actuator, Type 14**

This publication provides installation instructions to mount a Siemens SIPART PS2 valve positioner on an Asahi type 14 valve actuator and to install the mechanical feedback linkage, typical installation shown in Figure 1.

**FIGURE 1 Actuator with Shaft Coupling, Exploded View**

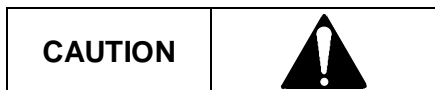
PARTS, BRACKET KIT TGX:16152-1280

Description	Part Illustration, Not Shown to Scale	Qty/Kit
Mounting Bracket Plate		1
Stem Clamp		1
2.25" long Feedback Pin, 5/16-18 Threads,		1
2" Feedback Lever		1
Retaining Clip		1
Linear Adapter Kit		1
5/16-18 Nut,		1
M6 x 16 Hex Head Screws		4
M6 x 12 Hex Head Screws		4
M6 Lockwashers		8
Kit Installation Instruction, this publication, PN 15900-796		1

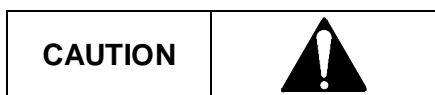
INSTALLATION

Refer to the following procedure and to the positioner and valve/actuator installation instructions while performing the installation. The current revision of the positioner instruction¹ is available for download at the Siemens Internet site. See Customer/Product Support later in this Instruction for the URL.

Before beginning the installation, note the following cautions.



Do not apply supply pressure to the actuator or the valve positioner during the installation process. Applying supply pressure before the equipment is properly mounted could cause unexpected movement that could lead to personal injury or equipment damage.



Do not exceed the maximum actuator and valve positioner air pressures stated in the manufacturer's literature. Exceeding these ratings could cause personal injury or equipment damage.

Before beginning the installation, open the supplied kit(s) and check the included parts against the parts list on page 2 and Figure 1. Also, be sure the correct PS2 valve positioner and valve/actuator are at hand. Each kit installation section title is in **bold** print. Complete the steps in each section.

Common hand tools, including 10mm, 7/16" and 1/2" wrenches, will be needed.

Assemble Retaining Clip to Feedback Lever (4" long arm is shown)

1. Orient the feedback lever (text side facing you) and retaining clip as shown in Figure 2. Press the lever into the clip and lift the two hooked ends of the clip until they can be placed in two notches in the lever and hook onto the lever. See Figure 3.

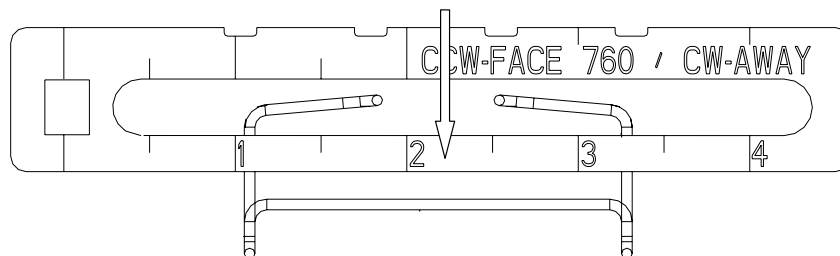


FIGURE 2, Pressing the Feedback Lever into the Retaining Clip (4" arm shown)

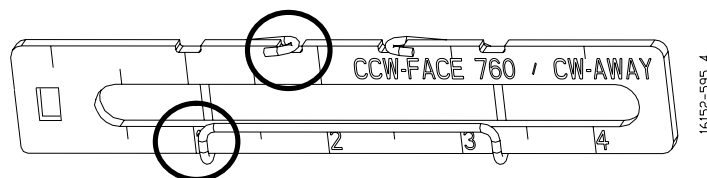
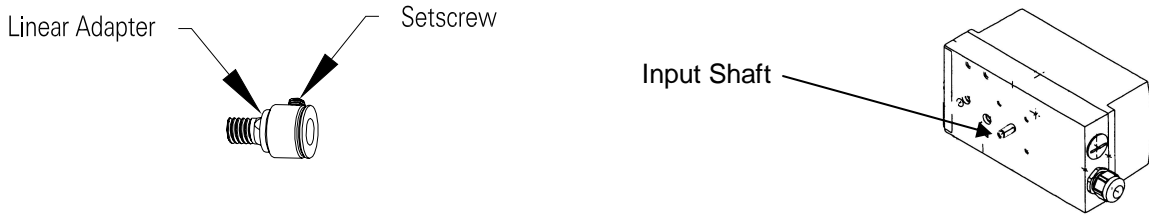


FIGURE 3, Placing the Retaining Clip on the Feedback Lever (4" arm shown)

¹ PS2: SIPART PS2 Electropneumatic Positioners for Linear and Rotary Actuators, P/N TGX:16152-1280

Install the Linear Adapter on the Positioner Input Shaft

1. Using the supplied hex wrench, screw the setscrew into the linear adapter until the tip of the setscrew is just visible in the hole in the end of the adapter. See the drawing below, left.



2. The PS2 input shaft is shown above, right. It extends from the bottom of the positioner and is flat on one side. Place the linear adapter on the PS2 input shaft so the setscrew can be tightened against the flat on the input shaft. Tighten the setscrew securely.

Fasten the Mounting Bracket Plate to the PS2

Refer to figure 1 and attach the PS2 to the four mounting slots. Use the four M6 x 12 hex bolts lockwashers and flat washers. Do not tighten at this time.

Install the Feedback Lever on the Linear Adapter (4" long arm is shown)

Fasten the feedback lever to the linear adapter using the supplied split lockwasher and nut. See Figure 4.

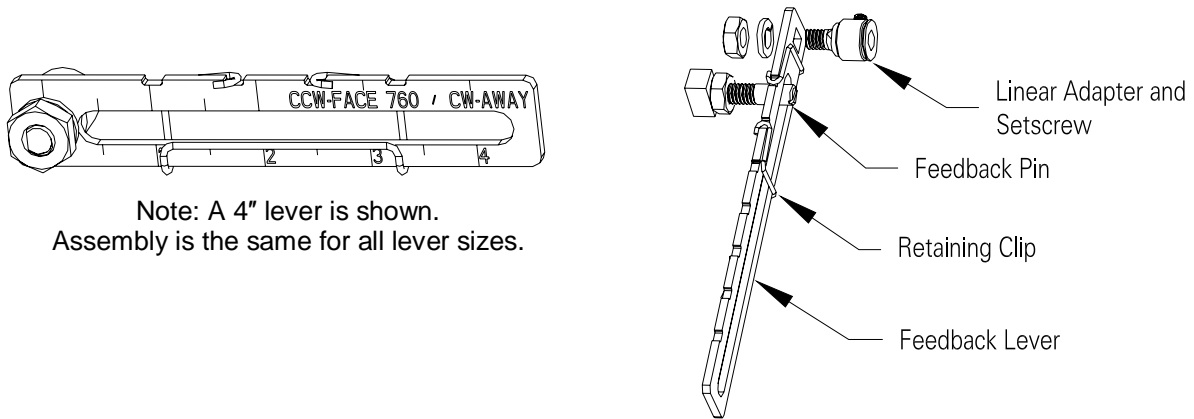


FIGURE 4 Feedback Lever and Retaining Clip Orientation

Install Feedback Pin on the Stem Clamp

1. Thread the 5/16-18 hex nut as far as it can go- against the end of threads.
2. Insert the threaded end of the feedback pin into the stem clamp, do not tighten.
3. Loosely install the stem block and pin assembly to the actuator's shaft.

Install the Mounting Plate and PS2 Assembly to the Actuator

1. First, use an air regulator to position actuator/valve to the mid-stroke position. This will ease with assembly.
2. While positioning the mounting plate & PS2 assembly to the actuator, be sure the feedback pin intersects the feedback arm and spring clip. You will need to slide down the stem block and pin down the actuator shaft to secure mounting plate to actuator.

Be sure the feedback pin engages the feedback arm and spring clip as you assemble.

Remember you can unscrew the pin from the stem block if you need more pin length.

It may also be necessary to cut the feedback pin to length. If cutting the pin is necessary be sure a ¼" of the pin protrudes through the feedback arm.

3. Once mounting plate & PS2 assembly is fully down on actuator, secure mounting plate to actuator using the four M6 x 16 hex bolts and lock washers.
4. Once feedback pin is properly protruding through feedback arm, tighten pin to stem block using the 5/16" hex nut.
5. Slide the PS2 along the four slots of the mount plate so the feedback arm exceeds 30 degrees of rotation when the valve fully strokes. The maximum rotation is 100 degrees. To achieve the best mechanical feedback performance, try to get as much physical rotation without exceeding 100 degrees.
6. Once rotation is achieved, secure PS2 to multi-mount plate by securing the four M6 bolts to PS2.
7. Go to the Initial PS2 Setup section on the next page.

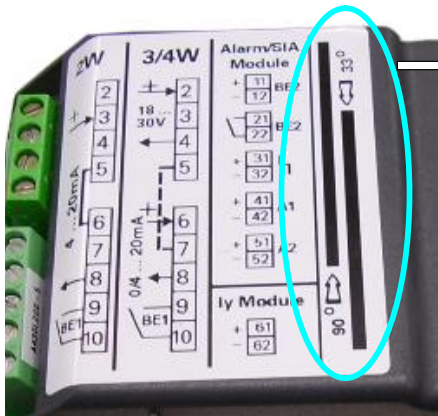
INITIAL PS2 SETUP

Perform the following steps to set the transmission gear ratio switch, apply instrument air and electrical power, and manipulate the three setup pushbuttons to initially set up the PS2. Read the Cautions on page 4 before proceeding.

1. Loosen the four captive screws securing the PS2 cover and remove the cover.
2. Refer to Table 1 for the transmission gear ratio switch setting: 33 or 90. Find the specified valve travel. Then find the ratio switch setting at the intersection of the valve travel row.
3. Refer to Figures 6 and 8 and to the label on the PS2 to, if necessary, change the transmission ratio switch position.. Use a small screwdriver to shift the position of the slide switch.
4. Connect tubing from positioner output port, labeled “Y1” on positioner cover, to actuator inlet. For double acting us “Y2” as well.
5. Connect tubing for instrument supply air to positioner supply port labeled "Pz". Apply air pressure. Do not exceed maximum casing pressure shown on actuator Warning label.
6. Connect a DC power source to positioner terminals; see Figure 6 for a typical electrical connection label. *Electrical connections vary with positioner model and options.* Apply electrical power.

TABLE 1 PS2 Transmission Gear Ratio Switch Setting

Valve Travel	Inches	Positioner Guide On Slot Positions			
	1/4"	33			
3/8"	33	33			
7/16"	33	33	33		
1/2"	33	33	33		
5/8"	90	33	33	33	
3/4"	90	33	33	33	
7/8"	90	33	33	33	
1"	90	33	33	33	
1-1/8"	90	90	33	33	
1-1/4"	90	90	33	33	
1-1/2"	90	90	90	33	
1-3/4"	90	90	90	90	
2"	90	90	90	90	
2-1/2"		90	90	90	
3"		90	90	90	
3-1/2"			90	90	
4"			90	90	
4-1/2"			90	90	
> 5"				90	



Use a small screwdriver to shift the yellow transmission gear switch from 33 to 90.

Shift from 90 to 33 from other side of PS2.

Transmission Gear Switch Settings

FIGURE 6 PS2 Transmission Gear Ratio Switch Location (PS2 Cover Removed)

7. If "NOINI" is flashing on display, skip to step 12, otherwise go to step 8. A typical configuration mode display is shown in Figure 9.

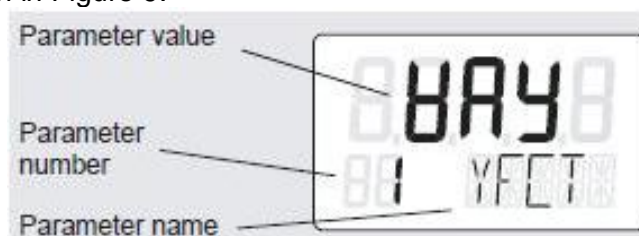


FIGURE 7 Sample PS2 Configuration Mode Display

8. Press and hold [HAND] button to enter configuration mode. When display changes, release button. See Figure 10.

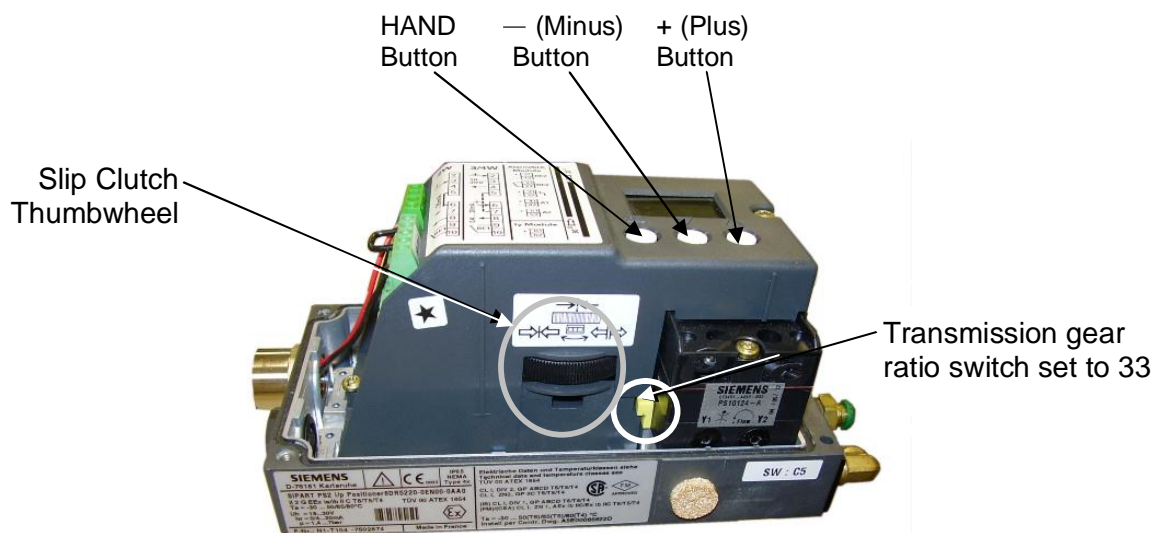


FIGURE 8 Set-up Buttons (PS2 Cover Removed)

9. Press and release [HAND] button until parameter 4 is displayed in lower left corner of display.
10. Press and hold [-] minus button until "no" appears on display.
11. Press and hold [HAND] button to exit configuration mode. When display changes, release button.
12. Using [+] plus and/or [-] minus buttons move valve throughout valve travel. While moving the valve with the pushbuttons, ensure that:
- The feedback linkage does not prevent the valve from fully stroking. Adjust as needed.
 - The feedback pin moves freely within the feedback lever for the entire valve travel.
 - All hardware is tightened securely.

Note: To move quickly in one direction press and hold [+] plus button then [-] minus button. To move quickly in the opposite direction reverse button sequence.

13. Use a [+] or [-] button to move the valve to a position away from an end-stop. Verify that the valve remains at that position once buttons are released; if it moves check for air leaks.

14. Use the [+] and [-] buttons to move the valve to the mid-stroke position and release pushbuttons. Use the valve travel indicator plate on the actuator yoke to locate mid-stroke. At mid-stroke, the feedback lever should be approximately perpendicular to the actuator shaft.
15. Adjust slip clutch until display reads 50, +/-3.0. See Figure 10 for slip clutch location.
16. Press and hold [HAND] button to enter configuration mode; release button once display changes.
17. Verify that parameter 1 appears in the lower left corner of the display. If another parameter number appears, press and release the [HAND] button until parameter 1 appears.

Note: To move backwards in the menu, press and hold [HAND] button and toggle [-] minus button.

18. Verify that **888** appears in the display. If another parameter value appears, press and release the [+] or [-] button until **888** appears.
19. Press [HAND] button to go to parameter 2.
20. Read the transmission gear ratio setting in the display: 33 or 90. If necessary, use [+] or [-] button to change the value to actual gear ratio setting from steps 2 and 3 on page 9.
21. Press [HAND] button twice to go to parameter 4.
22. Press and hold [+] button to execute initialization process – release the button once the positioner begins to move the valve.
23. Initialization is complete once display reads “Finish”. If setup messages appear, refer to the Possible Messages section of the Quick Setup Guide provided in the PS2 housing.
24. Press [HAND] button once.
25. Press and hold [HAND] button to exit configuration mode. Release button once display changes.
26. Press [HAND] button to enter “Auto” mode.
27. Test valve performance by changing the input signal.
28. As needed, modify other parameters to meet valve application specifications. The following parameter names are those that are commonly adjusted.
 - “SCUR” – Change positioner Direct/Reverse action [rise/fall]
 - “YDIR” – Change action of LCD display and 4-20 ma feedback (if so equipped)
 - “YCLS” – Activate Tight Closing; full supply air supplied to one side of actuator
 - “YCDO” – Input signal threshold value for tight closing, bottom position
 - “YCUP” – Input signal threshold value for tight closing, top position
 - “PRST” – Parameter reset: Return all parameters to factory default values
29. If needed, refer to the SIPART PS2 manual (see the footnote on page 4) for complete installation, configuration, and service information.

Once all setup steps are completed and the feedback arm moves freely for the entire stroke, make any additional electrical connections.

CUSTOMER/PRODUCT SUPPORT

For support and the location of your local Siemens representative, refer to the table below for the URL of the Process Instrumentation portion of the Siemens public Internet site. Once at the site, click **Support** in the right column and then **Product Support**. Next select the type of support desired: sales, technical (see the table below), documentation, or software.

Online Support Request	http://www.siemens.com/automation/support-request
Technical Support	1-800-333-7421; 8 a.m. to 4:45 p.m. eastern time, Monday through Friday (except holidays)
Customer Service & Returns	1-800-365-8766 (warranty and non-warranty)
Public Internet Site	http://www.usa.siemens.com/pi
Technical Publications in PDF	Click the above link to go to the Siemens Internet site and then click Process Instrumentation . In the column to the right, click Support > Manuals . In the column to the left, select the product line (e.g. Pressure or Temperature or Controllers) to open navigation and search panes.

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