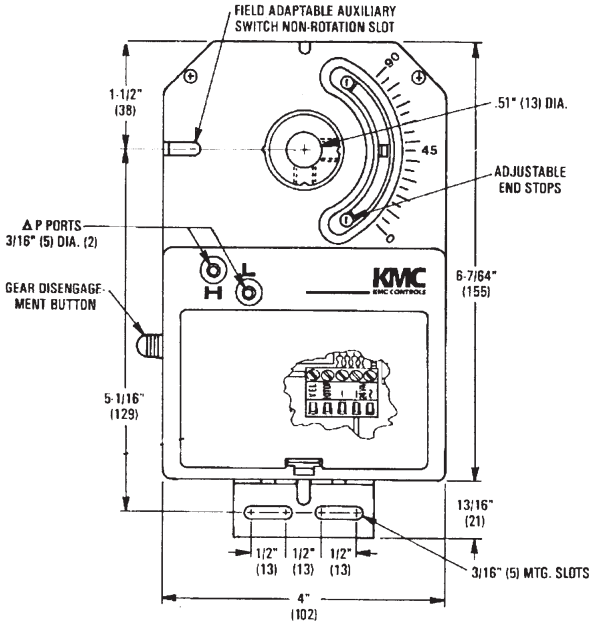
Installation Guide

Mounting

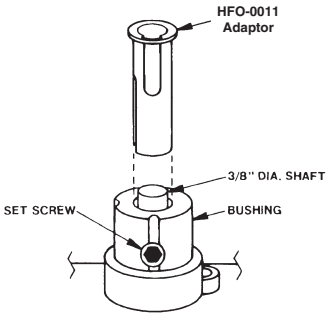
The TSP-6001/6051 is designed to mount directly to a 1/2" diameter shaft, a 3/8" square damper shaft, or (with an optional HFO-0011 shaft adaptor) a 3/8" diameter shaft.

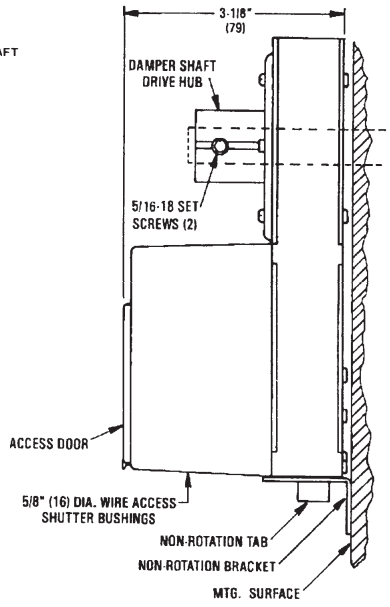
1. Set the TSP-6001/6051 in the desired location.
2. Slide the unit directly on to the damper shaft. (To use the optional HFO-0011 shaft adaptor on a 3/8" shaft, see the section below.) The shaft must extend a minimum of 1-3/4" from the mounting surface.
3. Place the non-rotation bracket (supplied) on the non-rotation tab.
4. Attach the anti-rotation bracket to the mounting surface using #8 or #10 self-tapping screws (not included).
5. Depress the gear disengagement button and:
   - Rotate the drive hub until the indicator stops at the **"90" mark** if the damper is **clockwise to close**.
   - Or rotate the drive hub to the **"0" mark** if the damper is **counterclockwise to close**.
6. Position the damper to full open.
7. Tighten the two 5/16"–18 setscrews (see diagram).
8. Depress the gear disengagement button and rotate the drive hub/damper to the closed position.
9. Loosen the adjustable end stop, position it against the damper position indicator, and retighten.



How to use the HFO-0011 Adaptor on 3/8" shafts:

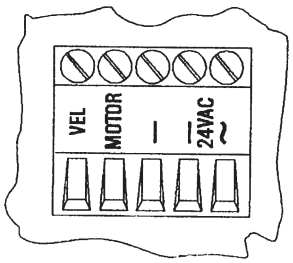
1. Mount the TSP-6001/6051 over the 3/8" shaft.
2. Slide the HFO-0011 over the shaft into the drive bushing of the actuator.
3. Align the adaptor slots with the setscrews.
4. Tighten the setscrews.





NOTE: See the data sheet for a complete listing of accessories as well as specifications.

Connections and Wiring



Wiring Detail

NOTE: See also the Sample Application section on the next page.

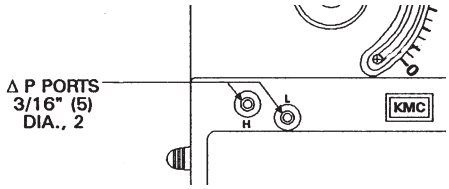
NOTE: See the data sheet for a complete listing of accessories as well as specifications.

1. Temporarily remove the TSP-6001/6051's wiring access door by pulling back on the door's tab and lifting upward.
2. Access for wire or cable is via two 5/8" (16 mm) diameter snap-in shutter bushings located on the rear of the TSP-6001/6051's cover. (Remove the snap-in shutter bushing and replace with the HMO-4518 or HMO-4520 if required.)
3. Use the following accessories (ordered separately) for the following connections to cable and conduit:
   a. HMO-4518 for 1/2" flexible conduit.
   b. HMO-4520 compression connector for plenum rated cable.
   c. HMO-4526 for rigid 1/2" conduit.
4. Wire the TSP-6001/6051 as follows:
   a. Terminal "VEL" to Velocity Output (0–5 VDC).
   b. Terminal "Motor" to motor drive.
      ≤ 2 VDC = CCW
      ≥ 2.5 VDC = CW
      2.25 VDC = Idle
   c. Terminal "–" to "VEL" and "Motor" signal ground.
   d. Terminal "–" to 24 VAC Neutral.
   e. Terminal "~" to 24 VAC Phase.
5. Reinstall the wiring access door.

Setup

The TSP-6001/6051 is factory calibrated to function with the SSS-1002 through SSS-1005 differential pressure pickups. Use **24**" of 1/4" OD x 0.040" wall "FR" instrument and control tubing, **HFO-0108** 1/4" x 3/8" barb union fitting, and **1**" of 3/8" OD x 0.062 wall "FR" tubing for both connections.

1. Connect "H" port to the "total velocity" (high side) of the velocity pickup.
2. Connect the "L" port to the "static" (low side) of the velocity pick up.



Calibration

The TSP-6001/6051 will have a range of 0–3,000 fpm with a 0–5 VDC velocity output signal when using any SSS-1002 through SSS-1005 velocity pickup. Fine tuning to a specific range is possible.

NOTE: To complete these adjustments, the wiring access door must be opened by pulling back on the door's tab and lifting upward.

To set a range:

1. Apply the desired velocity pressure and maximum flow to the "H" and "L" ports.
2. Adjust the SPAN potentiometer until the 0–5 VDC Velocity Output signal indicates 5 VDC (reading between terminals "VEL" and "–").

Maintenance

No routine maintenance is required. Each component is designed for dependable, long-term reliability, and performance. Careful installation will also ensure long-term reliability and performance.

Important Notices

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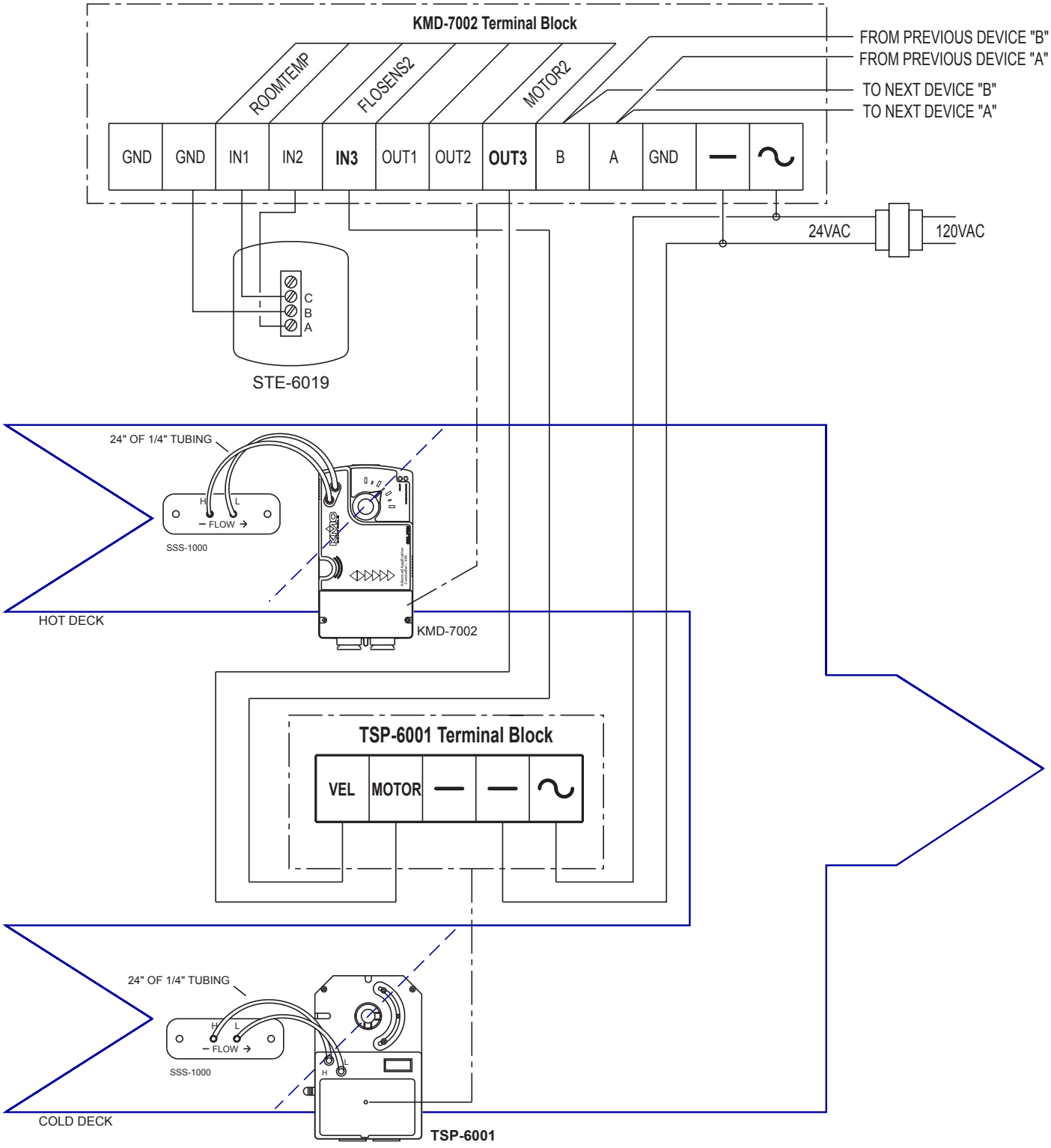
Sample Application



NOTE: For much more information about this application, see Application Note AN0404C, KMD-7002 and KMD-7052 VAV Controller. The file is downloadable from the KMC Controls Partner web site as a separate file or part of the Digital Designer's Guide.

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