

Frequently Asked Questions

1. What is the Zipset System ?

The Zipset System (ZS) is a patent-pending software and electro-mechanical device that provides a quick and economical way to precisely adjust critical but inaccessible air balancing dampers from a remote location. The ZS does away with the familiar but often tedious-to-install and cantankerous mechanical push/pull or twist cable gadgets.

2. Why should I use the Zipset System ?

1. The Zipset System eliminates the need for access doors.
2. The simple and foolproof hardware installs intuitively, usually in just a few minutes, reducing labor expense and estimating guesswork. The thin and ultra-flexible actuator power/signal cable can be routed over, under and around any of the above-ceiling obstacles.
3. The balancing dampers can be located over a hundred feet upstream from the room outlets if needed. Damper air noise concerns are greatly reduced, usually eliminated.
4. Final air flow adjustments are quicker and more precise because wireless remote control of damper movements with the RF key fob means the same balancing technician recording the flow readings is also adjusting the damper.
5. A simple built-in electrical test from the Remote Control Module will visually verify the integrity of the installation (does the damper actually work) prior to its being covered up by the hard ceiling panels.
6. With the Zipset System, the end-user occupant or building manager can quickly and accurately reset the air flow to various zones and air outlets as the building occupant requirements and load conditions change. A task that's seldom done in the real world.
7. The Zipset System only looks expensive. The ingenious hardware design and ease of installation puts the ZS in an installed cost class by itself.

3. How do I install the Zipset System ZSA-1 actuator ?

The ZSA-1 installs in either two or three steps. First, as with any actuator, verify that the damper blades turn freely. Second, mount the anti-rotation bracket to the round, oval or flat duct with pop rivets or two #8 or #10 x 3/8" (no longer) self drilling s/m screws. NOTE.. when the dampers are furnished by the Zip Group, brackets are generally pre-installed so this step is eliminated. Last step, slide the ZSA-1 output shaft over the damper shaft and tighten two 1/8" hex screws. The drive shaft accepts 1/4" to 1/2" shafts in round, square or hex profiles. The actuator can be mounted against the duct or up to 2" above it to allow for flex duct or external insulation. Install time... 2 – 5 minutes.

4. What does wireless remote damper control mean ?

With the Remote Control Module connected to the actuator cable, the inaccessible balancing damper can be adjusted with the RF key fob transmitter from around the corner, through the walls or down the hall, without cables, wires or other physical connections between the balancing technician and the damper. The obvious advantage is that in most instances, one technician can make air flow measurements at supply ducts or diffuser outlets while simultaneously adjusting the damper with the key fob buttons.

5. How do I use the Remote Control Module (RCM) ?

There are only four operational commands on the RCM: (1) Power on/off button; (2–3) CW and CCW test buttons; and (4) the 'Set M/P' button. When the RCM output cable is connected to the actuator via the ceiling receptacle or the optional connection methods described on the website or page 16 in the booklet, the RCM provides power to operate the actuator and wirelessly control its CW and CCW rotation using the two-channel key fob transmitter. No building power is ever required. The instant start–stop in both directions allows precise positioning of the damper blades. The software and electronics will also prevent over–torque damage to the actuator or dampers with internal blade stops. Another very helpful feature is the RCM's ability to detect an open or short circuit in the actuator cable after the installation is completed. It will answer the question "does the damper actually work?" before the ceiling contractor covers it up. The 'Move', 'Error' and 'M/P' lights on the RCM panel keep the balancing technician informed about the hidden damper's operation. See pages 4 & 5 of the booklet or visit the website "The Slide Show" tab at www.zipset.net for complete details of the RCM's features and operation.

6. What does the "Set M/P" command button on the Remote Control Module do ?

The Set M/P mode works with multi blade dampers. Activating the "Set M/P" mode will cause the RCM software to seek and set the damper blades at the approximate rotational mid point between the physical end-stops.

7. What is the purpose of the "Set M/P" mode ?

The "Set M/P" mode can be helpful in the following instances:

1. During the initial system startup of the building primary supply fan(s) it may be helpful to know that the various primary and branch duct balancing dampers are in some partially open position, (approx 50% open) to avoid over pressurization of the duct work.
2. During the actual balancing of the individual branches and zones, it may expedite the balancing task to have the damper blades preset to some known position prior to beginning the air flow adjustments.

8. What type of actuator is used with the Zipset System ?

The model ZSA-1 actuator has been custom designed to operate with the Zipset System's Remote Control Module (RCM). It accepts damper shaft sizes from 1/4" to 1/2" in square, round or hex profiles without any extraneous adaptors, and easily adjusts for external duct wrap insulation up to 2 inches. The actuator operates on 12 volts battery power provided by the RCM, No building power is ever required. With a rated torque of 35 in-lbs, it will reliably operate free moving multiblade dampers up to 16 square feet at a face velocity of 2000 FPM. The actuator housing material has a UL flammability rating of 94-5VA for plenum–rated use. The Zip Group also has available conventional straight-sided, conical and 45 degree and inline dampers, with/without factory–preinstalled actuators for use on ceiling supply diffusers, as well as plenum and linear slot diffusers. Submittal drawings on the WS provide details.

9. Are there any trade conflicts by using the Zipset System ?

Not likely. The low voltage, plenum–rated signal cable connection is never tied to building power and is only "live" via the RCM internal 12 volt battery for the few minutes while the technician is adjusting the dampers. For the rest of the time during the life of the building, the actuator cable might as well be a piece of string.

10. What is the max power/signal cable length that can be used to operate the actuator ?

The 'out of the box' cable that is factory-wired to the actuator is eight feet which will meet many installation requirements. However, this length can be easily extended in 'daisy chain' fashion with available 10, 20, 30, and 50 foot cable sections, up to 150 feet. For longer cable distances, contact The ZG with details. Standard RCA connectors on each end of the cables allow quick extensions without the use of any tools. The cables furnished by The ZG are plenum-rated to UL94-5VA, which is a code requirement in many cities. However, as a bonus, in those instances where a plenum-rated cable is not required, audio cables with RCA connectors (same as those used to hook up your stereo components) available from any audio/video store can be used. Refer to the booklet page 12.

11. How accurately does the Zipset System control the damper ?

As the technician is observing air flow readings downstream from the balancing damper, the two button, two channel, Key Fob allows instant start & stop in both CW and CCW rotations for precise adjustment. Each Key Fob transmitter is shipped with one of two discrete codes that only its "mate" Remote Control Module will respond to. This avoids conflicts and erratic behavior when two or more balancing tasks are simultaneously conducted in the same area. This feature is explained in more detail in the Slideshow and page 12 in the booklet.

12. What is the expected life of the RCM battery pack ?

The RCM uses the latest lithium-ion battery technology with a high energy density and an advertised 5 to 7 year shelf life. Conservatively, total runtime should allow at least 60-70 complete damper adjustment tasks on one battery pack. The battery pack is not rechargeable. In addition, to conserve battery life the software in the RCM will shut it down completely if it doesn't sense a command signal for a period of 40 minutes. Simply pressing the PWR button will reactivate the RCM. The battery pack can be ordered from your rep. Replacement is a simple matter requiring only a small #1 phillips screwdriver and can be done in just a few minutes. Instructions are on the WS and booklet page 12.

13. What holds the damper in position after the balancing task is finished ?

The gear train design of the ZSA-1 actuator insures that the output shaft cannot move when power is removed from the drive motor. Whatever position the damper blades assumed when the power is disconnected by the balancing technician will be its locked position. Readjusting the balancing damper at a future date is just a matter of reenergizing the actuator with the RCM. The output shaft rotational position can be "tweaked" without the RCM by using the manual adjustment feature on the housing which can be operated with a screwdriver.

14. What are the options if the RCM fails to operate properly ?

First check the battery pack. If the red PWR LED light does not come on, or is blinking, (indicating low battery power) the battery pack may be near exhaustion. Lithium batteries have an almost flat discharge curve, unlike the more common alkalines, (which lose their power gradually). This means Lithiums maintain near full strength throughout their useful life then cease to work rather suddenly. Battery replacement is a simple task detailed on the ws and pg 12 of the booklet. If erratic control with the Key Fob is the problem, its readily available internal battery (which has a shelf life of about three years) may be exhausted. Also, each RCM and Key Fob is shipped with one of two standard codes and corresponding color mark to reduce RF conflicts when balancing tasks are simultaneously being done in the same area of a project. Verify that your RCM and Key Fob have a matching number of "dots" (0-black, 2-yellow) and that a matching RCM is not being used in the same area. This feature is explained in detail on the WS slideshow and in the booklet on page 12.

There are no adjustments or repairs that can be done in the field. In the event the RCM fails to operate properly for reasons other than abuse or battery failure, it can be returned to the factory during the twelve month warranty period for evaluation and repair or replacement.

15. What is the purpose of the 'TE Series' totally enclosed version of the ZS. ?

In some cities, local building codes may require ALL wiring to be in conduit. Even though the plenum-rated actuator cable is "wiring", it is never connected to building power and is only "live" during the few minutes when the RCM's internal 12 volt battery is connected during the balancing phase. For the rest of the time during the life of the building, the cable might as well be a piece of string. For those situations where no exception is allowed, the TE Series provides a cost effective method for totally enclosing the actuator and its cable in a metal housing and flexible metal (MC) conduit. The TE Series is shipped completely assembled in a variety of cable lengths and installs the same way as the non-enclosed version as described on the WS and the booklet page 14.

16. What is the purpose of the 'RP Series' remote panels ?

There will be some installations where it will be desirable for any number of reasons to run the cables from several actuators to a common location such as in an equipment or utility room. The RP Series design provides a simple solution for connecting the cables to the panel jacks and at the same time maintain the remote control capability with the RCM. The RP Series is available in several node and color configurations as well as custom designs. Check the WS or page 13 for more information.

Didn't find the answer to your question or would like to receive a copy of the Zipset System technical booklet. Please let us know by going to the [Contact Us](#) page, or you can email zipset@zipset.net, phone 888-947-7384 or fax 888-237-2343.