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AN01 – Using the AC1-ZW or DC1-ZW with the Intermatic HA09C Remote Control

The Intermatic HA09C remote control unit is a commonly available and inexpensive handheld Z-Wave™ remote control which acts as a Z-Wave™ controller and can therefore be used to control the RS Scene Automation AC1-ZW and DC1-ZW shade motor controllers. This application note describes how to use our devices with the Intermatic remote, but it is possible to use our devices with any network of devices bearing the Z-Wave™ logo.

How the HA09C works

The HA09C instruction manual can be found here: http://www.homesettings.com/instructions/ha09.pdf

The HA09C can control up to 6 groups of devices. In each group it is possible to control up to 16 Z-Wave™ devices from any manufacturer.

After a network is created using the HA09C and the automated calibration procedure is performed, the buttons function in the following manner:

- Each group (1 – 6) has an associated pair of buttons, ON and OFF.
- Pressing the OFF button briefly will fully CLOSE all shade motors in a group.
- Pressing the ON button briefly will *set the position of the shade to the location of the shade at the time the shade was associated with that group*. This is an important point as it is the method used to create intermediate stop positions.
- HOLDING the OFF button will cause the shade to start moving from its current position towards the fully closed position. Releasing the button after holding it for a period of time will stop the shade.
- HOLDING the ON button will cause the shade to start moving from its current position towards the fully opened position. Releasing the button after holding it for a period of time will stop the shade.

When a shade is in motion, pressing the same button twice has no effect. Pressing the opposing button in the same group will stop movement. Tilt-only shades or horizontal blinds with tilt can be controlled with the HA09C, but since the HA09C has no ability to send configuration commands, the AC1-ZW or DC1-ZW must first be set up with a Z-Wave™ controller having that capability.

Step 1: Planning the installation

The key to making the process easy is to plan the installation before performing the programming steps. Filling out the following table can make this process simple.

GROUP	SHADE/POSITION	SHADE/POSITION	SHADE/POSITION	SHADE/POSITION	SHADE/POSITION
1					
2					
3					
4					
5					
6					

In each column, write the shade name or number, and the position you want the shade to go when the ON button is pushed. Note that you can have a maximum of 16 columns in the table, since the HA09C will handle up to 16 devices per group. We use five columns here to avoid clutter.

As an example:

GROUP	SHADE/POSITION	SHADE/POSITION	SHADE/POSITION	SHADE/POSITION	SHADE/POSITION
1	LIVING1/25%	LIVING2/65%	KITCHEN/99%		
2	LIVING1/99%	LIVING2/99%	KITCHEN/99%		
3	FAMILYRM/99%				
4	FAMILYRM/45%				
5					
6	BEDROOM/99%				

The example would function in this way:

When 2-OFF is briefly pressed, both the living room shades, as well as the kitchen shades would fully close. When 2-ON is briefly pressed, these shades would fully open. When 1-OFF is briefly pressed, these shades would also fully close – however when 1-ON is pressed, they will move to their intermediate stop positions of 25%, 65% and 99% respectively.

When 4-ON is briefly pressed, the family room shade would move to the 45% position. When 3-ON is pressed, this shade would fully open. As before, both 3-OFF and 4-OFF would fully close the shade.

When 6-ON is briefly pressed, the bedroom shade would fully open. When 6-OFF is pressed, it would fully close.

The table shows graphically what shades are grouped and what positions they will travel to when the ON button on the remote is pressed. We highly recommend using this method for installation planning.

Step 2: Initializing the HA09C

This step is not required but is recommended – the HA09C can be slow if previously used in a network without reinitializing the unit. This procedure will clear ALL devices and groups from the memory of the HA09C.

   a) Press and hold the INCLUDE **and** DELETE buttons for 10 seconds. The red and green LEDs will flash.
   b) With the LEDs still flashing, press and hold the 1-ON and 1-OFF buttons until the green LED turns solid.

Step 3: Initializing the shade controller

This step is only performed as a precaution if the AC1-ZW or DC1-ZW has been previously used and set up with a different network or shade. It is optional.

   a) Go to the first AC1-ZW or DC1-ZW which you will be programming.
   b) Remove power from the unit.
   c) Press and hold the Z button while reapplying power to the unit. This sets the unit back to its factory default configuration. The LED should blink several times.

    d)   Press and release the DELETE button on the HA09C.
    e)   When the green LED is flashing, press the Z button on the AC1-ZW or DC1-ZW. This procedure removes the unit from any previous network it may have been joined with.

Step 4: Join the shade controller to the Z-Wave™ network

    a)   Press and release the INCLUDE button on the HA09C.
    b)   While the green LED is flashing, press the Z button on the AC1-ZW or DC1-ZW.
    c)   The green LED should be illuminated solid for a short period if successful.

Step 5: Run the automatic calibration sequence

Assuming that the shade is already installed properly, run the automated calibration sequence by pressing and holding the OPEN and CLOSE buttons on the unit simultaneously for 5 seconds. The calibration sequence should run automatically. **This step MUST be performed prior to the next step.**

Step 6: Associate the shade controller to buttons

    a)   In the table, find the shade upon which the preceding steps have been performed.
    b)   Set the shade to the position shown in the table using the OPEN and CLOSE buttons on the AC1-ZW or DC1-ZW.
    c)   Determine in which group (row) the entry is contained.
    d)   **Simultaneously** press and hold the ON and OFF buttons corresponding to the number of the row until both the red and green LEDs start to flash.
    e)   While the LEDs are flashing, press and **hold** the INCLUDE button
    f)   **While holding** the INCLUDE button, briefly press the Z button on the shade controller.
    g)   Repeat steps b through f for each additional entry in the table of the same shade.

Example:

The "LIVING1" shade should be manually moved to the 25% position. This is an intermediate stop which is 25% open. The table entry is in group 1, so press and hold the 1-ON and 1-OFF buttons on the HA09C. Press and hold the INCLUDE button until the LEDs begin to flash, then press the Z button on the LIVING1 shade. The next "LIVING1" entry is in group 2 at 99%, so move the shade fully open, then press and hold the 2-ON and 2-OFF buttons until the LEDs begin to flash. Press and hold the INCLUDE button, then press the Z button on the shade. There are no more LIVING1 entries, so you can move on to the next shade controller.

Step 7: Repeat for all other shades

Move to the next shade and repeat steps 3 through 6. This procedure can of course be performed in several different ways, but using the table and this "cookbook" approach should make it easy to complete a simple installation.