

ADOR1 INSTRUCTIONS

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ADOR1 QUICKSTART

1. Screw the ADOR1 frame to the wall of the coop with the opening over an existing opening.
2. Open the cover and install and connect the battery.

WARNING: after removing the two screws, pull the lower edge of the cover toward you 1/8" and then slide the cover straight up. Please do not snag the pushbutton actuator on the cover or you can snap the actuator off the pushbutton switch.

WARNING: When connecting the 6V lantern battery, please make certain you connect BLACK to (-) which is the MIDDLE spring terminal, and connect RED to (+) which is the CORNER spring terminal. If you connect it backwards, you may damage the electronics.

WARNING: When connecting the 6V lantern battery, please make certain that the terminals or metal parts of the alligator clips do not touch the electronics. Slide the battery away from the board sufficiently so that this does not happen. Also, if the alligator clip wires are tangled, please dress them neatly... don't let the wires get penetrated by the sharp pins sticking up. If the battery is rotated so the corner terminal is down toward the back, this may dress the wires better than if the corner battery terminal is high inside the control box.

3. Put the cover back and install two front screws on the cover.

WARNING: please be careful with sliding the cover on the control box so that you don't damage the pushbutton switch actuator. The wires should route OVER the battery, not behind it. Otherwise the battery may push forward and interfere with putting the cover on.

4. To test:
 - a. Notice that the first thing ADOR1 does when connecting the battery is that it says "HI" on the buzzer in Morse Code (beep- beep- beep- beep beep- beep) and then will activate the motor to shut the door. It is now in AUTOMATIC MODE and will open the door if there is DAYLIGHT.
 - b. Press the button momentarily to manually open or close the door.
 - c. Press the button momentarily again to see that the door goes to the opposite state.
 - d. Leave the door in the correct state according to the DAYLIGHT (ie leave OPEN if daylight or leave SHUT if no daylight). This ensures it is still in automatic mode.
 - e. Walk away... it will now automatically open the door and shut the door, based on daylight it can see. Check on the door after the next sunrise or sunset to see it is working.

WARNING: If you want to manually open/shut the door, then MOMENTARILY (meaning: press it for only about 1/3 second.). If you hold the button in, you are JOGGING the door, which takes it out of automatic mode.

INSTALLATION

CUT OPENING: The ADOR1 frame can be used as a template to cut a 13"H x 10.5"W opening in the wall. You can remove the door or JOG it out of the way. See instructions for door removal and JOGGING. Ideally the door threshold should be placed an inch or two above the coop floor. This keeps stuff from getting in the threshold. Also, very large chickens won't have to stoop. It is easier for them to step over a threshold than to stoop.

HANG THE FRAME: If you first put a screw in the upper middle hole on the frame, you can more easily place it over the opening and adjust it for level when you use the frame as a template for cutting the opening. We recommend at least securing ADOR1 to the wall with five screws (provided): one in each upper corner and one in each lower corner and one in the middle bottom.

To get to the bottom frame holes, loosen the bottom guard rail screw on one side and swing the rail out of the way so your screwdriver can get to the mounting screw, and put the rail back when done. If the wall is uneven and you warp the frame, ADOR1 may not work properly. Use shims if necessary to make sure ADOR1 is not twisted or is not straight.

Make sure you have clearance for the open door above where the door will mount. The door panel slides up and extends 5" above top of frame when opened. You can remove the door from ADOR1 if it will make installation easier. The easiest way to do that is to open the box (two front screws) and connect the battery. Then hold the button down to JOG the door up. When the door is as high as the sprocket can lift it, the sprocket will make noise. At that point pull the door up and out of the channels and set it aside while ADOR1 is trying to lift the door when it is as high as it will go. To put the door back in the channels, push the button and hold down and insert the door from the top with sprocket holes on the left. The sprocket should re-engage as you JOG it downward.

REMOVE COVER: Remove the two front screws that hold the cover to the box. Then pull the bottom edge of the cover toward you 1/8" and then slide the cover upward to disengage the back lip where it overhangs behind the control box.

CONNECT BATTERY: Lay a new 6V Lantern Battery inside the box with the terminals to the right. The middle terminal is negative (-) and the corner terminal is positive(+). Rotate the battery so that the + terminal is in the back and at the bottom. Hold the battery as you come down with the RED alligator clip and clamp over the Positive (+) spring. Now with the Black alligator clip not yet connected, lay the battery in the box, and then connect the Black clip to the Negative (-) spring. Be ready for the door to start moving downward. If there is daylight, after the door shuts, ADOR1 will open the door. Make sure the motor wires are not behind the battery – dress the wires over the top of the battery; otherwise the wires will push the battery outward and make the cover not fit properly.

PUT THE COVER ON: The cover slides straight down onto the box with the back tab or lip securing behind the box. Then screw in the two #6 sheet metal screws on the front of the cover. Be careful to not scoop/snag the pushbutton switch actuator on the electronic board with the cover.

OPERATION

AUTOMATIC OPERATION: With the battery connected, the ADOR1 is ready for automatic operation. First you should test it by momentarily pressing the button once to manually open/shut the door a few times (See MANUAL OPERATION). Then leave the door in the state that matches daylight conditions. If it is night, leave the door closed and it will open in the morning; if during the day, leave the door open and it will close at night. REMEMBER THAT JOGGING THE DOOR CAUSES ADOR TO NOT OBEY DAYLIGHT.

MANUAL OPERATION: If you try to operate the door by physically moving the door panel with force, doing it too fast might damage the motor's gearbox. Connect the battery and operate it electronically. There are two ways to command the door with the button. Press the button momentarily (about 1/3 second) and it will open the door or close the door. The other way to command the door with the button is called "JOGGING". To JOG the door, you hold the button down and the motor will turn while you hold the button down. Release to stop and then you can JOG in the opposite direction. After JOGGING the **ADOR1 is in MANUAL mode and will not automatically open/close based on daylight.** To go back to AUTOMATIC mode, press the button momentarily and leave the door in the state that corresponds to the daylight condition.

STOP THE DOOR: If you want to make ADOR1 stop controlling the door, you can remove the battery connection or you can put it in a halted manual mode with the battery installed and connected. To halt the door in a desired state you hold down the button and the motor will turn (See MANUAL OPERATION notes above on JOGGING). To reverse, let go and hold down the button again. As long as you hold the button, the motor turns. **The ADOR1 will stop automatic operation** which will stop the door in the state that you leave it.

REINSTATE AUTOMATIC OPERATION: If you stopped the door by JOGGING, you can either disconnect /reconnect the battery, or you can just press the button momentarily, and ADOR will be automatic again.

NOTE: If the LED is flashing once per ~17 seconds, then ADOR is in AUTOMATIC MODE and status is NORMAL.

FAQs AND TROUBLESHOOTING

PROBLEM	CHECK
<p>The door opens too late or closes too early.</p>	<ul style="list-style-type: none"> • On very overcast days the ADOR1 will open later and close earlier. The chickens will also instinctually mind the amount of light. See “CHANGE PROGRAM” below on how to set the daylight sensitivity if necessary (Try Program#2 to make it open earlier and close later). • See “CHANGE PROGRAM” below on how to set the “LAST CALL” option, which will open the door again for those chickens who don’t make it inside. (Last Call uses more battery capacity since the door operates twice as much).
<p>Doesn’t always close at night or never closes at night.</p> <p>Rule out a motion problem first. See topic below to rule out warped unit or bad motor.</p>	<ul style="list-style-type: none"> • Is there an outdoor yard light? ...or some other incandescent source of light that is on at night? Porch light? Landscape lighting? You can still use such lights but you may need to fashion something that will cast a shadow from the light on the ADOR’s eye. • Heat Lamp inside the coop is shining through the door? Backscatter of I.R. light from heat lamp? • If you are using the built-in photosensor, open the cover and examine the 6 pins sticking straight up from the electronic board. The pins are numbered 1-6 . Six is closest to you. There should be a little jumper (a ¼” square plastic piece) that is shorting pin1 and pin2 together. Slide it up and down several times to clean off possible residue on the contacts/pins and then push it down all the way onto the pins. • If you are using the external photosensor, there is a little connector on the end of the cable that is plugged into pins 2 and 3 of the six pins sticking straight up off the edge of the board. The white wire should be on pin 3. Slide the connector up and down several times to clean off possible residue on the contacts/pins and then push down all the way onto the pins.
<p>Door Binds or Jams. Door re-tries. When you press the button <u>momentarily</u>, the door must <u>completely</u> open or shut <u>without reversing and re-trying</u>. Could be a bad motor (see below).</p>	<ul style="list-style-type: none"> • Is the door frame warped or crimped from shipping damage? • Is the door frame warped because how it is screwed to the wall? • Do you find any other objects that can cause friction or bind motion? • TEST: remove the 4 screws under the battery box that hold the motor. Move the motor away so that the sprocket is not engaged. Now handle the sliding panel..it should be loose in the frame and not be pinched anywhere along the way it travels. If it is pinched, please call us.
<p>It acts like the motor might not be working.</p>	<ul style="list-style-type: none"> • BAD MOTOR: if you rule out a warped frame/panel, then it could be a bad motor. If the LED turns on and

	<p>flickers but the motor does not turn when it should, the board is telling it to turn but it is not. OR...If it turns somewhat, but keeps re-trying, or if the only way you can get the door to open is to JOG it, then the motor has probably failed. Please order a replacement motor or if within the warranty period, please call us.</p>
<p>Door does not Automatically open or close, but Manually opens and closes.</p>	<ul style="list-style-type: none"> • Is ADOR1 in manual mode? If you JOG the door, it remains in non-automatic mode until you: <ul style="list-style-type: none"> • Momentarily pulse the button. Pulse again if necessary to put the door in the proper position for the time of day, OR • Cycle power by disconnect/reconnect battery will also make it resume automatic mode. • If the door stays open at night, then check if there is an artificial light source. Incandescent lights look like sunshine. Try shielding the direct path of light from the ADOR1's "eye" or change the light to a florescent, LED type, or move the light. • Scattered or direct invisible I.R. light from heat lamps is often the culprit. • Check to see that the "eye" is looking through the transparent "hole" in the overlay sticker. The overlay sticker is the white label that has the green dome. The LED is the top "hole" and the "eye" is in the hole underneath. Possibly when the cover was installed, the LED and/or light sensor (looks like dark LED) was pushed so that it does not look through the hole. Push it back into alignment and replace the cover carefully.
<p>I want to test the ADOR1 to see if it reacts to light. How can I do that?</p> <p>WE HIGHLY ENCOURAGE YOU TO WAIT TILL NIGHT TO TEST THE LIGHT SENSING BECAUSE ADOR IS BLINDED BY DAYLIGHT AND VERY DIFFICULT TO BLOCK OUT LIGHT IN BRIGHT DAYLIGHT. PLEASE READ THIS AND TEST CAREFULLY BEFORE CALLING US TO SAY IT DOES NOT WORK.</p>	<p><u>Immediately after the battery is connected, and for the next 5 minutes, the ADOR reacts quickly to light, so before testing, restart ADOR by interrupting power, otherwise you will have to be patient and wait a minute or more for ADOR to react.</u></p> <p>DAYTIME TESTING: Often it is <u>impossible</u> to block light from the "eye" in bright daylight. You may need to remove ADOR and take it indoors inside a dark closet. A piece of black electrical tape over the "eye" usually will NOT work. It is much easier to test at night.</p> <p>NIGHTTIME TESTING: At night, even indirect light from a tungsten bulb flashlight is sufficient to open the door. For immediate reaction to light, disconnect and reconnect the battery and you have 5 minutes during which ADOR1 reacts within a few seconds to light/dark.</p> <p>EXTERNAL PHOTOSENSOR: Test just like the internal built in sensor, except in bright DAYLIGHT you can clutch the sensor inside your hand and put your hand in a dark place. But still, remember the sensor may be able to see sunshine THROUGH YOUR HAND!</p>
<p>The ADOR1 does not respond to my pushing on the green button.</p>	<ul style="list-style-type: none"> • Make sure you are pressing hard enough so that the switch on the electronic board is being reached. A little bumper or spacer should be stuck on the inside

	<p>of the green dome to help reach the pushbutton switch.</p> <ul style="list-style-type: none"> • If the ADOR1 is powered, its red LED will flash briefly once each 17 seconds. If it does not, then you do not have good connection to the battery . Is the battery hooked up + to RED and - to BLACK? When you connect the battery, the ADOR1 immediately beeps (“.... ..” which is “HI” in Morse code). If it doesn’t do that. Disconnect the battery and check it.
<p>BATTERY QUESTIONS:</p> <ul style="list-style-type: none"> • Can I run ADOR on 120V AC house power? • What about Solar Power? • I am afraid I hooked the battery up backward. Did I damage something? • The LED flashes once each ~17 seconds so I know the battery works... but it acts like there’s not enough power to operate the door. • How long will a cheap carbon-zinc 6V lantern battery last? • Can I use 12VDC instead of 6V? • I have a 12V Solar Power system that I use around the coop. How is the best way that I connect ADOR to that 12V power? 	<ul style="list-style-type: none"> • Yes, by running it off a rechargeable 6V battery and charger. Do not connect the charger without the battery because chargers can put out excessive voltage if a battery is not there. • We do not presently offer our own solar panel. I have seen panels for 6V charging available on eBay and Amazon (usually for deer feeders or wildlife cameras) in the \$30 to \$40 range. You must still have a rechargeable battery to connect ADOR to and charge the battery with the solar panel. A very small panel will replace the daily usage from the battery. • The ADOR1 is designed to withstand backward connection. However, quickly correct wrong connection because it will heat up components very quickly and possibly cause damage. Also, it will bleed down your battery quickly during the bad hook up. • A battery may well have enough energy to run the ADOR1 electronics but not enough to operate the motor, especially to lift it. ADOR1 should already have warned you with beeps from the buzzer. Try installing a known fresh 6V battery. • With a low-cost 6 volt dry cell lantern battery (or with a re-chargeable 6V battery totally charged), you should get at least 1 year of operation. • Do NOT run the ADOR directly on 12 volts. It is designed for 6V. It would run too fast and wear out the motor prematurely. • You can run your 6V ADOR from your 12V system like this—you can use a 6V battery to drop the 12V source down to 6V. So you will need two 6V batteries stacked in series to connect across 12V. Then tap across the “bottom” 6V battery to power ADOR. The top 6V battery will serve only to drop the 12V to 6V without consuming energy. It is very efficient. Please contact us if you have any questions.
<p>What is the yellow tape for on the ADOR1 control box?</p>	<ul style="list-style-type: none"> • The tape is to help minimize ingress of water into the box. The tape over the sprocket slot and the tape over the round hole in the back of the box are supposed to stay there. • There are two holes in the bottom of the box , that are for the purpose of some future accessory . You can

	<p>remove the tape when you want to run wires through the holes. We recommend using a grommet and silicone caulk to keep out water and dust when running wires through the holes..</p>
<p>The door won't go down and won't go up, but sounds like the motor is running.</p>	<ul style="list-style-type: none"> • LOOSE SPROCKET: The sprocket is tightened to the shaft with a set-screw that binds down on a "flat" on the motor shaft. Possibly it is loose and needs to be tightened. • BAD MOTOR: If the door panel was not secured to keep it from jerking in the shipping box, your motor's gearbox may have been damaged. A broken gear inside the motor will make it not grab for the full rotation of the sprocket and usually you can hear or feel a click.
<p>When the motor turns, the sprocket does not fully engage and it goes "pop" "pop" "pop". It does not operate the door.</p>	<ul style="list-style-type: none"> • Check that the control box is secured to the frame. There are two screws on each side that fasten the control box to the frame. If the box can push away from the frame, the sprocket may be able to slip out of the sprocket holes in the door. Do you see that you need to tighten the fasteners? • The magnets on the sliding door panel must pass behind the electronics to be sensed. The sensing of the magnet is what stops the motor. Make sure the magnets are in place.
<p>Can I delay the opening in the morning?</p>	<ul style="list-style-type: none"> • Yes, see page 8 regarding program #11.
<p>I want to manually open the door but I want it to automatically shut in the evening. Can ADOR do that?</p>	<ul style="list-style-type: none"> • Set an extra long delay with program #11. Then while the ADOR is counting down the delay, when you want you can momentarily press the button to open the door, but it will automatically close in the evening.
<p>My battery is not lasting for more than a couple months. I thought it should last at least a year.</p>	<ul style="list-style-type: none"> • Yes, it should. If it doesn't, please call us. Usually a software upgrade can correct the problem.

ADOR1 OPERATION**GENERAL**

The ADOR uses a computer chip and solid state switching to operate the door. The operation is controlled by internal embedded software that can be re-programmed as the software is upgraded. Please consult the factory (info@adorstore.com) if you want to know what might be available. Internal software is not to be confused with customer settings that can be programmed (see **CUSTOMER PROGRAMMING**). The ADOR is designed to run on a 6V battery and draws less than 80 millionths of an Amp (80uA) of current while in standby and usually not more than 1/4A (250mA) while the door is being lifted (and only for a few seconds a day). This very low power consumption allows long use on one battery.

PUSHBUTTON AND LED: The ADOR1 is controlled by an electronic board that mounts behind the label. A green button on the label allows you to control the ADOR1. The two “dots” above the green button are the red LED on top, and the light sensor looks through the dot in the middle. The ADOR1 is mostly in a power-saving mode but activity can be seen if you watch the LED. It flashes very briefly about every 17 seconds. The LED will be on (flickering) while the motor is in motion, and the LED is used to show the programmed settings.

DOOR OPERATION: The ADOR1 operates in either **AUTOMATIC** or **MANUAL** mode. When battery power is applied, the ADOR1 will start working in AUTOMATIC mode. AUTOMATIC mode means the door will automatically open if there is enough daylight that it can see. MANUAL mode means the door stays in the position where it was put by use of the pushbutton.

AUTOMATIC MODE: If there is no “fault” condition, the ADOR1 simply waits till there is daylight upon which time it will open the door if it is not open, or wait for dark, upon which time it will close the door if it is not closed. **WARNING:** The ADOR1 must NOT be in MANUAL mode if you want ADOR1 in control.

MANUAL MODE, OPEN/CLOSE: The pushbutton can be pushed **MOMENTARILY** briefly to tell ADOR1 you want to open or to close the door. ADOR1 should respond to the pulse of the button to move the door. If the door now is in position opposite of what is dictated by daylight, the door will stay in that state. When daylight agrees with the state of the door, the ADOR1 will at that time go back to AUTOMATIC mode. That means it will stay in the state manually set but the next sunrise or sunset, it will automatically obey.

MANUAL MODE, “JOG”: Instead of pulsing the button, if the button is pushed and **HELD**, and as long as it is held, the motor will run. When the button is released, the motor will stop. The next time the button is pressed, the door will jog in the opposite direction. This allows the door to be positioned as you dictate and it will stay there. To return to AUTOMATIC mode, you must pulse the button. **WARNING:** if you JOG the door but want to return ADOR1 to AUTOMATIC mode, YOU must put ADOR1 back in AUTOMATIC mode (ie: pulse the pushbutton).

LAST CALL TIMING: The LAST CALL timing is affected by your Light Sensitivity settings (Program 1 or 2 or 3). If you have Program 1 set or Program 3 set, when the door shuts at dusk, then 5 minutes later it will open. It stays open for 5 minutes before it shuts finally. If you have Program 2 set, then the door shuts for 5 minutes and opens again for 10 minutes before it shuts finally.

DELAY ON OPEN (DOO) and DELAY ON SHUT (DOS): These are future features. The ADOR is not primarily designed to be used with a clock timer, but it can be. Clock timers do not change with the seasons and need to have power backup. But DOO and DOS are relative delay times that operate off of detection of the events of SUNRISE and SUNSET. Please look for announcements for the availability of new features on the website. The board can be mailed in for upgrades (please contact us for details).

USING A CLOKKTIMER: You can buy the external photosensor and enclose it with a small light bulb (like \$1 night light) plugged into a simple clocktimer run off house electricity.

MANUAL SWITCH: If you just want to be able to manually command the door open or closed remotely, you can buy the EXTERNAL CONNECTOR option and run the wires to an ON/OFF switch. A plain light switch from the hardware store will do. Plug it where the external photosensor plugs in. Switch **OFF = NIGHT or SHUT**. Switch **ON= DAY or OPEN**.

CUSTOMER PROGRAMMING

There is no requirement to change the program from factory settings if you don't want to. Programming means enabling/disabling functions that are part of the ADOR1, and to take advantage of features such as OVALIGHT and EXT ALARM, or to change the Daylight Sensitivity (see table below).

STEPS FOR PROGRAM MODE:

1. LEFT HAND: disconnect battery wire. Hold alligator clip ready to reconnect.
2. RIGHT HAND: press in the pushbutton switch and hold it in.
3. LEFT HAND: reconnect battery wire.
4. RIGHT HAND: now release the pushbutton switch.
5. ADOR is now in program mode (see SHOW PROGRAM or CHANGE PROGRAM below).

SHOW PROGRAM:

1. Perform **STEPS FOR PROGRAM MODE**.
2. Count the flashes on LED, one number at a time separated by no flashing. Note the default Program Numbers (N) from the factory are shown on the table below: **1 4 6 9** for Light Sensitivity=Normal, Last Call=disabled, OvaLight=disabled, and External Alarm=enabled, for example.
3. When finished, ADOR returns to normal operation, evident by the fact it will try to close the door first.

CHANGE A PROGRAM SETTING:

1. Perform **STEPS FOR PROGRAM MODE**.
2. You have a few seconds before the LED starts to flash. Start pressing the pushbutton switch BEFORE it starts to flash.
3. You need to pulse the button "N" times where N = one of the Program Numbers you want to set. Stop.
4. Stand back and count the flashes of the red LED. It will report just like **SHOW PROGRAM** (see above).

NOTE: the settings with asterisk (*) are the factory default settings.

N	PROGRAM	FUNCTION	Description
1 *	DAYLIGHT SENSITIVITY	Normal	<ul style="list-style-type: none"> • Open near time of Sunrise. Close near time of Sunset. • Relative to "Normal": Open a bit Earlier. Close a bit Later. • Relative to "Normal": Open a bit Later. Close a bit Earlier.
2		More Sensitive	
3		Less Sensitive	
4*	LAST CALL	Disable	<ul style="list-style-type: none"> • At dusk, door closes and stays closed till sunrise. • At dusk, door opens again briefly for stragglers. (Consider double ops means ½ battery use)
5		Enable	
6*	OVALIGHT	Disable	<ul style="list-style-type: none"> • Aux Output feature – OvaLight is disabled. • Aux Output feature – Turns on Aux Output 8 hours after close. Stays on till Dawn.
7		Enable	
8	EXTERNAL ALARM	Disable	<ul style="list-style-type: none"> • Aux output feature – External Alarm disabled. • Aux Output feature – Check door for being stuck open or stuck closed.
9*		Enable	
10*	DELAY OPEN	Disable	<ul style="list-style-type: none"> • Open according to Daylight (see program 1,2, and 3) • Open after a delay time relative to sunrise. When you set N=11, the LED will turn on. Then set the delay time by pressing button X times. X=1,2,3,4,5,6,7,8,9 for delay=20m, 40m, 1h, 2h, 3h, 4h, 6h, 8h, 20h
11		Enable and set delay.	

EXAMPLE Set Light Sensitivity to open earlier and close later (N=2)

1. Perform **STEPS FOR PROGRAM MODE**.
2. You have a few seconds before the LED starts to flash. Start pressing the pushbutton switch now.
3. You need to pulse the button **2** times.
4. Stand back and count the flashes of the red LED to verify. It will report just like **SHOW PROGRAM**.

EXAMPLE Set to Enable LAST CALL (N=5) or to Disable LAST CALL (N=4)

1. Perform **STEPS FOR PROGRAM MODE**.
2. You have a few seconds before the LED starts to flash. Start pressing the pushbutton switch now.
3. You need to pulse the button **5** times to Enable or **4** times to Disable.
4. Stand back and count the flashes of the red LED to verify. It will report just like **SHOW PROGRAM**.