ELEVATOR MANUAL

1. positions and commands

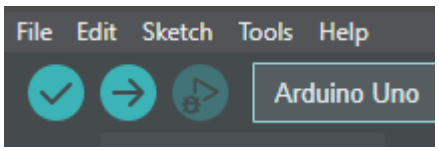
HOME: When the code is sent to the arduino the starting position is “0, 0, 0” and the elevator should be down towards left. There should be a dot on the side of the building. The lower part of the elevator should be at the same level as that dot when starting. V12+

POSITIONS: The elevator uses a total of 24 positions, 12 for a1 to 6 and 12 for b1 to 6. The “a” commands are to put the cars in the parking spots and the “b” commands are to take cars out.
If for any reason these positions are wrong, you can try manually moving the motors to the correct starting position (HOME) with the commands in the **manual commands** section. If you can’t get the position right, cut the power **(FROM THE MOTORS, NOT THE ARDUINO!)** and try moving them with your hands to the start (HOME). V12+

ELEVATOR POSITIONS:

a3, b3	a4, b4
a2, b2	a5, b5
a1, b1	a6, b6

CODE SENDING: *Use the arrow*



MANUAL COMMANDS: This should only be used as a way to fix the motor positions. If the motors are misaligned then you can use the manual commands to put them in place. After you get them to the home position then send the program the the arduino again. For motor 1 (up and down), use “**Xmanual1**” to move up by 1000, “**Xmanual5**” to move up by 5000. For motor 2 (left and right), use “**Ymanual1**” to move right by 1000, “**Ymanual5**” to move right by 5000. For motor 3 (in and out), use ”**Zmanual1**” to move in by 1000, “**Zmanual5**” to move in by 5000. All these commands can be used with a **“-”** in front of the number to move in the **opposite** direction **(**e.g.**: Xmanual-5).** V20+

2. Automation and quality of life

MOTOR LIMIT: All motors have maximum and minimum position values and any number bigger or smaller will be considered invalid and the motors wont move. This was done as a fallback so that the motors don’t move out of bounds. The limits are: motor 1 [-47000, 47000], motor 2 [-22500, 22500], motor 3 [-25000, 25000] . If the motors wont move in the positions they’re supposed to then try re-sending the program and then with the manual commands move it to the starting position, then send the program ones more. V20+

STOP: To stop position commands you can use the command “**STOP**”. After stopping use **RESET** to continue normal use. V20+

ELEVATOR MANUAL

3. Backup power

ELEVATOR POWER: In case the power goes out a battery should be available which lasts from 1 to 3 hours (total) depending on the temperature, usage and starting charge. When not in use try turning the motors off with the switch on the side.

LAPTOP POWER: The laptops battery can last from 2 to 4 hours with Arduino IDE running. To add an extra hour, use low power mode, turn Bluetooth and WiFi off and.