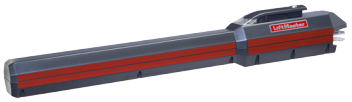
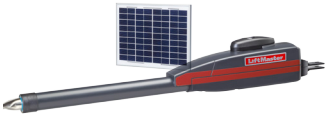
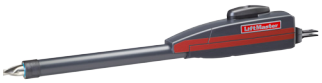
# LiftMaster®
# Solar Gate Cycles per Day Reference Guide



LA500DC



LA412DC



LA400DC

CSW24VDC

CSL24VDC

RSW12VDC

RSL12VDC

The LiftMaster Gate Operator Solar Gate Access utilizes best in class power management system to deliver power when needed most for operating a gate, while minimizing power consumption at all other times. Power is provided to the gate operator via batteries. The batteries are charged from a solar panel(s) connected to the operator control board. The number of solar panels required is determined by whether the application is for a single or dual gate, daily cycle rate, current board consumption by feature, accessory current draw, number of accessories and region of the country.

Solar panel(s) must be located in an open area clear of obstructions and shading for the entire day. Snow, heavy fog or heavy rain affect solar panel performance and charge rate. Solar panels should be cleaned regularly to ensure proper operation. LiftMaster Gate Operators utilizing the solar option are not supported in climates where temperatures reach below -4°F. This is due to the effect of cold weather on batteries and a reduced number of hours of sunlight during the winter months.

LiftMaster®

# LA500DC / LA400DC

Current consumption by control board feature 24v (LA500DC, LA400DC) configurations. Add up current draw by feature and accessory to determine total current draw.

| | |
|---|---|
| System voltage | 24v |
| Main board with no radios learned (mA) | 2.7 |
| One or more LiftMaster® transmitters learned (mA) | +1 |
| MyQ® device or wireless dual gate learned (mA) | +2.4 |
| Expansion board (mA) | +11.1 |
| Per loop detector LOOPDETLM (up to 3 loop detectors can be plugged in to the expansion board) (mA) | +3.8 |

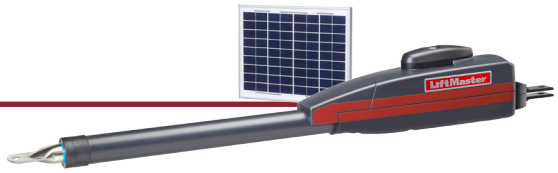
| LA500DC | | Single gate solar cycles per day | | | | | | Dual gate solar cycles per day | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | |
| | Battery current draw (mA) | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries |
| 10W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 52 | 56 | 30 | 33 | 11 | 12 | 22 | 24 | 13 | 14 | | |
| | 15 | 43 | 47 | 23 | 25 | | | 19 | 20 | | 11 | | |
| | 20 | 39 | 43 | 19 | 21 | | | 17 | 19 | | | | |
| | 40 | 24 | 27 | | | | | 10 | 12 | | | | |
| | 60 | 10 | 13 | | | | | | | | | | |
| 20W Solar Panel NOTE:20W would be (2) 10W 12V panels in series | 5 | 113 | 132 | 67 | 79 | 27 | 32 | 48 | 57 | 29 | 34 | 12 | 14 |
| | 15 | 103 | 122 | 59 | 70 | 20 | 24 | 44 | 52 | 25 | 30 | | 10 |
| | 20 | 98 | 117 | 54 | 65 | 16 | 21 | 42 | 50 | 23 | 28 | | |
| | 50 | 71 | 88 | 30 | 40 | | | 30 | 38 | 13 | 17 | | |
| | 100 | 29 | 45 | | | | | 13 | 19 | | | | |
| 40W Solar Panel NOTE: 40W would be (2) 20W 12V panels in series | 5 | 212 | 299 | 128 | 181 | 53 | 75 | 91 | 129 | 55 | 78 | 23 | 32 |
| | 15 | 201 | 288 | 118 | 170 | 44 | 66 | 86 | 124 | 51 | 73 | 19 | 29 |
| | 20 | 196 | 282 | 113 | 165 | 40 | 62 | 84 | 121 | 49 | 71 | 17 | 27 |
| | 100 | 114 | 194 | 41 | 86 | | | 49 | 83 | 18 | 37 | | |
| | 200 | 27 | 93 | | | | | 11 | 40 | | | | |
| 60W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 263 | 300 | 159 | 286 | 66 | 120 | 113 | 203 | 68 | 123 | 28 | 52 |
| | 15 | 252 | 300 | 149 | 275 | 57 | 111 | 108 | 197 | 64 | 118 | 25 | 48 |
| | 20 | 246 | 300 | 143 | 269 | 53 | 106 | 106 | 195 | 62 | 115 | 23 | 45 |
| | 100 | 160 | 300 | 67 | 181 | | 35 | 69 | 153 | 29 | 78 | | 15 |
| | 250 | 24 | 187 | | 39 | | | 10 | 80 | | 17 | | |

| LA400DC | | Single gate solar cycles per day | | | | | | Dual gate solar cycles per day | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | |
| | Battery current draw (mA) | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries |
| 10W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 81 | 87 | 47 | 51 | 18 | 19 | 35 | 37 | 20 | 22 | | |
| | 15 | 68 | 74 | 36 | 39 | | | 29 | 32 | 15 | 17 | | |
| | 20 | 61 | 68 | 30 | 34 | | | 26 | 29 | 13 | 14 | | |
| | 40 | 37 | 43 | | 13 | | | 16 | 18 | | | | |
| | 60 | 16 | 21 | | | | | | | | | | |
| 20W Solar Panel NOTE:20W would be (2) 10W 12V panels in series | 5 | 100 | 100 | 100 | 100 | 42 | 50 | 76 | 89 | 45 | 53 | 18 | 21 |
| | 15 | 100 | 100 | 92 | 100 | 31 | 38 | 69 | 82 | 39 | 47 | 13 | 16 |
| | 20 | 100 | 100 | 85 | 100 | 25 | 33 | 66 | 79 | 36 | 44 | 11 | 14 |
| | 50 | 100 | 100 | 47 | 63 | | | 48 | 59 | 20 | 27 | | |
| | 100 | 46 | 70 | | | | | 20 | 30 | | | | |
| 40W Solar Panel NOTE: 40W would be (2) 20W 12V panels in series | 5 | 100 | 100 | 100 | 100 | 83 | 100 | 100 | 100 | 86 | 100 | 35 | 51 |
| | 15 | 100 | 100 | 100 | 100 | 70 | 100 | 100 | 100 | 79 | 100 | 30 | 45 |
| | 20 | 100 | 100 | 100 | 100 | 63 | 97 | 100 | 100 | 76 | 100 | 27 | 42 |
| | 100 | 100 | 100 | 65 | 100 | | | 77 | 100 | 28 | 58 | | |
| | 200 | 42 | 100 | | 11 | | | 18 | 63 | | | | |

* Not currently offered in accessory line

** Numbers above for solar daily cycles are representative of wired dual gate installation. If your installation is a wireless dual gate setup use single gate cycle estimate and add in power draw for wireless dual gate feature.

# LA412DC



Current consumption by control board feature 12v (LA412DC) configurations. Add up current draw by feature and accessory to determine total current draw.

| | |
|---|---|
| System voltage | 12v |
| Main board with no radios learned (mA) | 4.2 |
| One or more LiftMaster® transmitters learned (mA) | +1.5 |
| MyQ® device or wireless dual gate learned (mA) | +3.9 |
| Expansion board (mA) | +18.5 |
| Per loop detector LOOPDETLM (up to 3 loop detectors can be plugged in to the expansion board) (mA) | +6.6 |

| LA412DC | | Single gate solar cycles per day | | | | | | Dual gate solar cycles per day | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | |
| | Battery current draw (mA) | 7AH batteries | 33AH battery | 7AH batteries | 33AH battery | 7AH batteries | 33AH battery | 7AH batteries | 33AH battery | 7AH batteries | 33AH battery | 7AH batteries | 33AH battery |
| 10W Solar Panel | 6 | 100 | 100 | 82 | 86 | 32 | 34 | 59 | 62 | 35 | 37 | 14 | 15 |
| | 25 | 100 | 100 | 63 | 67 | 17 | 19 | 50 | 53 | 27 | 29 | | |
| | 30 | 100 | 100 | 58 | 63 | 14 | 15 | 48 | 51 | 25 | 27 | | |
| | 50 | 91 | 98 | 40 | 44 | | | 39 | 42 | 17 | 19 | | |
| | 100 | 43 | 49 | | | | | 19 | 21 | | | | |
| 20W Solar Panel | 6 | 100 | 100 | 100 | 100 | 73 | 82 | 100 | 100 | 76 | 85 | 31 | 35 |
| | 25 | 100 | 100 | 100 | 100 | 55 | 64 | 100 | 100 | 67 | 76 | 24 | 27 |
| | 30 | 100 | 100 | 100 | 100 | 51 | 59 | 100 | 100 | 65 | 73 | 22 | 25 |
| | 100 | 100 | 100 | 77 | 95 | | | 78 | 92 | 33 | 41 | | |
| | 200 | 75 | 100 | | | | | 32 | 44 | | | | |
| 30W Solar Panel Note: 30W would be (3) 10W 12V panels in parallel | 6 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 47 | 57 |
| | 25 | 100 | 100 | 100 | 100 | 90 | 100 | 100 | 100 | 100 | 100 | 39 | 48 |
| | 30 | 100 | 100 | 100 | 100 | 85 | 100 | 100 | 100 | 100 | 100 | 37 | 46 |
| | 100 | 100 | 100 | 100 | 100 | 22 | 39 | 100 | 100 | 66 | 86 | | 17 |
| | 200 | 100 | 100 | 51 | 91 | | | 83 | 100 | 22 | 39 | | |

The map and daily cycle rate shown are approximations based upon the average solar radiation and the temperature effects on batteries in the given regions. Local geography and weather conditions may require additional solar panels. Solar optimized or wireless accessories are recommended in order to minimize power draw, as added accessories draw power and affect the daily cycle rate. For full details please reference the manual.

# RSL12VDC / RSW12VDC

Current consumption by control board feature 12v (RSW12VDC, RSL12VDC) configurations. Add up current draw by feature and accessory to determine total current draw.

| | |
|---|---|
| System voltage | 12v |
| Main board with no radios learned (mA) | 4.2 |
| One or more LiftMaster® transmitters learned (mA) | +1.5 |
| MyQ® device or wireless dual gate learned (mA) | +3.9 |
| Expansion board (mA) | +18.5 |
| Per loop detector LOOPDETLM (up to 3 loop detectors can be plugged in to the expansion board) (mA) | +6.6 |

| RSL12VDC | | Gate solar cycles per day | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Battery current draw (mA) | Zone 1 (6 Hrs Sunlight/Day) | | | Zone 2 (4 Hrs Sunlight/Day) | | | Zone 3 (2 Hrs Sunlight/Day) | | |
| | | 7AH battery | Two 7AH batteries | 33AH battery | 7AH battery | Two 7AH batteries | 33AH battery | 7AH battery | Two 7AH batteries | 33AH battery |
| 10W Solar Panel | 6 | 33 | 36 | 38 | 19 | 22 | 23 | | | |
| | 25 | 27 | 31 | 33 | 15 | 17 | 18 | | | |
| | 30 | 26 | 29 | 31 | 13 | 15 | 17 | | | |
| | 50 | 21 | 24 | 26 | | 11 | 12 | | | |
| | 100 | | 11 | 13 | | | | | | |
| 20W Solar Panel NOTE:20W would be (2) 10W 12V panels in parallel | 6 | 50 | 50 | 50 | 37 | 47 | 50 | 15 | 19 | 22 |
| | 25 | 50 | 50 | 50 | 32 | 41 | 47 | 11 | 15 | 17 |
| | 30 | 50 | 50 | 50 | 30 | 40 | 45 | | 13 | 16 |
| | 100 | 33 | 48 | 50 | 12 | 20 | 25 | | | |
| | 200 | | 20 | 27 | | | | | | |
| 30W Solar Panel Note: 30W would be (3) 10W 12V panels in parallel | 6 | 50 | 50 | 50 | 46 | 50 | 50 | 19 | 29 | 35 |
| | 25 | 50 | 50 | 50 | 40 | 50 | 50 | 14 | 24 | 30 |
| | 30 | 50 | 50 | 50 | 39 | 50 | 50 | 13 | 23 | 28 |
| | 100 | 47 | 50 | 50 | 20 | 41 | 50 | | | 10 |
| | 200 | 19 | 50 | 50 | | 14 | 24 | | | |

| RSW12VDC | | Gate solar cycles per day | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Battery current draw (mA) | Zone 1 (6 Hrs Sunlight/Day) | | | Zone 2 (4 Hrs Sunlight/Day) | | | Zone 3 (2 Hrs Sunlight/Day) | | |
| | | 7AH battery | Two 7AH batteries | 33AH battery | 7AH battery | Two 7AH batteries | 33AH battery | 7AH battery | Two 7AH batteries | 33AH battery |
| 10W Solar Panel | 6 | 41 | 46 | 48 | 24 | 27 | 29 | | 11 | 11 |
| | 25 | 34 | 39 | 41 | 18 | 21 | 22 | | | |
| | 30 | 33 | 37 | 39 | 17 | 19 | 21 | | | |
| | 50 | 26 | 30 | 32 | 11 | 13 | 15 | | | |
| | 100 | 11 | 14 | 16 | | | | | | |
| 20W Solar Panel NOTE:20W would be (2) 10W 12V panels in parallel | 6 | 50 | 50 | 50 | 47 | 50 | 50 | 19 | 24 | 27 |
| | 25 | 50 | 50 | 50 | 40 | 50 | 50 | 13 | 18 | 21 |
| | 30 | 50 | 50 | 50 | 38 | 50 | 50 | 12 | 17 | 20 |
| | 100 | 42 | 50 | 50 | 15 | 26 | 32 | | | |
| | 200 | | 25 | 34 | | | | | | |
| 30W Solar Panel Note: 30W would be (3) 10W 12V panels in parallel | 6 | 50 | 50 | 50 | 50 | 50 | 50 | 24 | 37 | 44 |
| | 25 | 50 | 50 | 50 | 50 | 50 | 50 | 18 | 30 | 37 |
| | 30 | 50 | 50 | 50 | 49 | 50 | 50 | 16 | 28 | 35 |
| | 100 | 50 | 50 | 50 | 25 | 50 | 50 | | | 13 |
| | 200 | 24 | 50 | 50 | | 17 | 30 | | | |

# CSW24VDC / CSL24VDC


Current consumption by control board feature 24v (CSW24VDC, CSL24VDC) configurations. Add up current draw by feature and accessory to determine total current draw.

| | |
|---|---|
| System voltage | 24v |
| Main board with no radios learned (mA) | 2.7 |
| One or more LiftMaster® transmitters learned (mA) | +1 |
| MyQ® device or wireless dual gate learned (mA) | +2.4 |
| Expansion board (mA) | +11.1 |
| Per loop detector LOOPDETLM (up to 3 loop detectors can be plugged in to the expansion board) (mA) | +3.8 |

* Estimated based on use with LiftMaster transmitters

| CSW24VDC | | Gate solar cycles per day | | | | | |
|---|---|---|---|---|---|---|---|
| | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | |
| | Battery current draw (mA) | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries |
| 10W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 19 | 20 | 11 | 12 | | |
| | 15 | 16 | 17 | | | | |
| | 20 | 14 | 16 | | | | |
| | 40 | | 10 | | | | |
| | 60 | | | | | | |
| 20W Solar Panel NOTE:20W would be (2) 10W 12V panels in series | 5 | 41 | 48 | 25 | 29 | | 12 |
| | 15 | 38 | 45 | 21 | 26 | | |
| | 20 | 36 | 43 | 20 | 24 | | |
| | 50 | 26 | 32 | 11 | 15 | | |
| | 100 | 11 | 16 | | | | |
| 40W Solar Panel NOTE: 40W would be (2) 20W 12V panels in series | 5 | 78 | 110 | 47 | 66 | 19 | 28 |
| | 15 | 74 | 106 | 43 | 63 | 16 | 24 |
| | 20 | 72 | 104 | 41 | 61 | 15 | 23 |
| | 100 | 42 | 71 | 15 | 32 | | |
| | 200 | | 34 | | | | |
| 60W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 97 | 173 | 58 | 105 | 24 | 44 |
| | 15 | 92 | 169 | 54 | 101 | 21 | 41 |
| | 20 | 90 | 166 | 53 | 99 | 19 | 39 |
| | 100 | 59 | 131 | 25 | 67 | | 13 |
| | 250 | | 68 | | 14 | | |

| CSL24VDC | | Gate solar cycles per day | | | | | |
|---|---|---|---|---|---|---|---|
| | | Zone 1 (6 Hrs Sunlight/Day) | | Zone 2 (4 Hrs Sunlight/Day) | | Zone 3 (2 Hrs Sunlight/Day) | |
| | Battery current draw (mA) | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries | 7AH batteries | 33AH batteries |
| 10W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 26 | 28 | 15 | 17 | | |
| | 15 | 22 | 24 | 12 | 13 | | |
| | 20 | 20 | 22 | | 11 | | |
| | 40 | 12 | 14 | | | | |
| | 60 | | | | | | |
| 20W Solar Panel NOTE:20W would be (2) 10W 12V panels in series | 5 | 57 | 67 | 34 | 40 | 14 | 16 |
| | 15 | 52 | 62 | 30 | 36 | 10 | 12 |
| | 20 | 50 | 60 | 28 | 33 | | 11 |
| | 50 | 36 | 45 | 15 | 20 | | |
| | 100 | 15 | 23 | | | | |
| 40W Solar Panel NOTE: 40W would be (2) 20W 12V panels in series | 5 | 108 | 152 | 65 | 92 | 27 | 38 |
| | 15 | 103 | 147 | 60 | 87 | 23 | 34 |
| | 20 | 100 | 144 | 58 | 84 | 21 | 32 |
| | 100 | 58 | 99 | 21 | 44 | | |
| | 200 | 14 | 47 | | | | |
| 60W* Solar Panel NOTE: Must Use 24V Solar Panel | 5 | 134 | 240 | 81 | 146 | 34 | 61 |
| | 15 | 128 | 234 | 76 | 140 | 29 | 56 |
| | 20 | 125 | 231 | 73 | 137 | 27 | 54 |
| | 100 | 82 | 181 | 34 | 92 | | 18 |
| | 250 | 12 | 95 | | 20 | | |

* Not Currently Offered in Accessory Line

Solar Applications are not supported in climates where temperatures reach below -4°F. This is due to the effect of cold weather on batteries and a reduced number of hours of sunlight during the winter months. Cycle rate may vary from solar chart for areas that reach below 32°F. Optional power supply with 33-AH batteries recommended for applications that reach below 32°F (and above -4°F) for more than two consecutive weeks during the winter months.

| OPTIONAL POWER SUPPLY FOR COLD WEATHER APPLICATIONS | |
|---|---|
| **Gate Operator** | **Optional Power Supply** |
| LA500DC, LA412DC, LA400DC | XLSOLARCONTDC ((2) 33-AH batteries not included) |
| CSW24VDC, CSL24VDC | (2) 33-AH batteries recommended in lieu of standard 7-AH batteries |
| RSW12VDC, RSL12VDC | (1) 33-AH batteries recommended in lieu of standard 7-AH batteries |

**For technical questions on solar installations, please contact LiftMaster Technical Support 800.528.6563**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