



Solar Energy

A. Product features

- Quartz movement with solar battery rechargeable function (ML 2016)

B. Use Instruction

- The main working theory of this module is the design of power system can get a good effect of energy save and charging when the watch is exposed to ordinary light. When you buy this watch, please ensure that the watch dial is towards the direction where it's easiest to be illuminated by light. No need any operation, the watch will automatically launch the energy save and charging function.

Solar Battery Instruction

- This watch is furnished with a storage cell (ML2016) which can convert the light energy into electric energy and save the generated power into the embedded storage cell. Generally the storage cell needs not to be changed. But after years of use, its charging capacity will gradually fall so that it cannot be recharged to full. If the hands do not move after the watch is recharged, it means that the battery has worn out. Please replace storage cell of Model maxell (ML2016);

C. Operation Attentions:

1. After the watch is charged to full, the movement can work for another 12 months in the lightless and dark environment.
2. After being put in dark environment for 12 months, before using again the watch must be charged to full and correct the time setting properly..
3. When the watch hands do not move, it means the power has been used up. Please charge it promptly.

D. Charging Time

- Surface transparence not lower than 50 percent.
 - Recharging time, please refer to the following chart
1. Surface transparence at 100 percent

Location	Brightness	Full charging (12Mah)	Need to charge for one day use	Charge 4 hours to last	Charge 8 hours to last
Ordinary Office	500Lux
Cloudy Outdoors	10000Lux	140 hours	21 minutes	8 days	15 days
In the Sun	50000Lux	48 hours	8 minutes	22 days	43 days
In the Summer Sun	100000Lux	33 hours	5 minutes	32 days	63 days

2. Surface transperance at 70 percent

Location	Brightness	Full charging (12Mah)	Need to charge for one day use	Charge 4 hours to last	Charge 8 hours to last
Ordinary Office	500Lux
Cloudy Outdoors	10000Lux	190 hours	28 minutes	6 days	12 days
In the Sun	50000Lux	52 hours	9 minutes	17 days	34 days
In the Summer Sun	100000Lux	41 hours	6 minutes	26 days	52 days

Charging Attentions

- Under some circumstance, charging will cause the watch to overheat. Please avoid the following location to charge the storage cell.
 - Gauge panel of auto that's directly in the sun.
 - Location too near to incandescent lamp.
- Direct exposure to the sunlight will cause the watch overheat at the surface. Please take care not to burn the watch.

Important tips:

Putting the watch in lightless location or covering the watch by your wearing will result in the using up of electric power within your storage cell. Please ensure that the watch can be exposed to light as often as possible.

E. Specification

- Module Size : $\Phi 33.2\text{mm}$
- Module Thickness (include buzzer) : 7.4mm
- Operational Temperature Range : $-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- Operational Voltage : 3.0V
- Accuracy : $\pm 30\text{sec/month}$
- Battery Code : ML2016(25mAh)
- static average current : $\leq 1.75\mu\text{A}$ (static maximum current : 5.0uA)
- Battery life (90%) : ≥ 9 month

(When the movement is charged to full, it's put in a lightless environment)

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