



Design & Production

UAT MTP



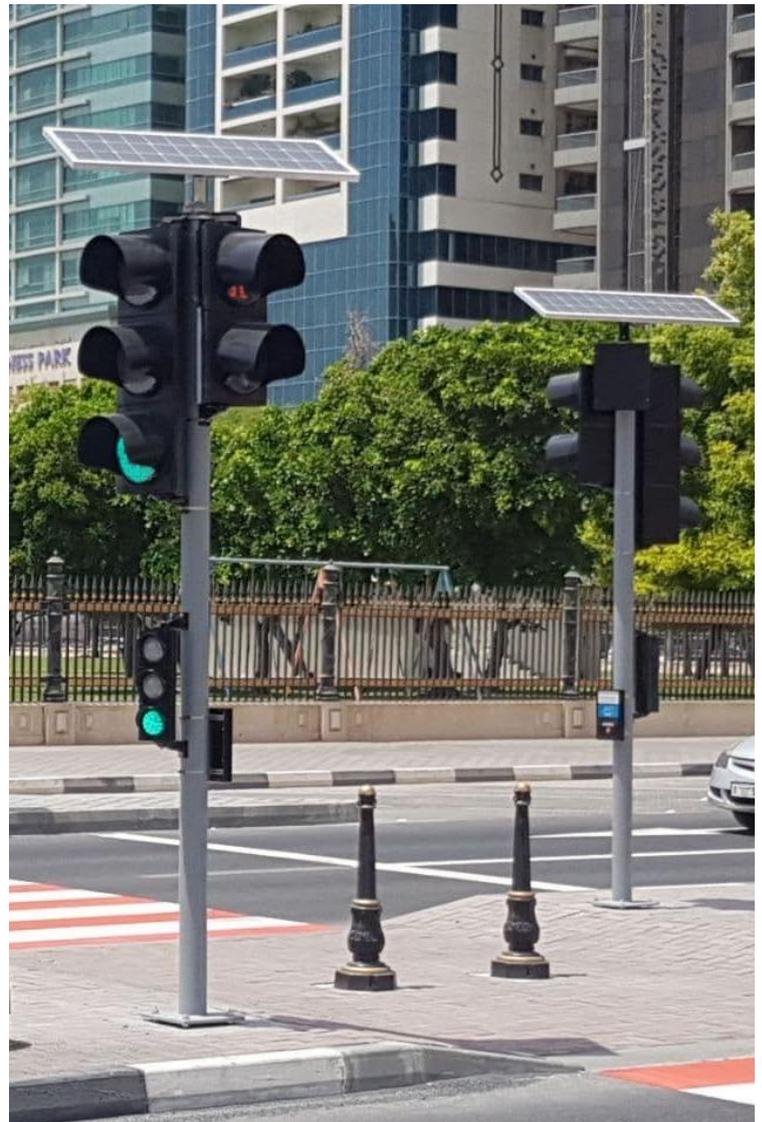
Solar Traffic Sign



Active day and night

Design and Produce by MTP(Manufactory)

**Solar
Wireless Pedestrian Signal
With Push Button**



Jamal Abdul Nasser St, Sharjah

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Technical Specification

Dimension	3 color signal: 355*1065*185mm 2 color pedestrian: 355*710*185mm Push Button: 200*300*50mm
Weight	3 color signal:20Kg 2 color pedestrian:15kg Push Button: 1kg
Body Material	3 color signal: Polycarbonate with Untie UV 2 color pedestrian: Polycarbonate with Untie UV Push Button: Aluminum with electrostatic black color
Solar power	50 Watts, Life time more than 20 years
Battery	Internal 12 volt, 36 Ah, sealed lead acid
LED module for 3 color	110pcs Red 110pcs Yellow 110pcs Green
LED module for Pedestrian	45pcs Red 45pcs Green
LED module for Push button	4pcs Yellow
LED Life	More than 100,000 Hours
Light luminous	8000mcd
Light Intensity	Automatic regulation light intensity in day and night(day intensity 5 times night) with microcontroller
Wireless Transmitter and Receiver	433 MHz
Covered Area	300m diameter
Working time after full charge	4 days

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Working time in cloudy weather	8 days
Visible distance	More than 1000m
Angle	100 Degree
Operating Temperature	-20° C to 75° C
Waterproof	IP65

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Technical properties of Solar Traffic Signal

1. The quality of all parts of the signal is from finest materials of polycarbonate. Also, the color of body box is special for this kind of work has following technical properties:

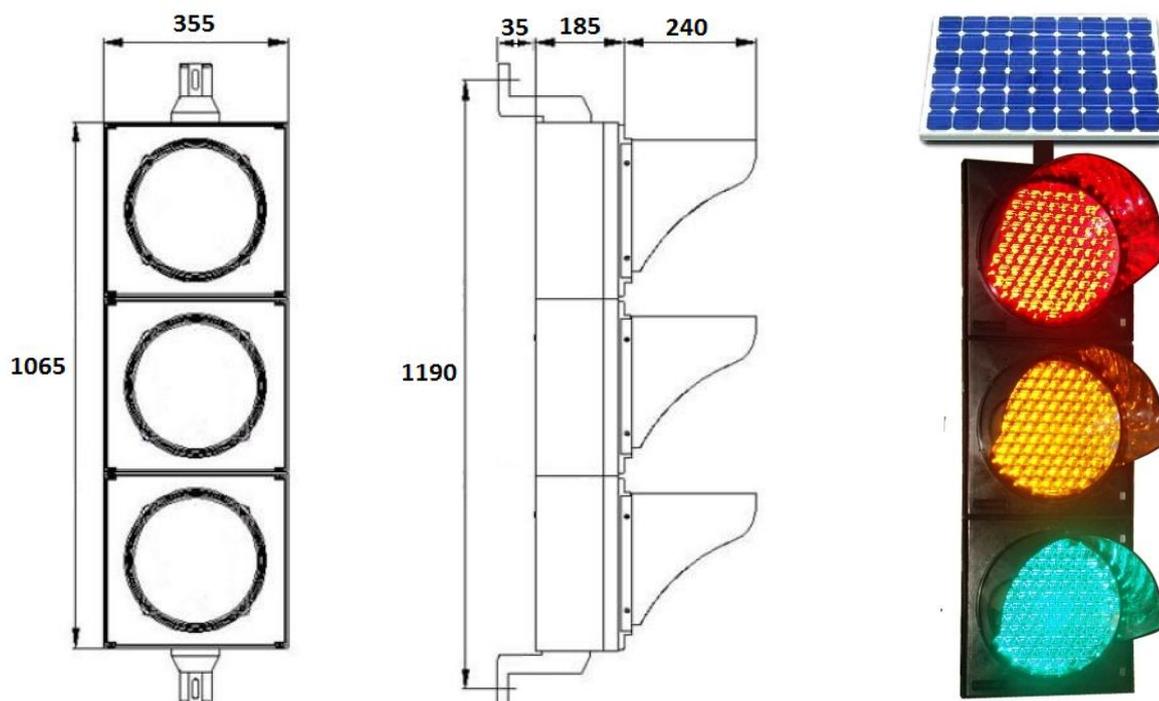
1-1. Melting point: 485 °c

1-2. Degree of heat in glass removing: 150 °c

1-3. Shock strength: 12 *kg/cm*

1-4. Tensile resistance: 59 *kg/cm²*

2. Size of its body is almost 185x355x355mm; its lens diameter is about 300mm which its 280mm is observed by others.



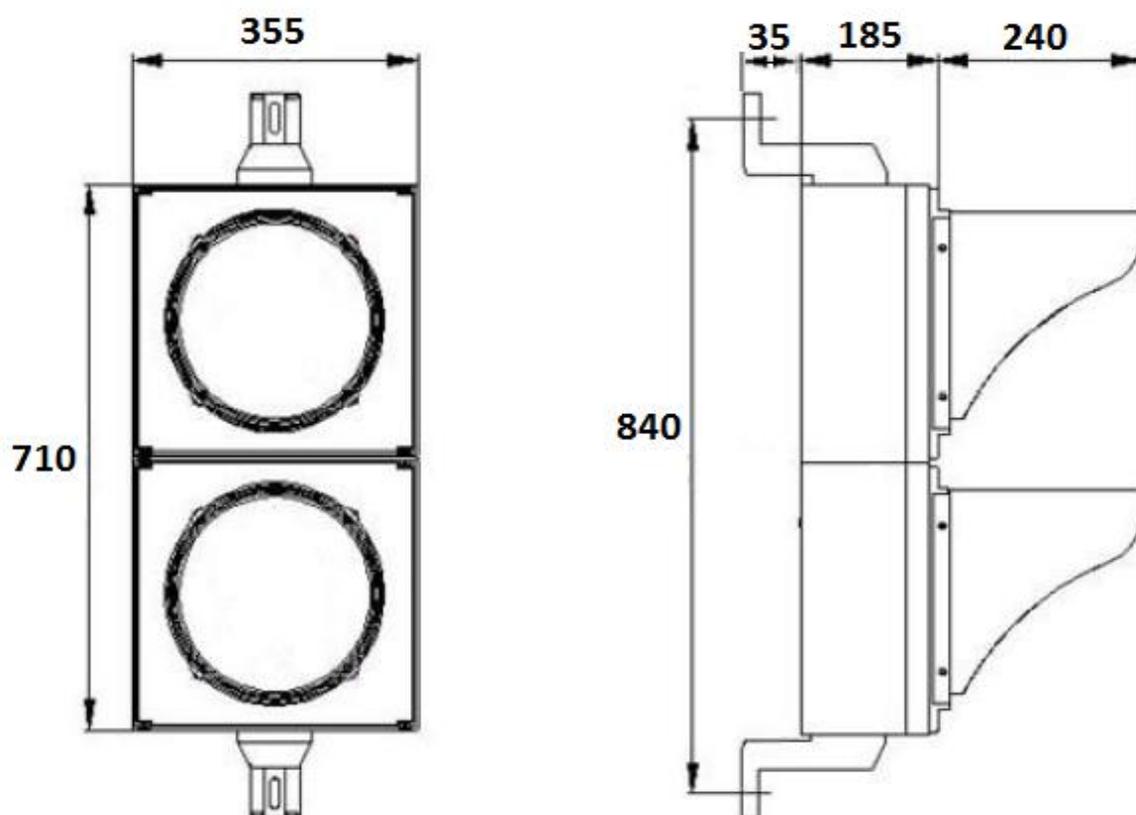
Picture 1: Solar Traffic Signal with dimension

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Picture 2: Solar Pedestrian with dimension

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3. Full mask of flashing light: the diameter of full mask is 330 mm in top side and in the point of its connection into main body; this mask has the 300 mm diameter with depth of 215mm. This connection is done by screw, being put on the body.

4. Half mask: The height of this mask is 185mm in outside of the body and its width is considered 230mm in the place of its connection with main body. This is done by a screw, being put on the body.

5. Door shall be fastening on the body, in a shape toggle. Also, it has a rubber for the purpose of insulation.



Picture 3: Casing of traffic Signal

6. Casing

6-1. Casing of traffic signal is made with high quality polycarbonate, being suitable for traffic signal.

6-2. External lenses made with grid polycarbonate, to being suitable for lens.

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Picture 4: LED Casing

6-3. LED Module

LED's are identified very well and amount of their desired life is 100.000 hours in lawful range for traffic light and traffic signals and its light intensity is 8000mcd. Total numbers of LEDs in one module are equal to 110pcs.



Picture 5: LED

LEDs module and its power supply is surely put on casing. Then insulated rubber is installed on the body, so there shall be no probabilities for entering water, damp and dust into electronically set.

External lens is used for correcting light diffusion.

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Picture 6: LED Module

Also, it is responsible for protecting the set, so that it protects electronically set and filter from damages, resulting from strong shock (stone) or burning, as a result of throwing pyrotechnics parts. These shocks shall be cause of damaging external lens.

Changing and replacing external lens is easily possible by a worker.

7. Sealed Lead Acid batteries of 12v, 36Ah, having desired life of 5 years.



Picture 7: Sealed Lead Acid Battery

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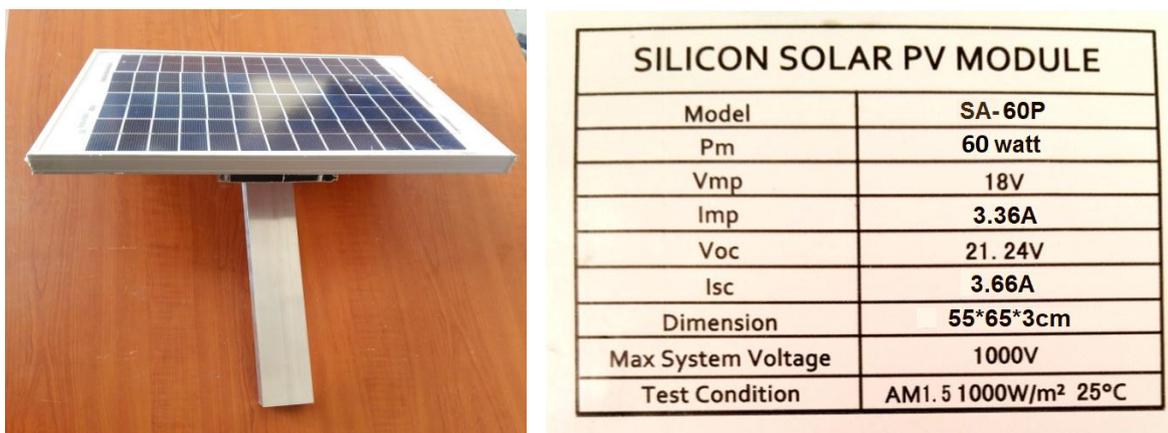
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8. Solar panel

Each set Pedestrian Signal has a 60W, 18v, 3.66A solar panel with the efficiency of %16.

Each solar panel has a cable, having 2 blue & black wires. After installation, cable is entered into controller box then, it connects to its terminal. Note that blue wire shall be connected to blue wire of terminal and black wire into black wire of terminal.



Picture 8: Solar Panel(60watt)

9. Charge Controller

9.1. Measuring voltage of battery, solar panel, charge current and related measuring.

9.2. Displaying voltage of solar panel, voltage of battery, over voltage cut off charge and low voltage cut.

9.3. Prevent overcharge with cut off solar panel.

9.4. Load cutting while voltage of battery dropping to minimum level of acceptable voltage for battery.

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Picture 9: Charge Controller

9.5. Working time, without any charge and with full battery is almost 14 days.

9.6. Charging time for empty battery is 24 hours in light, in case of performing operation, and 18 hours without any operation.

10. Intelligent microcontroller system

10.1. Getting data from Wireless Receiver and apply it to three color signal and Pedestrian.



Picture 10: Controller Box

10.2. Light Regulation and optimization of consumption, according to charge current (environmental light) and battery voltage and solar panel.

10.3. Neutralizing effects of battery voltage in light illumination of flashing light.

10.4. Maximum exited rates (day) into its minimum (night) is 5 to 1 and (it is changeable, on the basis of order).

10.5. Using modulation of PWM for changing light illumination.

11. Push Button

Push Button is made by aluminum with electrostatic powder coating color. It has one push button switch and 4pcs LED indicator,

After pushing this button, one internal timer will start counting down and LED indicator will blink.

Once internal countdown timer reach to zero, vehicle signal will going to red and pedestrian signal going to green.



Picture 11: Push Button

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12. Brackets

Each Signal light has a pairs of holder for connecting main body to its pole, called Bracket. For this installation, at first, Brackets are faster on the main body, then Signal light will installed on its pole by 2pcs of hose clips.



Picture 12: Brackets

13. Round Clamp(Hose Clips)

Seven round clamp is attached to one set of pedestrian signal, 3pcs for fixing 3color signal (vehicle signal) and two color signal(pedestrian signal), 2pcs for fixing solar panel and 2pcs for fixing Push Button Box on the pole.



Picture 13: Hose Clip

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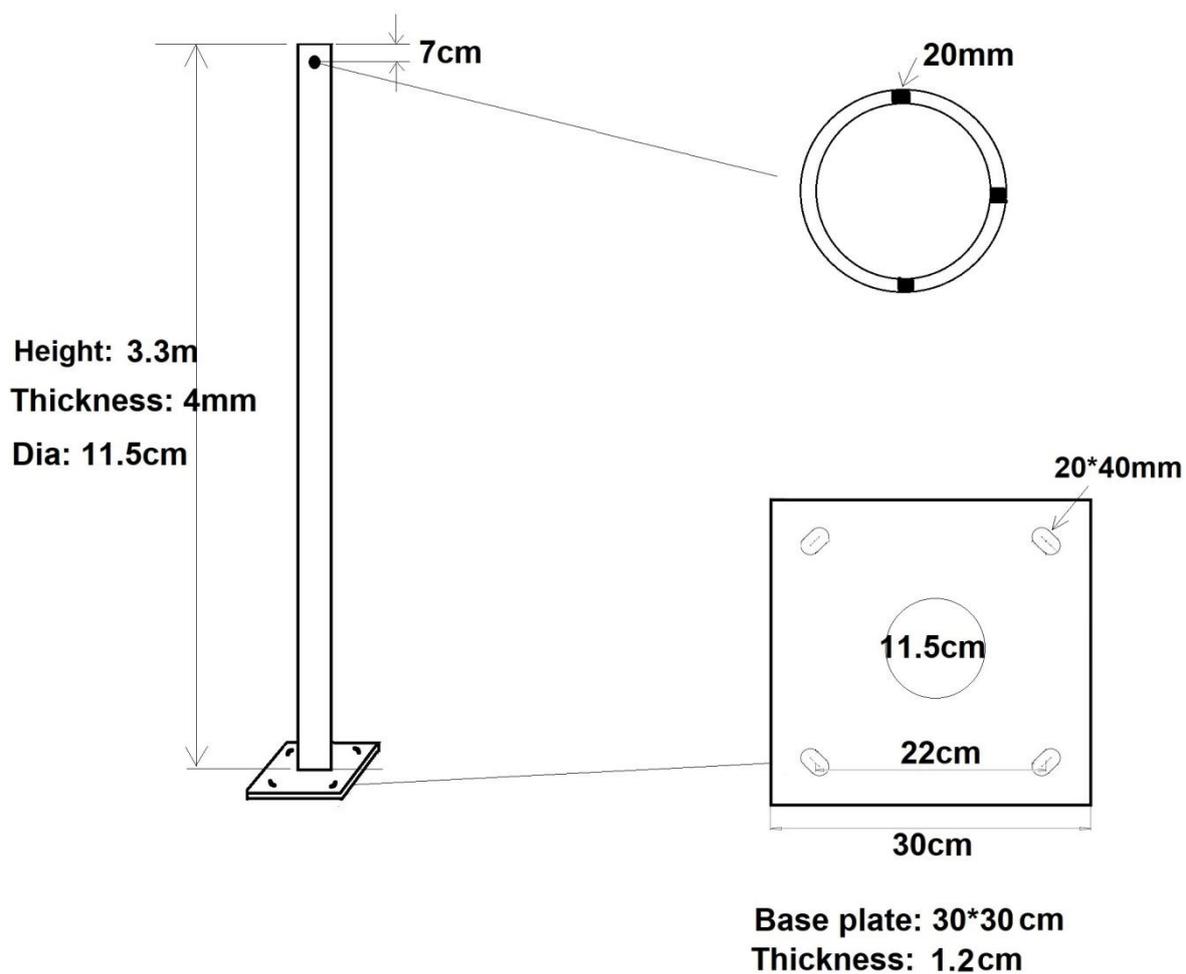
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14. Post

Hot Galvanized with 3.3m length and 11.5cm diameter and 4mm wall thickness, with ElectroStatic Powder Coating Colour.



Picture 14: Post

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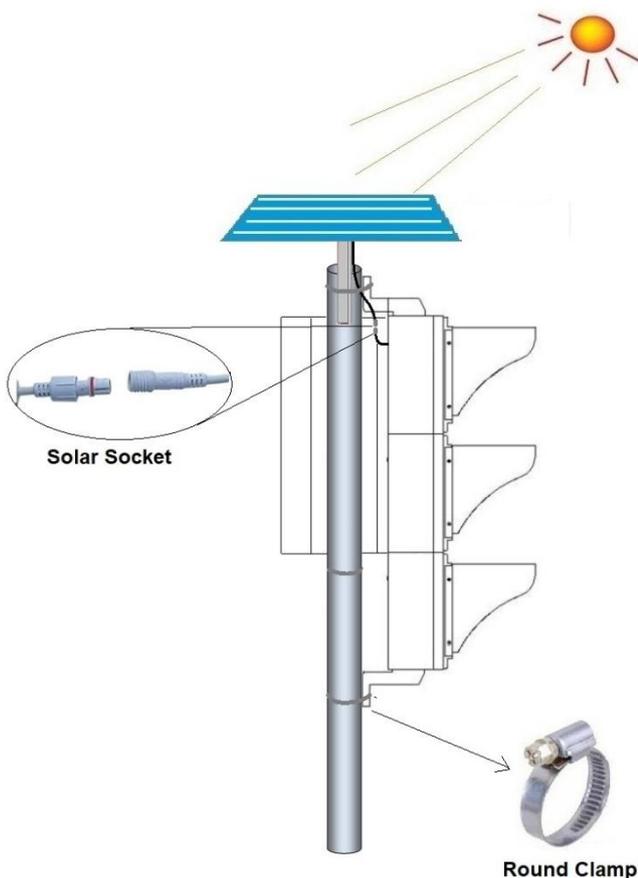
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Installation



Installation:

- 1- Fixing Signal on the Pole with two Round Clamp,
- 2- Fixing Solar panel on the top of pole with Round Clamp on **South direction**,
- 3- Connect solar cable Socket to Signal light Socket,
- 4- Signal Light will be ON automatically after connected to solar panel,
- 5- Its light will decrease automatically at night and increase at day,

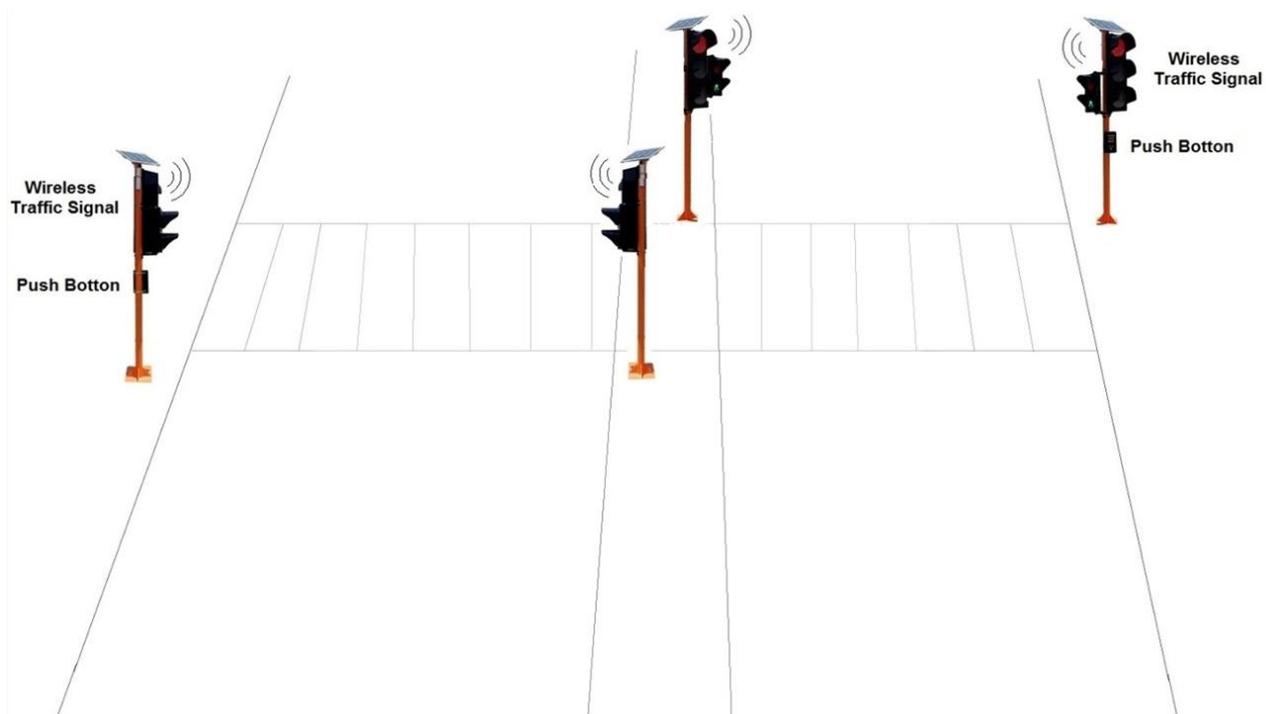
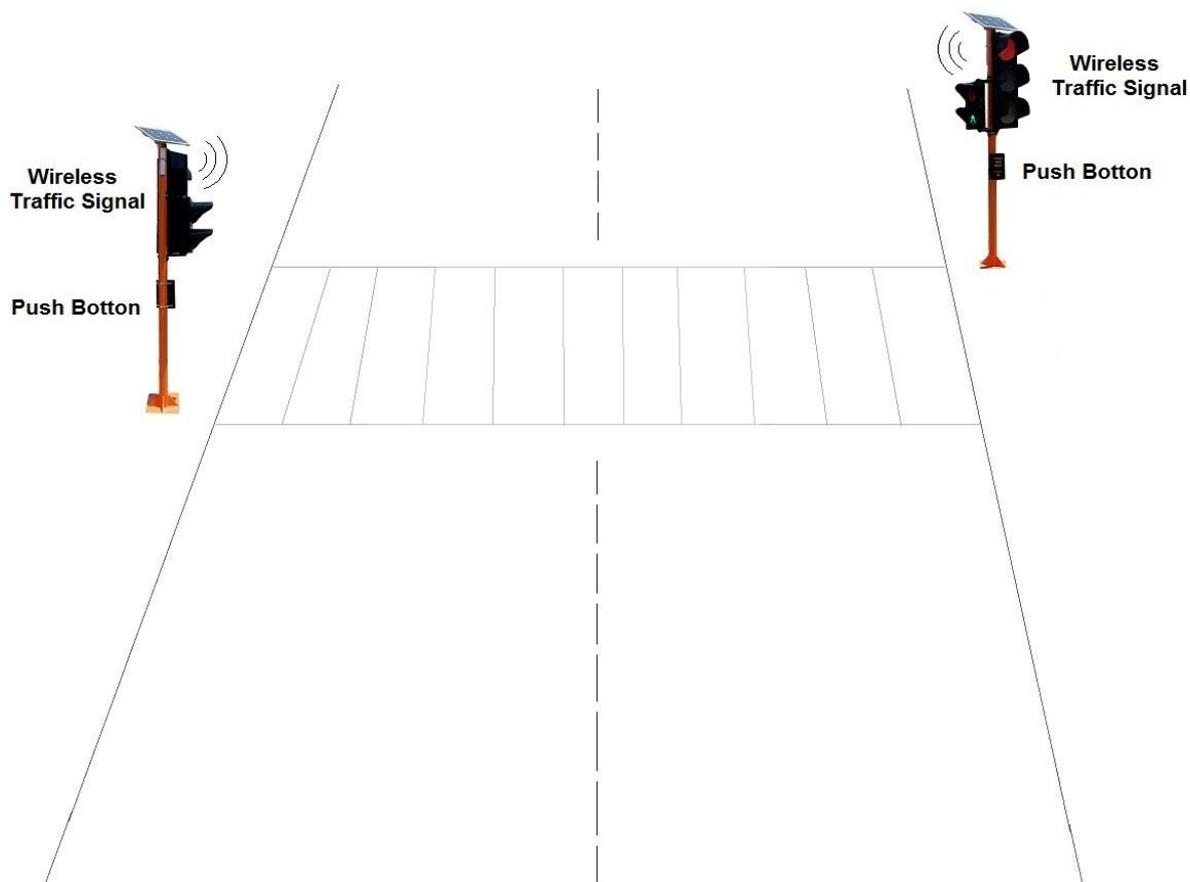


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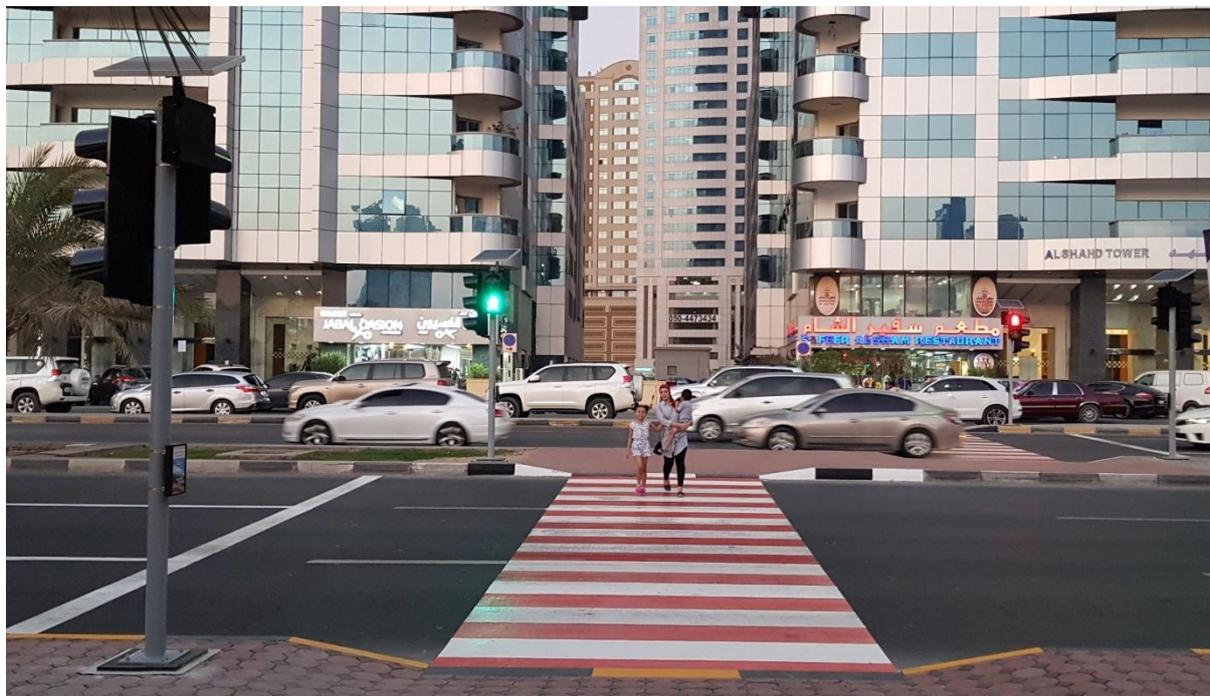


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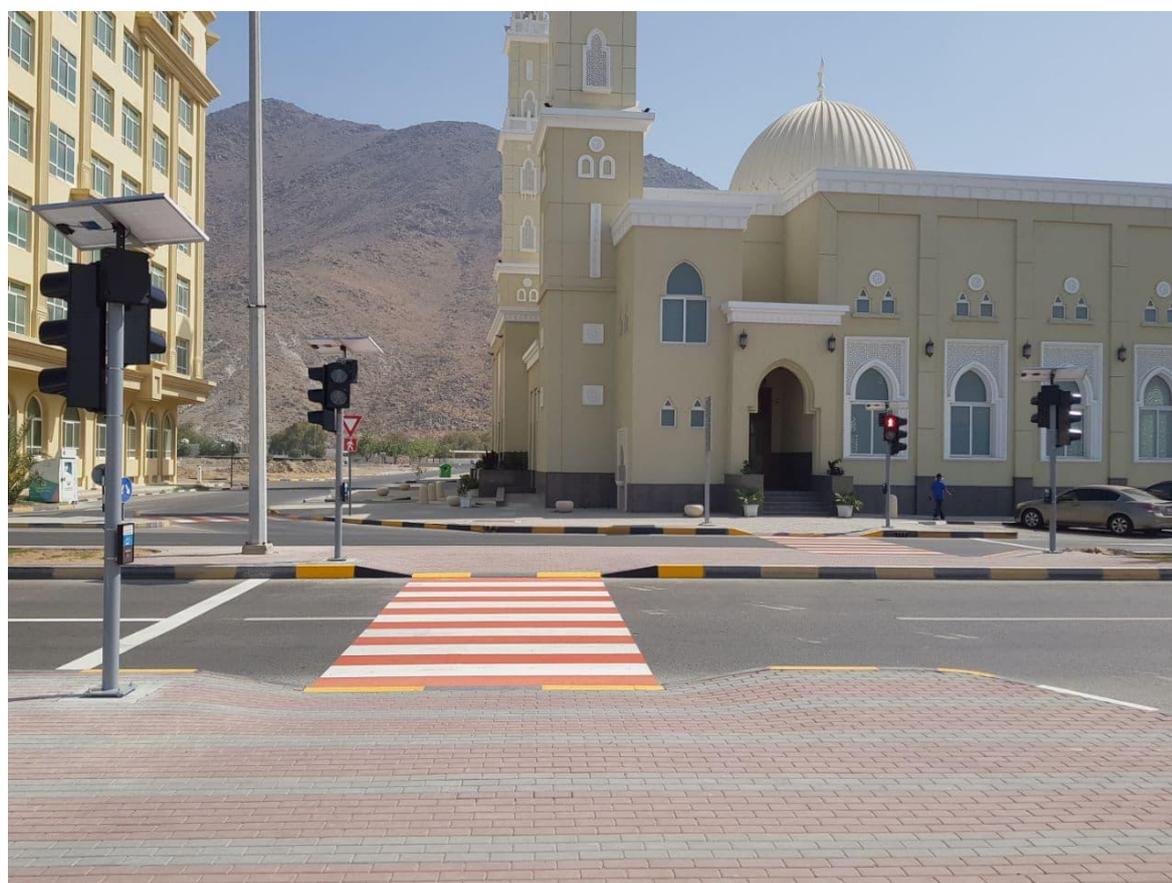


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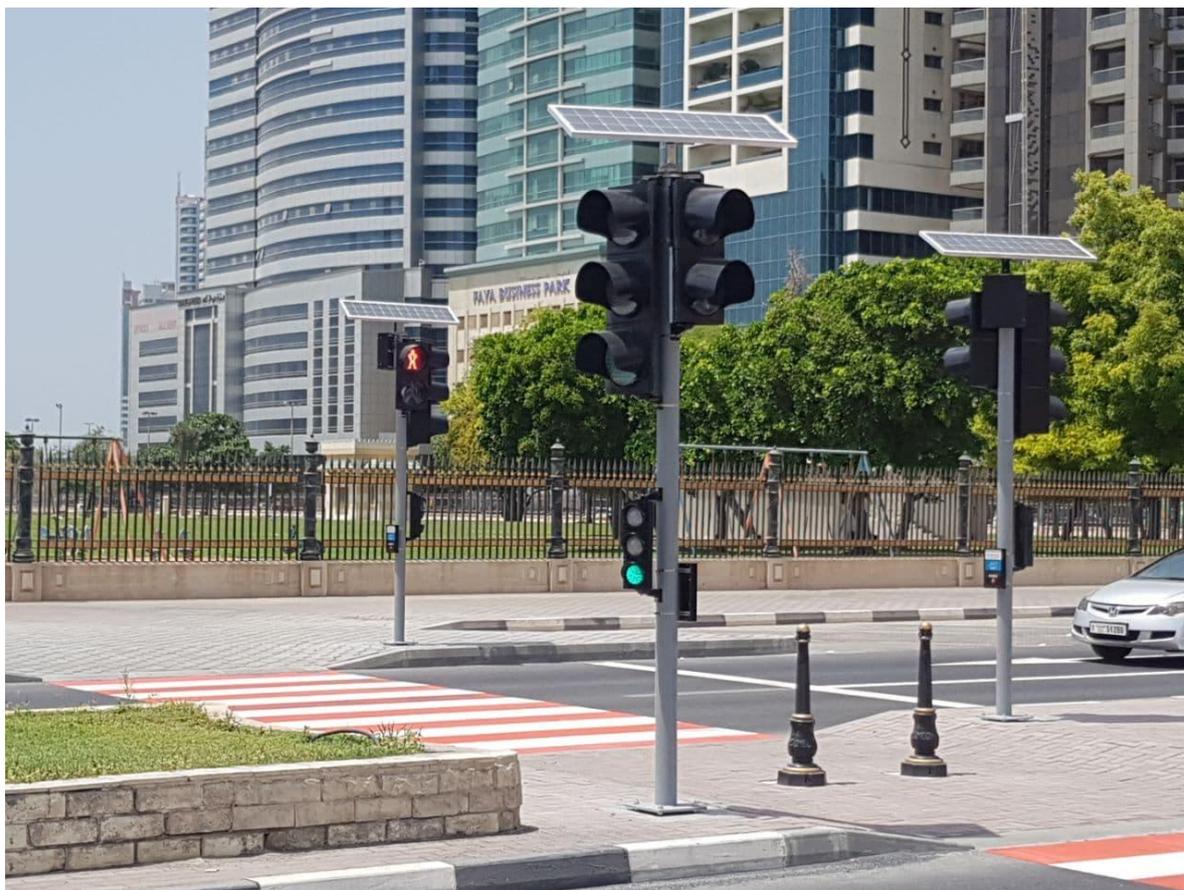


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