

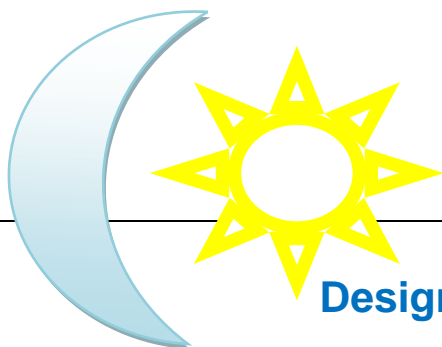


*Design & Production*

**UAT MTP**



*Solar Traffic Sign*



# Active day and night

**Design and Produce by MTP(Manufactory)**

**Solar  
Wireless Pedestrian Signal  
with Push Button  
with Countdown timer**



**MTP Traffic Sign**

T NIP: 5252655683 REGON: 364224743 KRS: 0000612101

Email: [info@mtppoland.com](mailto:info@mtppoland.com)

[www.mtppoland.com](http://www.mtppoland.com)

## Technical Specification

<b>Dimension</b>	<b>3 color signal: 355*1065*185mm</b> <b>2 color pedestrian: 355*710*185mm</b> <b>Countdown timer: 355*355*185mm</b> <b>Push Button: 200*300*50mm</b>
<b>Weight</b>	<b>3 color signal:20Kg</b> <b>2 color pedestrian:14kg</b> <b>Countdown timer:6kg</b> <b>Push Button: 1kg</b>
<b>Body Material</b> MTP Brand	<b>3 color signal: Polycarbonate with Untie UV</b> <b>2 color pedestrian: Polycarbonate with Untie UV</b> <b>Countdown timer: Polycarbonate with Untie UV</b> <b>Push Button: Aluminum with electrostatic black color</b>
<b>Solar power</b>	<b>100 Watts, Life time more than 20 years</b>
<b>Battery</b>	<b>Internal 12 volt, 36 Ah, sealed lead acid</b>
<b>LED module for 3 color</b> MTP Brand	<b>110pcs Red</b> <b>110pcs Yellow</b> <b>110pcs Green</b>
<b>LED module for Pedestrian</b> MTP Brand	<b>45pcs Red</b> <b>45pcs Green</b>
<b>LED module for Countdown timer</b> MTP Brand	<b>84pcs Red</b> <b>84pcs Green</b>
<b>LED module for Push button</b> MTP Brand	<b>4pcs Yellow</b>
<b>LED Life</b>	<b>More than 100,000 Hours</b>
<b>Light luminous</b>	<b>8000mcd</b>

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<b>Light Intensity</b>	<b>Automatic regulation light intensity in day and night(day intensity 5 times night) With MTP brand microcontroller</b>
<b>Wireless Transmitter and Receiver</b>	<b>433 MHz – MTP Brand</b>
<b>Covered Area</b>	<b>300m diameter</b>
<b>Working time after full charge</b>	<b>4 days</b>
<b>Working time in cloudy weather</b>	<b>8 days</b>
<b>Visible distance</b>	<b>More than 1000m</b>
<b>Angle</b>	<b>100 Degree</b>
<b>Operating Temperature</b>	<b>-20° C to 75° C</b>
<b>Synchronize Timing</b>	<b>With demand</b>
<b>Controller Unit</b>	<b>MTP Brand</b>

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## Technical properties of Solar Traffic Signal(MTP Brand)

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:

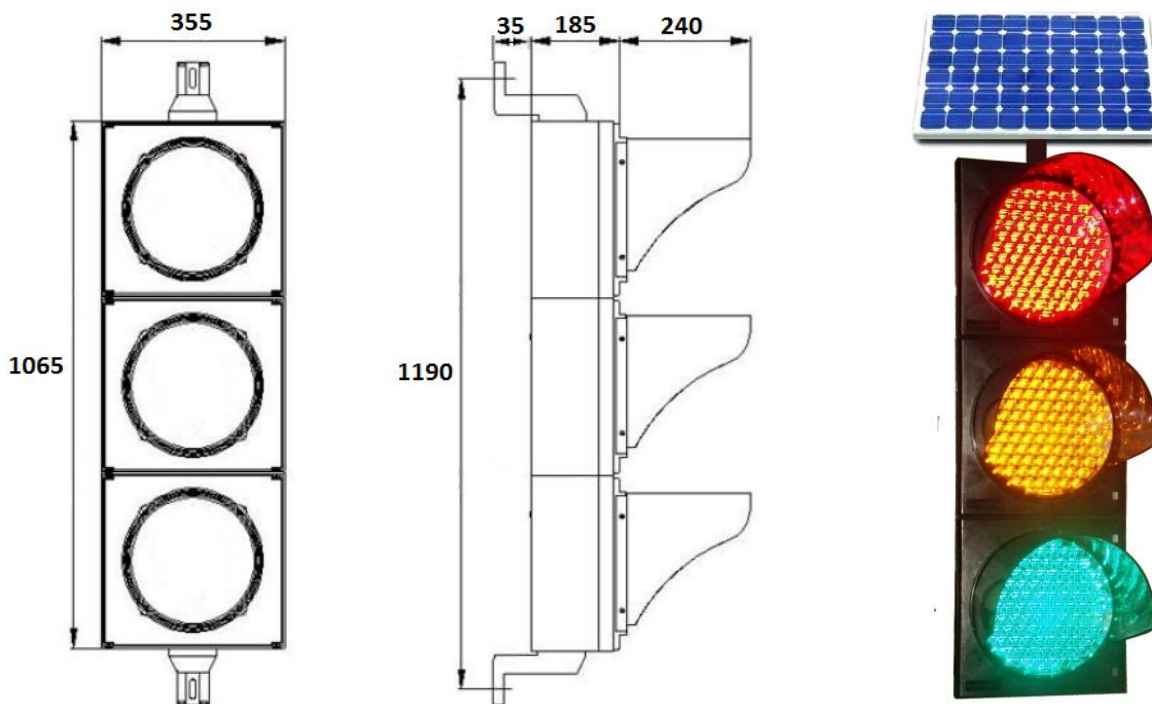
1-1. Melting point: 485 °c

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

1-3. Shock strength: 12 kg/cm

1-4. Tensile resistance: 59 kg/cm<sup>2</sup>

2. Size of its body is almost 185×1065×355mm; its lens diameter is about 300mm which its 280mm is observed by others.



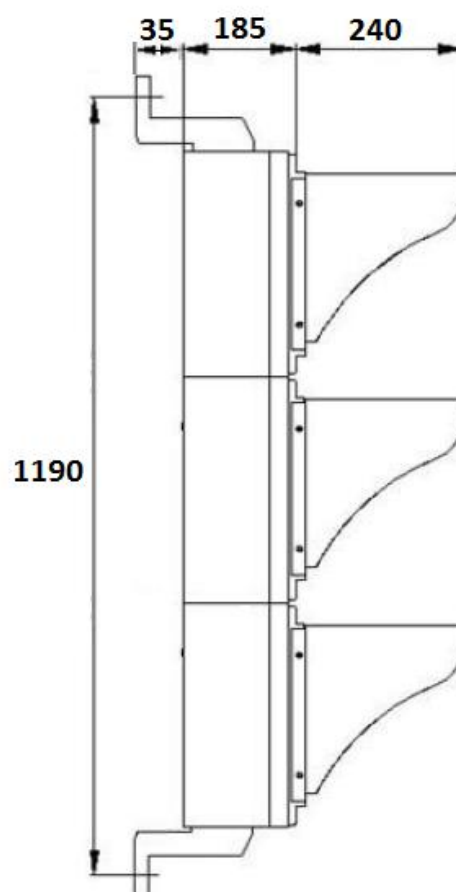
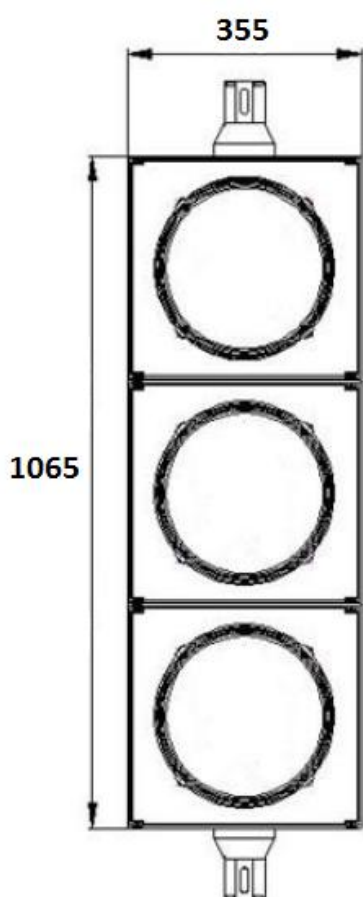
Picture 1: Solar Traffic Signal with dimension (MTP Brand)

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Picture 2: Solar Pedestrian with Countdown Timer dimension (MTP Brand)

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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 (MTP Brand)

## 6. LED Casing (MTP Brand)

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 (MTP Brand)

### 6-3. LED Module (MTP Brand)

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.

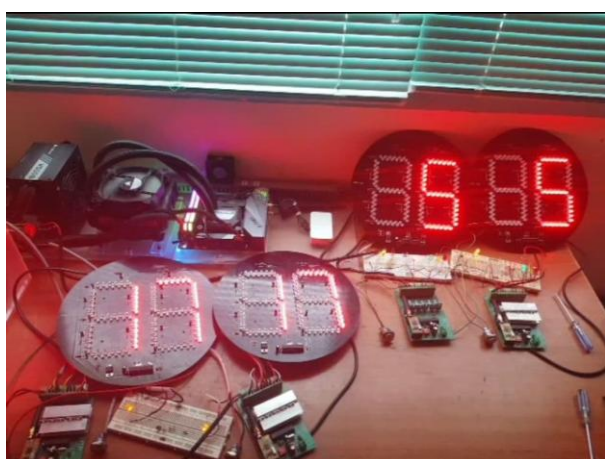
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Picture 6: LED Module (MTP Brand)

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.

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

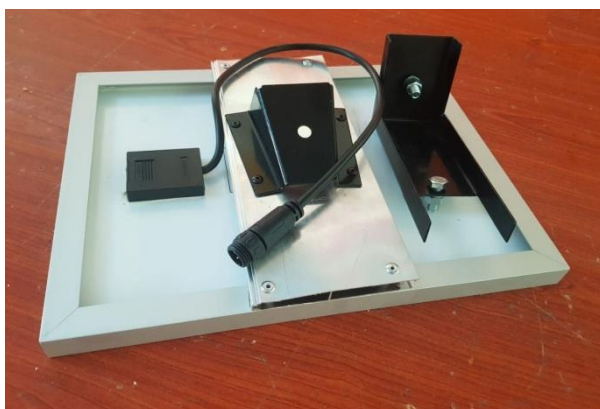


Picture 7: Sealed Lead Acid Battery

## 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.



SILICON SOLAR PV MODULE	
Model	SA-60P
Pm	60 watt
Vmp	18V
Imp	3.36A
Voc	21.24V
Isc	3.66A
Dimension	55*65*3cm
Max System Voltage	1000V
Test Condition	AM1.5 1000W/m <sup>2</sup> 25°C

Picture 8: Solar Panel(60watt)

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## 9. Charge Controller (MTP Brand)

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.



Picture 9: Charge Controller (MTP Brand)

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.

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## 10. Intelligent microcontroller system (MTP Brand)

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



Picture 10: Controller Box (MTP Brand)

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.

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## 11. Push Button (MTP Brand)

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 (MTP Brand)

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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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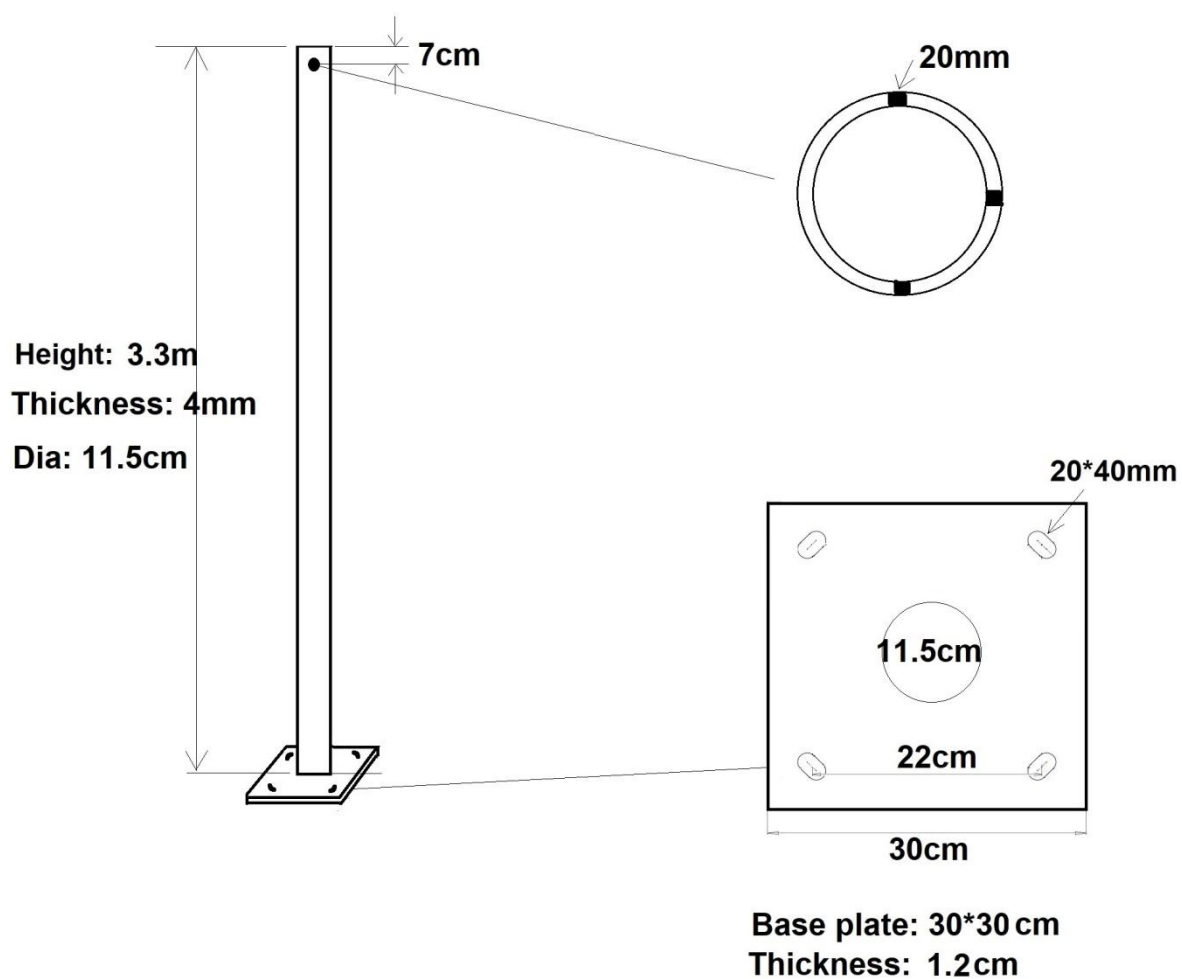
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## 14. Post

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



Picture 14: Post

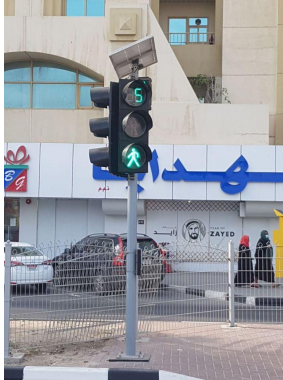
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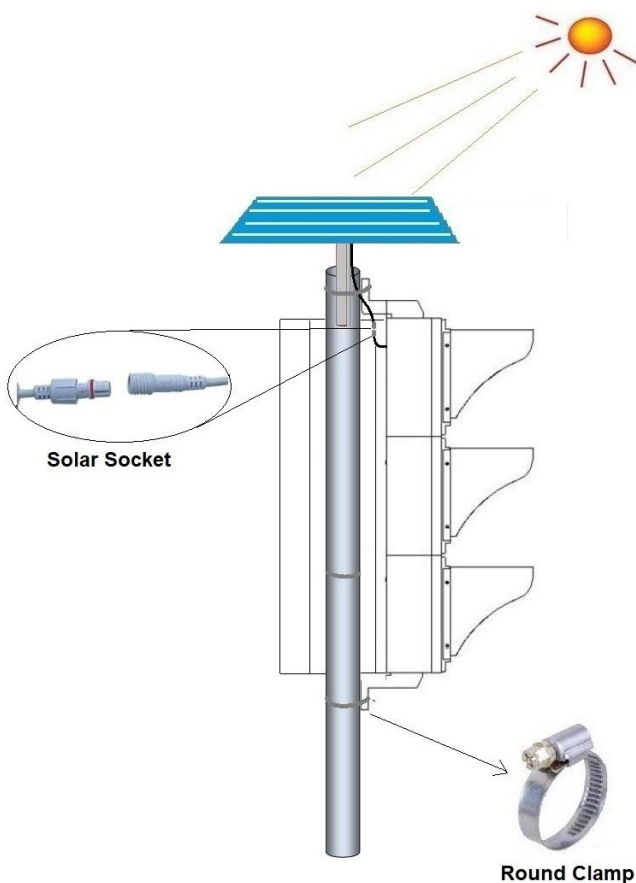
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## Installation



### 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,

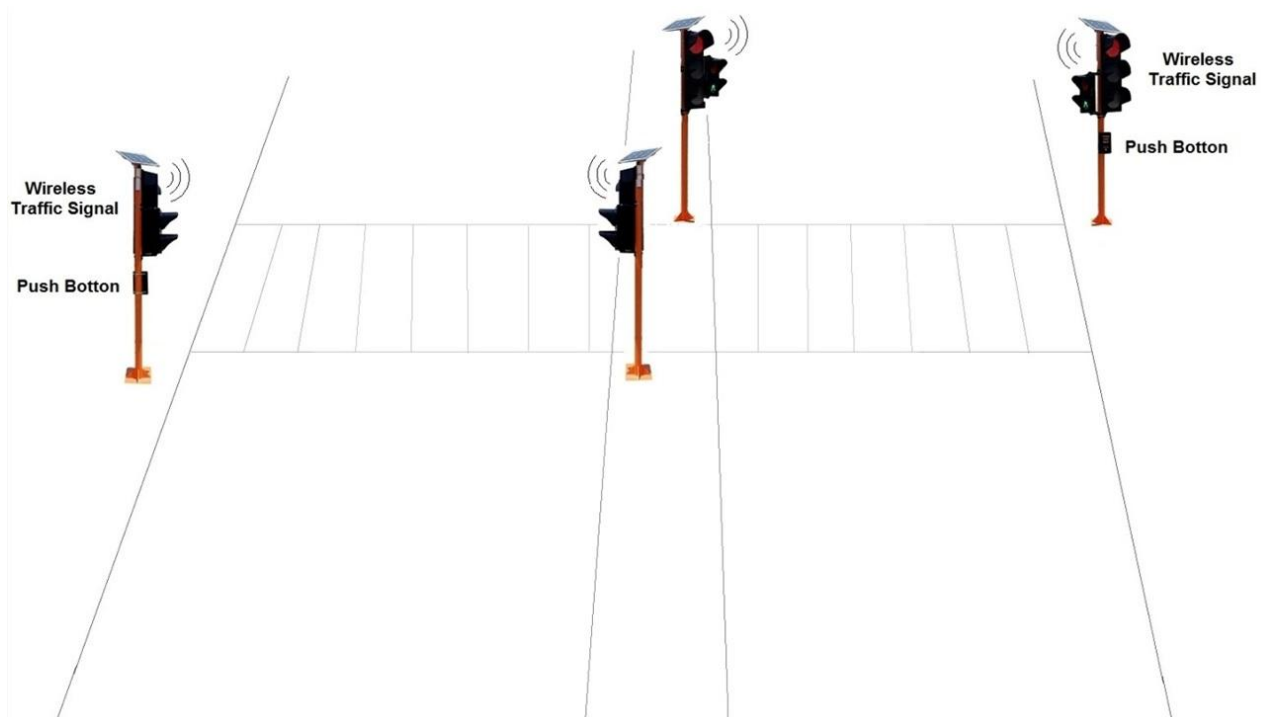
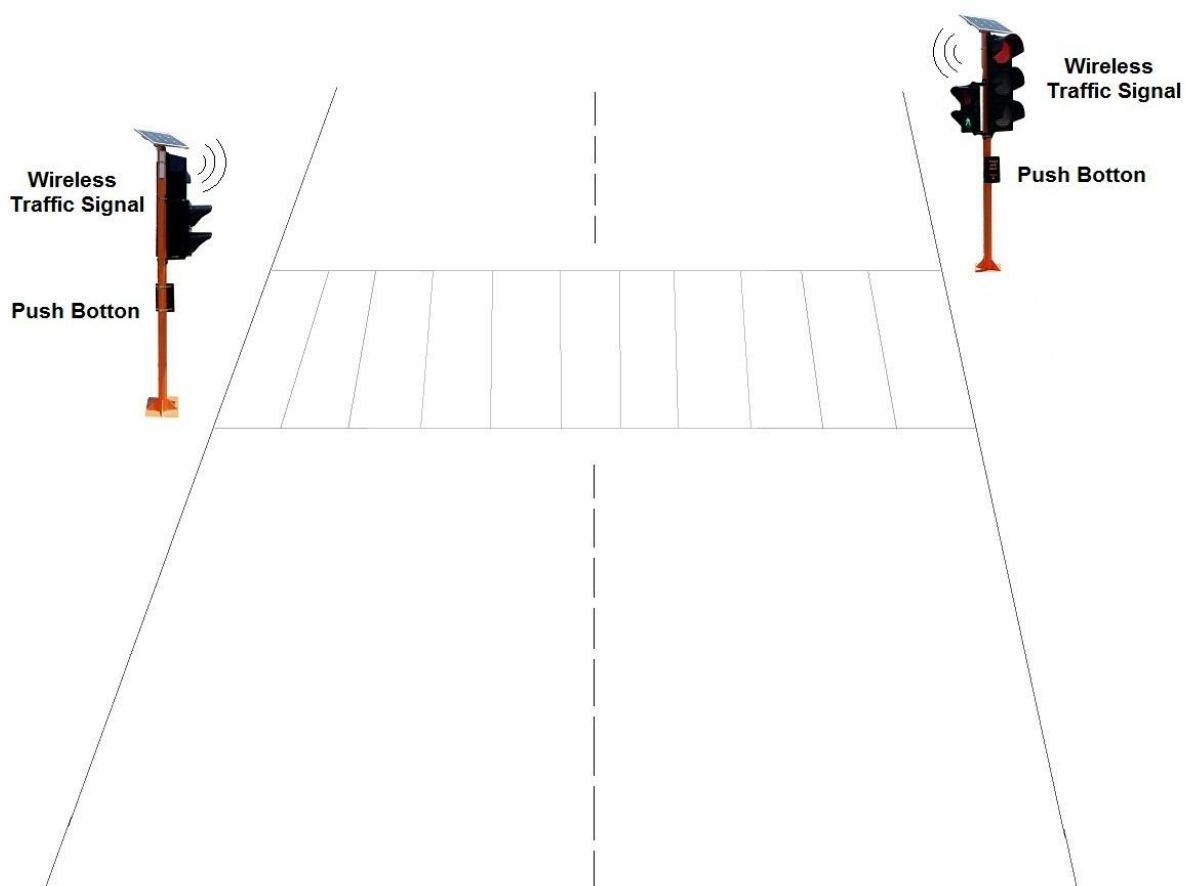


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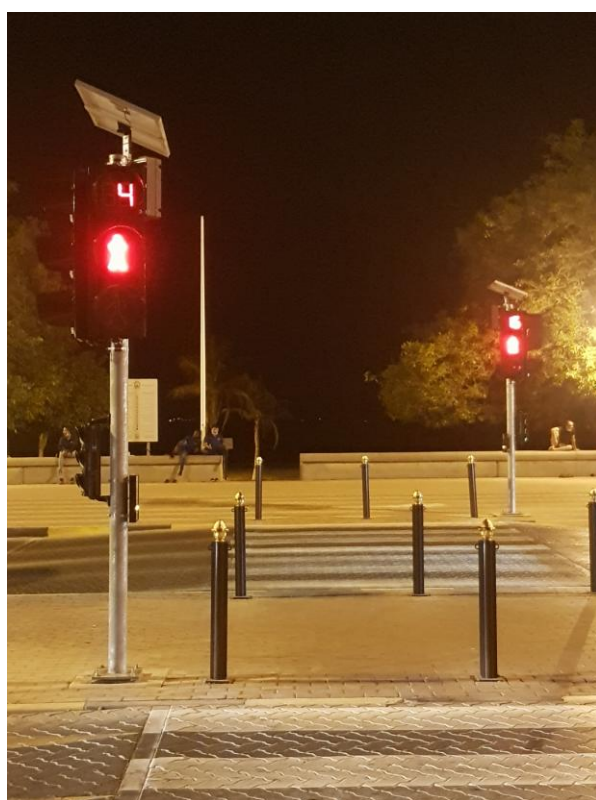
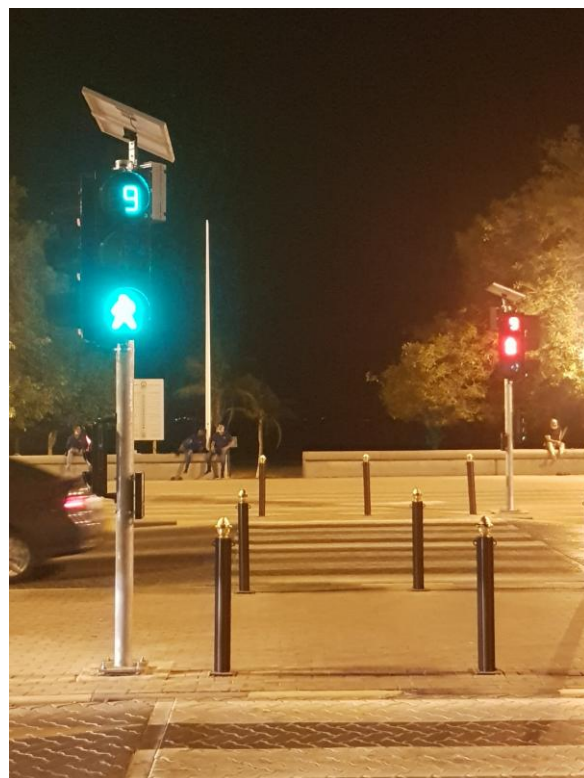
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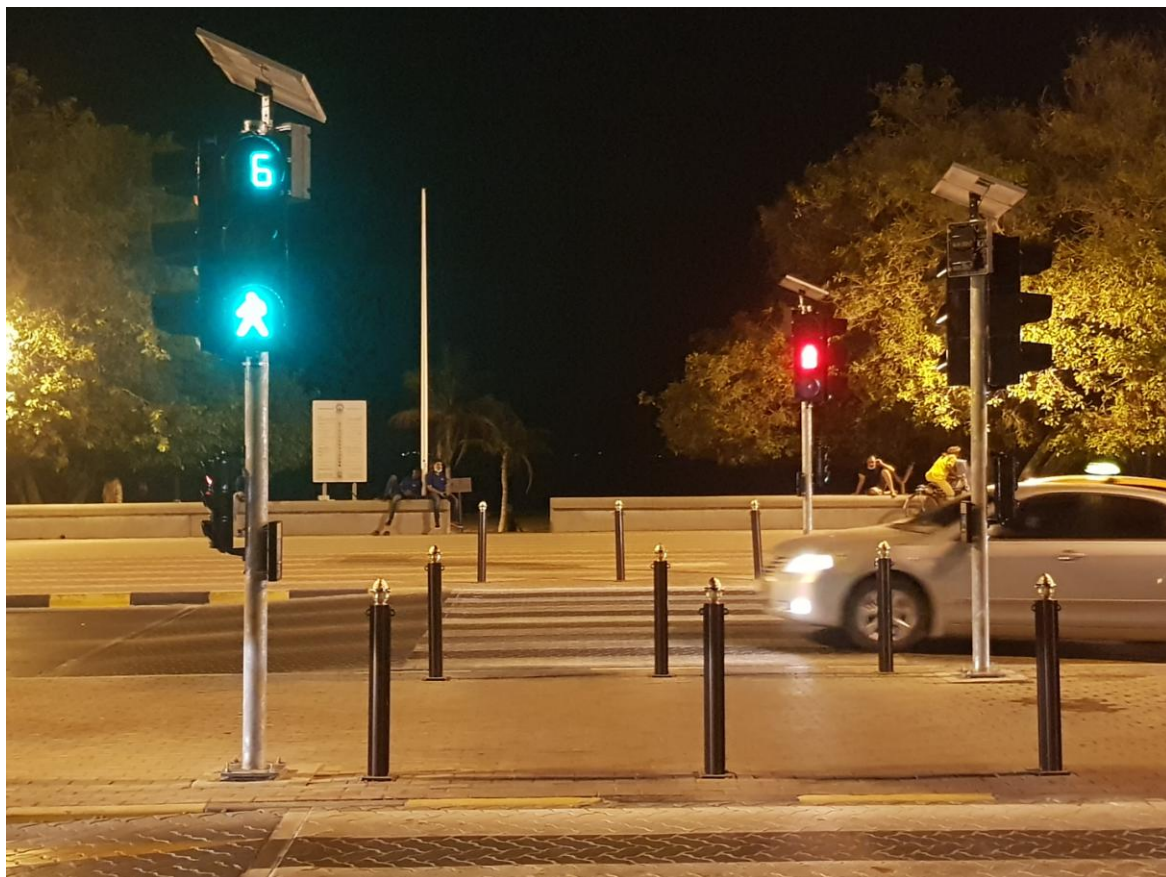
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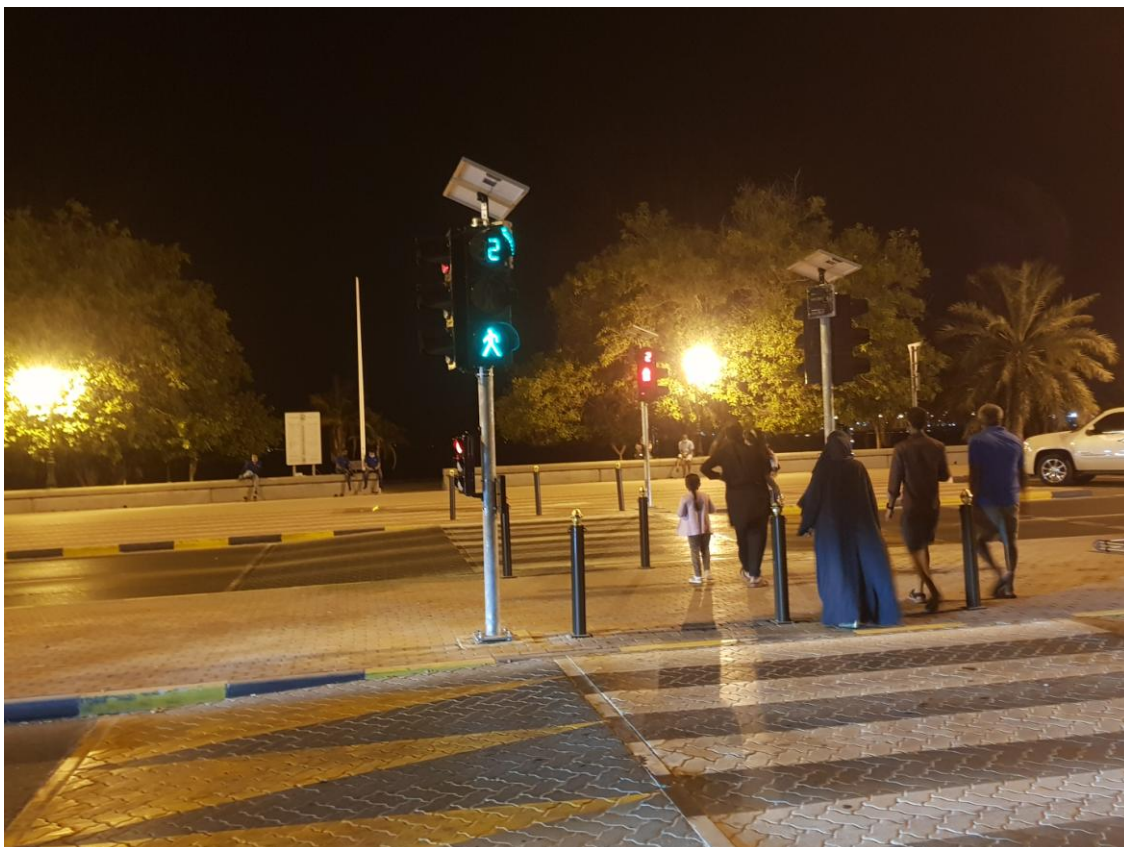
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