



**Solar & Wind Combine Street Lighting 24V SOX 55Watt**

# Manual Instruction

## **Solar & Wind Combine Street Lighting 24V SOX 55Watt :**

- 1) Wind turbine 24V 400W
- 2) Wind Turbine Controller 24V DC
- 3) Solar Panels, 50Watt x 2pcs with 12V for each panel, in series two pieces of 12V panel into 24V
- 4) Solar Panel brackets;
- 5) Solar Controller;
- 6) Battery: 2x100Ah 12V in series into 24V DC output;
- 7) Battery Casing
- 8) Lighting Pole: 9 meters height
- 9) Solar Street Lighting Fixture
- 10) Lighting Source: 24V 55Watt low pressure sodium lamp (SOX 55watt);
- 11) Inter-connection wires.

### **Remark for above installation**

**The person should be qualified and professional to install the solar & Wind Combine Street Lighting system. The reference installation procedures should be as follows:**

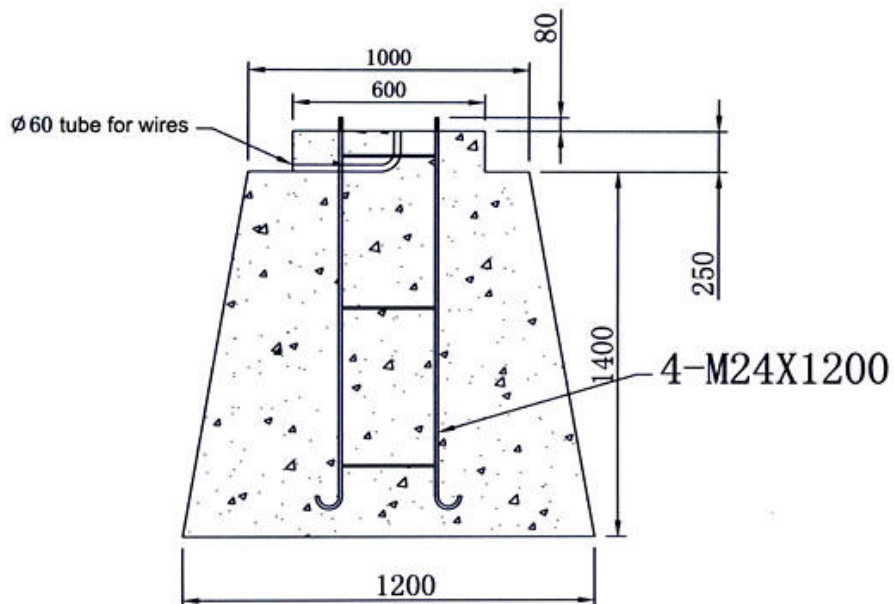
1. Please install the 24V 400Watt wind turbine in advanced. (Please manual instruction of Wind turbine) And please connect the wind turbine wires to the wind turbine controller.
2. Please build the concrete base foundation of the pole and battery casing;
3. Please check power cable inside of the lamp post to distinguish the polarity of which end is positive and which end is negative. Then connect the cable wires to correct polarity of the solar panel first.
4. Install the solar panel with brackets on relative position of the pole;
5. Install the battery casing on the foundation
6. Install 24V Central controller inside of the battery casing, connect the relative connection end with wind turbine controller, solar panel, battery, lamp and sensor;
7. Install the 24V 55W Low Pressure Sodium Lamp fixture (SOX 55Watt) on the arm of the lighting pole and connect the relative wires.
8. Please connect the wires to the battery from the controller, also connect the wires to the (SOX 24V 55Watt) lighting fixture from the controller; please note the polarity of "+" and "-"; Please lead out the sensor from the controller to attach near the ventilation hole of the battery casing.

### **Warning:**

- 1) When the wind turbine and solar panel is working, do not do the installation job. If you want to do this, we suggest you use some black color cloth to cover the panel to do the installation job.
- 2) If for wrong connection diagram will cause the central controller fail, so please note the polarity.

### **Installation Procedures with photos description:**

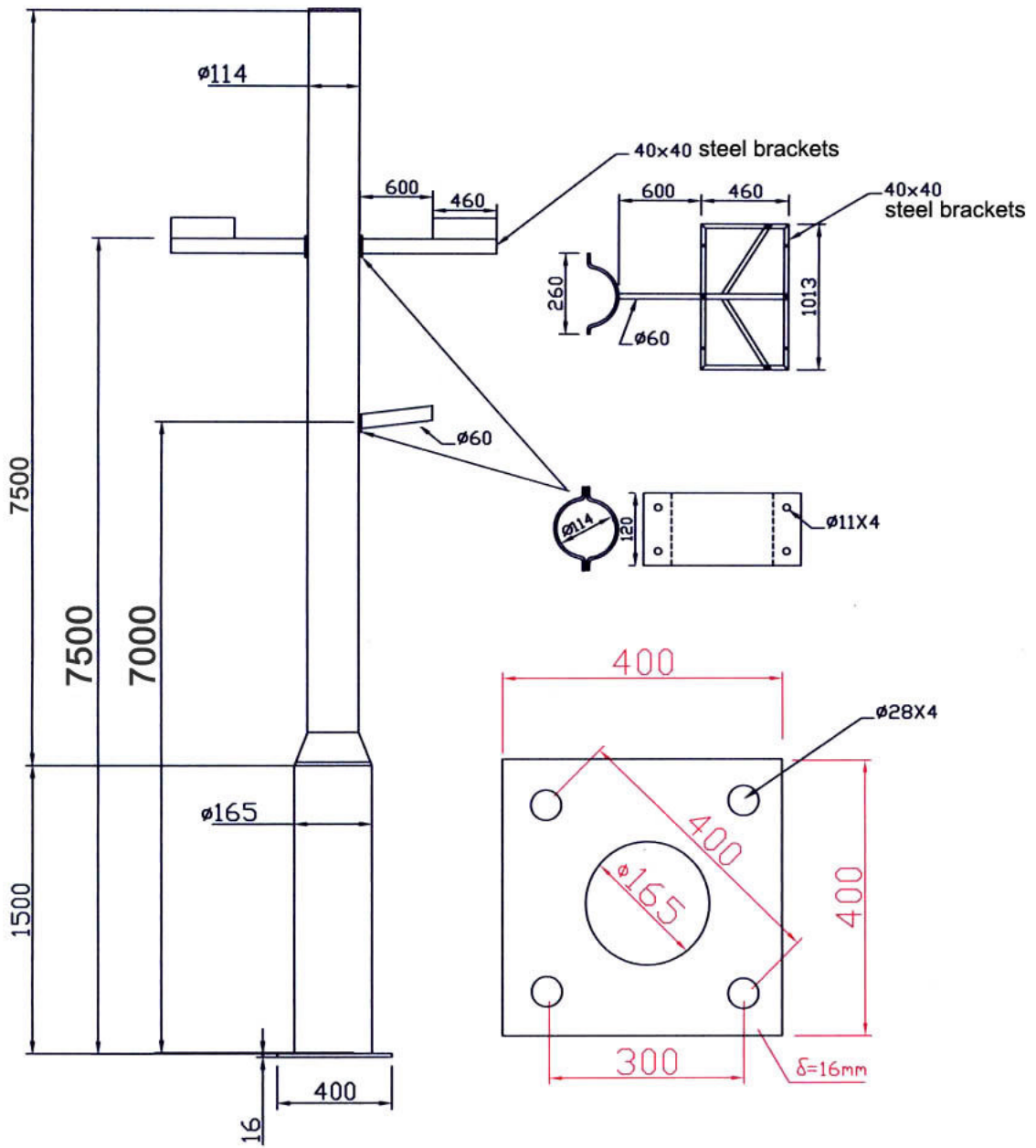
#### **1. Concrete Base**



### Remark

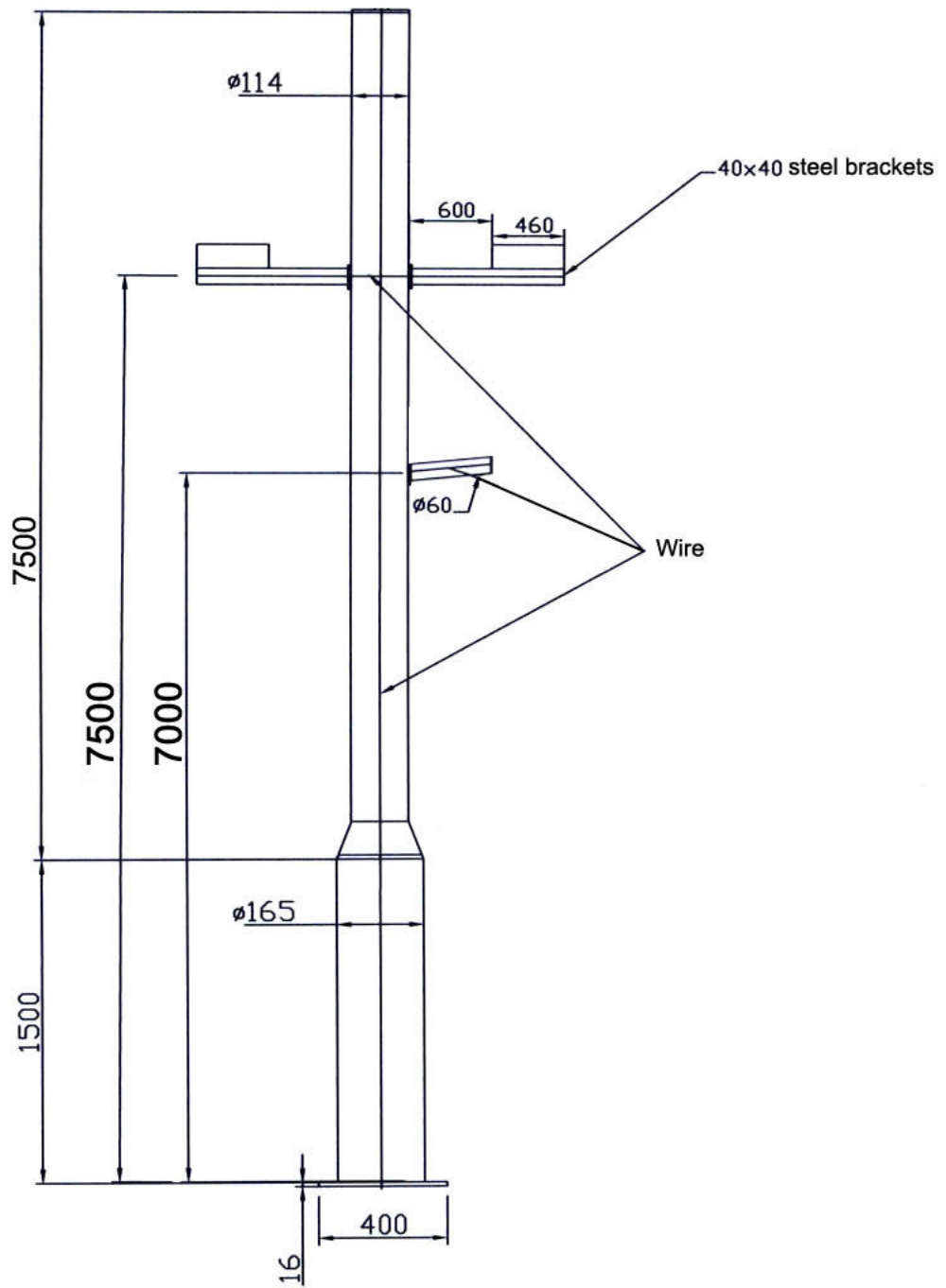
1. The concrete base use 250# concrete to built, must protect the concrete base at least 7 days before installing the lighting pole and foundation on it.
2. The diameter of steel threaded rod is 24mm, its length is 1200mm, will need to use the butter and adhesive tape to pack the threaded rod, in order to protect the teeth of screws from being eroded by rust. The nuts will be 50mm higher above foundation.
3. The surface of the (1400X1200mm) hole must be flat and firm before moulding the concrete base into it.
4. When moulding the concrete base, should use a shaking pump to shake, in order to mix the cement, small rock and sand etc. Evenly, the surface of connect base must be flat.

## 2. Drawing of Wind & Solar Street Lighting.

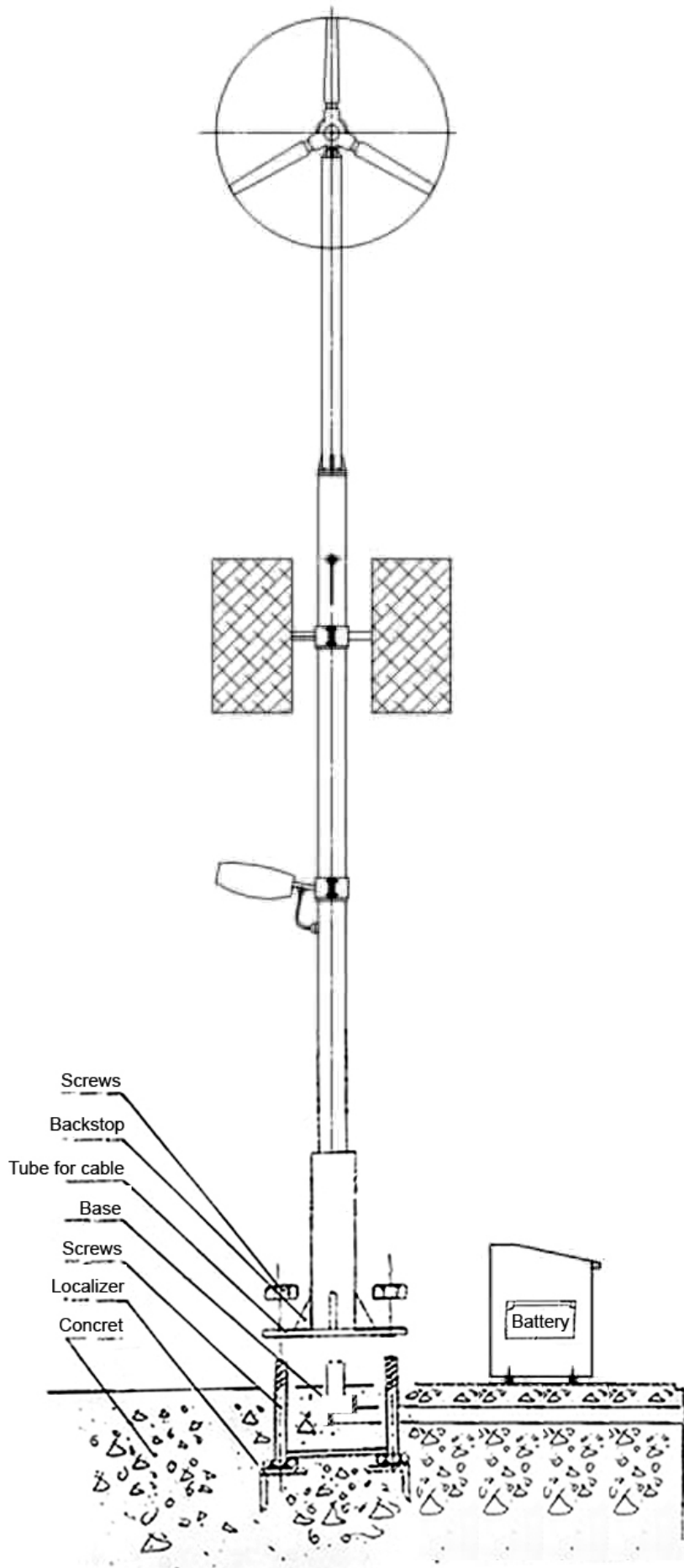


Drawing of Solar/Wind Street Lighting

3. Drawing of Wire Connection.



Drawing of Wire Connection



# Power Connection Diagram For Solar/Wind Street Lighting

1. 太阳能板要串联成24V
2. 电池要串联成24V
3. 风机输出电压直接接控制器电池端口

