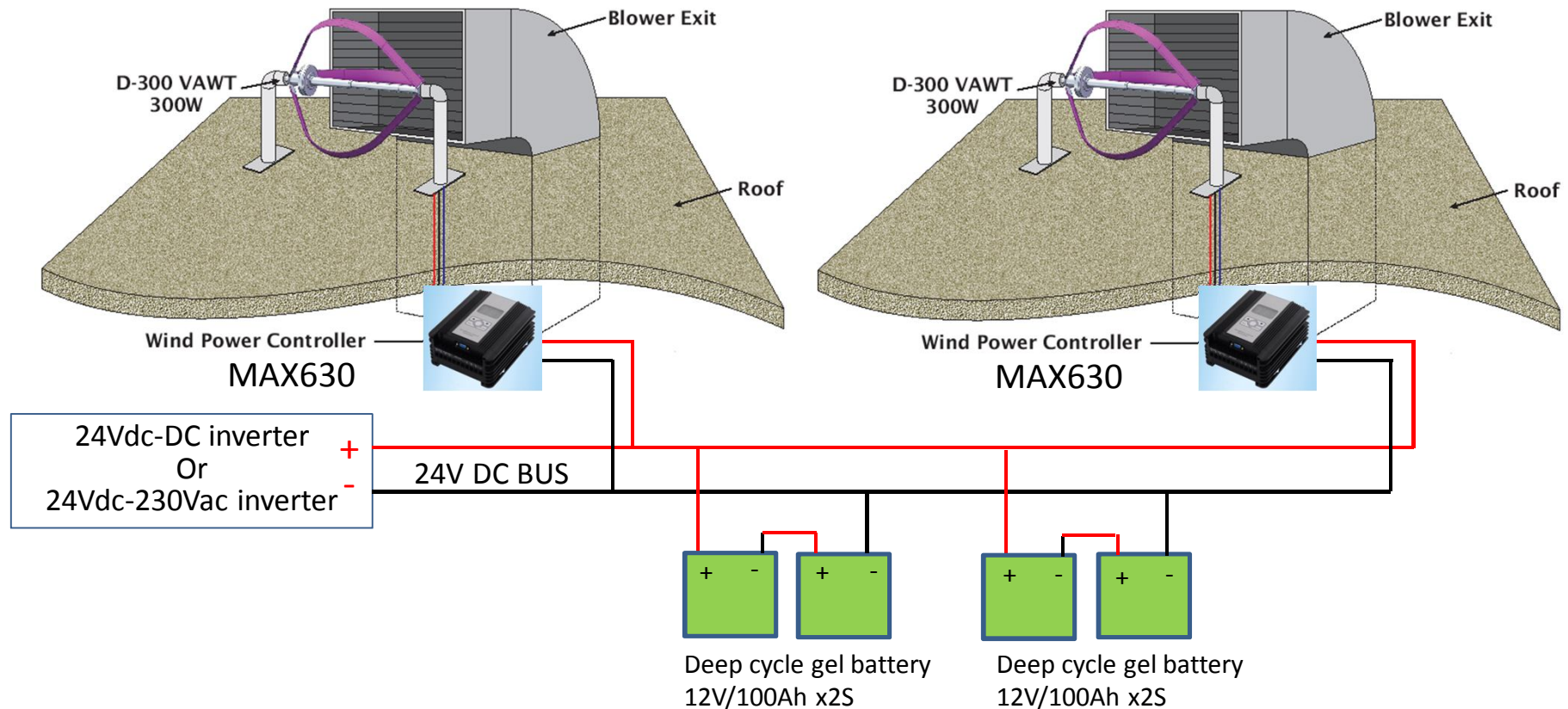


The system concept



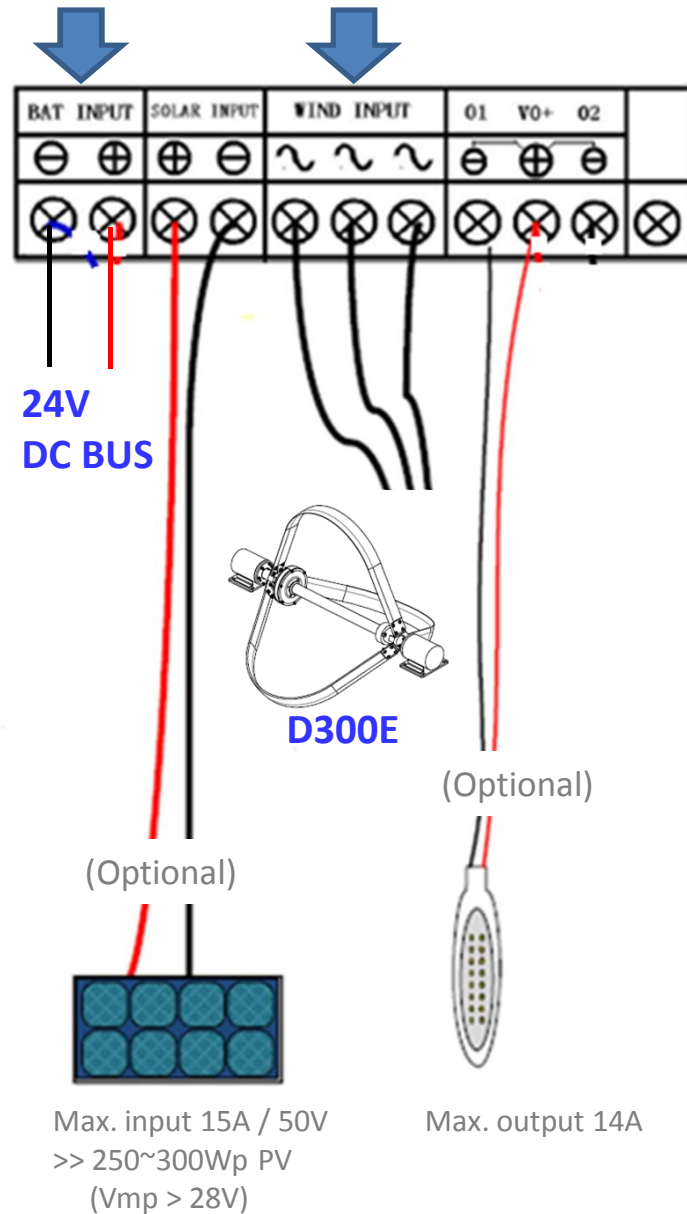
Reference Plan of Power Loading (N sets of D300E)

1. N sets of 24V/100Ah deep cycle gel battery
2. Peak power loading < $240W \cdot N$ (0.1C of battery capacity)
3. Continuous power loading, airflow is continuous 10 m/s during 12 office hours (eg., 7h – 19h)
 - (a) 12-office-hour usage: < $104W \cdot N$ ($104W = 141W \cdot 80\% \cdot 93\%$)
 - (b) 24-hours usage: < $52W \cdot N$ ($52W = 141W \cdot 80\% \cdot 93\% \cdot 12/24$)

[Please refer to the D300E power curve]

The Wiring of MAX630 (none street light scenario)

[For more detail, please refer to MAX630 manual]



NOTE: suggest to connect the wirings according to below order

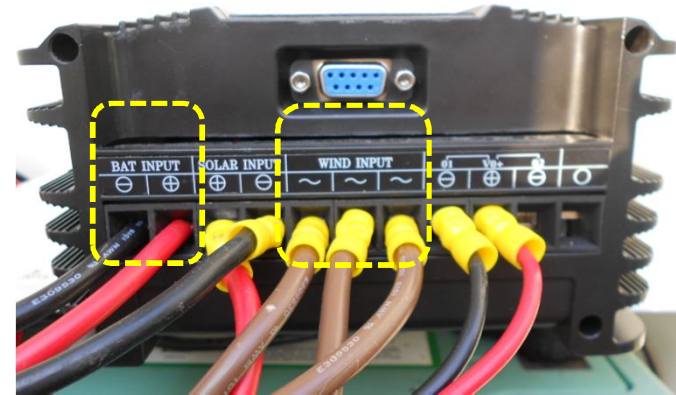
先接電池→ 太陽能板→ 風機→ 輸出負載

Battery → Solar Panel → Wind Turbine → Output Loading

DC BUS (Optional)

(Optional)

The wrong order may cause abnormality of controller



[SOLAR INPUT]	太陽能電壓輸入端; 輸入電壓<50VDC,輸入電流<15A Solar voltage input port, input voltage < 50VDC, input current<15A
[BAT INPUT]	電池輸入端;電池電壓 12V/24V/48V 等級 (注意輸入極性) Battery input port, battery voltage 12V/24V/48V grade (pay attention to the polarity)
[WIND INPUT]	風機交流輸入端, 無極性輸入 Wind turbine AC input port, non-polarity input.
[VO+ 01]	普通口輸出端 VO+ 接負載正; 01 接負載負 Normal output port VO+ connects unloading positive, O1 connects unloading negative
[VO+ 02]	普通口輸出端 VO+ 接負載正; 02 接負載負 Normal output port VO+ connects unloading positive, O2 connects unloading negative
[NORMAL OUT]	普通口輸出端 Normal output port

The Wiring - Special Point

[For more detail, please also refer to DS300 manual : Chapter 5 Wiring]

Closely look at the site that the DS300/D300E VAWT is to be installed and measure the following distances:

- Distance between DS300/D300E VAWT and the location of Controller(MAX630)
 >> recommend: the wire length not to exceed 50 meters
- Distance between the Controller(MAX630) and the Battery.
 >> recommend: the wire length not to exceed 5 meters
- Distance between the solar panel and the Controller(MAX630).

The required wire size:

	Description	Wire Size
1	Battery wires	AWG#10
2	R/S/T wires	AWG#12 Within 50m
Optional	Loading #1 wires	AWG#12
Optional	PV wires	AWG#12

Technical drawing of a mechanical assembly, showing two views: a top view and a side view.

Top View Dimensions:

- Overall width: 1506
- Overall height: $\varnothing 1260$
- Inner width: 984
- Inner height: 1326.5

Side View Dimensions:

- Overall width: 1506
- Overall height: $\varnothing 1260$
- Inner width: 984
- Inner height: 1326.5

Detail View (Inset):

- Overall width: 180
- Overall height: 200
- Inner width: 150
- Inner height: 15
- Corner radius: R6
- Inner corner radius: R10

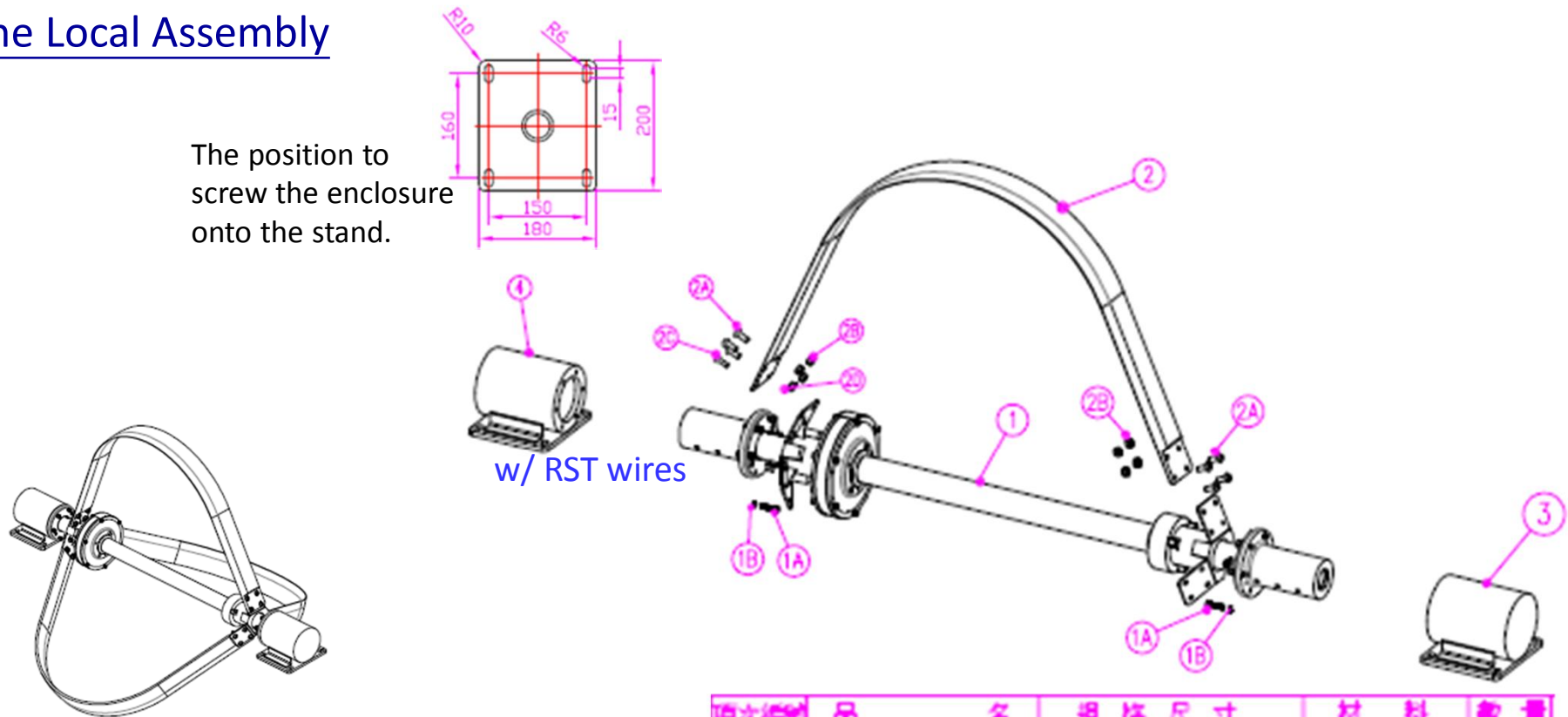
Assembly Details:

- The assembly consists of a central shaft with two end flanges.
- The flanges are connected to a central body via bolts.
- The central body has a central hole.
- The flanges have a central hole and four outer holes.
- The detail view shows the flange with a central hole and four outer holes.
- The text "此螺孔位置" (This screw hole position) points to the central hole in the flange.

(Reference Only. The real dimension is designed by the end-customer, adaptive to his ventilation condition)

The Local Assembly

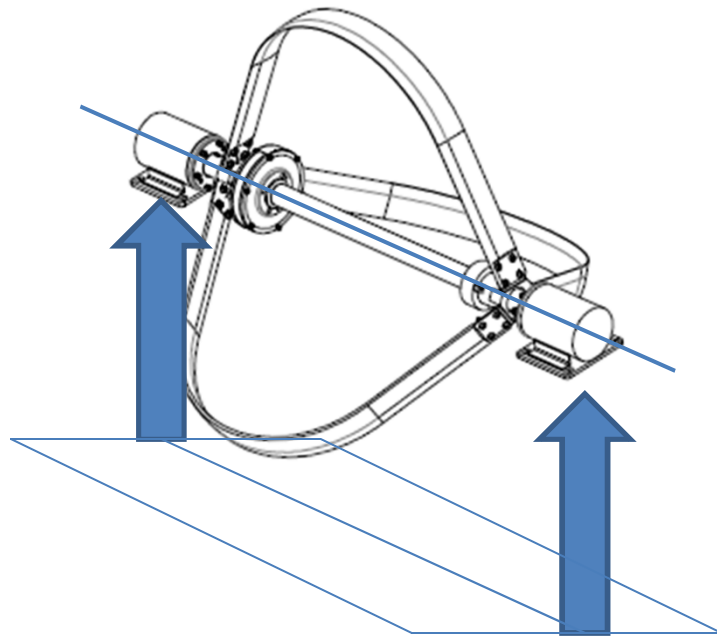
The position to screw the enclosure onto the stand.



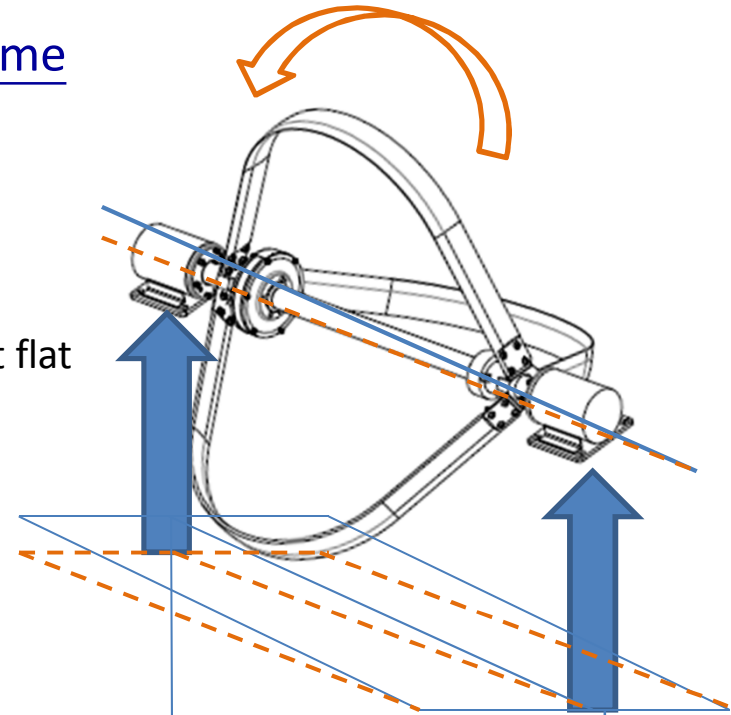
- Each Darrieus blade has 7 positions for M10 screws, and 1 position of M8 screw (preventing the wrong direction)
- There are dampers at both sides (for absorbing the vibration), but the RST wires comes from the only one side. Thus one terminal enclosure reserves such hole for the extending connection of RST wires)

項次編號	品名	規格尺寸	材料	數量
1	臥式風機			1
組裝配件				2
1A	內六角圓頭螺絲	M8*P1.25*30L	SUS304	12
1B	M8彈簧華司	M8 washer		12
2	外葉片	Darrius Blade		3
組裝配件				
2A	內六角半圓頭螺絲	M10 *P1.5*25L	SUS304	21
2B	防鬆螺帽	M10*P1.5	SUS304	21
2C	內六角半圓頭螺絲	M8*P1.25*25L	SUS304	3
2D	防鬆螺帽	M8*P1.25	SUS304	3
3	風機安裝座	Terminal enclosure		1
4	風機安裝座(出線孔用)	Terminal enclosure w/RST		1

Two Situations Leading to Shortening of Life Time



1. The ground is not flat



2. The stand is not precisely vertical to the ground

