Dossier Technique

Lampadaire hybride Nheolight

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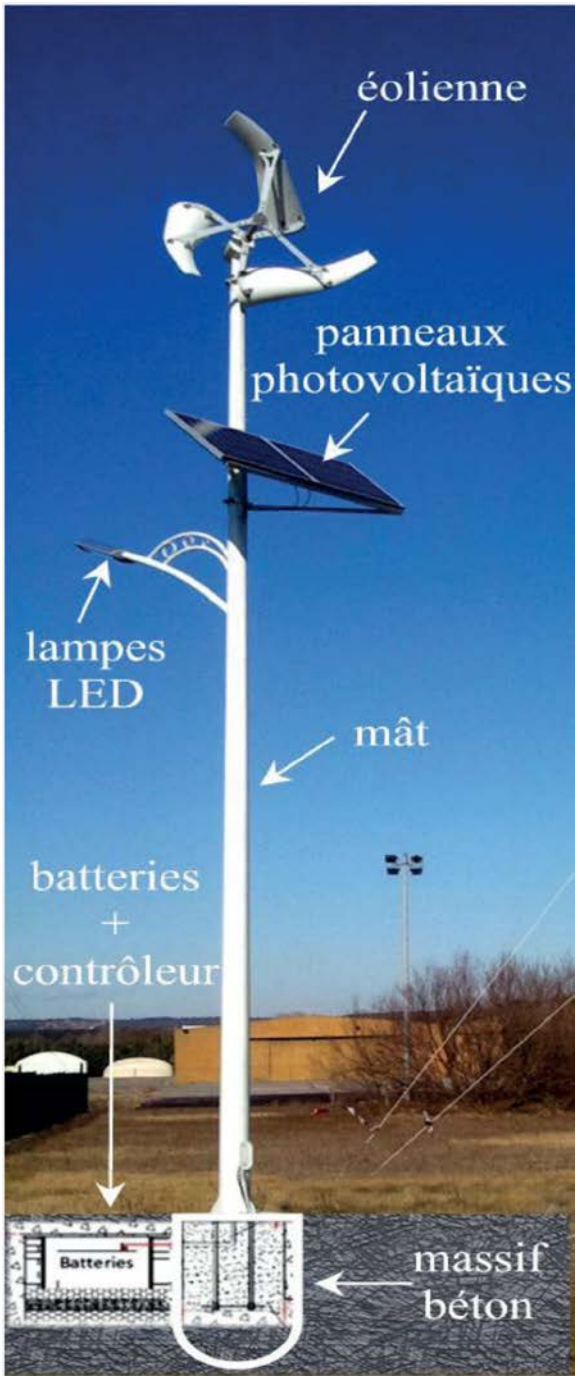
Présentation du lampadaire hybride autonome Nheolight

L’éclairage public en France représente 47% de la consommation d’électricité des communes et rejette annuellement 670 000 tonnes de CO2. La gamme d'éclairage Nheolight permet de réaliser un éclairage nocturne totalement autonome énergétiquement, sans branchement au réseau et donc sans consommation d'énergie externe. Ainsi, cet éclairage n’utilise aucune énergie fossile et n'émet pas de gaz à effet de serre.



Les lampadaires Nheolight sont des lampadaires hybrides (solaire et éolien). Ils sont alimentés par deux panneaux solaires photovoltaïques et par une petite éolienne. Ces éléments sont intégrés dans le design du lampadaire. Les panneaux solaires permettent de récupérer l'énergie du soleil et l'éolienne permet de capter l’énergie du vent. Ces énergies, une fois transformées en électricité, seront stockées dans deux batteries d’accumulateurs. L'électricité sera redistribuée la nuit au moment du besoin en éclairage.
L’éclairage fonctionne grâce à des ampoules à LED consommant très peu d'énergie. Cela permet à l'éclairage de bénéficier d'une bonne autonomie.

Les lampadaires sont fixés sur des socles bétons, implantés dans le sol. Leur installation est facile et peu coûteuse : elle ne nécessite aucune tranchée, aucun raccordement électrique et aucun abonnement à un distributeur d'électricité.

Le Nheolight se compose d’une mini-éolienne, de deux panneaux solaires, d’une lanterne à diodes électroluminescentes (LED), d’un contrôleur, de deux batteries, d’un mât, d’une cage de scellement (massif en béton) et des éléments de fixation.

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Nheohybrid power LED Street Light (56W, single arm)

I. System configuration and quotation list

S/N	Item	Model no.	Description/Specification	Qty	
1	Wind turbine	nheowind 3D04	rated 300W, 24V, horizontal axis, 3 blades, downwind, noise level less than 35dB@12m/s	1	**Total system package price is US$2348.00**
2	Solar panel	M-060/12	60W monocrystalline silicon solar modules	2	
3	LED lamp	G108	56P*1W bridgelux LED (white), 24VDC, 23 lux@7m height (from lamp to ground)	1	
4	Hybrid controller	WS06A-24	24VDC, light control + time control, start charging from low voltage 4V	1	
5	Gel battery	CG12-80	80AH/12VDC, deep cycled, maintenance-free	2	
6	Battery box	ZD-7	underground type, IP67, engineering plastic	1	
7	Bracket of PV panel	/	Q235A steel sprayed with plastic powder paint,	1	
8	Lamp post	/	9m high, hot-dip galvanized steel with 4mm wall thickness, sprayed with plastic powder paint, including LED lamp arm and anchor bolts	1	
9	Accessories	/	cable, fastening, connector, pipe etc	1	

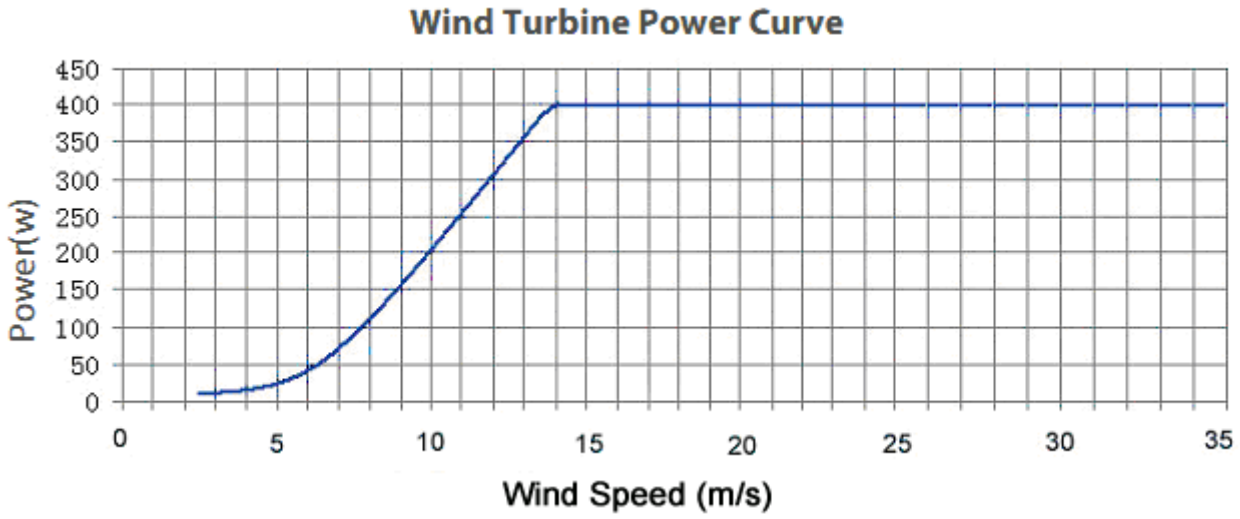
Remarks:

1) Above system could provide LED lamp daily power consumption for **10 hours** (5 hours full energy mode + 5 hours energy saving mode- half power); Continuously working days: **3~4 days.**
2) Recommended installed environmental condition at average wind speed **4m/s+**, sun radiation **5kwh/m^2/d+**.
3) The above prices are based upon **EXW factory (Zhangzhou, China)**.The FOB or CIF price could be re-quoted based on detail order quantity and destination port.
4) The above prices are valid for **30 days** since offer sending date. Please confirm the price before placing order when it's out of validity.
5) Payment terms: **100% T/T in advance** or **L/C at sight**.
6) Delivery time: as negotiation, usually **within 45 days** after receipt of T/T payment or original L/C.
7) Warranty: Wind turbine and solar panel (**5 years**), other main parts (**1 year**).
8) MOQ: **15 sets.**
9) The system configuration could **be customized** according to the local installation environment and illumination regulation.

II. Technical specification of main parts

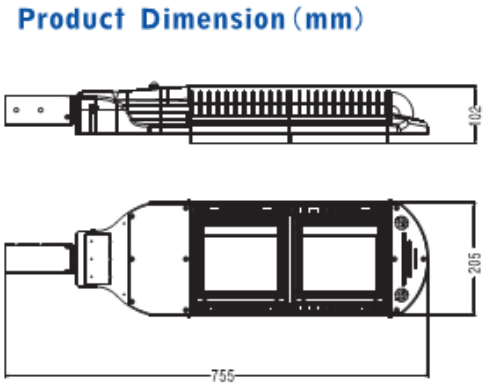
1. 3D wind turbine

Model	Nheowind 3D04
Rated Power	300W
Maximum Power	400W
Rated Voltage	25VAC
Rated Wind Speed	12m/s
Cut-in Wind Speed	2.5m/s
Survival Wind Speed	45m/s
Qty of Blades	3pcs
Rotor Diameter	1.5m
Noise Level	＜35dB@12m/s
Working Temperature	-40~60℃
Weight (turbine only)	30kg



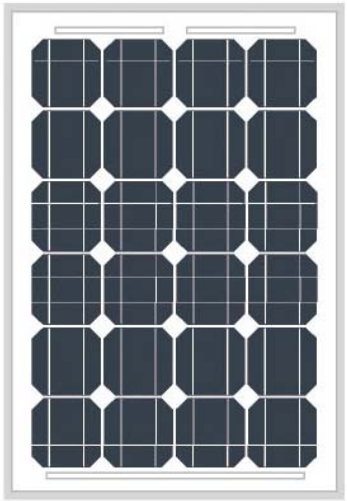
2. LED lamp

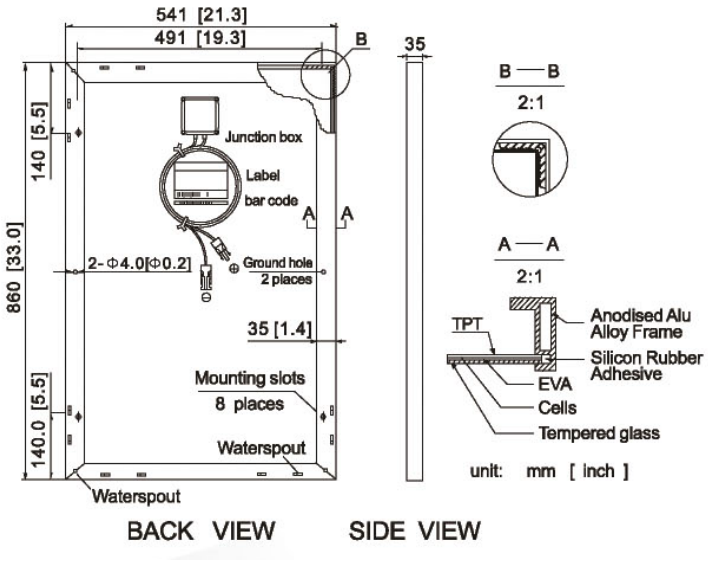
Model	G108
Optical Spec	
LED Spec & Quantity	56 x 1W LED (White)
LED Color Temperature	3000-3500K/4000-4500K/5000-7000K
Luminaire Efficiency	90%
LED Efficiency	＞105Lm/W
Initial Delivered Lumen Tj=25℃	5400Lm
Normal Luminous Flux Tj=66℃	5000Lm
Illuminance & Scope at 6M	28Lux, 21mx9.75m
Illuminance & Scope at 8M	16Lux, 28mx13m
Color Rendering Index	Ra＞75
Beam Angel	130° x 80°
Electrical Spec	
Input Voltage & Frequency	DC24V 50~60Hz
Power Factor	＞0.95
Input Current	0.33A (220V)
Total Power Consumption	72W
Temperature Spec	
Shell Temperature (Ta=30℃)	51℃
Junction Temperature (Ta=30℃)	64℃
Shell Temperature Rise (Ta=30℃)	21℃
Junction Temperature Rise (Ta=30℃)	34℃
Other Spec	
Operating Temperature & Humidity	-20℃~40℃ / 10~90RH
Storage Temperature	-20℃~45℃
Dimension	L755xW205xH102mm
Net Weight	5.75kg
IP Rating	IP65
Designing Lifespan	50,000h
56W LED Street Light Equivalent to 150W HPS Lamp	



3. Solar panel

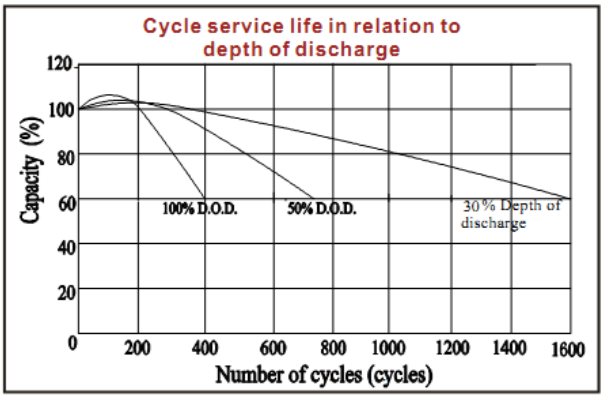
Model	**M60**
Electric Spec	
Pm	60
Vmp	18.4
Imp	3.27
Voc	22.2
Isc	3.54
Maximum System Voltage	715VDC
STC: Irradiance 1000W/m2, Temperature 25 ℃, AM=1.5	
Mechanical Spec	
Cell Size (mm)	125x41.6
Modules Size (mm)	860x541x35
No. of Cells	72 (4x18)
Weight(KG)	6
No. of Mounting Holes	4
No. of Waterspout	16
Temperature Coefficient	
NOCT	47℃±2℃
Temperature coefficient of Isc	+0.03%/℃
Temperature coefficient of Voc	-0.333%/℃
Temperature coefficient of Pmax	-0.459%/℃
Power Tolerance	±3%

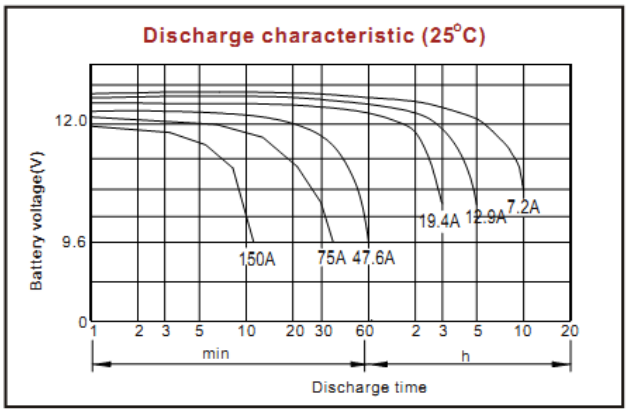


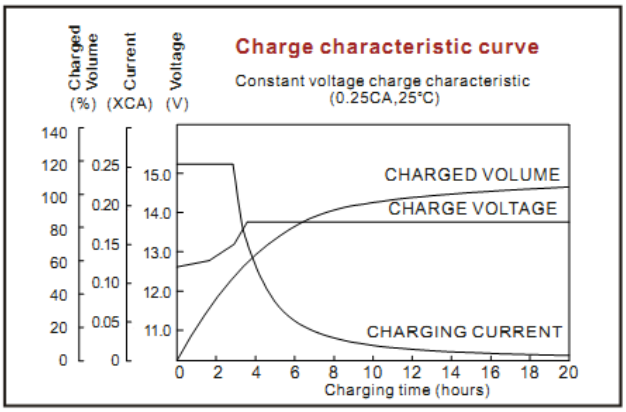


4. Gel battery

Model	CG12-80Z-TA
Cells Per Unit	6
Voltage Per Unit	12
Capacity	80Ah@10hr-rate to 1.80V per cell @ 25℃
Weight	24kg
Max. Discharge Current	750A (5 sec)
Internal Resistance	Approx. 5.5mΩ
Operating Temperature Range	Discharge:-20℃~60℃ Charge: -10℃~60℃ Storage: -20℃~60℃
Normal Operating Temperature Range	25℃±5℃
Self Discharge	less than 3% per month at 25℃
Dimension(mm)	L350xW167xH179



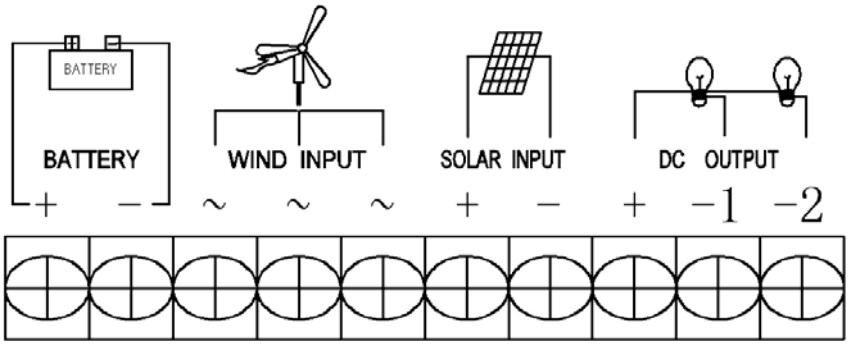




5. Wind + Solar hybrid controller

Model	WS06A-24
Rated Battery Voltage	24V
Rated Wind Turbine Power	600W
Wind Turbine Maximum Input Current	40A
Wind Turbine Maximum Input Power	1000W
Unload Voltage（factory default）	28V
Unload Current（factory default）	25A
Rated Solar Power	240W
Battery Over Discharge Voltage Shutoff	22V
Battery Over Discharge Recovery	24V
Output Protection Voltage	32V
PV Voltage Of Light-Control On	Adjustable（2V）
PV Voltage Of Light-Control Off	Adjustable（3V）
Load 1 Rated Output Current	10A
Load 2 Rated Output Current	10A
Load 1 Output Mode(Factory Default)	3 Modes Selection（Light-Control On and Light-Control Off）
Load 2 Output Mode(Factory Default)	3 Modes Selection（Light-control On and Time-Control 5 hours）
Control Mode	PWM
Display Mode	LCD
Display Parameters	Wind Turbine Power, Wind Turbine Voltage, Wind Turbine Current, PV Voltage, PV Charge Current, PV Power, Battery Voltage, Over Voltage, Under Voltage, Over Load, Short Circuit, Night. Etc

Working Temperature & Humidity	-20~+55℃/35~85%RH（Without Condensation）
Temperature Compensation （optional）	4mV/℃/2V ,–35℃--+80℃, Precision：±1℃
Communication Mode（optional）	RS232、RS485、RJ45、GPRS. Etc
Quiescent Current	≤20mA
Protection Function	Solar reverse charge protection , Solar reverse connection protection, Battery over charge protection, Battery over discharge protection, Battery reverse connection protection, Lightning protection Wind turbine current limiting, Wind turbine automatic brake and manual brake..
Low Voltage Charge Function	With this function Controller can start charging battery when wind turbine voltage is lower than battery bank voltage , For example ,Controller can start charging battery from 4V if runs in 24V battery bank



IV. Packing information

1. Wind turbine & Hybrid power controller

Packing: 1 carton (1pcs wind turbine + 1pcs controller in one carton)
Carton size (mm): L1062*W697*H352
G.W (kg): 37

2. Solar panel

Packing: 1 carton (2pcs solar panels in one carton)
Carton size (mm): L900*W581*H85
G.W (kg): 14