

Wind-Solar Complementary Landscape Light

FESL-CW-C SERIES

*Wind Turbine
(Spiral Axis)*



PV Module



LED Streetlight



Controller



WiFi Router



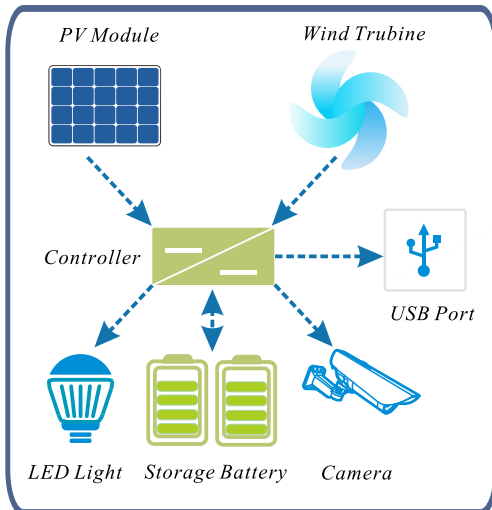
USB Port



Battery

Wind-Solar Complementary Landscape light

FESL-CW-C SERIES



- Comprehensive utilization of wind & solar energy
- Overall modular design
- Reliable, safe & quick-installation
- Customizable options: camera, charging port,.
- Start-up wind speed: 1.5m/s
- Outstanding performance of solar module
- Graceful appearance for landscape effect

Configuration of FESL-CW-C

Dimension	5.93~6.28m in total & light @ 4m	Pole	5m in total, Galvanized steel
Weight	200 kg	Street Light	White LED, 15W, IP65
Operation	-20°C ~ 40°C, wind @ 40m/s	Controller	12V, 20A
Service Time	43 hour @full power	PV Module	175W, DC12V
Basement	600*600*900 mm concrete block	Wind Turbine	400W
Spacing	5m ~ 20m	Battery	Li, 12V/60Ah
Control Strategy	Light-Control & Time-Control	Router	3G/4G, 150Mbps max.
Warranty	2 years	Output Port	USB (5V/2.1A) * 2, Waterproof
Lifespan	10 years	Altitude	2000 m derating, 3000 m @max

* PV module could be changed as special requirement and 175W as default.

* Wind turbine could be changed as special requirement and 400W SAWT as default.

* Surrounding condition, including cable, tree, building, etc., must be investigated carefully before installation.

All rights reserved. Design and specification are subject to change without prior notice.

Wind-Solar Complementary Landscape light

FESL-CW-C SERIES

Configuration of Wind Turbine (SAWT)



- Comprehensive & integrated design
- Light with little vibration
- Reliable, safe & quick-installation
- Customizable Color options
- Start-up @ 1.5m/s and brake @ 16m/s
- Special treatment for strengthen anti-corrosion
- Graceful appearance for landscape effect

SAWT Wind Turbine

FEWT-S100 FEWT-S200 FEWT-S300 FEWT-S400

Rated Power (W)	100	200	300	400
Max. Power (W)	130	220	310	410
Output Voltage (V)	12/24			
Start-up Wind Velocity (m/s)	1.5		2.0	
Rated Wind Velocity (m/s)	11			
Max. Wind Velocity (m/s)	45			
Weight (kg)	13.5	17	19	21
Wheel Diameter (m)	0.47			0.65
Wheel Height (m)	0.93		1.08	1.28
Blades Number	10	12	8	8
Blades Material	Aluminum Alloy			
Generator	3-phase permanent magnet AC generator/maglev generator			
Control System	Electromagnet			
Speed Regulation	Automatically Windward			
Operation Temperature (°C)	-40 ~ +80			
Warranty	2 years			

Wind-Solar Complementary Landscape light

FESL-CW-C SERIES

Configuration of PV Module



- Outstanding performance in actual operation
- Excellent mechanical load resistance
- Reliable, safe & quick-installation
- Customizable Power & Size options
- Special treatment for strengthen anti-corrosion
- Graceful appearance for landscape effect

Characteristics

	$P_m(W)$	$V_m(V)$	$I_m(A)$	$V_{oc}(V)$	$I_{sc}(A)$	Eff.(%)	G.W.(kg)	Dim.(mm)
FEPM-100P	100	19.2	5.23	22.5	5.87	14.8	8	1010*670*35
FEPM-130P	130	17.1	7.61	20.1	8.95	14.3	10	1320*670*35
FEPM-150M	150	17.4	8.65	20.4	9.55	17.0	10	1320*670*35
FEPM-175P	175	19.75	8.87	23.4	9.68	17.6	11.5	1480*670*35

Nominal Operating Cell Temperature(NOCT)	45±2°C
Temperature Coefficient Of P_m	-0.39%/°C
Temperature Coefficient Of $V_{oc}(\%/C)$	-0.34%/°C
Temperature Coefficient Of $I_{sc}(\%/C)$	0.09%/°C
Operating Temperature	-40~+85°C
Storage Temperature	-40~+85°C

Materials

Cell Type	Poly/Mono Crystalline
Frame	Anodized Aluminum Alloy
Glass	Low Iron, Tempered Glass, 3.2 mm
Connector	Cold-pressed Terminal
Cable	RV

Warranty

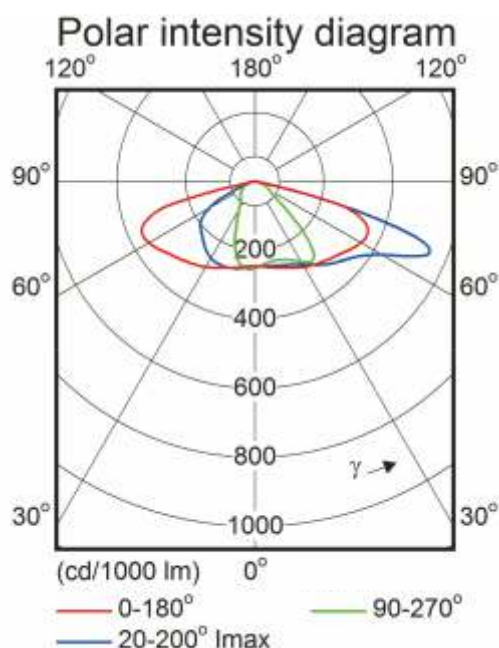


Wind-Solar Complementary Landscape light

FESL-CW-C SERIES

Configuration of LED Light

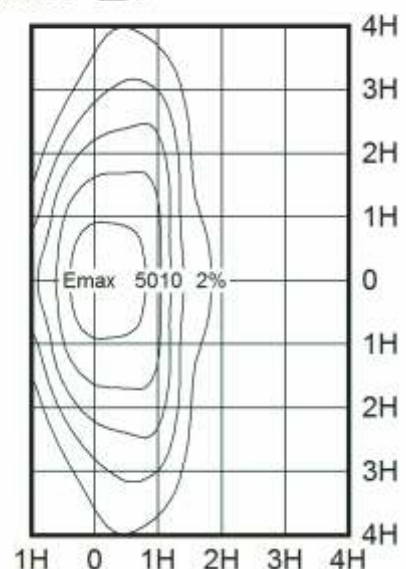
Rated Power (W)	10	15	24
Input Voltage (V)	12	12	12
Power Factor	>0.95	>0.95	>0.95
Lamp Luminance (lm)	1300	2000	5000
Color Temperature (K)	6000	6000	6000
Color Rendering Index (RA)	85	85	85
Beam Angle (°)	70*120	70*120	65*135
Operation Temperature (°C)	-20 ~ +40	-20 ~ +40	-20 ~ +40
Storage Temperature (°C)	-20 ~ +70	-20 ~ +70	-20 ~ +70
Operation Humidity (%RH)	35 ~ 85	35 ~ 85	35 ~ 85
Lifespan (hrs)	50000	50000	50000
Dimension (L×W×H)(mm)	375×1130×65	375×1130×65	385×150×50
Weight (kg)	1.2	1.2	1.4
Warranty	2 years	2 years	2 years
Ingress Protection	IP65	IP65	IP65



Relative isolux diagram

Horizontal Illuminance $\angle 0^\circ$

H	E _{max}
(m)	(lux)
3.0	67
3.5	49
4.0	37



Wind-Solar Complementary Landscape light

FESL-CW-C SERIES



Waterproof IP66



Wireless Signal



Day/Night



Mobile Monitoring



Web Server



Privacy Occlusion



- Qualcomm Chip
- 3G/4G Full Cover
- Bandwidth up to 150Mbps
- 802.11n/802.11g/802.11b
- Ip66 & High Surge Protection
- Up to 32 Connections

Configuration of Router

General	Operation Condition	-20°C ~ 50°C, 5%RH ~ 95%RH
	Power Supply	5V ~ 12V (18V max.), PoE(Optional)
	Power Consumption	<5W (1A max.)
	Dimension	290mm × 210mm × 80mm
	Weight	600g
	Interface	DC12V/PoE, SIM slot (standard, 3/4G), LAN, CAN, Reset, 3/4G antenna, WiFi antenna
Protection	Safety	IEC 60950-1
	ESD	IEC61000-4-2, ±6KV
	Surge	IEC61000-4-5, ±2KV
	Ingress Protection	EN60529/GB4208 IP66
3G/4G	Frequency	FDD-LTE: B1/B3/B8/B18/B19/B26, TDD-LTE: B38/39/40/41, WCDMA/HSDPA: B1/B6/B8/B19, CDMA/EVDO: 800MHz, TD-SCDMA: B34/39, GSM/GPRS/EDGE: 850/900/1800/1900 MHz
	Sensitivity	FDD-LTE <-94dBm (20MHz), <-106.2dBm (1.4MHz), WCDMA <-106.7dBm, CDMA <-107.7dBm, GSM <-102dBm
	Transmission Power	FDD-LTE Class3 @23dBm, TDD-LTE Class3 @23dBm, WCDMA2100: Class 3 @23dBm, TD-SCDMA @+24dBm (Power class 2), GSM850/900 Class 4 @33dBm, GSM1800/1900 Class 1 @30dBm
	Bandwidth	Download @150Mbps max., Upload @50Mbps max.
WiFi	Protocols	2.4GHz 300Mbps (400mW 2T2R), IEEE 802.11b/g/n, SSID stealth mode and access control
	Sensitivity	802.11b: -83dBm@10% PER, 802.11g: -74dBm@10% PER, 802.11n: -68dBm@10% PER
	Transmission Power	802.11b @18±2dBm, 802.11g @15±2dBm, 802.11n @15±2dBm
	Others	DHCP, DDNS, VPN, Bandwidth Control, Static Route, System Log, MAC Address control, Profile import & export

Wind-Solar Complementary Landscape light

FESL-CW-C SERIES

Configuration of Battery

Rated Voltage	14.4 V	Charge Voltage	12.0V ~ 16.8V
Capacity (0.2C)	60 Ah	Cut-off Voltage	12.0 V
Dimension	140×100×462 mm	Max. Charge Current	12 A
Weight	7 kg	Max. Discharge Current	30 A
Storage Characteristics	>85%	Operation Temp.	15°C ~ 25°C (Optimal)
Cycle Life	1000 times (80%DOD)		-20°C ~ +60°C (Discharge)
Warranty	2 years		0°C ~ +55°C (Charge)
Lifespan	>5 years		-20°C ~ +55°C (Storage)

Configuration of Controller

FECO-C0315-12/NCM

Operation Voltage (V)	12
Self-consumption (mA)	<20
Over-charge Protection (V)	16
Over-discharge Recovery (V)	11.6
Over-discharge Protection (V)	11
Max. Output Current (A)	20
Wind Turbine Input (W)	200 (300 max.)
PV Input (W)	150
Wind Turbine Auto-brake (A)	17
Control Strategy	Light-Control & Time-Control
Terminal	3 (input) / 2 (output)
Operation Temperature (°C)	-20 ~ +40
Operation Humidity (%RH)	5 ~ 95, without condensation
Dimension (mm)	123×150×62
Weight (kg)	0.8
Warranty	2 years
Lifespan	10 years
Protection	Over-charge, over-discharge, over-load, shorted, polarity reverse, auto-brake & manual brake