Applications

- Power supply for those unmanned regions like mobile communication station, high way, the coastal islands, remote mountainous regions and border posts.
- Regional research projects, government demonstration projects, landscape lighting projects for those places with insufficient power or power shortages.

Features

- Wind&Solar complementary controller in high quality.
- LCD Display. Easy setup.
- RS232/RS485/RJ45/GPRS /Bluetooth Optional (For those with GPRS/Bluetooth/RJ45 can also be monitored through App.)

Technical Parameters

Model	WWS03-12	WWS04-12	WWS06-24
Wind Turbine Input			
Rated input power	300W	400W	600W
Rated input voltage	14Vdc	14Vdc	28Vdc
Input voltage range	0~16Vdc	0~16Vdc	0~32Vdc
Rated input current	25Adc	34Adc	25Adc
Brake by hand	Press button "Enter" "Esc" at the same time to unload completely. Then recover by hand.		
Brake by over current	25A（factory default,0~25A settable）Unload completely when reached the set current, and recover automatically after working 10mins.	34A（factory default,0~34A settable）Unload completely when reached the set current, and recover automatically after working 10mins.	25A（factory default,0~25A settable）Unload completely when reached the set current, and recover automatically after working 10mins.
Brake by overvoltage	Refer to "output overvoltage" control		
Brake by over wind speed（optional）	14m/s（0-30m/s settable）,Unload completely when reached the set wind speed, and recover automatically after working 10mins.		
Brake by over rotational Speed（optional）	500r/min（factory default,0~1000r/min settable）Unload completely when reached the set rotational speed, and recover automatically after working 10mins.		
PV Input Parameters			
Rated input power	150W		300W
Max. open circuit voltage	24V		48V
Rated input current	13A		
Reversed connection protection	YES		
Charge Parameters			
Rated battery voltage	12V		24V
Temperature compensation function(optional)	-3mV/℃/2V		
Output Parameters			
Rated output voltage	12V		24V

Start unload voltage	13.5V（factory default,11Vdc~16Vdc settable）		27V（factory default,22Vdc~32Vdc settable）
Complete unload voltage	14.5V(factory default, add 1V to the start unload voltage)		29V(factory default, add 2V to the start unload voltage)
Max. Output current	25A	34A	25A
DC load output			
Output loops	2 loops		
Output control mode	Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off.		
Output voltage range	10.8V~16V		21.6V~32V
Undervoltage recovery point	Refer to "rated battery voltage"		
Rated output current	10A/each loop		
Overload protection	120% rated DC output -1min,150% rated DC output -10s		
Short circuit protection	200% rated DC output, instant protection		
General Parameters			
Rectifier mode	Uncontrolled rectifier		
Display mode	LCD		
Display information	Battery voltage, wind turbine voltage/current/ power, PV power/voltage/current, light control-on voltage, light control-off voltage, time control duration, load current and so on.		
Monitoring mode(optional)	RS232/RS485/RJ45/GPRS/Bluetooth/Zigbee		
Monitoring Contents	Real-time display: Battery voltage, wind turbine voltage/current/ power, PV power/voltage/current, wind power generation capacity, solar power generation capacity, Battery status, wind turbine status, day and night, DC overload, DC load short circuit, and so on.		
	Parameter setting: Output overvoltage point, wind turbine over current point, wind turbine start voltage, DC load overvoltage/undervoltage /undervoltage recovery point, output mode choice for two loops, light control on voltage, light control off voltage, and wind turbine brake settings.		
Lightning protection	YES		
Conversion efficiency	≥95%		
Static loss	＜0.5W		

Environment temperature	-20℃～+40℃
Humidity	5%~95%,No condensing
Noise	≤65dB
Cooling mode	Natural cooling
Installation mode	Wall-mounted
Cover protection class	IP52
Product dimension(W*H*D)	150×143×83mm
Product net weight	1.8kg
Note: the listed specs are just for your reference	

（600W 48V controller）

Model	WWS06-48
Wind Turbine Input	
Rated input power	600W
Rated input voltage	56Vdc
Input voltage range	0~64Vdc
Rated input current	13Adc
Brake by hand	Press button "Enter" "Esc" at the same time to unload completely. Then recover by hand.

Brake by over current	13A (factory default,0~13A settable)Unload completely when reached the set current, and recover automatically after working 10mins.
Brake by overvoltage	Refer to "output overvoltage" control
Brake by over wind speed (optional)	14m/s (0-30m/s settable), Unload completely when reached the set wind speed, and recover automatically after working 10mins.
Brake by over rotational Speed (optional)	500 r/min (factory default,0~1000r/min settable)Unload completely when reached the set rotational speed, and recover automatically after working 10mins.
PV Input Parameters	
Rated input power	300W
Max. open circuit voltage	96V
Rated input current	7A
Reversed connection protection	YES
Charge Parameters	
Rated battery voltage	48V
Temperature compensation function (optional)	-3mV/℃/2V
Output Parameters	
Rated output voltage	48V
Output overvoltage point	58V (factory default,44Vdc~64Vdc settable)
Output overvoltage recovery point	52.8V (factory default, reduce 5.2V from the output overvoltage point)
Max. Output current	13A
DC Load Output(Optional)	
Output loops	2 loops
Output control mode	Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off.
Output voltage range	43.2V~64V
Undervoltage recovery point	Refer to "rated battery voltage"
Rated output current	10A/each loop
Overload protection	120% rated DC output -1min,150% rated DC output -10s
Short circuit protection	200% rated DC output, instant protection
General Parameters	

Rectifier mode	Uncontrolled rectifier
Display mode	LCD
Display information	Battery voltage, wind turbine voltage/current/ power, PV power/voltage/current, light control-on voltage, light control-off voltage, time control duration, load current and so on.
Monitoring mode (optional)	RS232/RS485/RJ45/GPRS/Bluetooth/Zigbee
Monitoring Contents	Real-time display: Battery voltage, wind turbine voltage/current/ power, PV power/voltage/current, wind power generation capacity, solar power generation capacity, Battery status, wind turbine status, day and night, DC overload, DC load short circuit, and so on.
	Parameter setting：Output overvoltage point, wind turbine over current point, wind turbine start voltage, DC load overvoltage/undervoltage /undervoltage recovery point, output mode choice for two loops, light control on voltage, light control off voltage, and wind turbine brake settings.
Lightning protection	YES
Conversion efficiency	≥95%
Static loss	＜0.5W
Environment temperature	-20℃～+40℃
Humidity	5%~95%,No condensing
Noise	≤65dB
Cooling mode	Natural cooling
Installation mode	Wall-mounted
Cover protection class	IP52
Product dimension (W*H*D)	150×205×82mm
Product net weight	2.8kg
Note: the listed specs are just for your reference	

(1KW 48V economical controller)

Technical Parameters

Model	WWS10-48B
Wind Turbine Input	
Rated input power	1kW
Rated input voltage	56Vdc
Input voltage range	0~64Vdc
Rated input current	21Adc
Brake by hand	Press button "Enter" "Esc" at the same time to unload completely. Then recover by hand.
Brake by over current	21A (factory default,0~21A settable)Unload completely when reached the set current, and recover automatically after working 10mins.
Brake by overvoltage	Refer to "output overvoltage" control
Brake by over wind speed (optional)	14m/s (0-30m/s settable),Unload completely when reached the set wind speed, and recover automatically after working 10mins.

Brake by over rotational Speed (optional)	500r/min (factory default,0~1000 r/min settable)Unload completely when reached the set rotational speed, and recover automatically after working 10mins.
PV Input Parameters (Optional)	
Rated input power	300W
Max. open circuit voltage	96Vdc
Rated input current	7Adc
Reversed connection protection	YES
Charge Parameters	
Rated battery voltage	48Vdc
Temperature compensation function (optional)	-3mV/℃/2V
Output Parameters	
Rated output voltage	48Vdc
Output overvoltage point	58V
Output overvoltage recovery point	Recover automatically under output overvoltage point
Max. Output current	21Adc
General Parameters	
Rectifier mode	Uncontrolled rectifier
Display mode	LCD
Display information	Battery voltage, wind turbine voltage/current/power.
	For those with PV, PV voltage/current/power is showed as well.
Monitoring mode (optional)	RS232/RS485/RJ45/GPRS/Bluetooth/Zigbee
Monitoring Contents	Real-time display: Battery voltage, wind turbine voltage/current/power.
	For those with PV, PV voltage/current/power is showed as well.

	Parameter setting: overvoltage point, over current point, wind turbine brake settings, and so on.
Lightning protection	YES
Conversion efficiency	≥95%
Static loss	＜1W
Environment temperature	-20℃～+40℃
Humidity	5%~95%,No condensing
Noise	≤65dB
Cooling mode	Natural cooling
Installation mode	Wall-mounted
Cover protection class	IP52
Product dimension (W*H*D)	150×205×80mm
Product net weight	2.6kg
Dump load dimension (W*H*D)	360×80×120mm
Dump load net weight	2.8kg
Note: the listed specs are just for your reference	

(1kW, 24V)

Model	WWS10-24
Wind Turbine Input	
Rated input power	1kW
Rated input voltage	24Vdc
Input voltage range	0~32Vdc
Rated input current	42Adc
Brake by hand	Press button "Enter" "Esc" at the same time to unload completely. Then recover by hand.
Brake by over current	42A((factory default,0~42A settable)Unload completely when reached the set current, and recover automatically after working 10mins)
Brake by overvoltage	Refer to "output overvoltage" control
Brake by over wind speed (optional)	14m/s (0-30m/s settable),Unload completely when reached the set wind speed, and recover automatically after working 10mins.
Brake by over rotational Speed (optional)	500r/min (factory default,0~1000 r/min settable)Unload completely when reached the set rotational speed, and recover automatically after working 10mins.
PV Input Parameters (Optional)	
Rated input power	300W
Max. open circuit voltage	48Vdc
Rated input current	13Adc
Reversed connection protection	YES
Charge Parameters	
Rated battery voltage	48Vdc

Temperature compensation function (optional)	-3mV/℃/2V
Output Parameters	
Rated output voltage	24Vdc
Output overvoltage point	29V
Output overvoltage recovery point	Recover automatically under output overvoltage point
Max. Output current	42Adc
General Parameters	
Rectifier mode	Uncontrolled rectifier
Display mode	LCD
Display information	Battery voltage, wind turbine voltage/current/power. For those with PV, PV voltage/current/power is showed as well
Monitoring mode (optional)	RS232/RS485/RJ45/GPRS/Bluetooth/Zigbee
Monitoring Contents	Real-time display: Battery voltage, wind turbine voltage/current/power. For those with PV, PV voltage/current/power is showed as well.
	Parameter setting: overvoltage point, over current point, wind turbine brake settings, and so on.
Lightning protection	YES
Conversion efficiency	≥95%
Static loss	＜2W
Ambient temperature	-20℃～+40℃
Humidity	5%~95%,No condensing
Noise	≤65dB
Cooling mode	Natural cooling
Installation mode	Wall-mounted
Cover protection class	IP52
Product dimension (W*H*D)	442×425×172mm
Product net weight	10kg