



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 recover by hand.	unload completely. Then
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" o	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	150	0W	300W
Max. open circuit voltage	24	4V	48V
Rated input current	13A		
Reversed connection protection	YES		
Charge Parameters			
Rated battery voltage	12	2V	24V
Temperature compensation function(optional)	-3mV/°C/2V		
Output Parameters			
Rated output voltage	12	2V	24V



		Let 5 go gr	cen, Let 5 will together
Start unload voltage	13.5V (factory default,1	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	_	set in 7 modes, such as lightrol on and time control	-
Output voltage range	10.8	V~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		
	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.		
Monitoring Contents	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°C∼+40°C
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
Model	W W 500-40
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.



Set current, and recover automatically after working 10mins. Brake by over wind speed (optional) Brake by over wind speed (optional) Stake by over rotational speed, and recover automatically after working 10mins. 500 r/min (factory default, 0~1000r/min settable) Unload completely when reached the set wind 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. FV Input Parameters Rated input power Max. open circuit voltage Rated input current Reversed connection protection Temperature Charge Parameters Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage Output overvoltage point 58V (factory default, 44Vdc~64Vdc settable) Output overvoltage point Decord Output current Max. Output current Decord Output (Optional) Output control mode Output control mode Output voltage range Undervoltage range Undervoltage range Undervoltage recovery point Rated output current Polypoint Rated output current 10A/each loop Overload protection 120% rated DC output, instant protection	A Service Service Service Service	Let's go green, Let's will together
Brake by over wind speed (optional) Brake by over rotational Speed (optional) Brake do input current Speed (optional) Brake do utput voltage (optional) Brake do utput overvoltage point (optional) Brake by over rotational Speed (optional) Both 2 loops (optional) Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. Both 2 lo	Brake by over current	
speed (optional) Brake by over rotational Speed (optional) Brake by over rotational Speed (optional) Speed (optional)	Brake by overvoltage	Refer to "output overvoltage" control
Speed (optional) reached the set rotational speed, and recover automatically after working 10mins. PV Input Parameters Rated input power Max. open circuit voltage Rated input current Reversed connection PCEs Rated input current Reversed connection PCEs Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage Output overvoltage point Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output control mode Output voltage range Undervoltage range Undervoltage race Undervoltage recovery point Rated output current Parameters Rated output voltage point Output overvoltage point Output overvoltage range Undervoltage range Undervoltage race Undervoltage recovery point Rated output current DC Load Output current DC Load Output voltage range Undervoltage race Undervoltage race Undervoltage race Undervoltage race Undervoltage race Overload protection DC verload DC output, instant protection	Brake by over wind speed (optional)	1 2
Rated input power Max. open circuit voltage Rated input current Reversed connection protection Charge Parameters Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage A8V Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output voltage range Output voltage range How a loop sould be set in 7 modes, such as light control on&off, light control on and time control off. Output voltage range Undervoltage range Undervoltage range How a loop sould be set in 7 mated battery voltage" Rated output current DO Load Output voltage range How a loop sould be set in 7 modes, such as light control on&off, light control on and time control off. Output voltage range Undervoltage recovery point Rated output current DO Verload protection 120% rated DC output -1min,150% rated DC output -10s Short circuit protection 200% rated DC output, instant protection	Brake by over rotational Speed (optional)	reached the set rotational speed, and recover automatically after working
Max. open circuit voltage Rated input current Reversed connection protection Charge Parameters Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage A8V Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output voltage range Undervoltage range Undervoltage recovery point Rated output current DOUTPUT voltage range Refer to "rated battery voltage" Refer to "rated DC output -10s Short circuit protection PYES A8V A8V A8V A8V A8V A8V A8V A8	PV Input Parameters	
Rated input current Reversed connection protection Charge Parameters Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage Output overvoltage point Output overvoltage point Sav (factory default, 44Vdc~64Vdc settable) Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output control mode Output voltage range Output voltage range Undervoltage range Undervoltage recovery point Rated output current DOUTPUT ON THE PARAMETER (Factory default, 44Vdc~64Vdc settable) Output overvoltage point 13A DC Load Output(Optional) Output loops 2 loops Output control mode Output voltage range Undervoltage recovery point Rated output current DA/each loop Overload protection 120% rated DC output, instant protection	Rated input power	300W
Reversed connection protection Charge Parameters Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage Rated output voltage Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output voltage range Output voltage range Undervoltage range Undervoltage recovery point Rated output current DOUTPUT Control mode Output control mode Output control mode Output voltage range Undervoltage range Undervoltage recovery point Rated output current DOUTPUT Control mode Output voltage range Undervoltage range Undervoltage recovery point Rated output current DOVerload protection 120% rated DC output - 1 min, 150% rated DC output - 10s Short circuit protection	Max. open circuit voltage	96V
Protection Charge Parameters Rated battery voltage Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage Output overvoltage point Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output voltage range Output voltage range Undervoltage range 43.2V~64V Undervoltage recovery point Rated output current DOutput voltage range 43.2V~64V Undervoltage range Undervoltage recovery point Rated output current 10A/each loop Overload protection 120% rated DC output, instant protection	Rated input current	7A
Rated battery voltage Temperature compensation function (optional) Output Parameters Rated output voltage Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output control mode Output voltage range Undervoltage range Undervoltage range Undervoltage recovery point Rated output current 10A/each loop Overload protection 120% rated DC output, instant protection	Reversed connection protection	YES
Temperature compensation function (optional) Output Parameters Rated output voltage Output overvoltage point Output overvoltage point Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output loops Output control mode Output voltage range Undervoltage range Undervoltage recovery point Rated output current 10A/each loop Overload protection 200% rated DC output, instant protection	Charge Parameters	
compensation function (optional) Output Parameters Rated output voltage Output overvoltage point Output overvoltage point Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output voltage range Undervoltage range Undervoltage recovery point Rated output current 10A/each loop Overload protection -3mV/°C/2V 48V 48V Avv 64Vdc settable) 52.8V (factory default, reduce 5.2V from the output overvoltage point) 13A DC Load Output(Optional) 2 loops Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. 43.2V~64V Undervoltage range Undervoltage recovery point Rated output current 10A/each loop Overload protection 200% rated DC output, instant protection	Rated battery voltage	48V
Rated output voltage Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output control mode Output voltage range Undervoltage racovery point Rated output current 13A 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 Undervoltage recovery point Rated output current 10A/each loop Overload protection 120% rated DC output, instant protection	Temperature compensation function (optional)	-3mV/°C/2V
Output overvoltage point Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output control mode Output voltage range Undervoltage recovery point Rated output current 120% rated DC output, instant protection 58V (factory default, 44Vdc~64Vdc settable) 52.8V (factory default, reduce 5.2V from the output overvoltage point) 13A DC Load Output (Optional) Output loops 2 loops 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 Refer to "rated battery voltage" Overload protection 120% rated DC output -1min,150% rated DC output -10s Short circuit protection 200% rated DC output, instant protection	Output Parameters	
Output overvoltage recovery point Max. Output current DC Load Output(Optional) Output loops Output control mode Output voltage range Undervoltage recovery point Rated output current 120% rated DC output, instant protection 52.8V (factory default, reduce 5.2V from the output overvoltage point) 13A DC Load Output (Optional) 2 loops 2 loops Output control mode 43.2V~64V Refer to "rated battery voltage" Overload protection 120% rated DC output -1min,150% rated DC output -10s Short circuit protection	Rated output voltage	48V
S2.8V (factory default, reduce 5.2V from the output overvoltage point) Max. Output current 13A DC Load Output(Optional) Output loops Output control mode Output voltage range Undervoltage recovery point Rated output current 120% rated DC output -1min, 150% rated DC output, instant protection Short circuit protection 13A 2 loops 2 loops A3.2V~64V Refer to "rated battery voltage" 10A/each loop Overload protection 120% rated DC output -1min, 150% rated DC output -10s 200% rated DC output, instant protection	Output overvoltage point	58V (factory default,44Vdc~64Vdc settable)
Output loops Output control mode Output voltage range Undervoltage recovery point Rated output current Overload protection Output voltage range Overload protection 2 loops 2 loops A 2 loops Could be set in 7 modes, such as light control on&off, light control on and time control off. A 3.2V~64V Refer to "rated battery voltage" 10A/each loop Overload protection 120% rated DC output -1min,150% rated DC output -10s Short circuit protection 200% rated DC output, instant protection	Output overvoltage recovery point	52.8V (factory default, reduce 5.2V from the output overvoltage point)
Output loops Output control mode Output control mode Output voltage range Undervoltage recovery point Rated output current Overload protection Short circuit protection Both 2 loops could be set in 7 modes, such as light control on&off, light control on and time control off. 43.2V~64V Refer to "rated battery voltage" 10A/each loop Overload protection 120% rated DC output -1min,150% rated DC output -10s	Max. Output current	13A
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 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	DC Load Output(Option	nal)
Output control mode Control on and time control off. Output voltage range 43.2V~64V Undervoltage recovery point 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	Output loops	2 loops
Undervoltage recovery point 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	Output control mode	
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	Output voltage range	43.2V~64V
Overload protection 120% rated DC output -1min,150% rated DC output -10s Short circuit protection 200% rated DC output, instant protection	Undervoltage recovery point	Refer to "rated battery voltage"
Short circuit protection 200% rated DC output, instant protection	Rated output current	10A/each loop
	Overload protection	120% rated DC output -1min,150% rated DC output -10s
General Parameters	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°C∼+40°C
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

16CHIIICAI I ALAIH	etti 5	
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 (C	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/°C/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°C∼+40°C
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	





Model	WWS10-24
	W W S10-24
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



	zor o go groom, zor o wan to gottor
Temperature compensation function (optional)	-3mV/°C/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°C ∼+40°C
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