

RHINO S





About

ADOR's Rhino-S is a revolutionary welding solution designed for environmentally conscious and remote operations. It eliminates reliance on traditional grid electricity or fuel-powered generators, making it perfect for off-grid, outdoor, and rural worksites. Equipped with efficient solar charging and an advanced battery management system, Rhino-S delivers consistent power output and stable arc performance for welding processes like MMA and TIG on battery. The system is built for portability, safety, and ease of use.

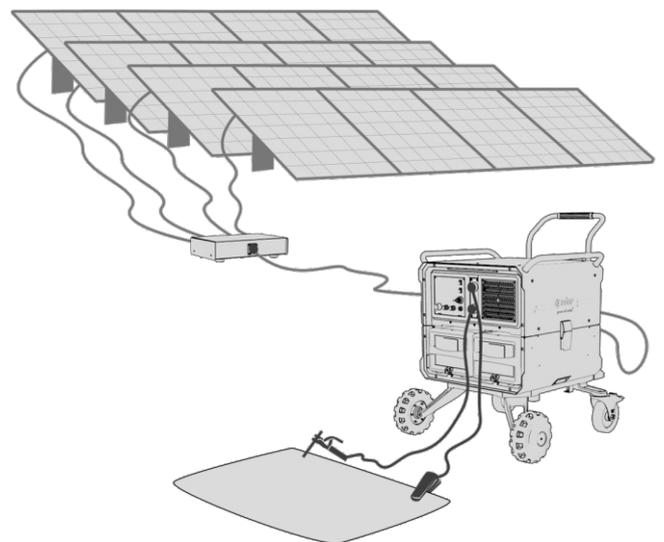
Features

- **Advanced Technology:** Battery-operated IGBT inverter MMA power source with high-frequency capability.
- **Safety Features:** Built-in VRD and anti-stick function.
- **Multi-Process Welding:** Supports MMA, scratch-start TIG, TIG with HF unit, and GMAW/FCAW with external arc-sensing feeder.
- **Adjustable Controls:** Arc Force and Hot Start for optimized performance.
- **Real-Time Monitoring:** 3-digit display shows set/current values and voltage.
- **Solar Charging:** Integrated MPPT (Maximum Power Point Tracking) charger for efficient solar-powered battery charging.



Key Attributes

- **Dual Power:** Operates on 84 VDC battery or 3-phase 415 VAC with automatic switchover.
- **Dual Battery Slots:** Runs on one battery at a time; batteries are removable for fast offline charging.
- **Solar Charging:** Built-in 84 V/30 A MPPT charger allows simultaneous welding and charging with quick toggle between batteries.
- **Expandable Solar Input:** Connect up to 16 panels for faster charging.
- **Remote Monitoring:** Mobile app provides real-time battery status via Bluetooth.
- **Portable Panels:** Flexible, foldable panels for easy transport and setup.
- **Easy Mobility:** Quick assembly/disassembly of power source, batteries, and trolley for effortless movement.



Setup (MMA)



Technical Specification With Battery Input Supply

Parameter	Value	Unit
Input Supply	84	VDC
Current Range	10-200	Amps
Welding Current (@100 % Duty cycle)	200	Amps
Safety Protection	Over temperature protection.	
	Output short circuit protection.	

Technical Specification With 3 Phase AC Input Supply

Parameter	Value	Unit
Input Supply	415V, 3 Phase AC, 50/60 Hz	VAC
Rated Input Power @ 415 VAC		
@ 100 % Duty Cycle	13	KVA
@ 60 % Duty Cycle	19	KVA
@ No load	0.2	KVA
Input Supply Current @ 415VAC		
@ 100 % Duty Cycle	18	Amps
@ 60 % Duty Cycle	26	Amps
@ No load	0.24	Amps
Open Circuit Voltage	81 (+/- 5V)	Volts
Current Range	10-400	Amps
Welding current @ 40°C & 10-Minute cycle		
@ 100 % Duty Cycle,	310	Amps
@ 60 % Duty Cycle, 10-minute cycle	400	Amps
Safety Protection	Over voltage, Under voltage, Single-phase protection.	
	Over temperature protection.	
	Output short circuit protection.	



Functional Technical Specification

Parameter	Value	
Arc force control (MMA Mode)	0-100 % (80A more on set current at 100 % setting)	
Hot Start control (MMA Mode)	0-100 % (100A more on set current for 1.5sec initially at 100% setting)	
Welding electrode sizes (Diameter)	On Battery	On 3Ph , 415V
E-7018	2.5-4 mm	2.5-6 mm
E-6013	2.5-4 mm	2.5-6 mm
E- 6010	2.5-3.2 mm	2.5-4.0 mm
Remote controller (Optional)	Provided as Optional for current setting	
Front Panel Functions	MMA / TIG mode selection switch	
	VRD ON/ VRD OFF selection switch	
	Current, Arc force, Hot start	
	LED indications for Mains ON and Battery ON	
	Seven segment LED displays of current and voltage	
	Switch for Machine ON/OFF on Battery	
	Solar Charging and Trip Indicator	
Class of Insulation	H	
Degree of protection	IP23S	
Dimensions (with trolley and batteries) LxWxH	862x760x980 mm	
Weight (with trolley including batteries)	115 Kg	

Built In Solar MPPT Charger Specification

Parameters	Value
Charging Method	MPPT tracks maximum power, fast charge, balanced charge and float charge
PV Maximum MPP Voltage (VMP)	90-150 VDC
Charging Current Max.	0-30 Amps
LED Indications	MPPT Charger- On, Off, Trip

Arc on Time

Electrode Size (mm)	Welding Current (A)	Welding Voltage (V)	Arc on time (Min)
2.5	80	20-24	82
3.2	105	22-26	61
3.2	125	22-26	48
4.0	180	23-27	28

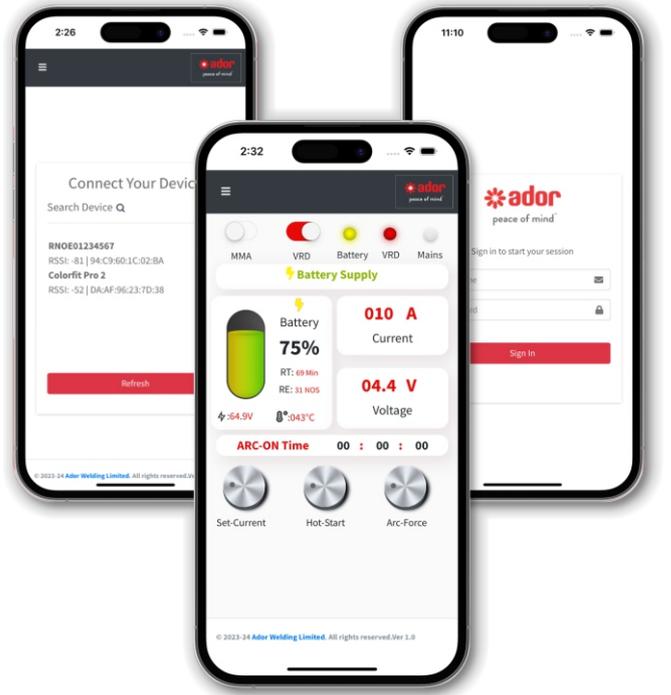


Screen Overview

Mobile Application

A dedicated mobile/tablet app enables remote monitoring and control via Bluetooth, providing real-time access to key parameters:

- Output current
- Hot Start and Arc Force settings
- Battery charge percentage.
- Remaining arc-on time on battery.



Battery Pack Specification

Parameter	Value	
Output Voltage		
-Maximum	84 Volts	
-Nominal	74 Volts	
-Minimum	65 Volts	
Battery type	Lithium Ion (NMC and LFP Cell chemistry)	
Power	NMC	LFP
	2.96 kWh	3.33kWh
Current Rating	40 Ah	45Ah
Weight	23 kg	28kg
Dimensions (without battery) LxWxH	410 X 233 X 175 mm	
LCD Display	For Voltage, Temperature, Percentage battery charge status	
BMS (Battery Management System) Protections		
Deep Discharge Cut off	@ 10% Battery charge status	
High Temperature Cut Off	@ 65 °C	
Low Temperature Cut Off	@ -10 °C	
IP Rating	IP55	
Temperature Specifications		
Charging	0 - 45 °C	
Discharge	-20 - 60 °C	



Solar Panel Specification

Parameter	Value
Rated Power	300 W
Cell Quantity	54 x 4 Pcs (4 Folds)
Peak power	300 Pm(W)
Power tolerance	±3 %
Peak power voltage	115 Vm (V)
Peak power current	2.6 Im (A)
Open circuit voltage	137 Voc (V)
Short circuit current	2.7 Isc (A)
Maximum System Voltage	600 V
Solar cell efficiency	21.6 %
Power temperature coefficient	-0.27 % / °C
Voltage temperature coefficient	-0.36 % / °C
Product size (Folded)	820 x 560 x 75 mm
Product size (Unfolded)	820 x 2240 x 15 mm
Product weight	10 kg



Offline Charger Specification



Parameter	Value
Input Supply	230V, 1 Phase, 45-65 Hz
Input voltage range	100 - 260 VAC
Input current	> 8 Amps
Power Factor	> 0.99
Output Voltage	
Maximum	84 Volts
Nominal	74 Volts
Minimum	65 Volts
Charger current	30 Amps
Efficiency	≥ 89 %
Battery Type	Lithium Ion
Power	2220 W
Dimensions (without battery) LxWxH	470 X 381 X 266 mm
Weight (without battery)	13 kg



Inverter Specifications for Auxiliary Power Supply

Parameter	Value
Input Supply	Battery nominal Voltage – 72VDC
	Battery maximum Voltage – 84VDC
Rated Power	3 KVA
Voltage	230VAC, 1-phase +/-3%
Current	10.5A Maximum
Frequency	50 Hz +/- 3%
Waveform	Pure Sine Wave
Efficiency at 50% load	>= 85%
Operation Temperature	0 to +50 °C
Storage Temperature	0 to +85 °C
Relative Humidity	5 to 95% no condensation allowed
Protections	Battery Under voltage protection
	Overload, short-circuit protection
	Over temperature protection
LCD Parameters (16 Ch *2)	Battery Voltage, Output Voltage and Output Current
LED Indicators	Inverter ON, Battery Low/High, Overload/ Short and Over temperature
Buzzer Alarms	Inverter ON/OFF and All trips
Size (LxDxH) in mm	573 x 550 x 223
Weight	45 Kg





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