

USER'S MANUAL

IGBT Inverter type
Three Function (MIG/MMA/Lift TIG)
Welding Power Source

GORILLA POCKETMIG 205 SYNERGIC SILVERBACK

Introduction

First of all, thank you for choosing an IWELD welding or cutting machine!

Our mission is to support your work with the most up-to-date and reliable tools both for DIY and industrial application.

We develop and manufacture our tools and machines in this spirit.

All of our welding and cutting machines are based on advanced inverter technology, reducing the weight and dimensions of the main transformer.

Compared to traditional transformer welding machines the efficiency is increased by more than 30%.

As a result of the technology used and the use of quality parts, our welding and cutting machines are characterized by stable operation, impressive performance, energy efficient and environmentally friendly operation.

By activating the microprocessor control and welding support functions, it continuously helps maintain the optimum character of welding or cutting.

Read and use the manual instructions before using the machine please!

The user's manual describes the possible sources of danger during welding, includes technical parameters, functions, and provides support for handling and adjustment but keep in mind it doesn't contain the welding knowledge!

If the user's manual doesn't provide you with sufficient information, contact your distributor for more information!

In the event of any defect or other warranty event, please observe the „General Warranty Terms”.

The user manual and related documents are also available on our website at the product data sheet.

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WARNING!

Welding is a dangerous process! The operator and other persons in the working area must follow the safety instructions and are obliged to wear proper Personal Protection Items. Always follow the local safety regulations! Please read and understand this instruction manual carefully before the installation and operation!

- The switching of the machine under operation can damage the equipment.
- After welding always disconnect the electrode holder cable from the equipment.
- Always connect the machine to a protected and safe electric network!
- Welding tools and cables used with must be perfect.
- Operator must be qualified!

ELECTRIC SHOCK: may be fatal

- Connect the earth cable according to standard regulation.
- Avoid bare hand contact with all live components of the welding circuit, electrodes and wires. It is necessary for the operator to wear dry welding gloves while he performs the welding tasks.
- The operator should keep the working piece insulated from himself/herself.

Smoke and gas generated while welding or cutting can be harmful to health.

- Avoid breathing the welding smoke and gases!
- Always keep the working area good ventilated!

Arc light-emission is harmful to eyes and skin.

- Wear proper welding helmet, anti-radiation glass and work clothes while the welding operation is performed!
- Measures also should be taken to protect others in the working area.

FIRE HAZARD

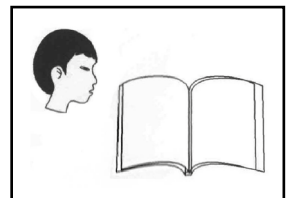
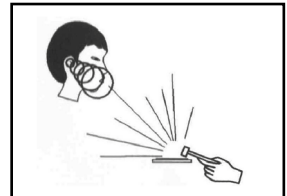
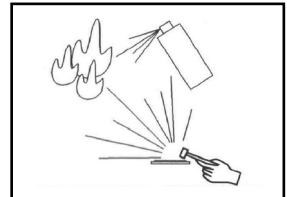
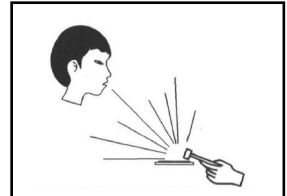
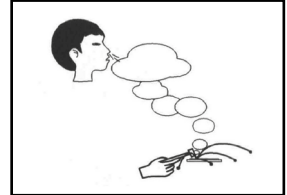
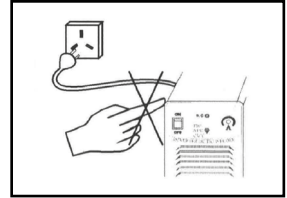
- The welding spatter may cause fire, thus remove flammable materials from the working area.
- Have a fire extinguisher nearby in your reach!

Noise can be harmful for your hearing

- Surface noise generated by welding can be disturbing and harmful. Protect your ears if needed!

Malfunctions

- Check this manual first for FAQs.
- Contact your local dealer or supplier for further advice.



1. The Main Parameters

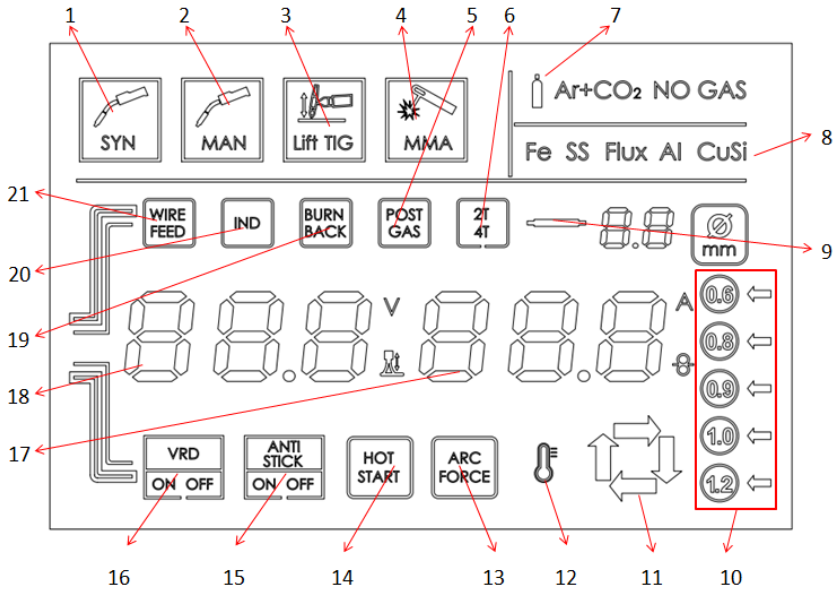
GORILLA		POCKETMIG 205 SYNERGIC SILVERBACK	
Art. Nr.		80POCMIG205CBS	
GENERAL	Inverter type	IGBT	
	Digital display	OLED	
MIG/MAG	Synergic Control	✓	
	Reverse Polarity - FCAW	✓	
	2T/4T	✓	
FUNCTIONS	Number of Wire Feeder Rolls		2
	Arc ignition		contact
	DC TIG		✓
	Pulse DC TIG		✗
	AC TIG		✗
	Pulse AC TIG		✗
	2T/4T		✓
	SPOT		✗
	Arc Force		✓
	Adjustable Arc Force		✓
	Hot Start		✓
	Anti Stick		✓
Accessories Welding Torch		IGrip 150	
Phase number		1	
Rated input Voltage		230 V AC±15% 50/60 Hz	
Max./eff. input Current	MMA	30.8A/20.2A	
	MIG/TIG	35A/25A	
Power Factor (cos φ)		0.73	
Efficiency		85%	
Duty Cycle		180A@60% 132A@100%	
Welding Current Range	MMA	20A-160A	
	MIG/TIG	40A/20A-180A	
Output Voltage	MMA	15.5V-23V	
	MIG	14V-23V	
No-Load Voltage		65V	
Insulation		F	
Protection Class		IP21S	
Welding Wire Diameter		0.6-1.2mm	
Size of Coil		Ø 200 mm, 5 kg	
Weight		11 kg	
Dimensions (LxWxH)		480x215x380mm	

2. Installation and Operation

2-1. Control Panel Descriptions



1	Welding process choose
2	Function Menu
3	V adjustment/gas checking
4	A adjustment/inching
5	wire diameter choose
6	welding material choose
7	LCD display



1	MIG SYNERGIC mode
2	MIG mode
3	Lift-TIG mode
4	MMA mode
5	Post Gas Function
6	2T/4T Function
7	Gas suggestion
8	Welding material choose
9	MMA welding rod diameter
10	MIG wire diameter choose
11	Welding animation
12	Over-heat protection
13	ARC FORCE Function
14	Hot start Function
15	Anti-Stick Function
16	VRD Function
17	Current/wire feeding speed
18	Voltage
19	Burn Back Function
20	Inductance Function
21	Wire feeding Function

2-2. Connection of the power wires

1. Each machine is equipped with primary power wire, according to the input voltage, please connect the primary wire to the suitable voltage class.
2. The primary wire should be connected to the corresponding socket to avoid oxidization.
3. Use multimeter to see whether the voltage value varies in the given range.
4. If the work piece is too far away from the electrical socket (50-100m), and the secondary wire is too long, the section of the cable should be bigger to reduce the lower of the cable voltage.

Note: Please install the machine strictly according to the following steps. Turn off the power supply switch before any electric connection operation. The protection class of this machine is IP21S, so avoid using it in rain.

2.3.1 MMA Installation method

1. A primary power supply cable is available for this welding machine. Connect the power supply cable to the rated input power.
2. The primary cable should be tightly connected to the correct socket to avoid oxidization.
3. Check whether the voltage value varies in acceptable range with a multi-meter.
4. Insert the cable plug with electrode holder into the "+" socket on the front panel of the welding machine, and tighten it clockwise.
5. Insert the cable plug with work clamp into the "-" socket on the front panel of the welding machine, and tighten it clockwise.
6. Ground connection is needed for safety purpose.

The connection as mentioned above in 2.3.1 is DCEP polarity.

Operator may choose DCEP/DCEN according to workpiece and electrode application requirement. Generally, DCEP polarity is recommended for basic electrode, while no special polarity requirement for acid electrode.

2.3.2 MMA Operation method

1. Once installed according to the above method and the main switch is on, the machine is switched on, the display is lighting and the fan is working.
2. Select the welding mode on the front panel to "MMA" and set the welding current according to the welding process.
3. Observe the polarity when connecting. Phenomena such as unstable arc, excessive spatter and electrode adhesion if inappropriate polarity is selected. To resolve this problem, replace the quick plug connection.
4. Select a larger cross-section cable to reduce the voltage drop if the secondary cables (welding cable and ground cable) are long.
5. Adjust the welding current according to the type and size of the electrode, secure the electrode, and perform welding with short-circuit arc welding.

Note: This table is suitable for mild steel welding. For other materials, consult related materials and welding process for reference.

2.4.1 MIG Installation method



1. Plug the welding torch into the output socket "⚡" on the front panel, and tighten it. Thread the wire into the torch manually.
2. When welding the solid wire, insert the earth cable plug into the negative socket "-" on the front panel, and tighten it clockwise. connect the wire feeder to "+" terminal on the middle panel, and tighten it.
3. When welding the flux wire, insert the earth cable plug into the negative socket "+" on the front panel, and tighten it clockwise. Connect the wire feeder to "-" terminal on the middle panel, and tighten it.
4. Fix the welding wire coil to the rack axis on the wire feeder; make sure the hole of the wire feeding wheel matches well with the bolt on the rack axis and the welding wire diameter. Unfasten the screw on the wire-pressing wheel, and make the wire into the groove of the wire feed wheel, press the wire tightly, but not too tight, and then thread the wire into the torch. Press the "wire feeding" button to feed the wire out of the welding torch.
5. Tightly connect the gas hose, which come from the back of the machine to the copper nozzle of gas bottle.

2.4.2 MIG Operation method

1. Once installed according to the above method and the main switch is on, the machine is switched on, the display is lighting and the fan is working.
2. Select the welding mode on the front panel to "Manual" and adjust the welding voltage and wire feeding speed according to practical needs to get the desired welding voltage and welding current. Or select the "Synergic" mode when the setting is done automatically by the machine.
3. Press the welding torch switch, and welding can be carried out.
4. Cut off the gas 1s after the arc is stopped.

2.4.3. CuSi - (Silicon Bronze) MIG Brazing

MIG brazing uses the same installation and operation methods as MIG welding mode.

When setting up the machine for MIG brazing, there are several key components that must be correct to achieve the best results possible.

- It is critical that 100 % argon shielding gas is used with silicon bronze wire.
- Since silicon bronze wire is softer than steel, "U" rolls are recommended, but "V" rolls will also work.
- Polarity should be set to DCEP.
- A Teflon liner is recommended due to the softness of the silicon bronze wire, but a regular steel liner will also work.

Settings in manual MIG mode

Gas Type:	CO ₂ - MIG/MAG welding
	Ar 80%+CO ₂ 20% mixed gas
	No Gas - FCAW welding - only for Flux Cored Welding Wire
	CuSi - 100% Argon shielding gas and continuous, solid, copper wire for the GMA joining of copper-zinc alloys and low-alloyed copper and for the GMA brazing of zinc-coated steel sheets.
Wire diameter	Ø=0.6 - 1.2 mm
IND (inductance)	-10 - 0 - +10
2T/4T	2T or 4T
Hot Start	0 - +10
Burn Back	0 - +10
Welding voltage	10V - 28.5V
Wire feeding speed	2.0-15.0 m/min

Settings in synergic MIG mode

Gas Type:	CO ₂ - MIG/MAG welding
	Ar 80%+CO ₂ 20%
Wire diameter	Ø=0.6 - 1.2 mm
IND (inductance)	-10 - 0 - +10
2T/4T	2T or 4T
Hot Start	0 - +10
Burn Back Time	0 - +10
Arc Length	Welding voltage fine adjust: -10 - 0 - +10
Welding current	40A-180A

Settings in MMA mode	
Arc Force	0-10
Hot Start	0-10
VRD (Voltage reduction)	off/on
Anti Stick	off/on
Welding current	MMA: 20A-160A

Settings in Lift TIG mode	
Welding current	TIG: 10A-160A

2.5 Recommended welding parameters

Diameter (mm)	Recommended welding current (A)	Recommended welding voltage (V)
Wire Ø 0.8	50~150	20.8~22.4
Wire Ø 1.0	80~180	21~25.2
Electrode Ø 2.5	50~100	---
Electrode Ø 3.2	80~140	---
Electrode Ø 4.0	110~200	---

Precautions

Workspace

1. Welding equipment free of dust, corrosive gas, non-flammable materials, up to 90% humidity for use!
2. Avoid welding outdoors unless protected from direct sunlight, rain, snow, work area temperature must be between -10 °C and +40°C.
3. Wall to position the device at least 30 inches away.
4. Well-ventilated area to perform welding.

Safety requirements

Welding provides protection against overvoltage / overcurrent / overheating. If any of the above events occurs, the machine stops automatically. However, over-stress damage to the machine, keep the following guidelines :

1. Ventilation . When welding a strong current going through the machine, so the machine is not enough natural ventilation for cooling . The need to ensure adequate cooling, so the distance between the plane and any object around it at least 30 cm . Good ventilation is important to normal function and service life of the machine.
2. Continuously, the welding current does not exceed the maximum allowable value. Current overload may shorten its life or damage to the machine .
3. Surge banned ! Observance of tension range follow the main parameter table . Welding machine automatically compensates for voltage, allowing the voltage within permissible limits of law. If input voltages exceed the specified value, damaged parts of the machine .
4. The machine must be grounded! If you are operating in a standard, grounded AC pipeline in the event of grounding is provided automatically . If you have a generator or foreign, unfamiliar, non-grounded power supply using the machine, the machine is required for grounding connection point earth to protect against electric shock .
5. Suddenly stopping may be during welding when an overload occurs or the machine overheats . In this case, do not restart the computer, do not try to work with it right away, but do not turn off the power switch, so you can leave in accordance with the built-in fan to cool the welding machines .

WARNING!

If the welding equipment is used with the welding parameters above 180 amperes, the standard 230V electrical socket and plug for 16 amp circuit breaker is not sufficient for the required current consumption, it is necessary to use the welding equipment with 20A, 25A or even to the 32A industrial fuses! In this case, both the plug and the plug socket fork have to be replaced to 32A single phase fuse socket in compliance with all applicable rules. This work may only be carried out by specialists!

Maintenance

1. Remove power unit before maintenance or repair!
2. Ensure that proper grounding!
3. Make sure that the internal gas and electricity connections are perfect and tighten, adjust if necessary, if there is oxidation, remove it with sandpaper and then reconnect the cable.
4. Hands, hair, loose clothing should be kept away under electric parts, such as wires, fan.
5. Regularly dust from the machine clean, dry compressed air, a lot of smoke and polluted air to clean the machine every day!
6. The gas pressure is correct not to damage components of the machine.
7. If water would be, for example. rain, dry it in the machine and check the insulation properly! Only if everything is all right, go after the welding!
- 8 When not in use for a long time, in the original packaging in a dry place.

