

INVERTER PULSE MIG WELDER

LONGRUN[®] 500LMP

OPERATION MANUAL



- Full digital control and user friendly interface
- Digital memory function
- Welding diameter selection
- Saving power consumption by high-tech IGBT
- Ideal to weld stainless steel and aluminum

Model	Unit	500LMP
Input voltage	V	380V, 3PH, 50-60Hz
Output current	A	25~500
Input capacity	KVA	25
Input current	A	46A
Open circuit voltage	V	80
Output Voltage	V	14~50
Duty cycle	%	60
Wire diameter	mm	Φ0.8、Φ1.0、Φ1.2、Φ1.6
Gas flow	L/min	15~20
Weight	Kg	54
Dimension (W×D×H)	mm	710×355×575

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General Safe Practices

- Wear approved safety glasses with side shields under your welding helmet or face shield and at all times in the work area.
- When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.
- Do not install or place machine on or over combustible surfaces.
- **Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified persons.**

Electric shock can kill.

- Wear Dry, hole-free insulating gloves and body protection. Do not touch electrode with bare hand. Do not wear wet or damaged gloves.
- Do not touch live electrical parts.
- Never dip the electrode in water for cooling.
- Properly install and ground all equipment.
- Protect yourself from electric shock by insulating yourself from work and ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material big enough to cover your full area of contact with the work or ground, and watch for fire.
- Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- Frequently inspect input power cable for damage or bare wiring and repair or replace cable immediately if damaged.

Fumes and gases can be dangerous.

- Cutting may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When cutting, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone.
- Use enough forced ventilation or local exhaust (forced suction) at the arc to remove the fumes from your breathing area.
- Wear complete body protection. Wear oil-free protective clothing such as leather gloves, heavy shirt, cuffless pants and high boots.

Arc rays can burn eyes and skin.

- Use welding helmet with correct shade of filter to protect your eyes from sparks and the rays of the arc.
- Wear welders cap and safety glasses with side shields. Use ear protection when welding out of position or in confined spaces. Button shirt collar.
- Use a ventilating fan to remove the fumes from the breathing zone and welding area.

Welding sparks can cause fire or explosion.

- Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and opening to adjacent areas. Avoid welding near hydraulic lines.
- When not use, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
- Do not cut on drums, tanks, or any closed containers unless a qualified person has tested it and declared it or prepared it to be safe.
- Connect the work cable to the work as close to the cutting area as practical. Work cables connected to the building framework or other locations away from the cutting area increase the possibility of the cutting current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.

■ INSTALLATION

● The welding machine shall be installed at a place ;

- . free from the inflammables
- . less humidity, dirt and dust
- . protecting from influence of direct sunlight, wind and rain
- . not generated oil vapor and corrosive gas
- . operating temperature range is from -10°C to 40°C
- . least 30cm away from wall and other welding machine

● Input Connection (Rear of the machine)

Be sure the voltage, phase and frequency of the input power is as specified on the name plate located on the rear panel of the machine.

- . To connect the power cables, turn the power switch OFF
- . Verify the voltage to be supplied from main power.
- . Open the cover of terminal plate and connect the power cable to the power input terminal on the rear of the machine and close the cover of terminal plate.
- . For grounding the machine, connect a ground wire to the ground terminal marked with the symbol is located on the rear panel of the machine.
- . Connect a power cord of gas regulator to the 110V outlet on rear of the machine.

● Output Connection (Front of the machine)

- . Connect the work cable to the "☐ METAL" terminal.
- . To connect the Wire feeder, connect a electrode cable from wire feeder to the "☒ TORCH" terminal and a Remote control cable from the wire feeder to the "REMOTE CONTROL" receptacle.
- . Install a gas regulator on a gas tank and connect a gas hose of extension cable from wire feeder to the gas regulator on gas tank.

CO₂ Torch connection to wire feeder

- . Connect a wire feeding cable of torch to the wire feeding cable receptacle of wire feeder.
- . Connect a torch switch connector of torch to the torch switch receptacle of wire feeder.
- . Connect a gas hose of torch to the gas hose receptacle of wire feeder.

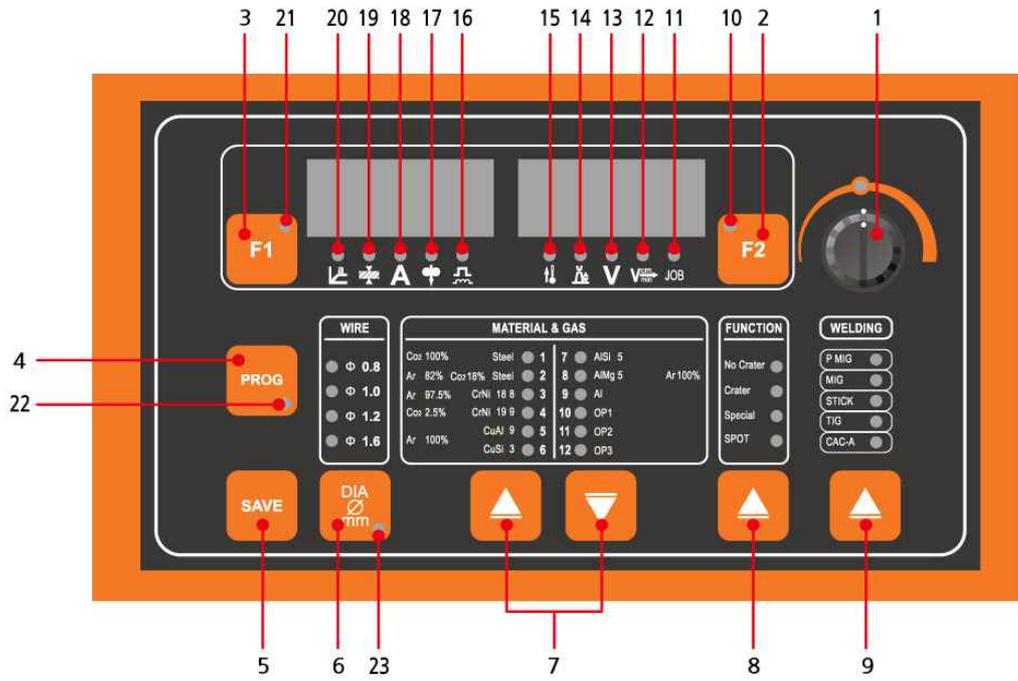
■ WIRE TYPE SELECT

Process	Wire type	Diameter (mm)	Alloy type	Shield gas
MIG/MAG Pulse welding	Aluminum Magnesium Alloy (8 AlMg 5)	Φ1.0, Φ1.2, Φ1.6	LF2~LF16, 5005, 5052, 5183, 5356	100% Ar
	Aluminum (9 Al)		L1~L5, 1060, 1035, 1100, 1200, 1370	
	Aluminum Silicon Alloy (7 AlSi 5)		LT1, 4A11, 4043, 4047	
	Stainless steel (3CrNi 188) (4CrNi 199)	Φ0.8, Φ1.0, Φ1.2, Φ1.6	304, 308, 309, 316	97.5% Ar+2.5%CO ₂
	Mild steel (2 Steel)		E70	82% Ar+18% CO ₂
	Silicon copper Alloy (6 CuSi)	Φ1.2, Φ1.6	HS211	100% Ar
	Aluminum Copper Alloy (5 CuAl)	Φ1.0, Φ1.2, Φ1.6	HS214	100% Ar
MIG/MAG Welding	Mild steel (1 Steel)	Φ0.8, Φ1.0, Φ1.2, Φ1.6	E70	100% CO ₂ 82% Ar +18%CO ₂

■ Input cable

Model		Pulse MIG-500
Input power		380V, 3PH
Ideal Input capacity	Normal	38KVA
	Generator	50KVA
Input protect	Fuse	50A
	Circuit breaker	63A
Cable	Input power	≥6mm ²
	Output power	70mm ²
	Ground cable	≥6mm ²

FRONT PANEL



1	Volume	Adjust various data setting
2	Data Select Button F2	Adjustable Date : Arc Length, Welding voltage, Working condition
3	Data Select Button F1	Adjustable Date : Motor speed, Welding current, Arc power, Arc concentration
4	Program button	Use saved data
5	Save button	Use to enter setup menu or save data.
6	Wire diameter select	Use to select wire diameter
7	Wire material select	Use to select Wire material and shield gas
8	Function select	Use to select function 1. Crater off 2. Hold 3. Crater(Start current / Crater current control) 4. Arc spot
9	Welding method select	Use to select welding method 1. Double Pulse MIG 2. MIG 3. STICK 4. TIG 5. Gouging
10	F2 Button LED	
11	JOB LED	It shows that load data from saved job
12	Welding speed LED	It shows the welding speed (cm/min)
13	Welding voltage LED	It shows welding voltage
14	Arc length difference LED	It shows Arc length differences - short arc length 0 standard + long arc length
15	Machine internal temperature LED	
16	Arc Power / Arc Concentration	It shows that arc power adjustment during MIG / MAG pulse welding - arc power decrease 0 standard + arc power increase In MIG / MAG welding, arc concentration is set during short-circuit control - strong arc and stable 0 standard + smooth arc and low spatter
17	Motor speed LED	It shows the motor speed (M/min)
18	Welding current LED	It shows the welding current
19	Base metal thickness LED	It shows the Base metal thickness
20	Welding angle LED	It shows the Welding angle ("a")
21	F1 Selection LED	It shows the F1 is selected
22	Program LED	It shows the program is selected
23	Hidden data Menu LED	Lights when hidden data is modified

■ Adjust hidden data

- . Simultaneously press and release the Save button (5) and the wire selection button (6).
The, the Hidden Data menu LED (23) lights up and you can modify the hidden data.
- . When the user presses the save button 5 after the modification is finished, the data is stored and the hidden data menu LED 23 is also turned off while exiting from the hidden data adjustment menu.
- . After selecting the value to be corrected with the wire selection button (6), you can modify the

value data by turning the volume (1). When modifying P05 and P06, move to the percentage value with the F2 button and you can change the data by the volume (1)

■ **Hidden data adjustments / modifiable data items**

No	Item	Setting range	Minimum	Reset	Factory set
P01	Burn back time	0.01-2.00s	0.01s	0.08s	0.03s
P02	Motor speed on open circuit voltage	1.0-21.0M/min	0.1M/min	3.0M/min	3.0M/min
P03	Pre-flow time	0.1-10.0s	0.1s	0.20s	0.20s
P04	Post-flow time	0.1-10.0s	0.1s	1.0s	2.0s
P05	Start current	1-200%	1%	135%	100%
P06	Crater current	1-200%	1%	50%	30%
P07	Up-down slope time	0.1-10.0s	0.1s	2.0s	2.0s
P08	Spot time	0.5-5.0s	0.1s	2.0s	2.0s
P09	Remote control on/off	OFF/ON		OFF	OFF
P10	Water cooling on/off	OFF/ON		ON	OFF
P11	Double pulse frequency	0.5-5.0Hz	0.1Hz	OFF	3.3
P12	Double pulse arc length	-50-+50	1	0.0	1.0
P13	Double pulse speed	0-2m	0.1m	2.0m	2.0m
P14	Double pulse width	10-90%	1%	50%	50%
P15	Single pulse frequency	OFF/UI/UU/II		OFF	UU
P16	Fan delay time	5-15min	1min	15min	15min
P17	Up-slope time	0-10S	1S	OFF	0.1
P18	Down slope time	0-10S	1S	OFF	OFF
P19	Synergic / Individual mode on/off	OFF/ON		ON	ON

Note: If you press the volume (1) for about 3 seconds, the welder will be set to the initial state. If an error occurs during operation, the welder is automatically protected and the error code is displayed on the digital window with the code number.

■ Symptom and solution

Code no.	Symptoms	Cause	Solution
E40	Communication error between Main PCB and Display PCB	1. Cable failure 2. Main PCB failure	1. Check and replace the cable 2. Replace the Main PCB
E41	Wire feeder communication error	1. Cable failure 2. Wire feeder PCB failure	1. Check and replace the cable 2. Replace the Wire feeder PCB
E42	Communication error between the welder and wire feeder	1. Connect failure between the welder and wire feeder 2. Internal cable failure 3. Wire feeder PCB failure 4. Main PCB failure	1. Check the cable in Wire feeder and the welder 2. Check and replace the internal cable 3. Replace Wire feeder PCB 4. Replace Main PCB
E33	Welding wire stick to base metal	At the end of welding, welding wire sticks to base material	Turn off the main power and detach welding wire from base metal.
E34	Input error of Wire feeder	1. Cable failure 2. Welding voltage and current volume failure in Wire feeder.	1. Check and replace the cable 2. Replace the volume of wire feeder.
E30	Wire feeder overload	1. Welding wire is finished. 2. Motor overload, Motor Failure.	1. Replace with new welding wire 2. Replace motor
E15	Power supply error	1. Torch switch pressed at power-on 2. Open circuit voltage error 3. Current detected 4. Welding wire is fed 5. Gas detected	1. Release torch switch 2. Check that Output cable is short circuit.
E17	Over current	1. Over current 2. Hole sensor failure 3. Signal cable disconnected 4. Main PCB failure	1. Check main circuit 2. Supply input power 3. Check signal cables 4. Replace Main board
E18	Output voltage error	1. Voltage feedback cable got damaged 2. Main pcb failure	1. Check Voltage feedback cable and replace it 2. Replace Main board
E19	Temperature protect	1. Overheat in side of welding machine 2. Temperature sensor fault 3. Signal cable failure 4. Main pcb failure	1. Check the ventilation and follow duty cycle of machine 2. Replace temp. sensor 3. Check Signal cables 4. Replace Main pcb
E10	Torch switch error	No weld even pressing torch switch for a long time	Torch switch off
E88	Motor don't work	Motor board failure	Check and replace Wire feeder board

Thank you very much for choosing our machine

Please record your machine identification information below for future reference. This information can be found on the nameplate of your machine.

Product Name	INVERTER PULSE MIG ARC WELDER
Model Number	500LMP
Date Manufactured	
Serial Number	
Date Purchased	
Where Purchased	
Where you use	

Whenever you request replacement parts or information on this machine, always supply the information you have recorded above. The date number is especially important when identifying the correct replacement parts.

Complete this form, please fax it to our selling agency in your country or us for warranty statement.



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