

A New Era in Digital Welding.

MIG
TIG
STICK **200+**



What is EVOLVE?

It is a new product series developed by JASIC, which features full digital control welding machines with IoT technology and cloud service.

Why EVOLVE?

Today's welding challenges are complex and constantly changing, and a **welding machine that can update its processes and functions on demand** is JASIC's response to those challenges.

This is a **constantly EVOLVEing machine** that fits the modern welding environment and survives its challenges.

The EVOLVE200+

Being the introductory model in the range, it brings in JASIC's concept of advanced digital welding thanks to 4 main aspects of the machine:



Advanced Digital Welding



Advanced DSP Microprocessor for Refined Welding Performance

The ARM Cortex-M4 is the optimal DSP (digital signal processing) microprocessor with floating-point unit (FPU). Its high-efficiency signal processing capabilities make it ideal for precise pulse control. This processor also supports advanced welding algorithm, which elevates the overall weld results of the EVOLVE200+.

Full Digital HMI (Human-Machine Interface)

Whether the welder is near or faraway from the power source, EVOLVE's full digital human-machine interface delivers seamless user experience with its accessibility and intuitive architecture.

Mobile App

- Capable of managing multiple machines
- Wireless connection via Bluetooth or Wifi
- Intuitive user interface
- Comprehensive welding parameter configuration



Inverter Frequency Modulation for Optimal Output Performance

This feature significantly increases overall energy efficiency of EVOLVE200+ by modulating its IGBT inverters' switching frequency to optimal range in accordance to different output settings. Switching frequency modulation range: 26K~40K.

When welding in low current settings, switching frequency is set at high tier range to deliver high arc dynamic response rate and high arc control precision.

While in high current settings, switching frequency is lowered in order to reduce power loss and limit heat generation.



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Glick Function



This easy-to-use function allows users to “trim” output current during 4T MIG/TIG welding by pressing the torch’s trigger when a 4T welding cycle is on-going. It allows more precise control on heat input, giving users more options in weld bead formation.

Double Pulse MIG Welding



Double pulse MIG welding process uses 2 different current pulses to form an output pulse. The 2-pulses cycle can stir the weld pool more thoroughly compared to single pulse, forming smaller grain structure and thus better quality weld bead with reduced heat input.

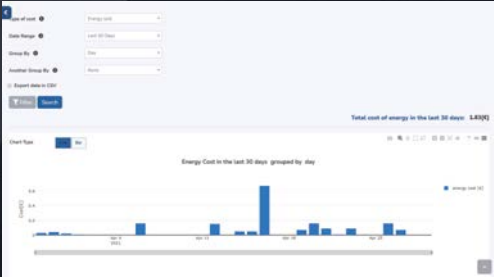


JTE CLOUD

This cloud service aims to provide comprehensive productivity boost by allowing users to capitalize on the power of welding data and IoT applications.

Professional Welding Cloud Service for Scalable, Enhanced Productivity:

- Welding data documentation, statistics, and analysis
- Cost calculation and analysis
- Machine management and maintenance



OTA (Over-the-air) Firmware Update



Users can receive push notification on the EVOLVE200+ whenever there's a new version of firmware available*. Upon the user's approval, the machine will download the updated firmware and complete firmware update process automatically.

Note: the machine's firmware is also downgradable.

On Demand Processes & Functions



To be an EVOLVE welding machine means being able to renew its processes and functions according to the job's requirements. When connected to JTE Cloud, the EVOLVE200+ is able to download new processes and functions, and replace the old ones if the user wishes.

Fully Synergic, Powered by JTE Cloud

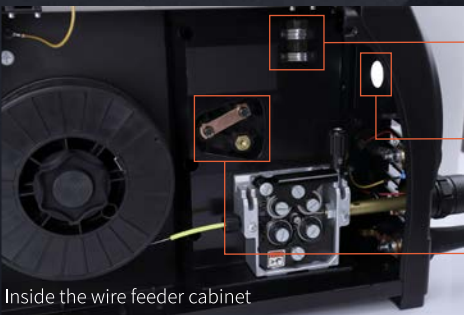


The EVOLVE200+ has 19 built-in synergic programs covering MMA, TIG, MIG/MAG, pulse MIG and double pulse MIG. And on JTE Cloud, users can have access to an ever-expanding synergic program library. Users can download these on-cloud synergic programs to the EVOLVE200+ when the machine is connected to JTE Cloud.

Other Distinguishing Features...



EVOLVE Digital Torch (Optional)



Built-in Wire Feed Roller Cabinet

Wire Feed System's LED Lighting

Secured Polarity Switch

Inside the wire feeder cabinet



Key Features

- Powered by JTE Cloud
- Machine connects to cloud via WiFi
- Welding data statistics and cost analysis available in cloud
- Dedicated cloud data storage for each machine
- OTA firmware updates

- ARM Cortex-M4 microprocessor for top-notch digital control
- High performance DSP capabilities with FPU (floating-point unit)
- Advanced welding algorithm support

- Optimal welding quality comparable to machines of higher amperage range
- Inverter frequency modulation for optimal output performance
- Double pulse MIG and high frequency TIG
- 19 built-in synergic programs
- Glick function provides real-time output current fine-tuning for 4T operation
- Digital control wire feeder

- Connectivity / Expandability / Job Management
- Wireless connectivity: WiFi / Bluetooth
- Dedicated mobile APP for remote control and device management
- Extended function library available in cloud
- 100 local job memory slots

Specifications

Model	EVOLVE200+ N2D2
Processes	MMA/MIG/MAG/Pulse MIG/Double Pulse MIG/Lift TIG/HF TIG
Power supply	1ph~AC230 V, 50/60 Hz
Rated input power	5.83 kVA
Power factor	0.65
Rated efficiency	82%
Rated no-load voltage	77 V
Rated maximum output	MMA 180 A/27.2 V MIG/MAG 200 A/24 V Lift TIG/HF TIG 200 A/18 V
Rated duty cycle	25% @40°C
Welding output range	MMA 20~180 A MIG/MAG 20~200 A Lift TIG/HF TIG 5~200 A
Protection class	IP23S
Insulation class	H
Welding wire material	SG2/SST (CrNi)/AlMg5/AlSi4/CuSi3
Cooling method	Air cooling
Dimensions	605 x 400 x 230 mm
Weight	17.0 kg

Coming Soon ...

EVOLVE200 PLUS

USER MANUAL

REV.00



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1. Product overview

IN CASE OF BAD OPERATION YOU DEMAND THE ATTENDANCE OF QUALIFIED STAFF

WARNING

IMPORTANT: BEFORE STARTING THE EQUIPMENT, READ THE CONTENTS OF THIS MANUAL, WHICH MUST BE STORED IN A PLACE FAMILIAR TO ALL USERS FOR THE ENTIRE OPERATIVE LIFE SPAN OF THE MACHINE. THIS EQUIPMENT MUST BE USED SOLELY FOR WELDING OPERATIONS.

SHENZHEN JASIC TECHNOLOGY CO., LTD. solemnly promises:

This product is manufactured according to relevant standards of China and relevant international standards, and meets safety standards such as GB15579.1, IEC 60974-1, EN 60974.1, AS 60974.1 and UL 60974.1.

2014/35/EU (LDV) – 2014/30/EU (EMC) – 2002/95 (RoHs) and with the instructions contained in the harmonized standard, if applicable: EN 60974-1 EN 60974-2 EN 60974-3 EN 60974-5 EN 60974-7 EN 60974-10 EN 60974-12

Relevant design plans and manufacturing technologies of this product are patented.

Operate after reading this manual carefully.

1. JASIC has the right to revise this manual at any time without prior notice.
2. Though contents in this manual have been carefully checked, inaccuracies might have occurred. For any inaccuracy, please contact us.
3. This manual was released in Dec, 2021.

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1.1 Conformity declaration

IN CASE OF BAD OPERATION YOU DEMAND THE ATTENDANCE OF QUALIFIED STAFF

The equipment doesn't comply with EN/ IEC 61000-3-12.

The installer or the user must be sure that it can be connected to the public low voltage power line, if necessary, in consultation with the network distributor.

1.1.1 Re2T/4T Norm

The symbol on the product or on its packaging indicates that this product may not be treated as household waste. Instead, it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

1.1.2 Safety Precautions

WELDING AND ARC CUTTING CAN BE HARMFUL TO YOURSELF AND OTHERS. The user must therefore be educated against the hazards, summarized below, deriving from welding operations.

ELECTRIC SHOCK – May be fatal.



Install and earth the welding machine according to the applicable regulations.

Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing. Isolate yourselves from both the earth and the workpiece.

Make sure your working position is safe.

FUME AND GASES – May be hazardous to your health.



Keep your head away from fumes.

Work in the presence of adequate ventilation, and use ventilators around the arc to prevent fume and gases from forming in the work area.

ARC RAYS – May injure the eyes and burn the skin.



Protect your eyes with welding masks fitted with filtered lenses, and protect your body with appropriate safety garments.

Protect others by installing adequate shields or curtains.

RISK OF FIRE AND BURNS



Sparks (sprays) may cause fires and burn the skin; you should therefore make sure there are no inflammable materials in the area, and wear appropriate protective garments.

NOISE



This machine does not directly produce noise exceeding 80dB. The plasma cutting/welding procedure may produce noise levels beyond said limit; users must therefore implement all precautions required by law.

PACEMAKERS



The magnetic fields created by high currents may affect the operation of pacemakers. Wearers of vital electronic equipment (pacemakers) should consult their physician before beginning any arc welding, cutting, gouging or spot welding operations.

EXPLOSIONS



Do not weld in the vicinity of containers under pressure, or in the presence of explosive dust, gases or fumes. All cylinders and pressure regulators used in welding operation should be handled with care.

1.1.3 Ecodesign Regulations

The equipment has been designed in order to be compliant with the Directive 2009/125/EC and the Regulation 2019/1784/EU.

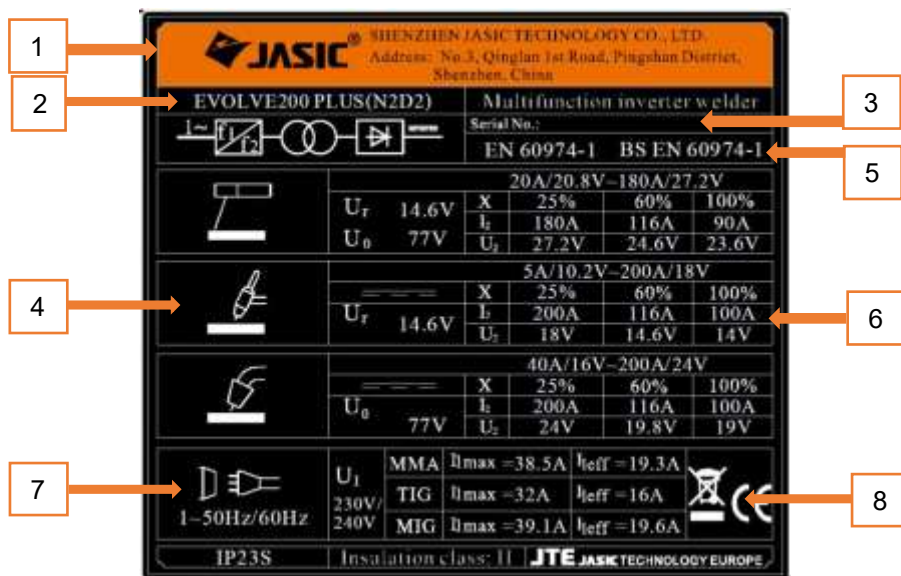
Model	Minimum power source efficiency %	Maximum idle state power consumption (watt)	Equivalent model
EVOLVE200 PLUS	82 %	45 watt	No equivalent model available

Idle state occurs under the condition specified in below table:

Idle state	
Condition	Present
MIG mode	X
TIG mode	
MMA mode	
FAN OFF condition	X

The values of efficiency and consumption in idle state have been measured by method and conditions defined in the product standard EN 60974-1: 2017-02.

Manufacturer's name, product name, code number, product number, serial number and date of production can be read from rating plate.



Serial No. Plate references	
1	Manufacturer's name and address
2	Product name
3	Serial Number of the product AA = year of production BB = week of production CCC = progressive number
4	Symbol of welding current source type
5	Conformity references
6	Output data
7	Power supply data
8	Protection data / symbols / other

Typical gas usage for **MIG/MAG** equipment:

Material type	Wire diameter [mm]	DC electrode positive		Speed wire (m/min)	Shielding gas	Gas flow (lt/min)
		A	V			
Carbon, low alloy steel	0,9 ÷ 1,1	95 ÷ 200	18 ÷ 22	3,5 – 6,5	Ar 75%, CO ₂ 25%	14 ÷ 19
Aluminum	0,8 ÷ 1,6	90 ÷ 240	18 ÷ 26	5,5 – 9,5	Argon	14 ÷ 19
Austenitic stainless steel	0,8 ÷ 1,6	85 ÷ 300	21 ÷ 28	3 - 7	Ar 98%, O ₂ 2% / He 90%, Ar 7,5% CO ₂ 2,5%	14 ÷ 16
Copper alloy	0,9 ÷ 1,6	175 ÷ 385	23 ÷ 26	6 - 11	Argon	12 ÷ 16
Magnesium	1,6 ÷ 2,4	70 ÷ 335	16 ÷ 26	4 - 15	Argon	24 ÷ 28

TIG Process:

In TIG welding process, gas usage depends on cross-sectional area of the nozzle. For commonly used torches:

Helium: 14-24 l/min

Argon: 7-16 l/min

Notice: Excessive flow rates will cause turbulence in the gas stream which may aspirate atmospheric contamination into the welding pool.

Notice: A cross wind or draft moving can disrupt the shielding gas coverage, in the interest of saving of protective gas, use screen to block air flow.



End of life

At end of life of product, it has to be disposed for recycling in accordance with Directive 2012/19/EU (WEEE). Information about the dismantling of product and Critical Raw Material (CRM) present in the product can be found in the website.

1.2 Front panel general descriptions

1.2.1 Button descriptions

BUTTON1-RETURN: Return the main page.

BUTTON2-MENU: Enter the menu page.

1.2.2 Knob

KNOB1: Current and wire speed knob

KNOB2: Voltage and ARC length knob

1.2.3 Front panel commands descriptions

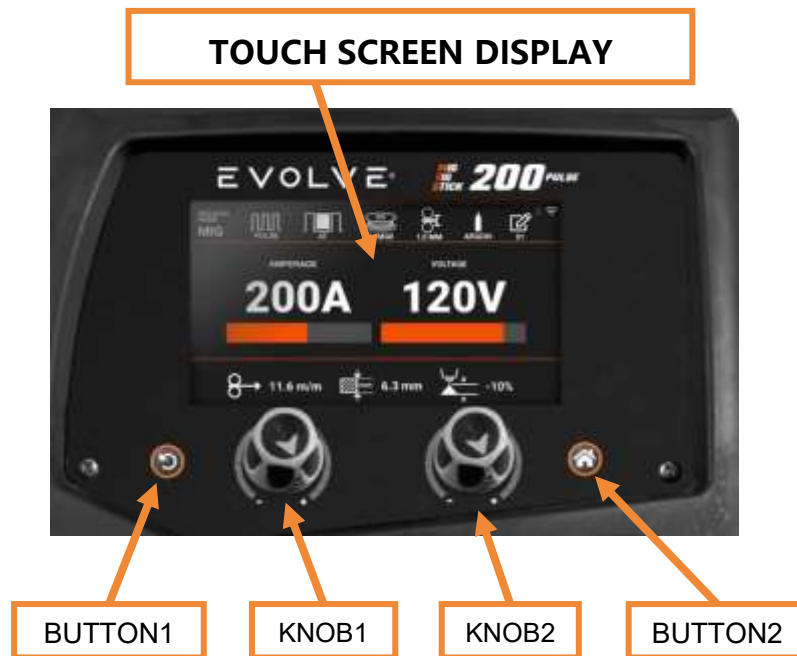


Fig.1 FRONT PANEL COMANDS DESCRIPTIONS

Button1 : back command

KNOB1 : set the left side welding parameter

KNOB2 : set the right side welding parameter

BUTTON2 : home menu

1.2.4 Front panel display descriptions




In the display top show icons to inform state of the WiFi, cloud, Bluetooth connection, new firmware available.

In the top there is the welding settings selection bar. The commands can be by touch screen and/or by knobs.

In the middle area during the welding process, the display shows the real output current and voltage. At the end of the welding process, the display shows latest welding values of the output current and voltage until the buttons or the Knobs of the control panel are used.

In the Bottom area display show the welding set data.

In the bottom area in the left side the touch button  for back command;

In the bottom area in the right side the touch button  to enter in the front panel home menu.

1.3 Boot up and machine information display

1.3.1 Boot up interface descriptions



At the power on the control panel has a boot time of about 20 seconds, after the boot time the display show the last working setup.

At the same time, the fan is controlled for a short period in order to load the fly-back power supply of the inverter and allow the initial self-test.

The self-test involves check on the inverter, check on the wire feeder motor driver, check on the auxiliary power supply for the machine and check on the mains cabling of the machine.

If there are errors during the self-test, the corresponding error code will be shown in the display with a short description of the error. The flow chart will indicate the errors. During the initial self-test, the errors found are fatal errors, that means the alarms does not allow the machine to continue and the display stops other visualizations and shows the error code and description

1.3.2 Machine information display



The machine information are show in the "Machine information" screen.

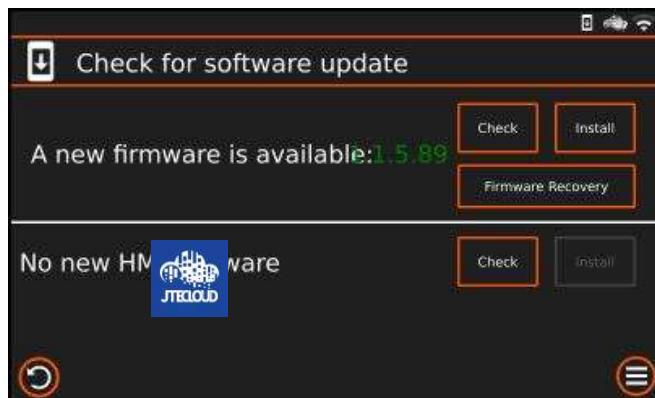
Serial number of the machine model,
machine model name

Firmware version of the machine

HMI version : it is the control panel firmware.

To enter in the Machine information push home menu button, then by knob select Machine information, confirm by press the knob

1.3.3 Machine software upgrade descriptions



In the menu "check for software update" can be check if a new firmware is available for machine and for the HMI by the command "check".

If a firmware update is available from the JTE cloud, a message is shown on the display A new firmware is available. To install confirm by install command.

During the download of the new software do not turn of the machine.

The display show the message "not to turn off the machine" and starts uploading the new software.

The upload takes about a minute. At the end of the upload, the machine and front panel will be reset automatically.

1.4 Photos of the machine and instructions

Photos of the machine and instructions are as follows:



Code	Name	Description	Refer to schematics
1	PCB	MOTHER BOARD	TJ010
2	PCB	COMMUNICATION BOARD	TJ003
3	PCB	EMC BOARD	TJ013
4	TRANSFORMER	THE MAIN TRANSFORMER	/
5	MOTOR	WIRE FEEDER	INTERNAL MIG WIRE FEEDER
6	DEVICE	POLARITY SWITCHING DEVICE	POLARITY CHANGE
7	PANEL	FRONT PANEL	/
8	PCB	HF CONTROL BOARD	TJ020
9	PCB	HF FILTER BOARD	TJ034

1.5 Main parameters of the welding machine

Model		EVOLVE200 PLUS (N2D2)
Input	Input power	AC230V single-phase 50/60Hz
	Rated input capacity	5.83KVA
	Power factor	0.65
	Rated efficiency	82%
	Rated no-load voltage	77V
	Rated maximum output	MMA 180A/27.2V TIG 200A/18V MIG 200A/24V
	Rated duty 2T/4T	25%@AC230V Single-phase
	Welding current	MMA 20A/20.8V ~ 180A/27.2V TIG 5A/10.2V ~ 200A/18V MIG/pulsed MIG 20A/16V ~ 200A/24V
Ambient	Operation temperature	-10 ~ +40℃
	Storage temperature	-25 ~ +55℃
	Protection class	IP23S
	Insulation class	H
	Cooling method	Air cooling
	Dimension of bare welding source	605mm*400mm*230mm
	Dimension of packaged welding source	730mm*585mm*330*mm
	Weight of bare welding source	17.0kg
	Weight of complete welding source	19.0kg

1.6 WiFi connection

The machine can be connected in a WiFi network.



By WiFi connection, it is possible to upgrade the machine firmware, use the app mobile JTECLOUD as remote control, save welding data in the JTE cloud.

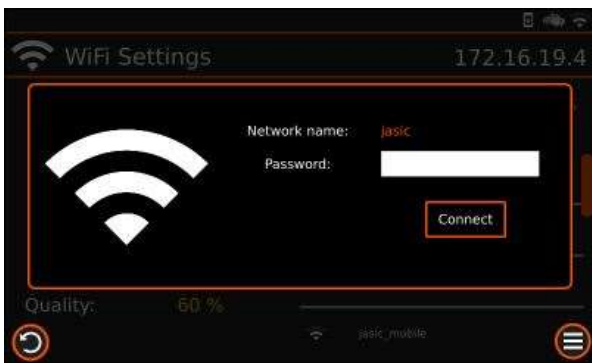


To connect on the WiFi, the state of the WiFi connection is available by the WiFi page. To enter in the WiFi warring use the home menu touch button or button2.

The display will show the WiFi network available, touch the WiFi name to connect, use the display keyboard to enter the password.

The state of the WiFi connection is available in the line Status.

The WiFi state is also available by the icon in the top position of the display.



The WiFi configuration is available by the JTECLOUD app mobile also. Connect the machine to the app mobile by Bluetooth and setting the WiFi to enter in the details menu/ WiFi setting: Enter and confirm the WiFi name and password.

The App is available in the App store for IOS, and in the Google play for Android.

2. Instructions for welding function

2.1 Welding mode instructions

Welding mode includes: MMA mode, TIG mode and MIG mode.

Select the welding mode by touch or by knob in the top menu the icon MMA, TIG or MIG mode. Turning the knob clockwise or counterclockwise scrolls through the three selections.



Select MMA



Select TIG



Select MIG

What explained is related to the solution for choosing the MIG or MMA or TIG working mode with the mode menu. The simplest solution to change the welding mode is to press the torch button want to use

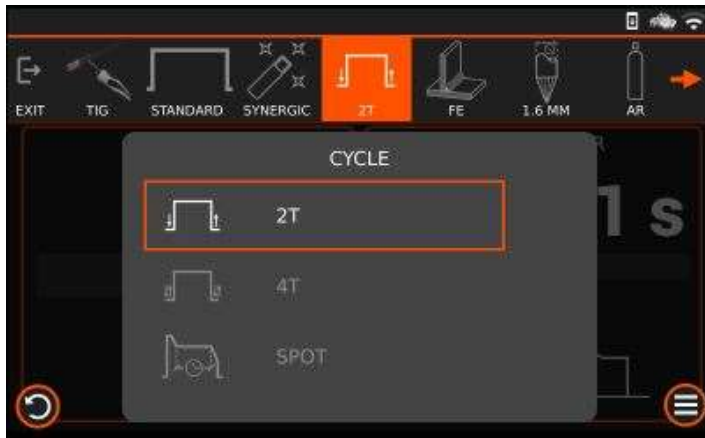
For example, if the machine is set in MMA mode and the operator wants to weld in MIG, it is sufficient that he presses the button of the MIG torch. At that point, the machine returns to the MIG program previously used without requiring the operator to perform any other operation, in fact he will find the last setting and the last adjustment. Same thing happens by pressing the button of the TIG torch.

For MMA selection, on the other hand, it is always necessary to use the mode menu also because before changing the working mode, the generator checks whether the output of the machine is short-circuited.

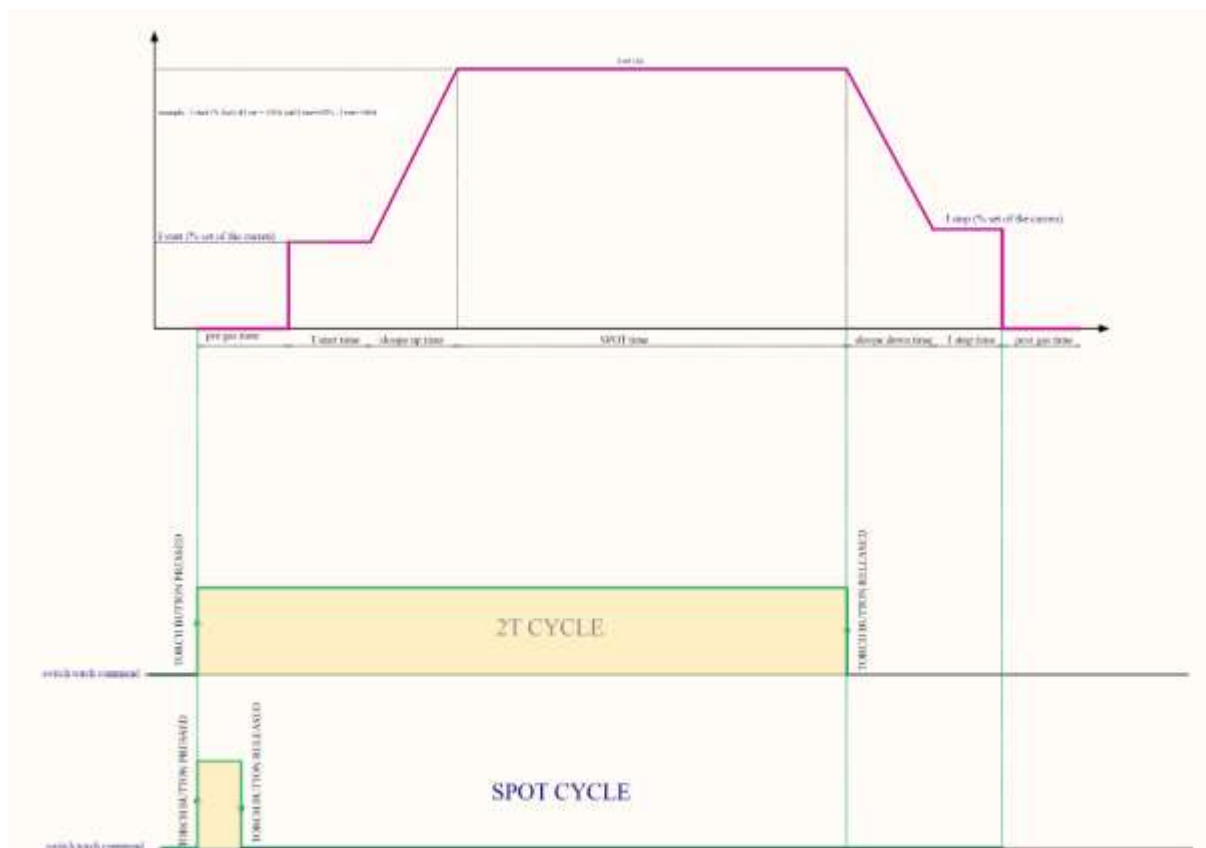
Push the knob or touch the icon to confirm the selected welding mode. Press other area without MODE button to exit without changing selection.

2.2 Welding operate mode instructions

Welding operate mode includes: 2T mode, 4T mode and SP mode. Welding operate mode is switched by pushing the 2T/4T button, three kinds of Welding mode corresponding schematic diagrams as shown below.

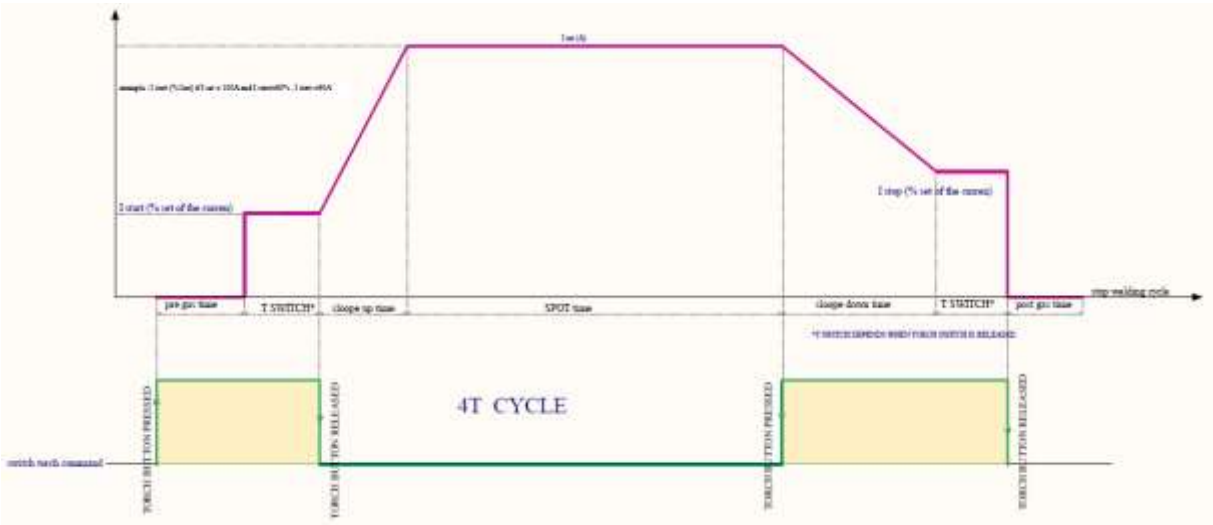


2.2.1 2T mode / 2T Spot mode

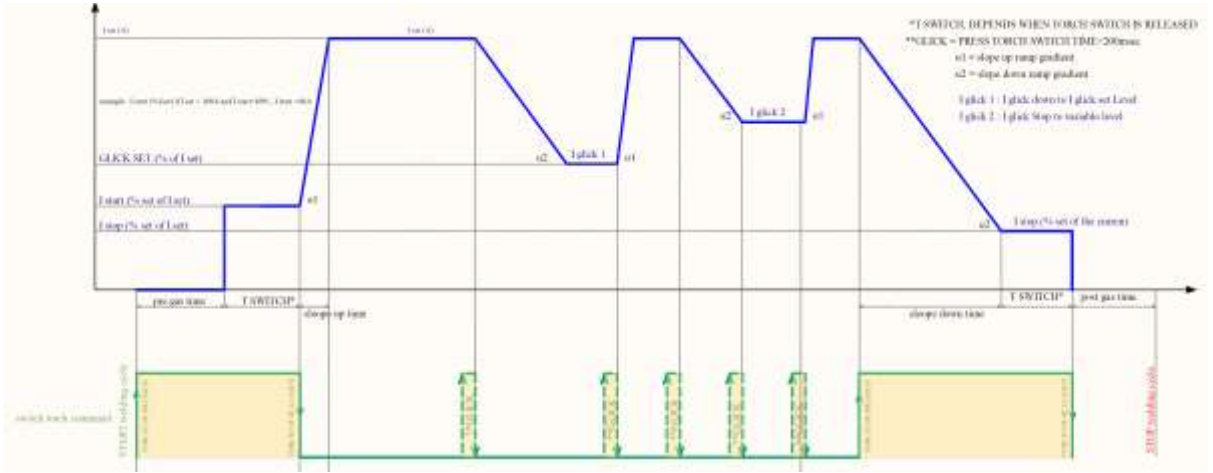


2.2.2 4T mode

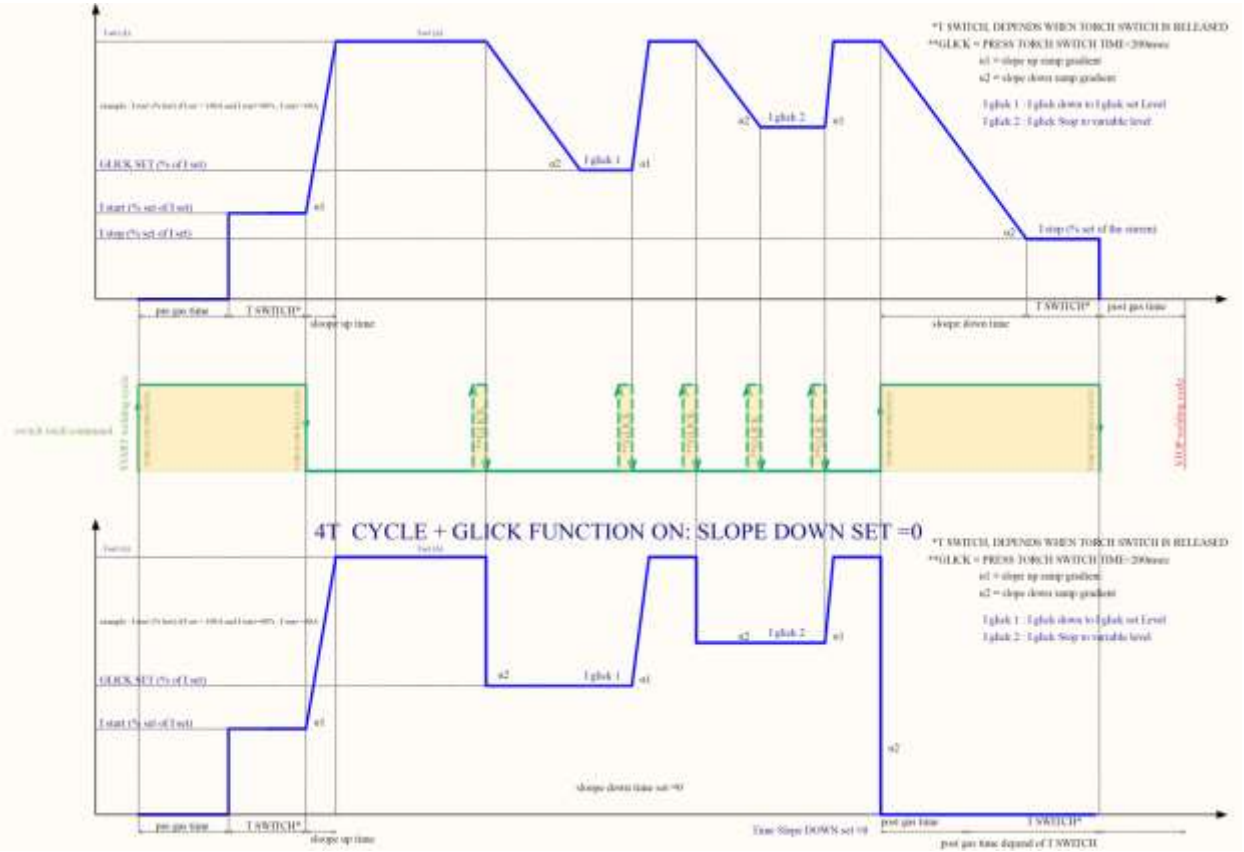
4T 2T/4T (example)



4T 2T/4T + GLICK FUNCTION ON (example)



4T 2T/4T+GLICK FUNCTION ON Slope DOWN set to 0 (example)





2.4 Welding technology parameter selection instruction

2.5 Welding job group selection instructions

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2.6 MMA welding function instructions

2.6.1 MMA welding connection caption

Connect the electrode holder to the positive polarity and the earth clamp plugs to the negative polarity.



2.6.2 VRD set and instructions



This function reduces the output no-load voltage at a value less than 25V in a very short time.

It increases the safety conditions of the machine user: the no-load voltage is not dangerous but contact through human body and live parts of earth cable and electrode holder can cause a shock with loss of equilibrium control or similar.

The symbol "VRD ON" means that VRD protection is active with an output no-load voltage equal to 15V.

When "VRD" feature is off, an icon led shows voltage greater than 25V.

VRD ON: The reduction of the output voltage will have after 200msec of the stop welding.

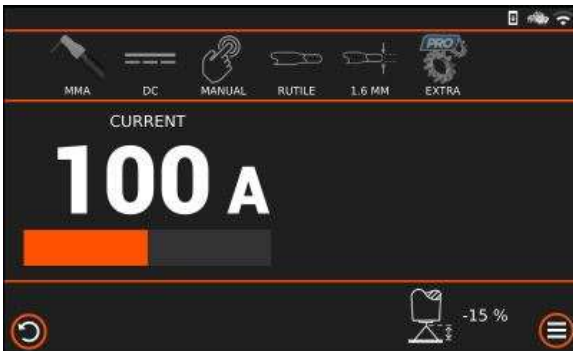
VRD OFF: The reduction of the output voltage will have in every case after 30sec of stop welding.

VRD Switch: In MMA mode, press the EXTRA Button to enter advanced settings and switch VRD ON / VRD OFF.

2.6.3 MMA manual mode setting

2.6.3.1 MMA welding display

MMA welding display is as follows:



In this case, there was a set current of 100 A with the VRD set in On position, and the system set a manual for the Rutile with 1,6 mm electrodes.

2.6.3.2 Parameters setting



Push the Materials button to select the type of work to be performed in the electrode adjustment.

Select the material by rotating the KNOB1 and confirm by pushing KNOB1.

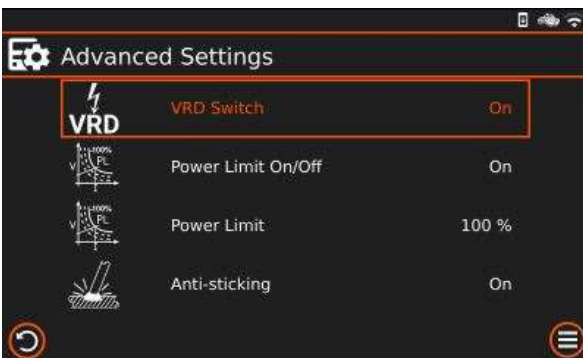
The selections available are RUTIL, SST, BASIC, CELLULOSIC.

SETTING IN MANUAL ELECTRODE

Rotate KNOB1 to adjust the output current from Mini set to Max set.



Rotate KNOB2 to adjust the arc force %.

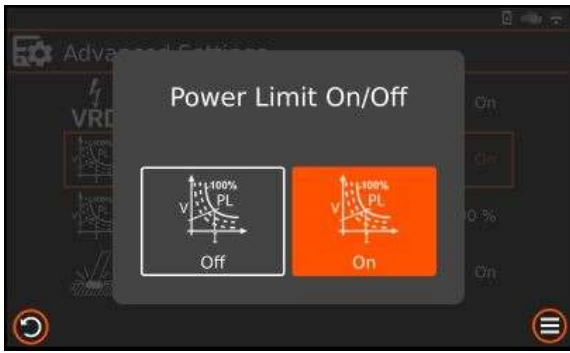


Advanced Settings

Push the EXTRA button to enter in the advanced setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.

- VRD Switch
- Power Limit On/Off
- Power Limit (if Power Limit On)
- Anti-sticking.



POWER LIMIT On/Off

The Power limitation function improves the quality of welding in MMA mode.

It can be adjusted from 0 (max limitation) -100% (OFF).

With this parameter, you can have a limitation of the output power through the check of the output voltage. If the voltage exceeds the nominal value expected for the arc $[U_2 = (20 + 0,04 I^2) V]$ of the percentage set by the Power Limit, the current drops in proportion in order to keep the value of output power constant.

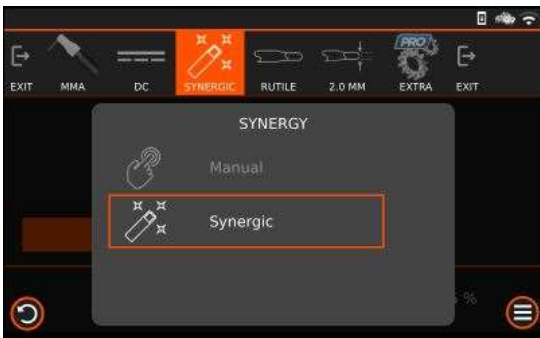


Anti-sticking On /Off

It prevents the electrode from sticking to the part while welding is being performed.

Set On or Off by knob1 and confirm by pressing knob1.

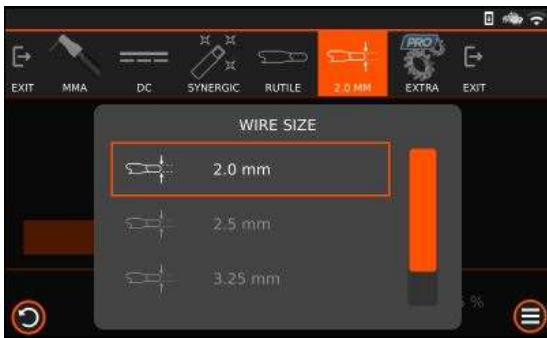
2.6.4 MMA synergic mode setting



Press the PROG button to select the synergic material.



To select the MATERIAL, push the materials button



To select the ELECTODE SIZE, push the wire size button and the diameter is show on the display.

Rotate KNOB 1 to select the diameter and confirm selection by pressing KNOB 1 or by touch screen.



Rotate KNOB 1 to adjust the output current limitation for the selected electrode. The range of this adjustment changes for each type of electrode.

On the bottom side, the display will show the thickness of the work part with selected current.

Stick synergic Materials and Electrode size	
Material	Electrode size (mm)
RUTIL	2,0-2,5-3,25-4,0
SST	2,0-2,5-3,25-4,0
BASIC	2,5-3,25-4,0
CELL	2,5-3,25-4,0

2.7 TIG welding function instructions

2.7.1 TIG welding connection caption



Connect the earth cable of workpiece to the positive polarity.

Connect the TIG torch to the negative polarity.

Connect the auxiliary plug of the torch.

Connect the gas hose of torch to the output nipple.



Connect the argon gas bottle to the input gas nipple located on the back side of machine.

2.7.2 TIG welding display and function instructions

2.7.2.1 TIG welding display



TIG welding display is as follows:

In this case, there was a set current of 5A with Welding operate mode selected 2T, the system set a synergy for the FE with 1, 6 mm electrodes.

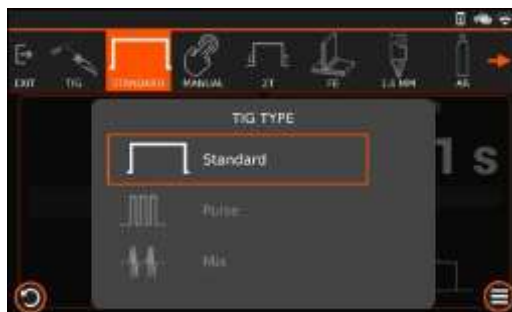
2.7.2.2 TIG Electrode adjustments



SETTING TIG MODE

To select the TYPE of TIG MODE, push the button MODE

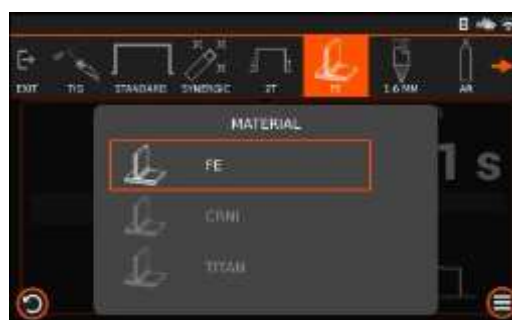
Select the TIG TYPE by rotating the KNOB1 and confirm by pushing KNOB1.



Select the TIG TYPE by rotating the KNOB1 and confirm by pushing KNOB1.

The TIG type settings are:

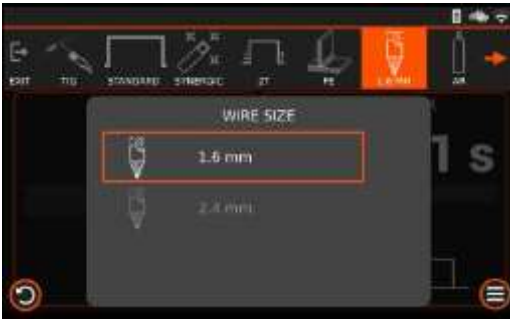
- Standard,
- Pulse,
- Mix



Press the Material button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

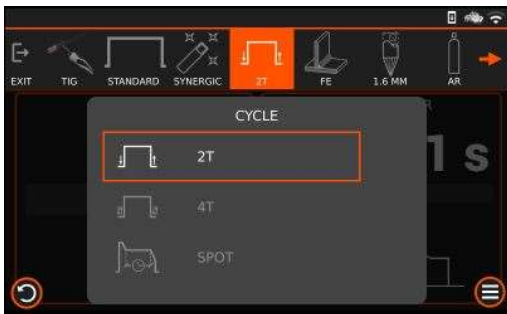
It is possible to select: materials listed in the display (FE, CRNI, TITAN).

In FE/CRNI/TITAN, the parameter will be adapted to the material and tungsten diameter selected.



Press the Diameter button to enter in the tungsten diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.7.2.3 2T/4T Setting

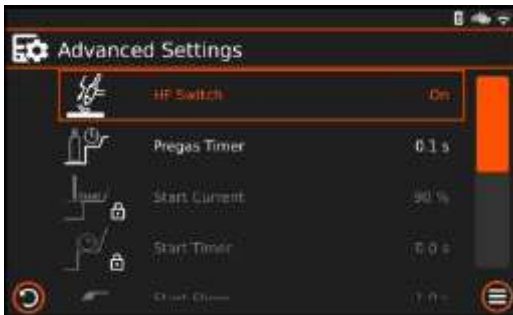


Push the 2T/4T button to enter in the 2T/4T menu.

Select the 2T/4T by KNOB1 and confirm by pushing the KNOB1.

It is possible to select 2 T, 4 T, SPOT.

2.7.2.4 Advanced Settings



Advanced Settings

Push the EXTRA button to enter in the advanced setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.

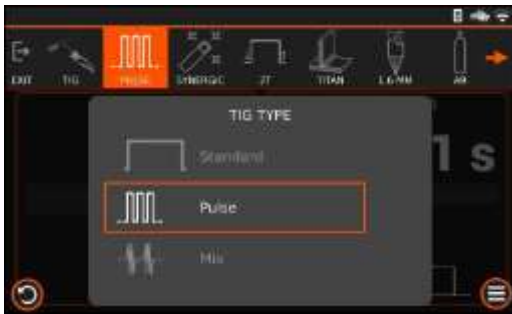
- HF Switch
- Pregas Timer
- Start Current/Start Timer/Start Slope/Stop Slope/Stop Timer/Stop Current.

(Note:STANDARD/MANUAL/2T the parameter are unlock.)

- Postgas Timer

2.7.3 SETTING TIG PULSE

2.7.3.1 Electrode adjustments



To select the TYPE of TIG MODE, push the MODE button.

Select the TIG TYPE by rotating KNOB1 and confirm by pushing the KNOB1.



Press the Material button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

It is possible to select: materials listed in the display (FE, CRNI, TITAN).

In FE/CRNI/TITAN, the parameter will be adapted to the material and tungsten diameter selected.



Press the Diameter button to enter in the tungsten diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.7.3.2 2T/4T Setting

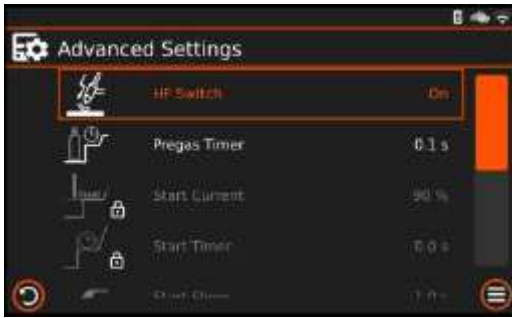


Push the 2T/4T button to enter in the 2T/4T menu.

Select the 2T/4T by KNOB1 and confirm by pushing the KNOB1.

It is possible to select 2 Time, 4 Time, SP (SPOT).

2.7.3.3 Advanced Settings

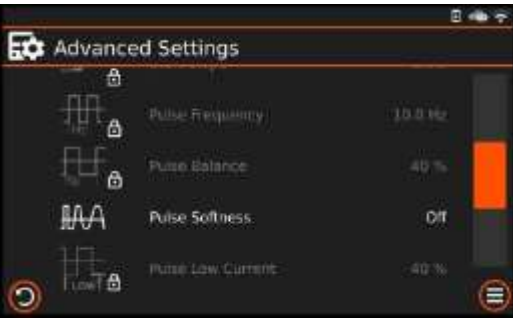


Advanced Settings

Push the EXTRA button to enter in the advanced setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.

- HF Switch
- Pregas Timer
- Start Current/Start Timer/Start Slope/Stop Slope/Stop Timer/Stop Current.



- Pulse Frequency/Pulse Balance/Pulse Low Current
- (Note:Pulse/MANUAL/2T the parameter are unlock.)
- Pulse Softness
- Postgas Timer

2.7.4 SETTING TIG MIX

2.7.4.1 Electrode adjustments



To select the TYPE of TIG MODE, push the MODE button .

Select the TIG TYPE by rotating KNOB1 and confirm by pushing the KNOB1.



Press the Material button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

It is possible to select: materials listed in the display (FE, CRNI,TITAN).

In FE/CRNI/TITAN , the parameter will be adapted to the material and tungsten diameter selected.



Press the Diameter button to enter in the tungsten diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.7.4.2 2T/4T Setting

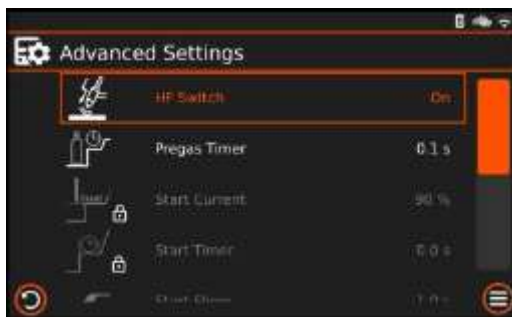


Push the 2T/4T button to enter in the 2T/4T menu.

Select the 2T/4T by the KNOB1 and confirm by pushing the KNOB1

It is possible to select 2 Time, 4 Time, SP (SPOT).

2.7.4.3 Advanced Settings

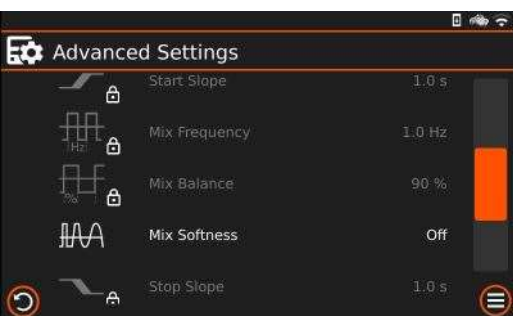


Advanced Settings

Push the EXTRA button to enter in the advanced setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.

- HF Switch
- Pregas Timer
- Start Current/Start Timer/Start Slope/Stop Slope/Stop Timer/Stop Current.



- Mix Frequency/Mix Balance
- (Note: Mix/MANUAL/2T the parameter are unlock.)
- Mix Softness
- Postgas Timer

2.7.5 TIG STANDARD SETTING



The standard manual is always supported by a default setting of the advanced setting data.

The default settings help to have the optimization of the trigger parameters.

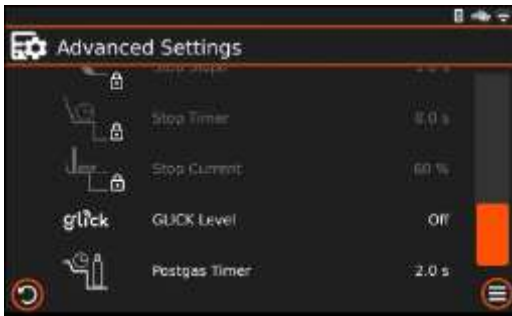
The display shows:

- in the top line, the TIG mode type and 2T/4T set (2T, 4T, SP).

- in left side, the display shows setting current and workpiece thickness.

- in the right side, the display shows the advance setting parameters and function effect on the welding wave.

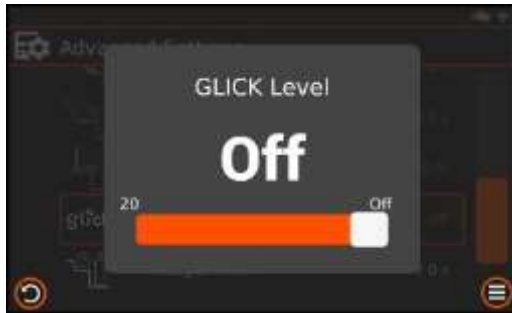
2.7.6 TIG GLICK FUNCTION



The Glick function is available in TIG 4T mode.

By this function, it is possible to change the set of output current during the welding.

The set will be reduced in % as the GLICK setting: setting range OFF-90.



The GLICK setting is available in the advanced setting menu.

By the knob can be select the set.

Example: If the GLICK setting is 50, and the output current set is 130A, the reduction of set will be at 75A.

The output current set will be changed by a short pressing of the TIG torch switch.

By the short pressing of the torch switch, you can reduce the set, and/or return back to the machine setting output current.

By a long pressing, the welding will be stopped.

To disable GLICK function, you set it in OFF.

2.8 MIG welding function instructions

2.8.1 MIG WELDING connection caption



Connect the gas bottle to gas input nipple on the back side.



Connect the MIG gun to the socket.

Connect the earth cable of workpiece to the negative polarity.

Check if the driving rolls match the appropriate wire diameter.

Push the wire between the driving rolls up to see it outside the euro torch connector. Close the upper rolls with the shaft.

2.8.2 MIG welding display and function instructions

2.8.2.1 MIG welding display

For welding MIG selection: Press the MIG torch to switch to the last MIG setting, or push MODE button and select the MIG mode



MIG welding display is as follows:

In the top line the show the welding mode settings.

In this case, we find the machine with the first line at the top with the description of settings MIG welding in PULSE mode, 2T, OFF hot start, material SG2, wire diameter 0.8mm, gas 92% 8%.

In the middle area show Data 100 A and 21.1V refer to the values of the last current and voltage detected in the weld.

In the line below, display shows: the data of the synergic program used with the base material, wire feeder speed, the work piece thickness, arch length.

2.8.2.2 Wire loading INC WIRE function



To load the wire in the torch, push (push1) and hold (≈3 seconds) the torch switch until the display shows INCH WIRE. When display shows INCH WIRE, release the torch switch and push it (push2) again.

The wire feeder starts to rotate in ramp mode up to a speed of 10mt / min.

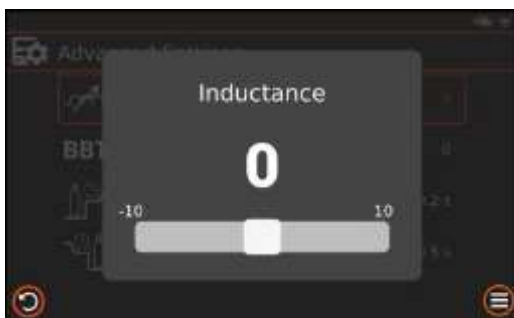
In this function, the wire comes out without using gas.

Release the torch switch to stop the INCH WIRE function.

Note: In 2T mode at the push1 of the torch switch, the wire feeder starts to rotate at slow speed.

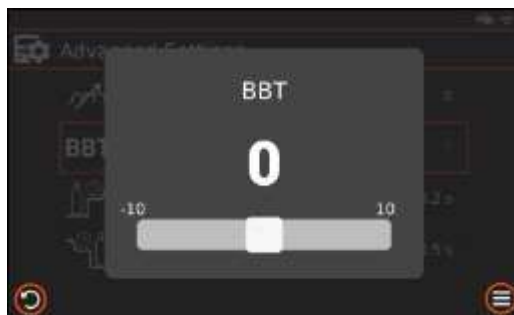
In 4T mode at the push1 of the torch switch, the wire feeder does not start rotation. It starts rotation only after inch wire mode is activated and pressing the torch switch again.

2.8.2.3 MIG Inductance



Set Inductance adjust by knob

2.8.2.4 MIG BBT



BBT: this parameter can adjust the 'burnback voltage' and the 'burnback time' at the same time.

2.8.3 MIG manual mode setting

2.8.3.1 MIG manual type setting



The MIG type settings are: Manual, Synergic, Pulse, Twice.

Press/touch mig type button to select it, or select by knob

2.8.3.2 MIG manual 2T/4T Setting



Press/touch the 2T/4T button to enter in the 2T/4T menu.

Select the 2T/4T by the KNOB1 and confirm by pushing KNOB1.

It is possible to select 2 Time, 4 Time, SPOT :Special with timer SPOT.

2.8.3.3 MIG manual material setting



Press/touch the MATERIAL button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

2.8.3.4 MIG manual wire diameter setting



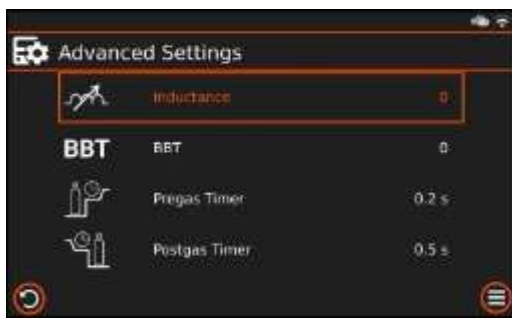
Press/touch the WIRE SIZE button to select and enter in the wire diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.8.3.5 MIG manual gas setting



Press/touch the Gas button to select and enter in the gas selection menu. Select the gas by KNOB1 and confirm by pushing the KNOB1.

2.8.3.6 MIG manual Advanced setting



Advanced Settings

Press/touch the EXTRA button to enter in the setting menu.

SELECT the function and confirm to set it.

- Inductance
- BBT
- Pregas Timer
- Postgas Timer

2.8.4 MIG synergic mode setting

2.8.4.1 MIG synergic type setting



The MIG type settings are: Manual, Synergic, Pulse, Twice

Press/touch mig type button to select it

2.8.4.2 MIG synergic 2T/4T Setting



Press/touch the 2T/4T button to enter in the 2T/4T menu.

Select the 2T/4T by the KNOB1 and confirm by pushing KNOB1.

It is possible to select 2 Time, 4 Time, Special with timer.

2.8.4.3 MIG synergic Hot start setting



Press/touch the HOT START button to enter in the HOT START menu.

Select the HOT START On/Off by the KNOB1 and confirm by pushing KNOB1.

Note:

If the hot start value exceeds the maximum output of the machine, the machine limits automatically it at 240-250A.

2.8.4.4 MIG synergic material setting



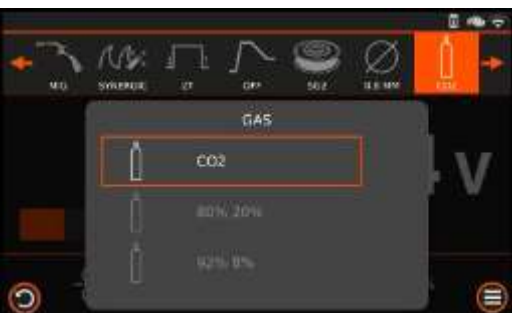
Press/touch the MATERIAL button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

2.8.4.5 MIG synergic wire diameter setting



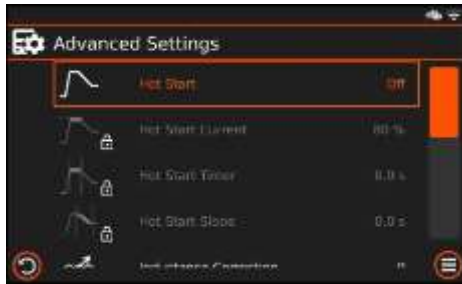
Press/touch the WIRE SIZE button to select and enter in the diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.8.4.6 MIG synergic gas setting



Press/touch the Gas button to select and enter in the gas selection menu. Select the gas by KNOB1 and confirm by pushing the KNOB1.

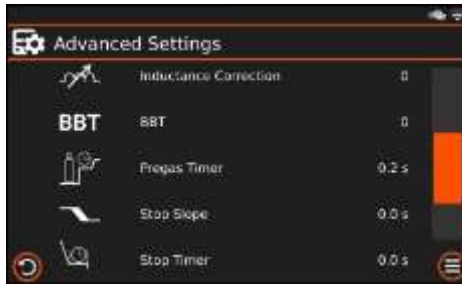
2.8.4.7 MIG synergic Advanced setting



Advanced Settings

Press/touch the EXTRA button to enter in the setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.



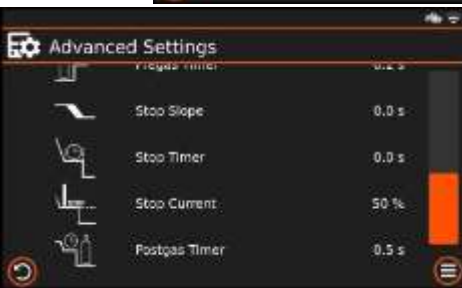
- Inductance Correction

- BBT

- Pregas Timer

- Stop Slope/Stop Timer/Stop Current

- Postgas Timer



2.8.5 MIG pulse mode setting

2.8.5.1 MIG pulse type setting



The MIG type settings are: Manual, Synergic, Pulse, Twice

Press/touch mig type button to select MIG type.

2.8.5.2 MIG pulse 2T/4T Setting



Press/touch the 2T/4T button.

Select the 2T/4T by the KNOB1 and confirm by pushing KNOB1.

It is possible to select 2 Time, 4 Time, SPOT Special with timer.

2.8.5.3 MIG pulse Hot start setting



Press/touch the HOT START button to enter in the HOT START menu.

Select the HOT START On/Off by the KNOB1 and confirm by pushing KNOB1.

Note:

If the hot start value exceeds the maximum output of the machine, the machine limits automatically it at 240-250A.

2.8.5.4 MIG pulse material setting



Press/touch the MATERIAL button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

2.8.5.5 MIG pulse wire diameter setting



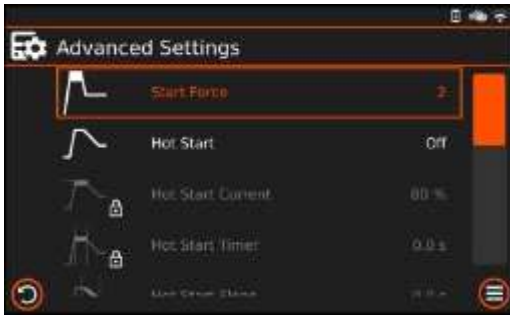
Press/touch the WIRE SIZE button to select and enter in the diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.8.5.6 MIG pulse gas setting



Press/touch the Gas button to select and enter in the gas selection menu. Select the gas by KNOB1 and confirm by pushing the KNOB1.

2.8.5.7 MIG pulse Advanced setting

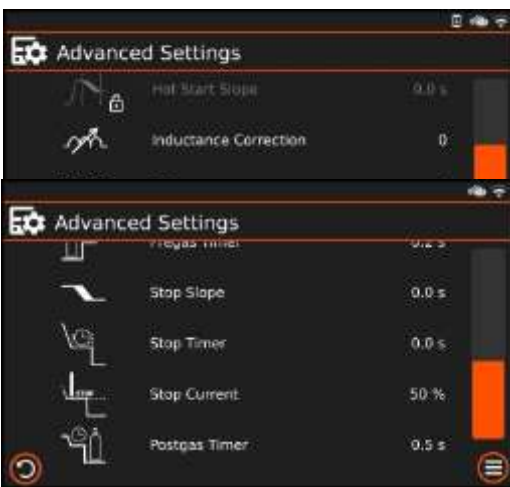


Advanced Settings

Press/touch the EXTRA button to enter in the setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.

- start Force
- Hot Start/Hot Start Current/Hot Start Timer/Hot Start Slope



- Inductance Correction
- BBT
- Pregas Timer
- Stop Slope/Stop Timer/Stop Current
- Postgas Timer

2.8.6 MIG twice mode setting

2.8.6.1 MIG twice type setting



The MIG type settings are: Manual, Synergic, Pulse, Twice

Press/touch mig type button to select MIG type

2.8.6.2 MIG twice 2T/4T Setting



Press/touch 2T/4T button to enter in the 2T/4T menu.

Select the 2T/4T by the KNOB1 and confirm by pushing KNOB1.

It is possible to select 2 Time, 4 Time, SPOT Special with timer.



2.8.6.3 MIG twice Hot start setting

Press/touch the HOT START button to enter in the HOT START menu.

Select the HOT START On/Off by the KNOB1 and confirm by pushing KNOB1.

Note:

If the hot start value exceeds the maximum output of the machine, the machine limits automatically it at 240-250A.

2.8.6.4 MIG twice material setting



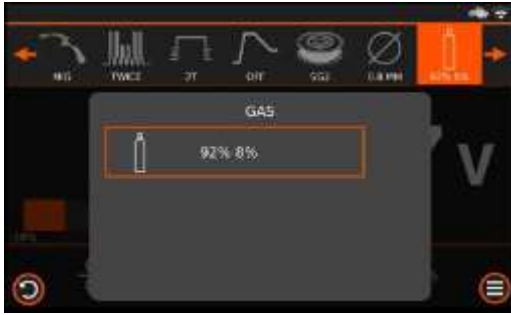
Press/touch the Material button to enter in the material selection menu. Select the material by KNOB1 and confirm by pushing the KNOB1.

2.8.6.5 MIG twice wire diameter setting



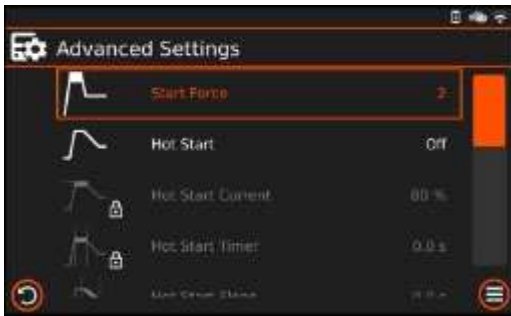
Press/touch the Wire size button to select and enter in the diameter selection menu. Select the diameter by KNOB1 and confirm by pushing the KNOB1.

2.8.6.6 MIG twice gas setting



Press/touch the Gas button to select and enter in the gas selection menu. Select the gas by KNOB1 and confirm by pushing the KNOB1.

2.8.6.7 MIG twice Advanced setting

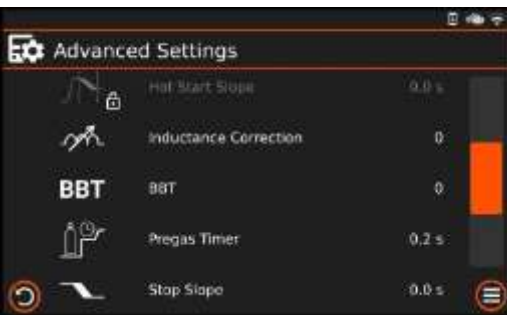


Advanced Settings

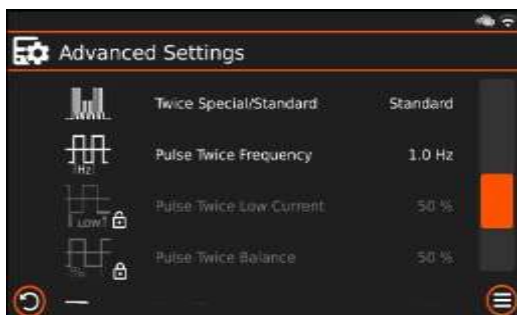
Press/touch the EXTRA button to enter in the setting menu.

SELECT the sub menu by knob1 and confirm by pushing the knob1.

- start Force
- Hot Start/Hot Start Current/Hot Start Timer/Hot Start Slope
- Inductance Correction



- BBT
- Pregas Timer
- Stop Slope/Stop Timer/Stop Current



- Postgas Timer
- Twice Special/Standard
- Pulse Twice Frequency
- Pulse Twice Low Current
- Pulse Twice Balance

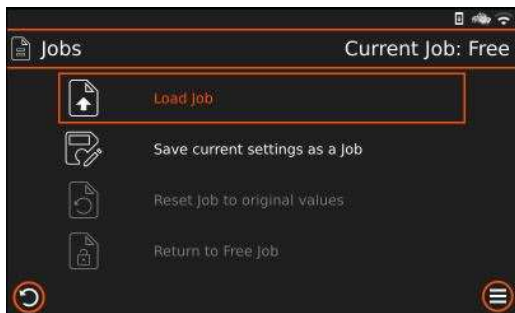
2.8.7 JOBS

The machine can save up Nr.100 Jobs in the MIG and 100 Jobs in TIG mode.





If a Job is selected, the reference number of the Job is showing in the display. Free Job indicate no jobs are selected.



In the Job menu can be

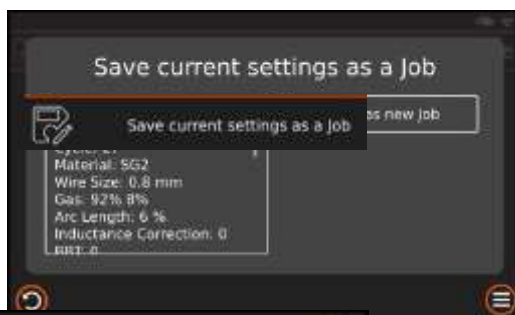
Load an existing Job,

Save current settings welding setup as a Job

Reset a job as original value

Return to the Free Job

2.8.7.1 SAVE IN A NEW JOB

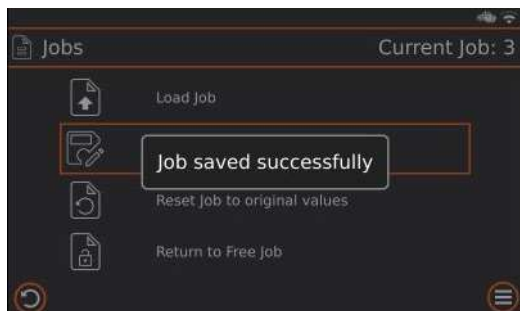


Press/touch Save the current setting in a Job



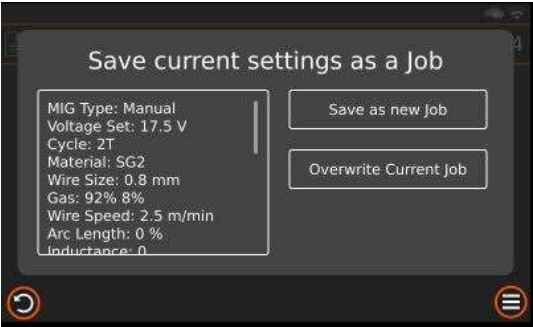
Enter the number of the job where you want to save the job

Using the keyboard on the display it is possible to enter a description of the job being saved.



Confirm by Save Job. The display show Job saved successfully

2.8.7.2 Overwrite Job

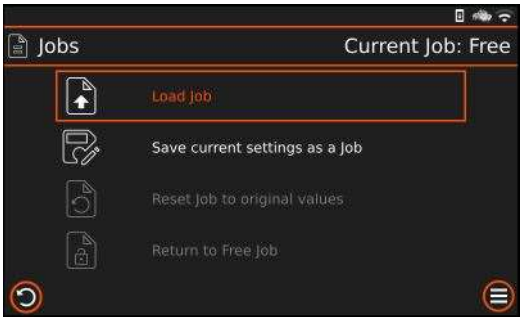


Overwrite Current Job by the command “Overwrite Current Job”



Confirm Yes to overwrite the actual Job with new set data.

2.8.7.3 Load Job



Press/touch Load Job to select a existing Job.

The selection of existing Jobs can be show by all jobs or filtering by material, wire diameter, gas type or description.

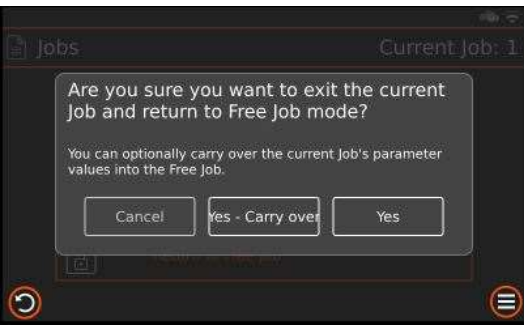


Select the Job to load and confirm

2.8.7.4 Modify Job

Press/touch to Reset the job to the original values





2.8.7.5 Job MAKER

The Jobs can also be defined by APP mobile and /or JTE Cloud.

Job MAKER



By the Job maker, it is possible to define a free Job description and define the job protection level.

Job DESCRIPTION

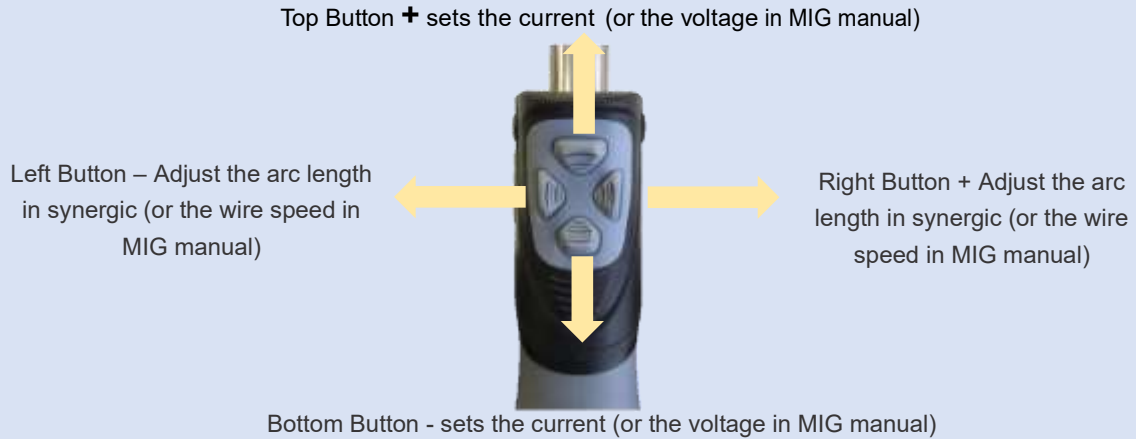
By the App Mobile or the Cloud, it is possible add a short description of the Job.

The Job description will be shown in the Job data.

3. Instructions for MOBILE Application

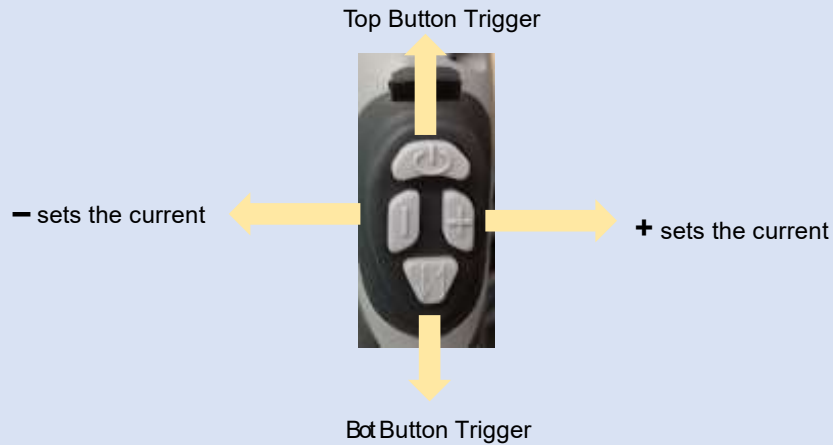
3.1 REMOTE CONTROLS

(Optional: This chapter will be effective when this accessory is selected)



TIG TORCH DIGITAL

(Optional: This chapter will be effective when this accessory is selected)



TIG PEDAL with ANALOG POTENTIOMETER

Regulation by pedal from minimum current setting, to the current set.
 In synergic mode, the min current setting is the min of synergic program.
 In manual mode, the min current setting is the min current of the machine.
 For the connections details, see the remote control connection section or contact the service center.

MMA REMOTE CONTROL ANALOG POTENTIOMETER

Regulation by the MMA remote control from minimum current setting, to the current set.
 For the connections details, see the remote control connection section or contact the service center.

3.2 REMOTE CONTROL APP MOBILE

By the app mobile, it is possible to set the machine data by your mobile.

The remote controls by app mobile are shown in the mobile's display.

The App is available in the App store for IOS, and in the Play store for Android.

Download and install the App mobile in your mobile, and follow the instructions.

The connection from mobile to machine can be through WiFi network or Bluetooth connection.



3.3 SMART TORCH APPLICATION

This machine supports EVOLVE series smart torch. You can use the smart torch to obtain more welding functions. For the functions and operation of the smart torch, please refer to the application manual of the smart torch for more information.

Smart torch is an optional accessory.

4. Torch and remote control available

	MMA	MIG				TIG			
TYPE	Analog remote control	STANDARD TORCH	DIGITAL TORCH	SMART TORCH	SPOOL GUN	STANDARD TORCH	DIGITAL TORCH	SMART TORCH	PEDAL ANALOG.+TORCH SW
connector	12 POLES	MIG torch connector	MIG torch connector	MIG torch connector or	12 POLES	2 POLES	2 POLES	2 POLES	12 POLES + 2 POLES
PINS ref. machine connections	7-8	1-2 TORCH SW	1-2 TORCH SW	1-2 TORCH SW	3-4 MOTOR 7-8 TORCH SW	1-2 TORCH SW	1-2 TORCH SW	1-2 TORCH SW	7-8 (analog INPUT) + 1-2 TORCH SW.



MIG torch connector

12 POLES CONNECTOR

2 POLES CONNECTOR (tig)

4.1 Remote control connections ON 12POLES



12 POLES CONNECTOR

PIN NO.	PIN Description
1	+5VISO
2	GNDISO
3	PT SPOOL-
4	PT SPOOL+
5	+24V
6	PUSH PULL-
7	SPOOL+
8	SPOOL-
9	+5VRSISO
10	GNDRSISO
11	RS485A
12	RS485B

4.2 Application and function of EVOLVE Torch connection

- 1) Any type of TIG torch connected to the two pole receptacle, the cycle can be chosen between 2T, 4T and Spot, the current set is adjustable by panel knob and orange bar graph indicates the graphic level external analog control with 5Kohm potentiometer connected to the CAD connector can modulate the welding current, the current bar graph change into double indication with two colors, the yellow bar graph indicates the maximum set current and its digital values are reported only during the adjustment by the front panel knob with digits that change color into yellow the adjustment from the connected analog control is shown with a orange bar graph and digital mode over the digits in white color (note that the analog control can be also the foot control without the switch connected).
- 2) Any type of analog torch (as TER configuration), the cycle can be chosen between 2T, 4T and Spot, the current set is adjustable by panel knob and orange bar graph indicates the graphic level the current set can be adjustable also by the push buttons of the analog torch in parallel to the knob of the front panel the adjustment from the torch can be used also in welding mode when the torch cycle is set at 4T external analog control with 5Kohm potentiometer connected to the CAD connector can modulate the welding current, the current bar graph change into double indication with two colors, the yellow bar graph indicates the maximum set current and its digital values is reported only during the adjustment by the front panel knob with digits that change color into yellow the adjustment from the connected analog control is shown with a orange bar graph and digital mode over the digits in white color (note that the analog control can be also the foot control without the switch connected).
- 3) Evolve Smart torch connected to the two pole torch switch the Cycle can be chosen between 2T, 4T and Spot also from the torch the current set is adjustable by panel knob and orange bar graph indicates the graphic level, the same adjustment can be done also from the smart control of the torch external analog control with 5Kohm potentiometer connected to the CAD connector can modulate the welding current, the current bar graph change into double indication with two colors, the yellow bar graph indicates the maximum set current level and its digital values is reported only during the adjustment by the front panel knob with digits that change color into yellow the adjustment from the smart torch is for maximum set (as for the knob), can be checked in the smart module as value, but in the front display only the yellow bar graph indicates the changes, the digits show in white color the set from remote control. the adjustment from the connected analog control is shown with a orange bar graph and digital over the digits in white color (note that the analog control can be also the foot control without the switch connected).
- 4) The foot control (5Kohm) with internal switch and any kind of torch connected (evolve included) automatically the cycle is only 2T, the front panel knob adjust the maximum current, the bar graph is double yellow show the maximum (adjustable by frontal knob) and orange the actual set from foot control the yellow bar graph indicates the maximum set current and its digital values is reported only during the adjustment by the front panel knob with digits that change color into yellow the adjustment from the foot control control is shown with a orange bar graph and digital mode over the digits in white color.

5. Alarms of the machine and troubleshooting

ALARM CODE	ALARM (description in the cloud)	USER INFORMATIONS		
		DESCRIPTION (front display message)	Proposed action (cloud message)	Possible reason (cloud message)
1	EXCEEDING INTERNAL VOLTAGE LIMITS	Critical supply voltage in the main control board.	1. Try to restart the machine. If the problem still exists then contact the service center	2. THE MAIN CONTROL BOARD FAULT
2	BACKUP VOLTAGE FAILURE	BACKUP VOLTAGE FAILURE	1. Try to restart the machine. If the problem still exists then contact the service center	2. Low battey
3	HIGH CPU TEMPERATURE	The CPU temperature is to high.	1. Power off the machine and wait a few minites to cool it down the CPU. If the problem still exists then contact the service center.	2. HIGH AMBIENT TEMPERATURE
10	ERROR IN THE UNIQUE IDENTIFIER	ERROR IN THE UNIQUE IDENTIFIER	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Fault in the main control board. 2. Bad electrical connection.
11	ALARM 24V	The power supply outside the limits of 24V DC.	1. Try to restart the machine. If the problem still exists then contact the service center	2. CONTROL BOARD FAULT SUPPLY BOARD FAULT
12	ALARM 5V	The power supply outside the limits of 5V DC.	1. Try to restart the machine. If the problem still exists then contact the service center	2. CONTROL BOARD FAULT SUPPLY BOARD FAULT
13	ALARM -15V	The power supply outside the limits of -15V DC.	1. Try to restart the machine. If the problem still exists then contact the service center	2. CONTROL BOARD FAULT SUPPLY BOARD FAULT
14	ALARM +15V	The power supply outside the limits of +15V DC.	1. Try to restart the machine. If the problem still exists then contact the service center	2. CONTROL BOARD FAULT SUPPLY BOARD FAULT
15	HALL SENSOR	anomaly in the read out in the output current	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Bad electrical connection. 2. Fault in the main control board
17	INTERNAL MEMORY FAILURE	Memory anomaly.	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Problem with the machine firmware
18	ERROR IN DC BUS VOLTAGE	main inverter supply voltage anomaly	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Main power supply board fault.
20	HIGH PROBE VOLTAGE	output voltage anomaly	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Main power supply fault 2. Fault in the main control board
21	UNKNOWN FUNCTION	selected program is not available	1. Contact your dealer or visit the cloud to add additional welding programs	2. 1. No abilitations.
22	FRONT PANNEL DISPLAY ERROR	front pannel error	1. Try to restart the machine. If the problem still exists then contact the service center	2. CONTROL BOARD FAULT FRONT PANEL FAULT

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ALARM CODE	ALARM (description in the cloud)	USER INFORMATIONS		
23	ANALOG TO DIGITAL CONVERTER ERROR	Internal error in the control board	1. Try to restart the machine. If the problem still exists then contact the service center	CONTROL BOARD FAULT
30	TORCH IN SHORT CIRCUIT	Torch in short circuit.	CHECK THE OUTPUT CONNECTIONS MAKE SURE THE TORCH DO NOT TOUCH THE WORK DESK OR THE NEGATIVE CABLING	1. This issue came when someone left the connected torch on the working desk. 2. This issue also came when there is problem with grounding connection or wire.
40	INVERTER TEMPERATURE ERROR	temperature sensor NTC1. Inverter rised heat max temperature.	1. Turn off the machine and wait a few moments until the inverter arrived at the stable temperature. 2. If the problem still exists then contact the service center	1. Fault in the inverter temperature sensore. 2. The inverter temperature sensor is disconnected.
41	P&P CONNECTOR TEMPERATURE	Error in the P&P temperature sensor NTC2.	1. Try to restart the machine. If the problem still exists then contact the service center	1. Fault in the Plug&Play temperature sensore. 2. The Plug&Play temperature sensor is disconnected. 3. Fault in the cooling system.
42	TEMPERATURE SENSOR-1	Temperature sensor 1 error.	1. Wait a few moments until the alarm disapper. 2. Check the colling fan. 3. If the problem still exists then contact the service center.	OVERHEATING FAULT COOLING SYSTEM
43	TEMPERATURE SENSOR-2	Temperature sensor 2 error.	1. Wait a few moments until the alarm disapper. 2. Check the cooling fan. 3. If the problem still exists then contact the service center.	CONTROL BOARD FAULT
44	HIGH INVERTER TEMPERATURE	inverter overheating	1. Wait a few moments until the alarm disapper. 2. Check the cooling fan. 3. If the problem still exists then contact the service center.	FAULT COOLING SYSTEM
45	HIGH P&P TEMPERATURE	plug and play connector overheating please wait the cooling down time.	1. Wait a few minutes until the alarm disapper. 2. Check the cooling fan. 3. If the problem still exists then contact the service center.	OVERWORKING
50	POWER FREQUENCY ERROR	The frequency of the input voltage is out of tolerance(50/60Hz).	1. Try to restart the machine. If the problem still exists then contact the service center	WRONG POWER SUPPLY NETWORK
51	LOW VOLTAGE	The power supply voltage is below the minimum input voltage.	1. Try to restart the machine. If the problem still exists then contact the service center	1. Check the power supply input resource. 2. Fault the main control board.
52	HIGH VOLTAGE	The power supply voltage is above the maximum input voltage.	1. Try to restart the machine. If the problem still exists then contact the service center	1. Check the power supply input resource. 2. Fault the main control board.
53	UNDEFINED VOLTAGE	The power supply voltage is undefined.	1. Try to restart the machine. If the problem still exists then contact the service center	
54	MISSING PHASE	missing a phase in the power supply voltage	1. Try to restart the machine. If the problem still exists then contact the service center	
55	UNKNOWN VOLTAGE ERROR	Wrong power supply connection.	1. Try to restart the machine. If the problem still exists then contact the service center	
60	PRELOAD ERROR	Startup control failure.	1. Try to restart the machine. If the problem still exists then contact the service center	

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ALARM CODE	ALARM (description in the cloud)	USER INFORMATIONS		
61	PWM INVERTER ERROR	Startup inverter control failure.	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Fault in the power inverter.
62	WIRE FEEDER MOTOR ERROR	Error in the wire feeder motor power supply.	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Wire feeder is not connected to power source or connection is faulty.
63	PWM WIRE FEEDER MOTOR ERROR	power supply anomaly of the wire feeder motor.	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Error in the communication with the main machine.
64	WIRE FEEDER MOTOR VOLTAGE ERROR	overcurrent in the wire feeder motor	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Error in the communication with the main machine.
65	PLUG&PLAY COMMUNICATION ERROR 485	Communication error with connected P&P module.	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Connection problem with the machine. 2. Broken/Damage P&P module connector. 3. Fault in the P&P module control board.
66	HARDWARE ERROR	Hardware error in the power inverter.	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Error in the communication.
67	INVALID CALIBRATION	out of range of the calibration data	1. Try to restart the machine. If the problem still exists then contact the service center	2. 1. Error during the calibration process.
68	ALARM PWM PFC	Error in the Power Factor Control driver.	1. Try to restart the machine. If the problem still exists then contact the service center	2.
70	INTERNAL THERMAL CYCLE ERROR	Error in the internal thermal cycle. Max power limit exceeded	1. Try to restart the machine. If the problem still exists then contact the service center	2.
71	EXTERNAL THERMAL CYCLE ERROR	Welding time limit exceeded. Thermal cycle limit exceeded	1. Wait a few moments to thermal overload to cool down..	All welding machines are (or should be) fitted with thermal overload protection which means the machine will cut out when external critical components reach a certain temperature, to prevent damage. The machine will then re-start when it returns to a safe temperature
72	WIRE FEEDER MOTOR SPEED ERROR	The wire feeder motor speed is out of the limits.	CHECK TORCH CONSUMABLE PARTS, PRESSURE OF THE ROLLS.	TORCH QUALITY. BAD MOTOR FIXING ROLLS
73	WIRE FEEDER MOTOR ENCODER ERROR	Missing feedback from the motor speed sensor.	1. Try to restart the machine. If the problem still exists then contact the service center	2. FAULT OF THE CONTROL BOARD. FAULT OF THE SPEED SENSOR
74	WIRE FEEDER MOTOR WRONG DIRECTION ALARM	The wire feeder motor is rotating in the wrong direction.	1. Try to restart the machine. If the problem still exists then contact the service center	2.
75	SHORT CIRCUIT IN MIG	Short circuit in MIG mode.	CHECK THE OUTPUT CONNECTIONS MAKE SURE THE TORCH DO NOT TOUCH THE WORK DESK OR THE NEGATIVE CABLING	
76	WIRE FEEDER MOTOR BRAKING ERROR	Wire feeder motor's brake isn't working properly.	1. Try to restart the machine. If the problem still exists then contact the service center	2. FAULT CONTROL BOARD
80	DITER ISN'T WORKING	Communication error with cloud control circuit.	(EVOLVE 200) PRESS THE RIGHT UPPER BUTTON TO RESET THE ALARM POWER OFF AND POWER ON THE MACHINE (EVOLVE 200 PLUS) (EVOLVE 500)	1. Fault control board. 2. Fault cloud connection board.

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ALARM CODE	ALARM (description in the cloud)	USER INFORMATIONS		
90	LOW GAS PRESSURE	Low gas pressure.	Check the gas supply.	
91	HIGH GAS PRESSURE	High gas pressure.	Check the gas supply.	
92	LOW GAS FLOW	Low gas flow.	Check the gas supply.	
93	HIGH GAS FLOW	High gas flow.	Check the gas supply.	
100	EXCEEDING INTERNAL VOLTAGE LIMITS	Critical supply voltage in the main control circuit.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
101	CMOS BATTERY FAILURE	BACKUP VOLTAGE FAILURE	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
102	HIGH CPU TEMPERATURE	The CPU temperature is to high (80°C)	1. Restart the machine then wait a few moments until cool it down.	
103	ERROR IN THE UID CHIPSET	Communication error in the internal circuits.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
104	ALARM 24V	The power supply outside the limits of 24V DC.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	1. This issue came when there is overload in the power supply or communication error with the power inverter.
105	ALARM 5V	The power supply outside the limits of 5V DC.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	1. This issue came when there is overload in the power supply or communication error with the power inverter.
106	ALARM -15V	The power supply outside the limits of -15V DC.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	1. This issue came when there is overload in the power supply or communication error with the power inverter.
107	ALARM +15V	The power supply outside the limits of +15V DC.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	1. This issue came when there is overload in the power supply or communication error with the power inverter.
110	INVERTER TEMPERATURE ERROR	Error in the inverter temperature sensor.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
111	P&P TEMPERATURE ERROR	Error in the P&P temperature sensor.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
112	SHORT CIRCUIT IN THE NTC 1 SENSOR	Short circuit in the inverter temperature sensor.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
113	SHORT CIRCUIT IN THE NTC 2 SENSOR	Short circuit in the P&P temperature sensor.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
120	MISMATCH PLUG&PLAY	MISMATCH PLUG AND PLAY	check if TIGDC and TIG ACDC are installed both	TIG ACDC and TIG DC are installed both. wrong cabling of the control board fault control board p&p
150	MISSING WATER CIRCULATION	Insufficient water in the cooler unit.	1. Insufficient water in the tank. 2. Fault in the water pump. 3. Refill the water tank.	
151	LOW WATER CIRCULATION	Low water flow in the cooler unit.	1. Insufficient water in the tank. 2. Fault in the water pump. 3. Refill the water tank.	
152	HIGH WATER CIRCULATION	High water flow in the cooler unit.	1. Fault in the water pump.	
153	HIGH WATER TEMPERATURE	High water temperature	1. Fault in the water pump.	
154	HIGH WATER PUMP TEMPERATURE	Water pump tempertaure is high	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
171	WIRE FEEDER MOTOR ENCODER ERROR	Missing feedback from the motor speed sensor.	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
172	WIRE FEEDER MOTOR SPEED ERROR	The Wire Feeder Motor speed is out of the limits.	1. Blockage in the torch. 2. Check the wire exit point.	

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ALARM CODE	ALARM (description in the cloud)	USER INFORMATIONS		
173	WIRE FEEDER MOTOR WRONG DIRECTION ALARM	The Wire Feeder Motor is rotating in the wrong direction.	1. Check the power cable. 2. Check the encoder connection.	
302	STARTUP FIRMWARE DOWNLOAD FAIL	Startup firmware download fail.	1. Check if the machine is connected to the internet.	
303	WRONG STARTUP FIRMWARE CHK	Startup firmware verification failed.	1. Check if the machine is connected to the internet.	
304	RECOVERY FIRMWARE DOWNLOAD FAIL	Recovery firmware download fail.	1. Check if the machine is connected to the internet.	
305	WRONG RECOVERY FIRMWARE CHK	Recovery firmware verification failed.	1. Check if the machine is connected to the internet.	
306	MACHINE FIRMWARE DOWNLOAD FAIL	Machine firmware download fail.	1. Check if the machine is connected to the internet.	
307	WRONG MACHINE FIRMWARE CHK	Machine firmware verification failed.	1. Check if the machine is connected to the internet.	
308	RECOVERY PERFORMED		1. Try to restart the machine. 2. If the problem still exists then contact the service center	
333	WiFi CRASHED	WiFi crashed	1. Try to restart the machine. 2. If the problem still exists then contact the service center	
334	FLASH READ ONLY		1. Try to restart the machine. 2. If the problem still exists then contact the service center	
335	INTERNAL COMMUNICATION ERROR	INTERNAL COMMUNICATION ERROR	1. Try to restart the machine. 2. If the problem still exists then contact the service center	

Appendix 1 SPARE FUNCTIONS instructions

1) FAN CONTROL :

The ON /OFF of the fan is controlled automatically.

The fan works if the internal inverter temperature is $>30^{\circ}\text{C}$ during the welding.

The fan works in standby mode of the machine if the internal inverter temperature is $>40^{\circ}\text{C}$

2) OPTIONAL FUNCTIONS:

ON DEMAND FUNCTIONS, ENABLES, DISPLAYS are available from the JTE Cloud

See the instructions on the JTE cloud.



3) JTE CLOUD:

- a. Official website of JTE cloud platform: <https://cloud.jteurope.com/user/login>.



- b. In JTE cloud, you can register and pay attention to your machine information.

For example: machine information, alarm information, software update, Welding procedure test report, etc.

① Machine information and alarm information

Machine information and alarm information are displayed on the home page.



Machine information Contains: Serial Number, Model, Location, Firmware Version, Registration Date, etc.

Alarm information Contains: Alarm ID, Date, Alarm code, description, etc.

② Software update

Software update Contains Firmware Version software update and DITER Firmware Version software update.

Select the Firmware Version as the following picture can upgrade or lower the mainboard Firmware Version.

Select the DITER Firmware Version can upgrade or lower the DITER Firmware Version.



In the picture shown above, Firmware contains Available firmwares, Add Firmware, Recovery firmwares, etc.

Click on the Available firmwares, the firmware information is shown in the following picture.

Firmware ID	Machine firmware	Interface firmware	Firmware type	Firmware version	Release date
524	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.9.2.9	2022-01-18 16:05:46 UTC
514	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.9.2.8	2021-12-26 09:09:05 UTC
492	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.12	2021-10-19 10:44:19 UTC
489	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.11	2021-10-18 14:06:17 UTC
484	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.10	2021-09-30 08:48:20 UTC
469	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.10	2021-08-30 15:32:44 UTC
450	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.19	2021-08-16 14:51:21 UTC
447	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.18	2021-08-16 14:23:11 UTC
438	Firmware unavailable	Evolve-H&E V1	JASIC Test machine	0.8.2.17	2021-08-05 15:34:20 UTC

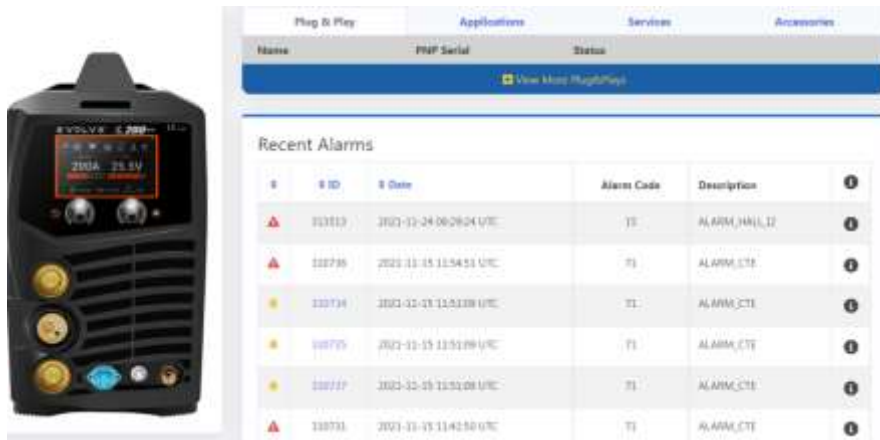
Firmware ID	Machine firmware	Interface firmware	Firmware type	Firmware version	Release date
528	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.90	2023-01-30 14:54:09 UTC
508	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.89	2021-11-25 11:27:08 UTC
495	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.88	2021-10-19 13:57:19 UTC
478	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.87	2021-09-08 14:07:38 UTC
475	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.89	2021-08-31 07:08:08 UTC
466	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.88	2021-08-28 12:42:08 UTC
456	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.85	2021-08-17 13:03:28 UTC
441	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.84	2021-08-08 13:56:28 UTC
432	EVOLVE 200 PLUS	Firmware unavailable	JASIC Test machine	1.1.3.83	2021-08-03 14:57:33 UTC

In addition, we will provide paid services of custom software which will bring you a better effect and experience of welding.

③Welding procedure test report

It will be paid services of providing the Welding procedure test report.

On the premise of the service being paid, to open a Welding procedure test report,click on the WELDING REPORTS and the Weld List in turn shown in the following picture.



The Weld List of the machine(RBXA21AWB07721) is shown in the following picture,click on anyone Weld ID,for example,the first one 167151.

Weld List for RBXA21AWB07721

Weld ID	Alarm	Date	Duration	Bridge Number	Quality (%)	Weld Type	Weld Mode
167151		2021-05-13 10:09:11 UTC	4.35		93	ARC	Spargen
167152		2021-05-13 10:09:09 UTC	4.35		93	ARC	Spargen
111718		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111714		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111715		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111716		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111717		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111719		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111720		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111721		2021-12-15 11:51:08 UTC	118.34		93	DC	DC
111722		2021-12-15 11:51:08 UTC	118.34		93	DC	DC

The Welding procedure test report of the Weld ID 279606 is shown in the following pictures.



The information of Machine,Weld and Results is in the picture shown above.

The welding data of the Weld ID 279606 is shown in the following picture.



The welding Parameters of the Weld ID 279606 is shown in the following picture which contains:Mode,PRG and Settings.



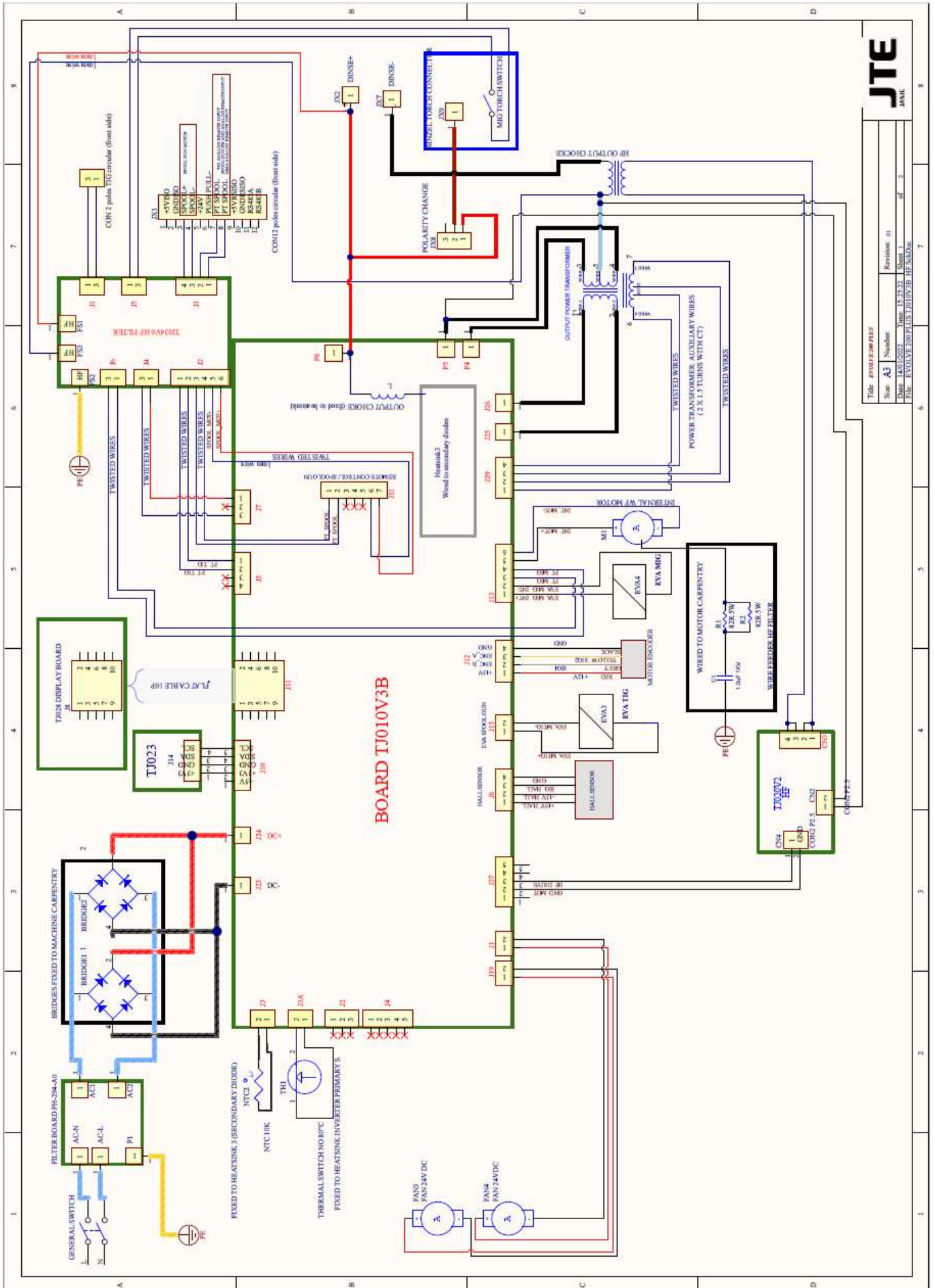
④Costs and Consumption

It will be paid services of providing the Costs and Consumption of the Weld ID.

The Costs and Consumption of the Weld ID 279606 is shown in the following picture.



Appendix 2 MACHINE SCHEMATICS



Appendix 3 SPARE PART LIST

Spare parts list (*spare part list as required from REGULATION (EU) 2019/1784)

Number	Description	Ref
1	Control panel;*	4
2	Display panel	1
3	Polarity switching device	5
4	Equipment housing;*	3
5	Welding torch;*	1
6	Gas supply hose(s);*	4
7	Gas supply regulator(s);*	2
8	Wire feeder	5
9	Electricity supply cable;*	2
10	HF board	4
11	HF filter board	4
12	Fan(s);*	2
13	The main transformer	4
14	HF transformer(chocke)	4



Ref

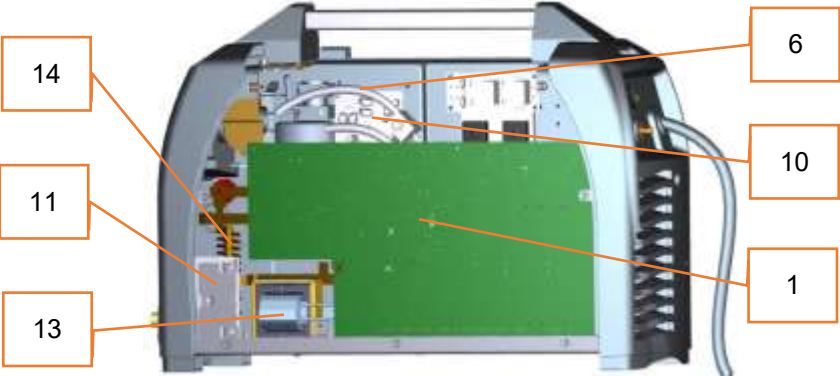


1

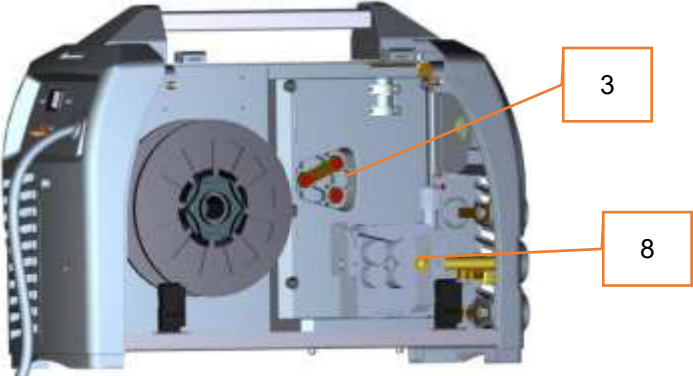
Ref 2



Ref 3



Ref 4



Ref 5

Appendix 4 TIG synergic programs table

Material	Electrode tungsten size
Fe	1,6; 2,4 mm
CrNi Stainless steel 308-316	1,6; 2,4 mm

Appendix 5 MIG synergic programs table

Weld Mode	Weld Material	Wire Diameter (mm)	Weld Gas
SYN STD	SG2	0,8	CO2
		0,9	
		0,8	80/20
		0,9	
		0,8	92/8
		0,9	
	SST (CrNi)	0,8	98/2
		0,9	
	AlMg5	1,2	Argon
	AlSi5	1,2	Argon
	Cusi3	0,8	Argon
PULSE / TWIN PULSE	SG2	0,8	92/8
		0,9	
	SST (CrNi)	0,8	98/2
		0,9	
	AlMg5	1,0	Argon
		1,2	
	AlSi5	1,2	Argon
	Cusi3	0,8	Argon