



WELD THE WORLD

# MicroPulse 225

## Instruction Manual

ENGLISH

Translation of original instructions





**ENGLISH**

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# 1 GENERAL OVERVIEW



### IMPORTANT! For your safety

This handbook must be handed over to the user prior to installation and commissioning of the unit.

 **Read the “GENERAL PRESCRIPTIONS FOR USE” handbook supplied separately from this manual before installing and commissioning the unit.**

The meaning of the symbols in this manual and the associated precautionary information are given in the “GENERAL PRESCRIPTIONS FOR USE”.

If the “GENERAL PRESCRIPTIONS FOR USE” handbook is not available, it is mandatory to request a replacement copy from the manufacturer or from your dealer.

Retain these documents for future consultation.

### Explanation of symbols



#### DANGER!

This pictogram warns of danger of death or serious injury.



#### WARNING!

This pictogram warns of a risk of injury or damage to property.



#### CAUTION!

This pictogram warns of a potentially hazardous situation.



#### WARNING!




This pictogram gives important information concerning the execution of the relevant operations.






#### Information

This pictogram identifies additional information or a reference to a different section of the manual containing the associated information.

#### ○ In the tables:

-  minimum value
-  default value
-  maximum value

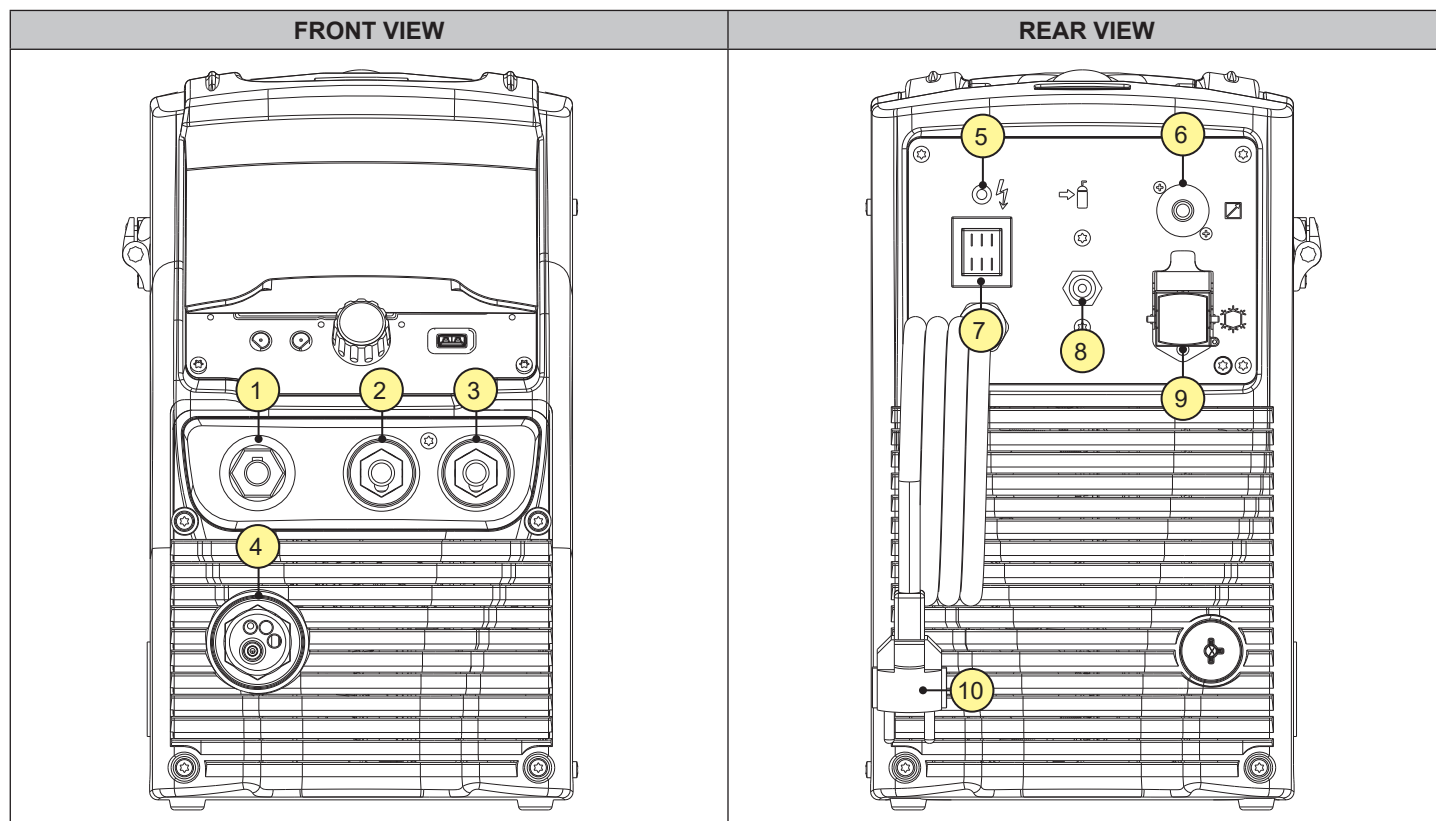
#### ○ in the illustrations:

-  press
-  rotate the encoder
-  press the encoder

- **Note:** The figures in this manual are purely guideline and the images may contain differences with respect to the actual equipment to which they refer.

## 2 INSTALLATION AND ASSEMBLY

### 2.1 CONNECTIONS AND SOCKETS



- [1] Polarity selector cable.
- [2] Negative pole welding socket.
- [3] Positive pole welding socket.
- [4] EURO TORCH welding socket.
- [5] Mains protection ON LED.  
This LED illuminates in case of an absence of a phase in the power supply line.
- [6] Remote control connector.
- [7] Welding power source ON/OFF switch.
- [8] Connector for gas feed hose between the gas cylinder and the generator.
- [9] Connector to power the cooling unit.
  - Voltage: 400 Va.c.
  - Current Output: 0.8 A
  - IP protection rating: IP20 (cap open) / IP66 (cap closed)
- [10] Power cable.
  - Length: 2.4 m
  - Number and cross section of wires: 3 x 2,5 mm<sup>2</sup>
  - Power plug type: Schuko

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### 2.2 PREPARING FOR MIG/MAG WELDING



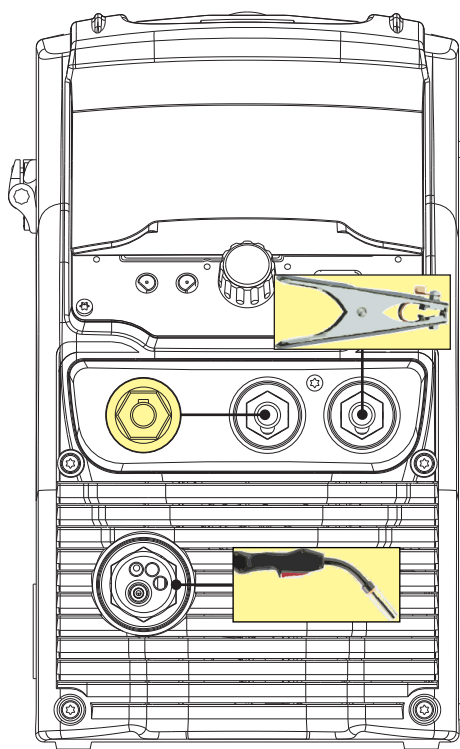
#### DANGER!

#### Lifting and positioning

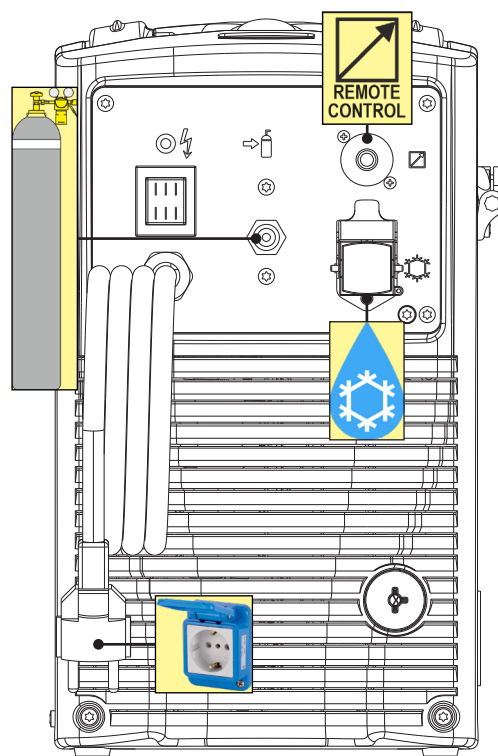
Read the warnings highlighted by the following symbols in the “General prescriptions for use”.



REAR VIEW



FRONT VIEW



1. Set the welding power source ON/OFF switch to “O” (unit switched off).
2. Connect the gas hose from the welding gas cylinder to the rear gas connection.
3. Open the cylinder gas valve.
4. Connect the MIG/MAG torch plug to the EURO TORCH welding socket.
5. Connect the plug of the ground clamp to the welding socket on the basis of the polarity required.
6. Connect the plug of the polarity selector cable to the welding socket on the basis of the polarity required.
7. Connect the earth clamp to the workpiece being processed.
8. Position the wire spool and the wire in the wire feeder

#### Positioning the spool and the wire in the wire feeder



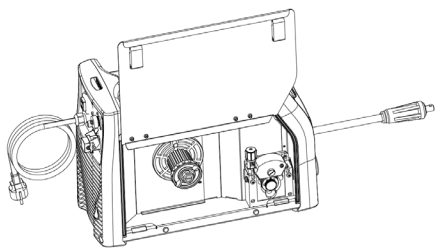
#### WARNING!

#### Mechanical Hazards

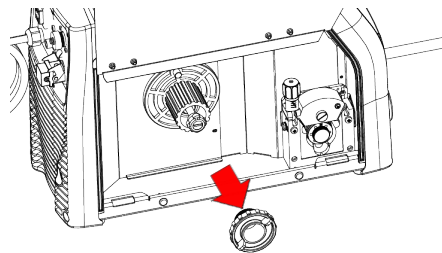
Read the warnings highlighted by the following symbols in the “General prescriptions for use”.



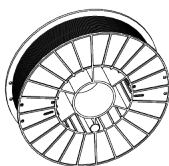




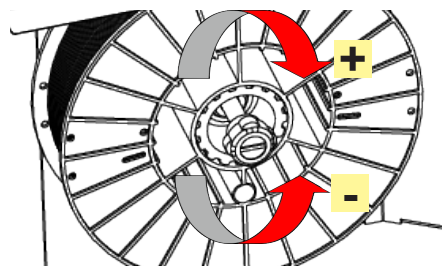
9. Open the unit side door to gain access to the spool compartment.



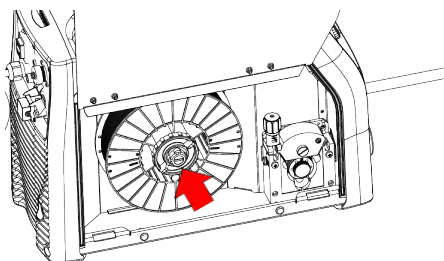
10. Unscrew the cap of the spool holder. If necessary, fit an adapter for the wire spool.



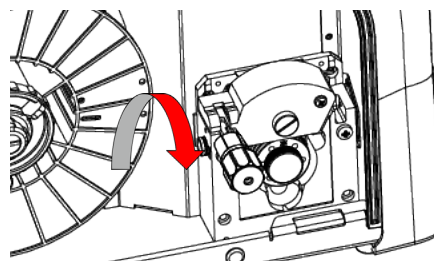
11. Fit the spool in the spool holder, ensuring it is located correctly.



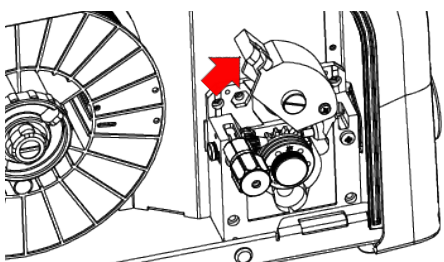
12. Adjust the spool holder braking system by tightening/loosening the screw in such a way that the wire feed force is not excessive and when the spool stops rotating no excess wire is released.



13. Refit the plug.

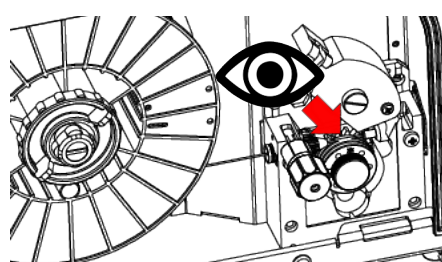


14. Lower the wire feeder pressure devices.



15. Raise the wire feeder pressure arms.

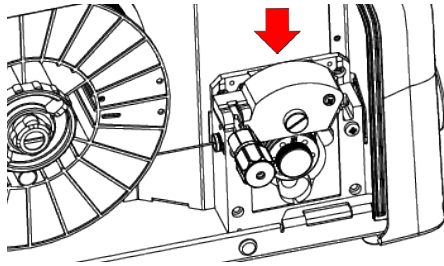
16. Check that the feed rolls are suitable for the wire gauge. **i** **Information** follow the instructions on page [115](#).



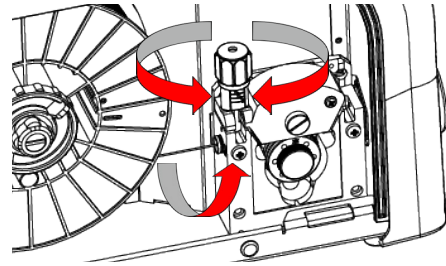
17. Feed the wire between the wire feeder rolls and insert it into the MIG/MAG TORCH connector plug.

18. Make sure the wire is located correctly in the roll grooves.

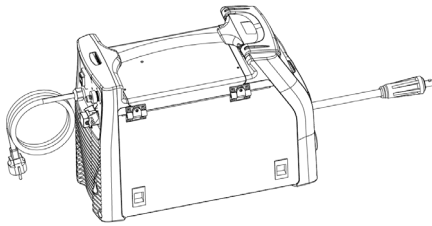
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19. Close the wire feeder pressure arms.



20. Adjust the pressure system so that the arms press the wire with a force that does not deform it while also ensuring constant feed rate without slipping.



21. Close the spool compartment door in the side of the unit.

22. Connect the power source mains supply cable to the mains socket outlet.



**DANGER!**


**Electric shock hazard!**

Read the warnings highlighted by the following symbols in the "General prescriptions for use".




23. Set the welding power source ON/OFF switch to "I" (unit switched on).

24. Select the following welding mode on the user interface: MIG/MAG.

25. Feed the wire through the torch until it protrudes from the tip, pressing button  on the unit user interface. The insertion speed is 2.0 m/min for 3 seconds, subsequently increasing to 15 m/min. When the button is released wire feed is interrupted. This function produces a slower feed rate and hence greater precision when inserting the wire when it enters the torch nozzle.

26. Select the torch trigger procedure on the user interface.

27. Open the gas solenoid valve by pressing and releasing the button .

28. Use the flow control valve to adjust the flow of gas as required while the gas is flowing out.

29. Close the gas solenoid valve by pressing and releasing the button.

30. Set the required welding parameter values on the user interface. The system is ready to start welding.

**Note:** On connecting and enabling a remote controller [RC] certain settings can be modified from said controller without having to take action on the user interface of the welding power source.

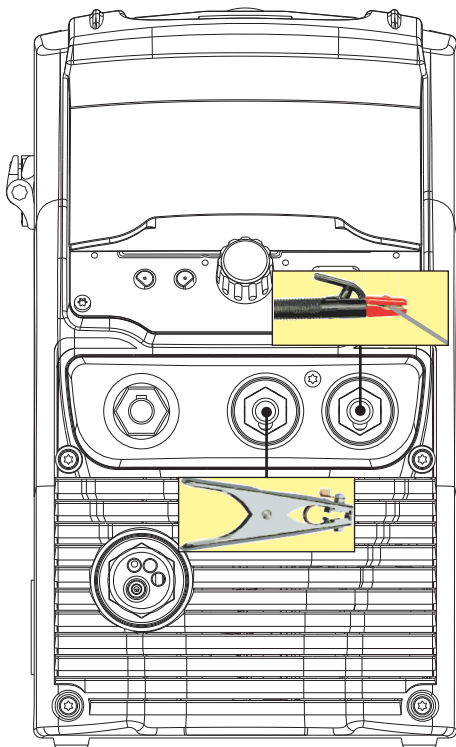
## 2.3 PREPARING FOR MMA WELDING

**DANGER!****Lifting and positioning**

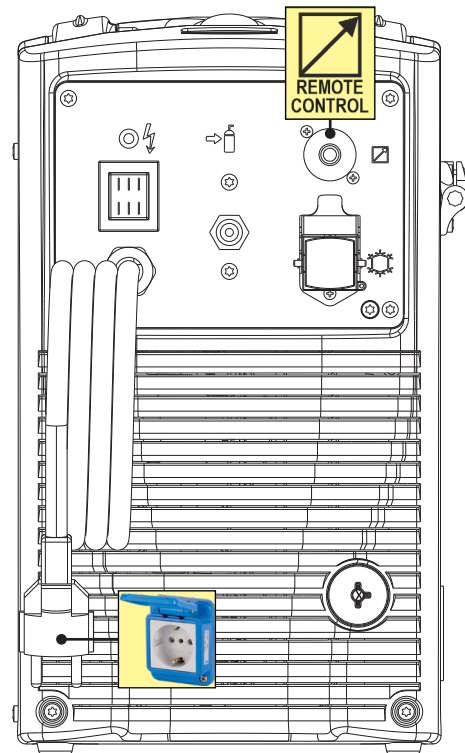
Read the warnings highlighted by the following symbols in the “General prescriptions for use”.



REAR VIEW



FRONT VIEW



1. Set the welding power source ON/OFF switch to “O” (unit switched off).
2. Choose the electrode based on the type of material and thickness of the workpiece to be welded.
3. Insert the electrode in the electrode holder.
4. Connect the electrode holder cable to the welding socket based on the polarity requested by the type of electrode used.
5. Connect the plug of the ground clamp to the welding socket on the basis of the polarity required.
6. Connect the earth clamp to the workpiece being processed.
7. Plug the power cable plug into a mains socket outlet.

**DANGER!****Electric shock hazard!**

Read the warnings highlighted by the following symbols in the “General prescriptions for use”.



8. Set the welding power source ON/OFF switch to “I” (unit switched on).
9. Select the following welding mode on the user interface: MMA:
10. Set the required welding parameter values on the user interface.  
The system is ready to start welding.



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**Note:** On connecting and enabling a remote controller [RC] certain settings can be modified from said controller without having to take action on the user interface of the welding power source.

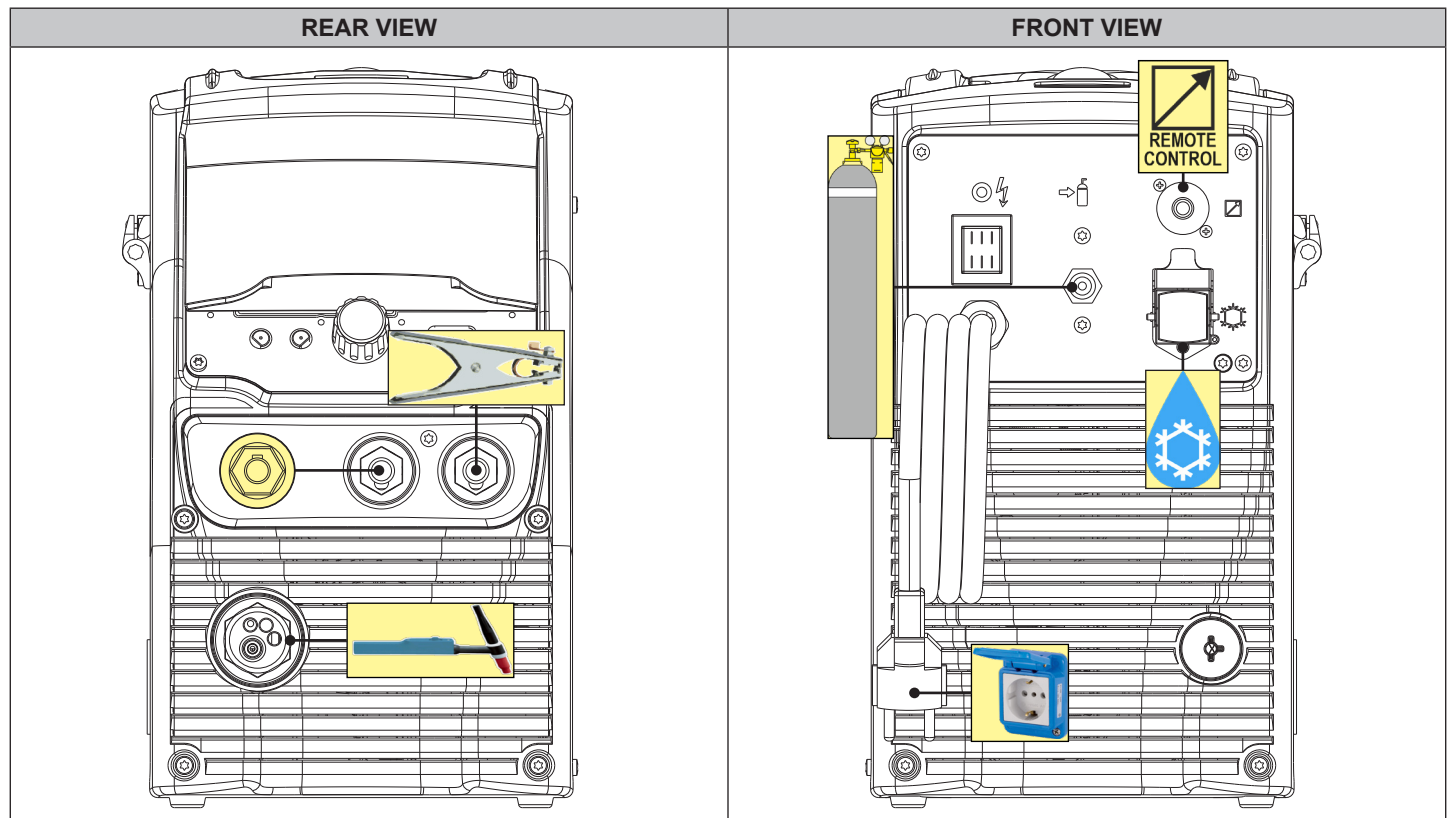
## 2.4 PREPARING FOR TIG WELDING

**DANGER!****Lifting and positioning**

Read the warnings highlighted by the following symbols in the “General prescriptions for use”.



 **WARNING!** Refer to the cooling unit instruction manual for the cooling unit to power source assembly procedure.



1. Set the welding power source ON/OFF switch to “O” (unit switched off).
2. Connect the gas hose from the welding gas cylinder to the rear gas connection.
3. Open the cylinder gas valve.
4. Connect the TIG torch plug to the EURO TORCH welding socket.
5. Choose the electrode based on the type of material and thickness of the workpiece to be welded.
6. Insert the electrode in the TIG torch.
7. Connect the torch plug to the welding socket on the basis of the polarity required by the type of electrode in question.
8. Connect the plug of the ground clamp to the welding socket on the basis of the polarity required.
9. Connect the earth clamp to the workpiece being processed.
10. Plug the power cable plug into a mains socket outlet.

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**DANGER!**

**Electric shock hazard!**

Read the warnings highlighted by the following symbols in the “General prescriptions for use”.









11. Set the welding power source ON/OFF switch to “I” (unit switched on).
12. Select the following welding mode on the user interface: DC TIG
13. Select the torch trigger procedure on the user interface.
14. Open the gas solenoid valve by pressing and releasing the button .
15. Use the flow control valve to adjust the flow of gas as required while the gas is flowing out.
16. Set the required welding parameter values on the user interface.  
The system is ready to start welding.

**Note:** On connecting and enabling a remote controller [RC] certain settings can be modified from said controller without having to take action on the user interface of the welding power source.

### 3 USER INTERFACE

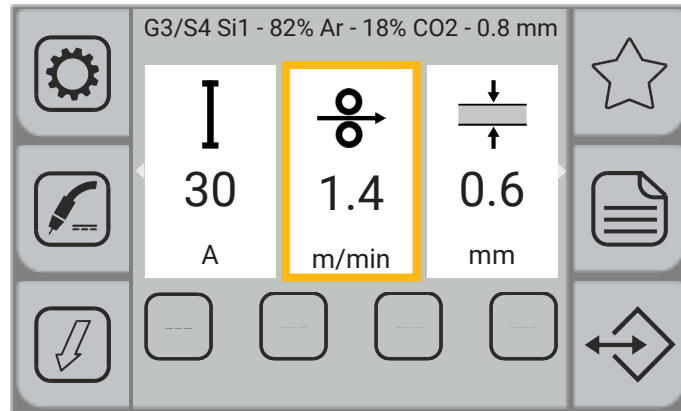
#### MicroPulse 225












ELEMENT	FUNCTION
S1, S1, S3 S4,S5,S6 	<b>Multi-function keys:</b> these keys are associated with specific functions, which vary according to the currently viewed menu screens and to the currently used settings. The function assigned to each key is shown by the icon that appears next to it.
S7 	This button activates the wire feed to insert it through the MIG/MAG torch.
S8 	This button opens the gas solenoid valve to fill the circuit and calibrate the flow pressure with the regulator located on the gas cylinder.
S9/ENC 	<b>ENCODER WITH BUILT-IN KEY</b> <b>In the menu screens:</b> By using the encoder, the parameters/settings list can be scrolled. By pressing the encoder (ENCODER KEY) the highlighted settings can be selected. <b>During the welding operation:</b> the encoder changes the value of the active parameter.
USB 	Port provided to connect a USB memory stick to export/import JOBS. By using the USB port, the welder system firmware can be updated.
LCD 	The display shows the menus available to set up the welder and its functions. <b>During the welding operation:</b> The display shows the welding parameters set.

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3.1 MAIN SCREEN



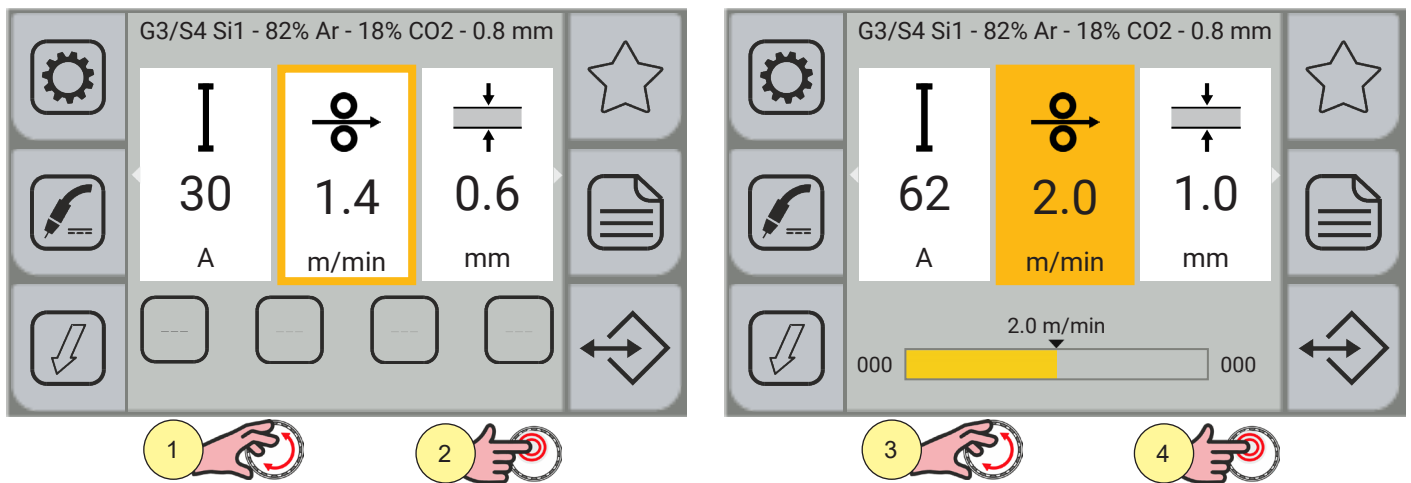
KEYS WITH SYMBOLS

	<p>- (MIG/MAG): The [PROGRAM] key allows the user to access a sequence of screens to be used to program the parameters required to specify the welding curve. - (MMA): Press the [PROGRAM] key to select the type [MATERIAL] of electrode.</p>
	<p>The [FAVOURITE] key allows the user to access the SHORTCUT menu, which allows the  [SHORTCUT] keys to be associated with a specific function selected from the available functions</p>
	<p>Press the [PROCESS] key to select the welding process. The following processes can be selected: PULSED MIG/MAG, MIG/MAG SHORT/SPRAY, MMA, TIG LIFT. In MIG/MAG mode the user can select through a sequence of screens the welding processes compatible with the material, wire diameter and gas values which have been previously set through the program key.</p>
	<p>The [PARAMETERS MENU] allows the user to access the menu used to set the main welding characteristics. It also contains special functions, such as: the welding circuit calibration, the system menu, import/export.</p>
	<p>The [MODE] key allows the user to access the menu used to select the torch trigger mode.</p>
	<p>The (JOB) key allows the JOB management menu to be accessed.</p>
	<p>The [SHORTCUT] key allows the associated function to be directly accessed. By pressing this key, the function is enabled (yellow background); by pressing it again, the function is disabled. This key only works with the touch screen. Keep  [SHORTCUT] key pressed for 3 seconds to access the functions screen directly.</p>



### 3.2 SETTING UP THE WELDING PARAMETERS








This area of the screen displays the welding parameters that can be directly set from the main screen.



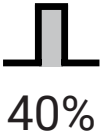
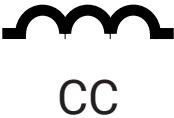


1. Turn the encoder to select the parameter to be changed; the selection made is highlighted by the thicker edge around the box.
2. Press the (ENCODER) key; the background of the box will change colour.
3. Turn the encoder to set the desired value.
4. Press the (ENCODER) key again to return to the parameter selection mode.

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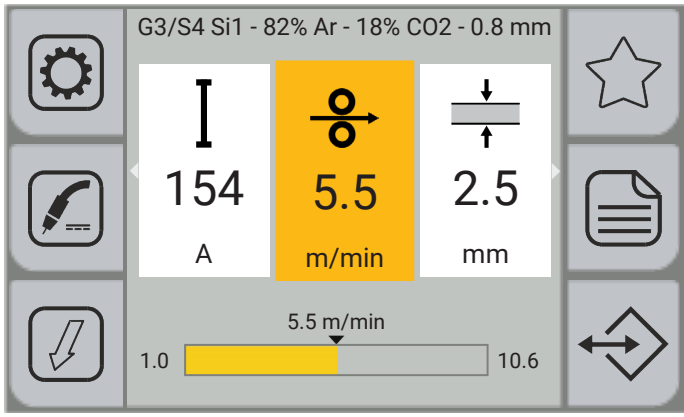
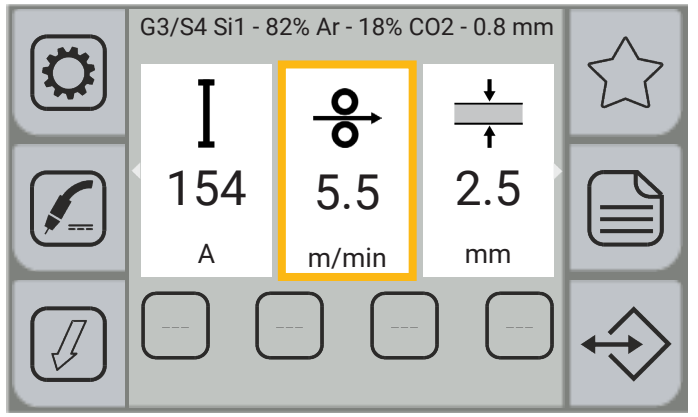
The following parameters can be set:

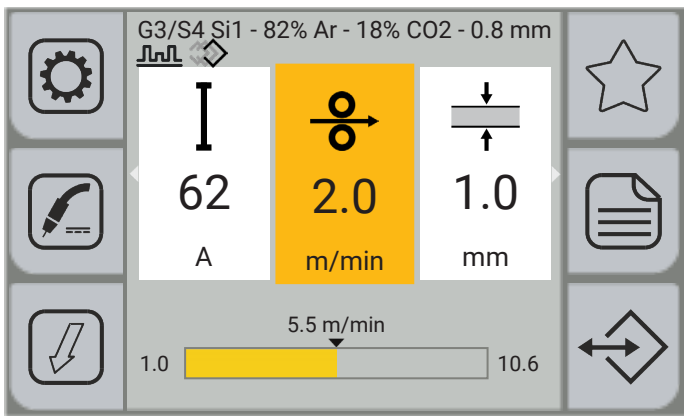
 20.0 V	(MIG/MAG) Welding voltage Sets the welding voltage.
 140 A	(MIG/MAG, MMA, TIG LIFT) Welding current Sets the welding current.
 10.4 m/min	(MIG/MAG) Wire speed Sets the wire speed for welding.
 3.4 mm	(MIG/MAG) Material thickness Sets the thickness of the material to be welded.
 0.5	(MIG/MAG) Arc length correction Sets up the welding arc length correction in relation to the preset value from the synergic curve.
 0.0	(MIG/MAG) Inductance (in the short-spray process) Changes the energy when a short circuit occurs.
 0.0	(MIG/MAG) Dynamic (in the pulsed process) Corrects the energy of the pulsed arc pulses.

	<p>(MIG/MAG, MMA, TIG LIFT) Selected JOB Displays the currently loaded JOB. The icon is displayed only if a JOB is loaded.</p>
	<p>(MMA) Hot-start Set the HOT-START peak current value to allow the electrode welding to be easily triggered.</p>
	<p>(MMA) Arc-Force Set the ARC-FORCE peak current value to allow the electrode to slide during the welding process and to prevent electrode sticking.</p>
	<p>(MMA) Dynamic (in the electrode welding process) Changes the short circuit energy when the drop is detached</p>

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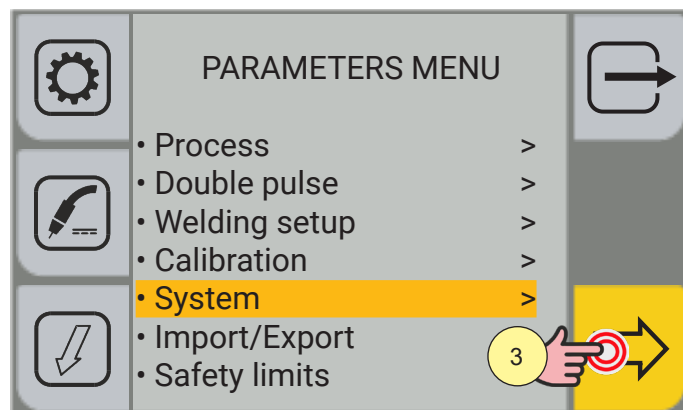
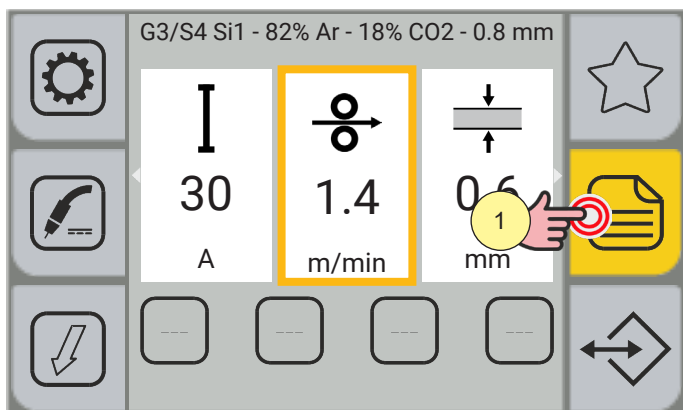
VIEWING ADDITIONAL INFORMATION

	
<p><b>During a parameter setting operation</b> The bar displays the minimum value, the currently set value and the selected parameter maximum value.</p>	<p><b>Outside a parameter setting operation</b> The active welding settings are displayed (filler wire material, gas, thickness of the material to be welded, b-level activation, double pulse mode activation, loaded JOB).</p>

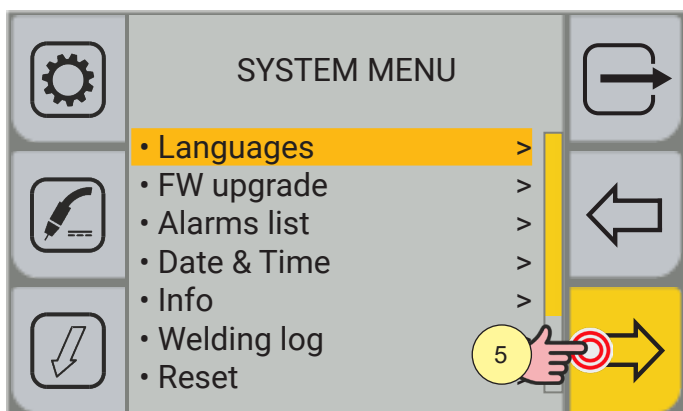

<p><b>After activating a function</b> Below the active synergic curve wording, the icons of the active functions will appear.</p>

## 4 PRELIMINARY SETTINGS


### 4.1 SETTING LANGUAGE



1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the (ENCODER key or the[NEXT] key to confirm.

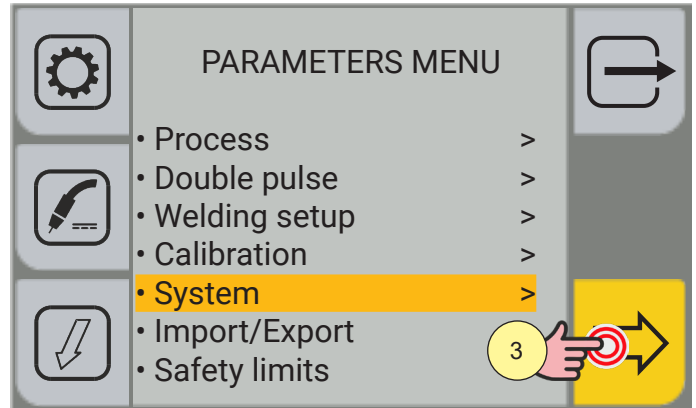
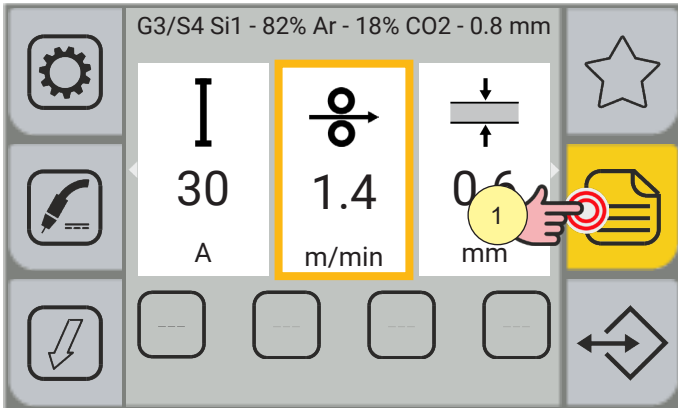


4. Turn the encoder to select the desired setting. Select the following path: Languages>
5. Press the (ENCODER key or the[NEXT] key to confirm.
6. Turn the encoder to select the desired language.
  - o (English, Italiano, Deutsch, Espanol, Francais, Polski, Nederlands, Romana, Hrvatski)
7. Press the (ENCODER key or the[NEXT] key to confirm.

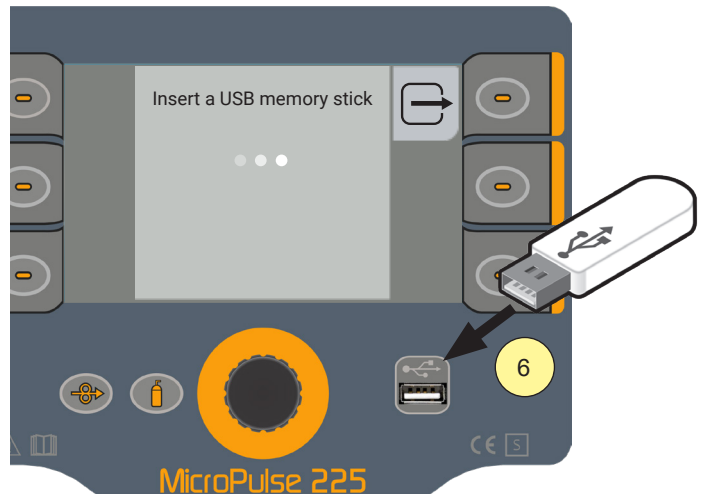
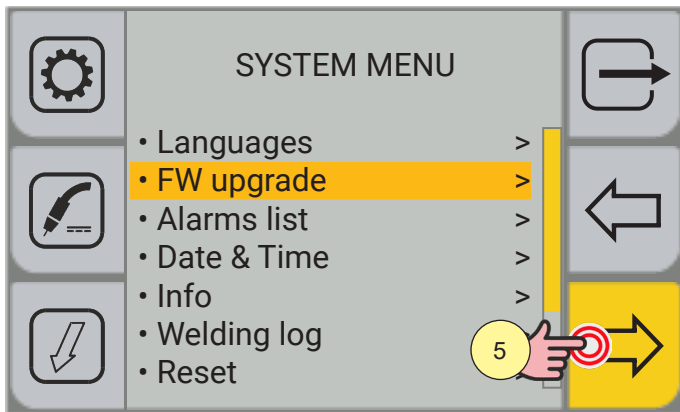
Press the  [EXIT] key to exit the screen.

ENGLISH

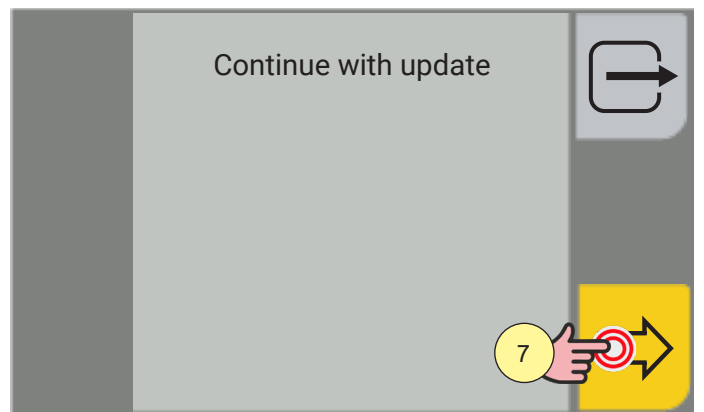
4.2 FIRMWARE UPDATE



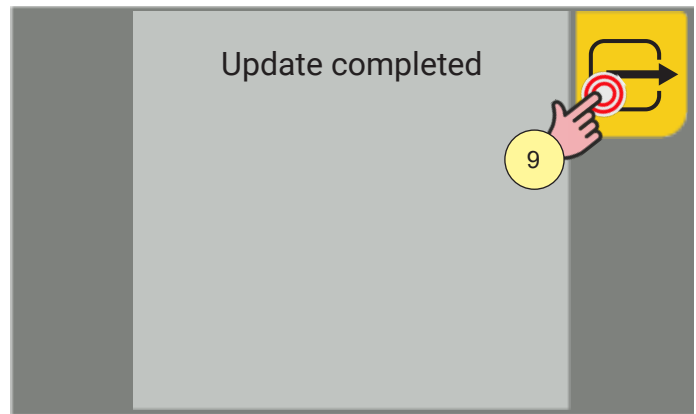
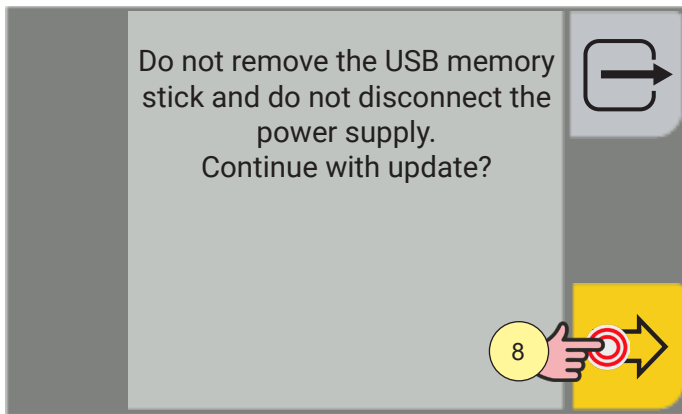
1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the (ENCODER key or the[NEXT] key to confirm.




4. Turn the encoder to select the desired setting. Select the following path: Updating FW>
5. Press the (ENCODER key or the[NEXT] key to confirm.
6. Insert the USB memory stick containing the firmware into the USB port.



7. Press the (YES) key



8. Press the (OK) key.

To return to the main screen, press the  [EXIT] key.  
Wait for the update procedure to be completed.

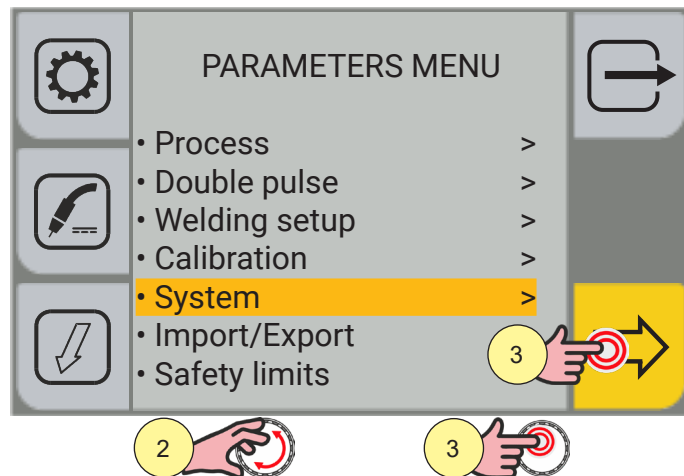
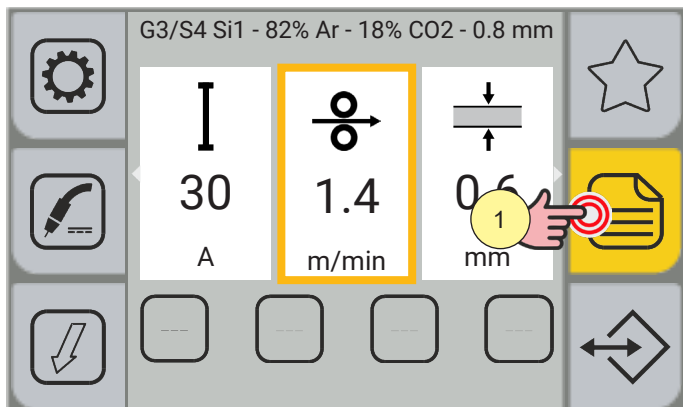
9. Press the (OK) key.

If there are problems with updating, the display displays a warning.

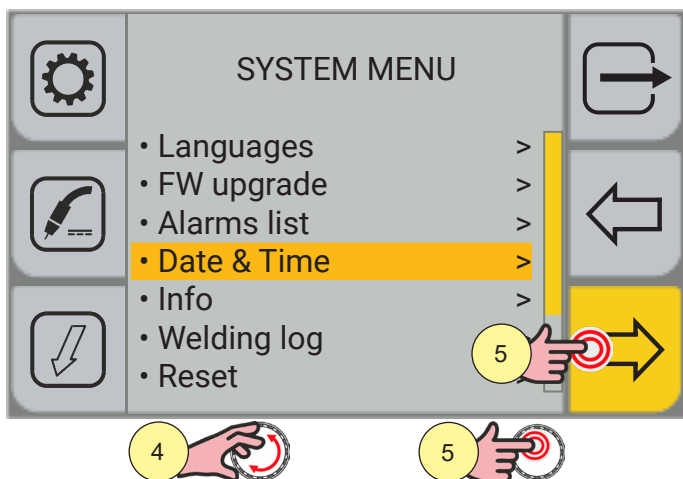
IMPORTANT NOTICE	MEANING
Updating file not found	File is not present in USB memory stick
USB/SD card not found	USB memory stick not recognized (is absent or has not been inserted correctly). Check that the USB memory stick has been inserted correctly. Use a different USB memory stick.
Unable to decrypt updating file	Corrupted file or file with changed name (never change name of updating file provided).
Unable to decompress updating file	Corrupted file or file with changed name (never change name of updating file provided).
Updating folder and/or script not found	Corrupted file or file with changed name (never change name of updating file provided).
Updating procedure failed	Contact Service Department.
The updating file is not for this card	The file loaded onto the USB memory stick is not compatible with the electronic card.
Readme file not found in the updating file	Contact Service Department.
Installed version is the same or higher	The installed software cannot be downgraded.
Unable to update the generator	Contact Service Department.
Unable to update the wf	Contact Service Department.
Unable to update the boost	Contact Service Department.

## ENGLISH

### 4.3 SETTING THE DATE AND TIME



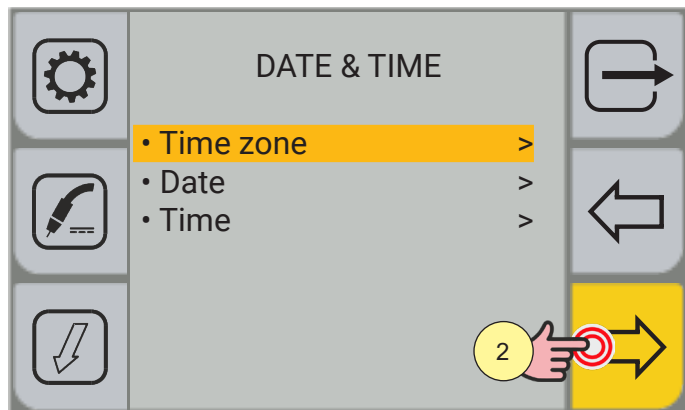
1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the (ENCODER key or the[NEXT] key to confirm.



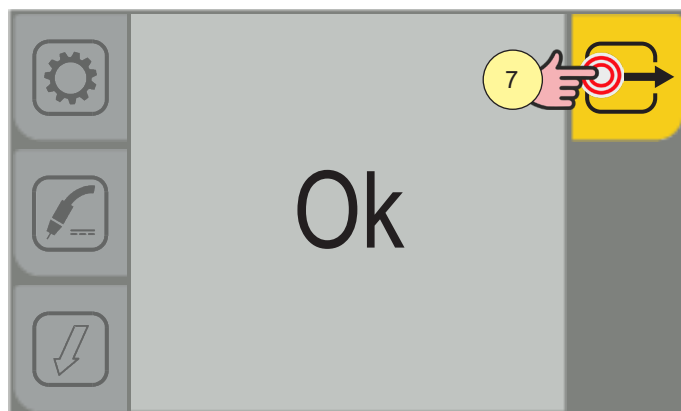
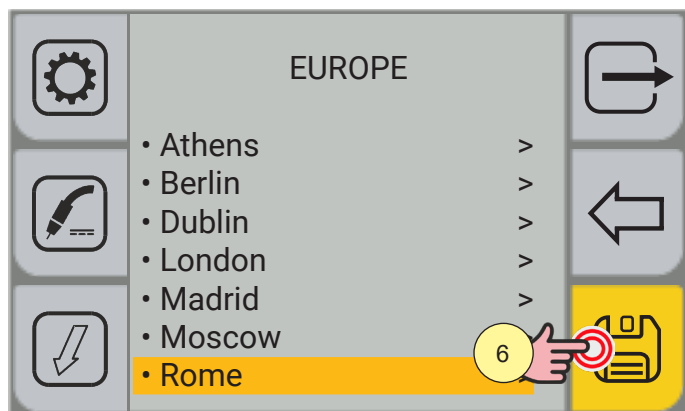
4. Turn the encoder to select the desired setting. Select the following path: Date & Time>
5. Press the (ENCODER key or the[NEXT] key to confirm.



### Setting the time zone



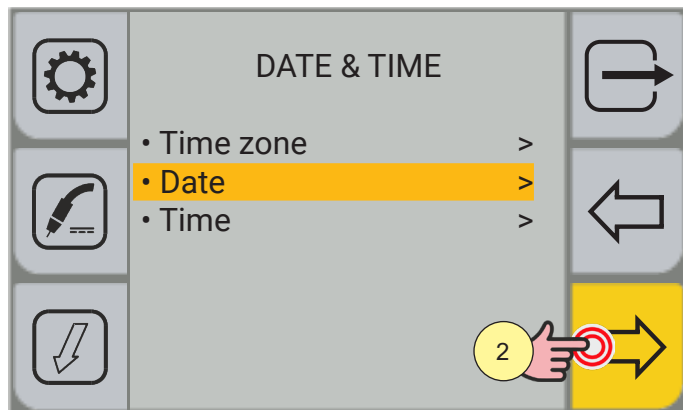
1. Turn the encoder to select the desired setting. Select the following path: Time zone>
2. Press the (ENCODER key or the[NEXT] key to confirm.
3. Turn the encoder to select the desired time zone.
4. Press the (ENCODER key or the[NEXT] key to confirm.



5. Turn the encoder to select the desired city.
6. Press the (ENCODER key or the[SAVE] key to confirm.
7. Press the [OK] key to to confirm quit screen.

## ENGLISH

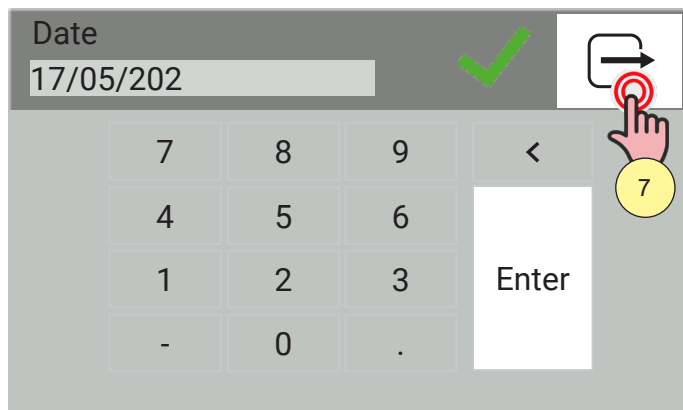
### Data setting




1. Turn the encoder to select the desired setting. Select the following path: Date>
2. Press the (ENCODER key or the[NEXT] key to confirm.

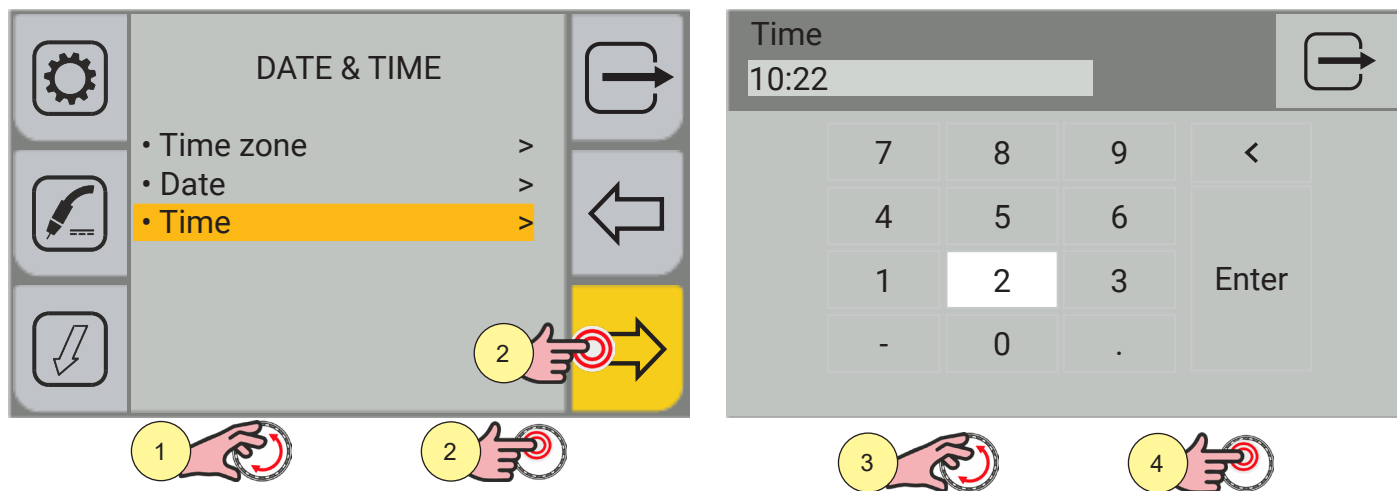
**i Information** The touchscreen panel allows the user to set up the functions through the mechanical keys or by touching the icons displayed on the screen.

3. Turn the encoder to select the number on the keyboard.
4. Press the encoder key to confirm your selection.



5. Turn the encoder to select the (ENTER) symbol on the keyboard.
6. Press the encoder key to confirm your selection. A green tick will appear to indicate that the operation has been confirmed.
7. Press the  [EXIT] key to to quit screen.

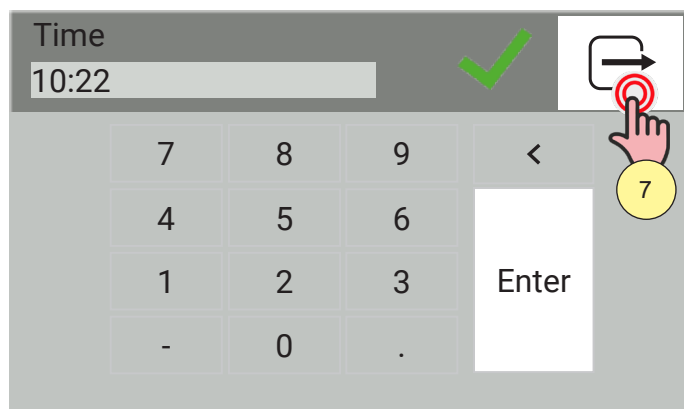
## Setting the time




1. Turn the encoder to select the desired setting. Select the following path: Time>
2. Press the encoder key or the [NEXT] key to confirm.

**i Information** The touchscreen panel allows the user to set up the functions through the mechanical keys or by touching the icons displayed on the screen.

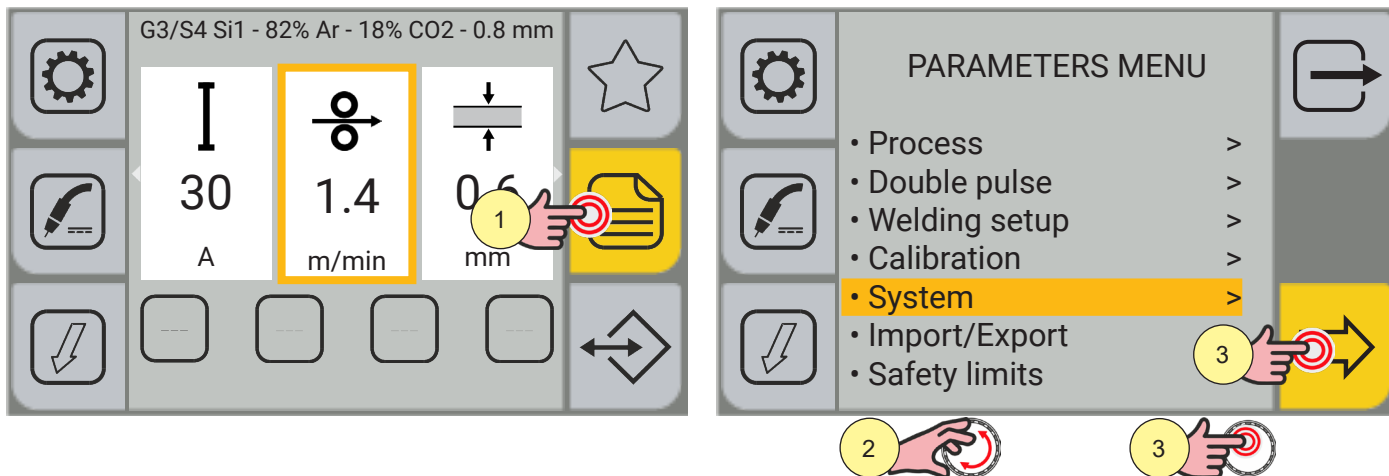
3. Turn the encoder to select the number on the keyboard.
4. Press the encoder key to confirm your selection.



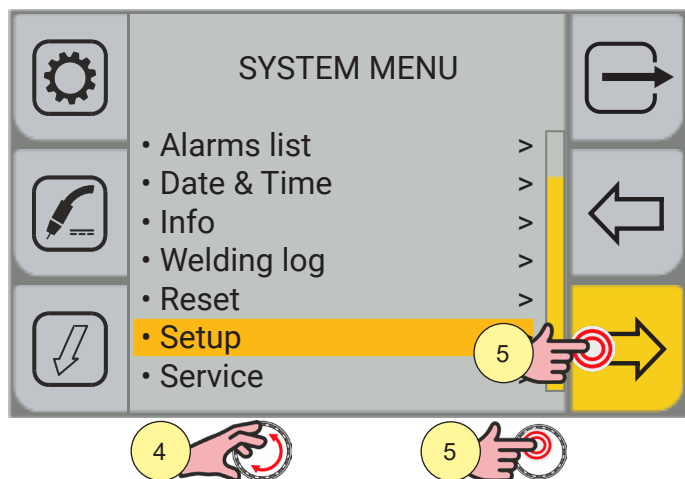
5. Turn the encoder to select the (Enter) symbol on the keyboard.
6. Press the encoder key to confirm your selection. A green tick will appear to indicate that the operation has been confirmed.
7. Press the  [EXIT] key to quit screen.

## ENGLISH

### 4.4 SETTING UP THE WELDER



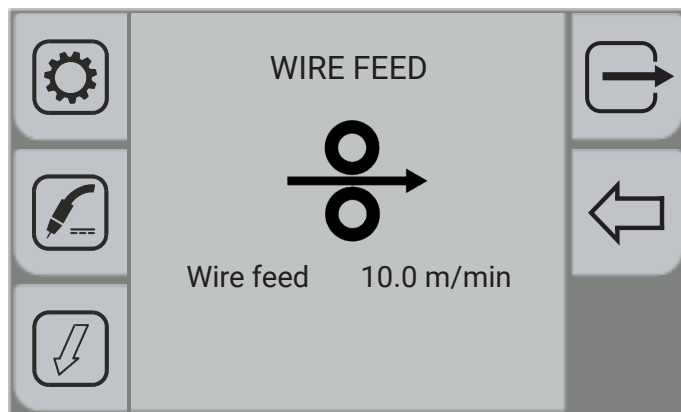
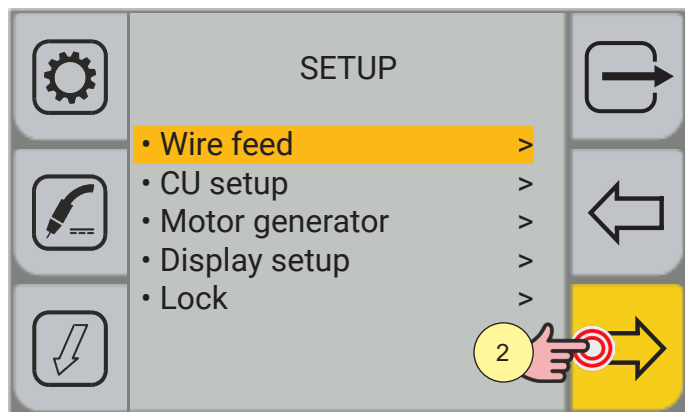
1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the (ENCODER key or the[NEXT] key to confirm.



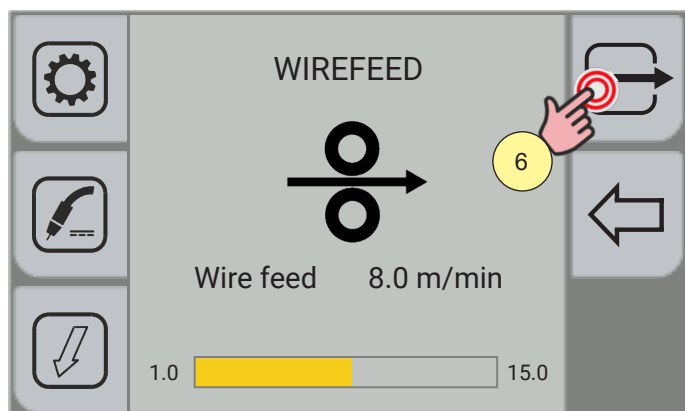
4. Turn the encoder to select the desired setting. Select the following path: Setup>
5. Press the (ENCODER key or the[NEXT] key to confirm.

## Setting up the wire feed

The WIRE FEED parameter allows the user to set up the wire insertion speed to be applied when the (INSERTION) key is pressed.



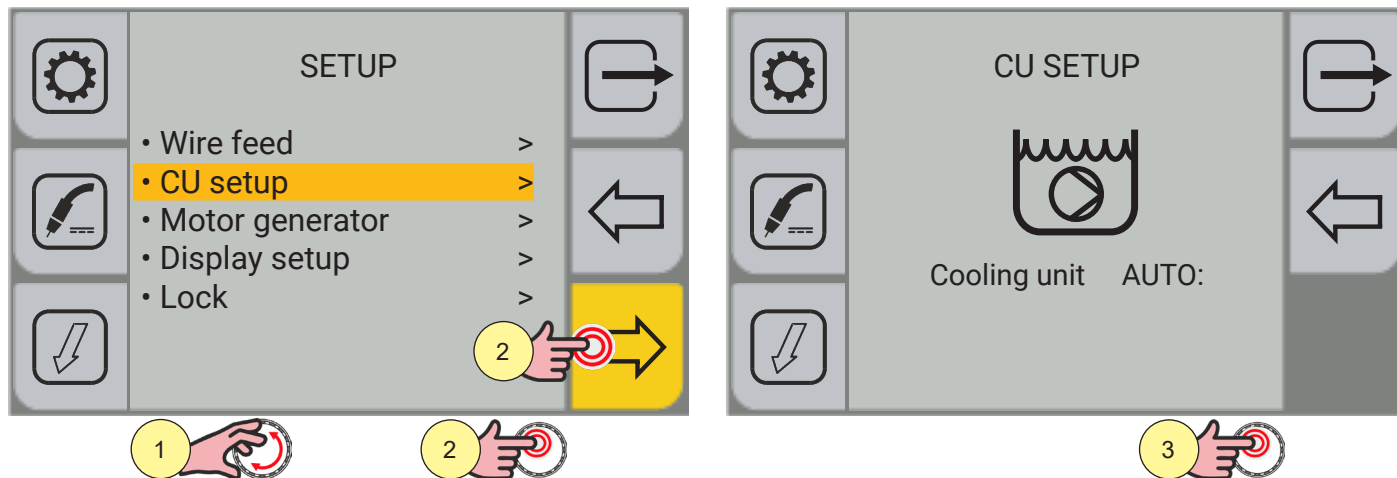
1. Turn the encoder to select the desired setting. Select the following path: Wire feed>
2. Press the (ENCODER key or the[NEXT] key to confirm.
3. Press the encoder key to apply the parameter change.



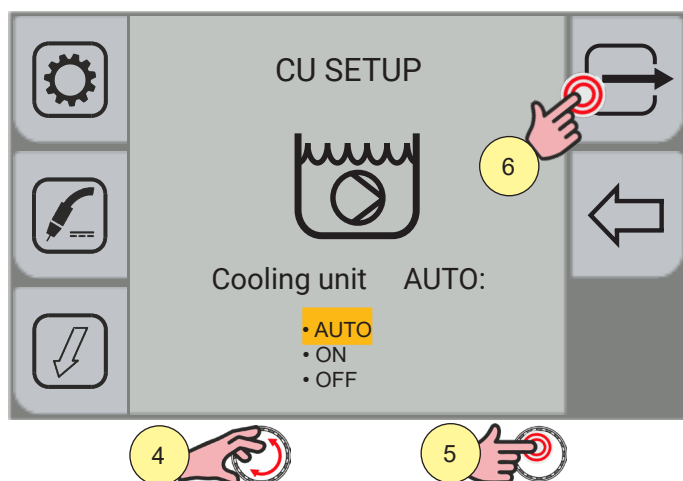
4. Turn the encoder to set the desired value.
5. Press the encoder key to confirm your selection.
6. Press the [EXIT] key to to quit screen

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### Cooling unit setup



1. Turn the encoder to select the desired setting. Select the following path: CU setup>
2. Press the encoder key or the[NEXT] key to confirm
3. Press the encoder key to apply the parameter change.

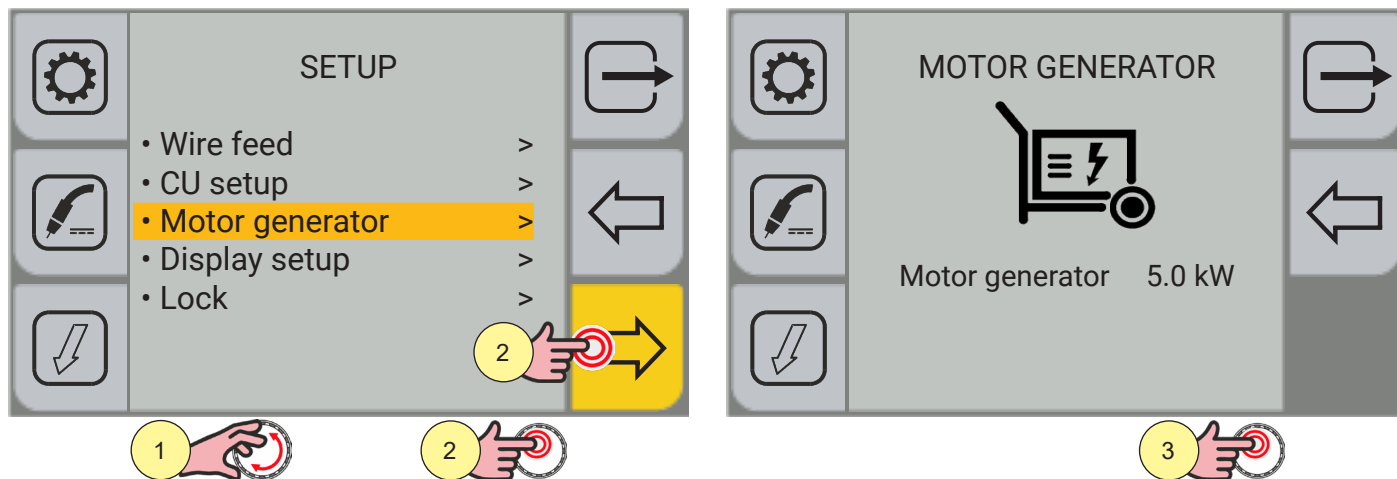


4. Turn the encoder to select the desired setting.
5. Press the encoder key to confirm your selection.
6. Press the [EXIT] key to to quit screen

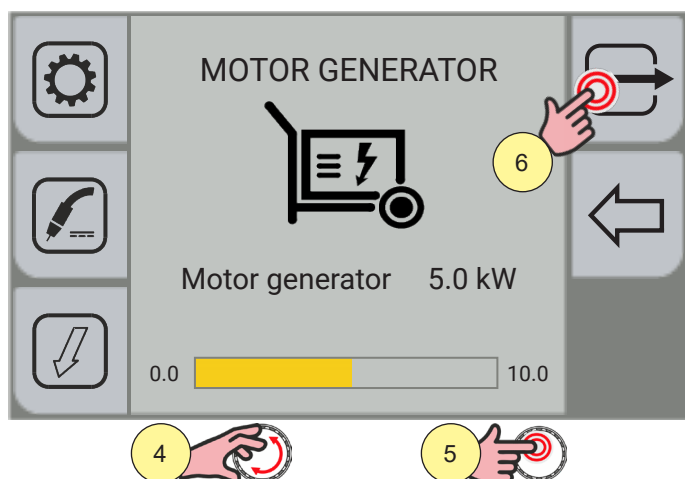
- **AUTO:** When the welder is switched on, the unit is switched on for 30 s. During the welding operations, the unit runs continuously. When the welding operation is completed, the unit will stay on for 90 s plus a number of seconds related to the welding average current value.
- **ON:** The cooling unit is always on when the current generator is also switched on. This mode is preferable for heavy duty and automatic welding procedures.
- **OFF:** The cooling unit is always off; this function must be selected if an air cooled torch is used.


## Motor generator setup

The MOTOR GENERATOR parameter allows the power of the motor generator to be selected from which the machine is supplied. In this manner, welder consumption is adjusted to the power that the motor generator can supply, so overload protection does not cause the motor generator to cut out.



1. Turn the encoder to select the desired setting. Select the following path: CU setup>
2. Press the encoder key or the [NEXT] key to confirm
3. Press the encoder key to apply the parameter change.

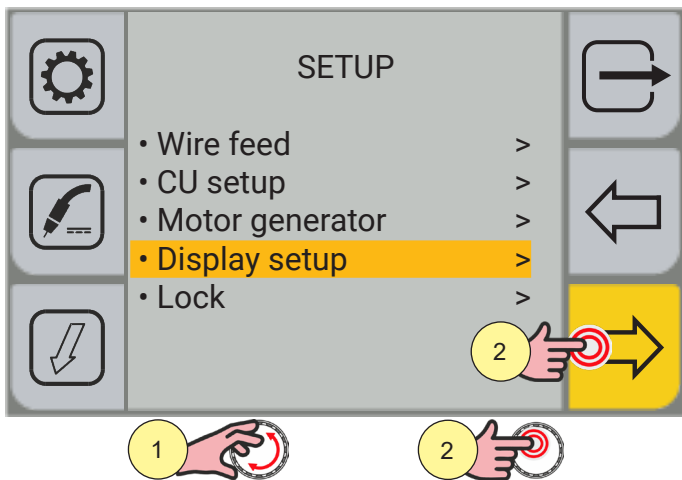
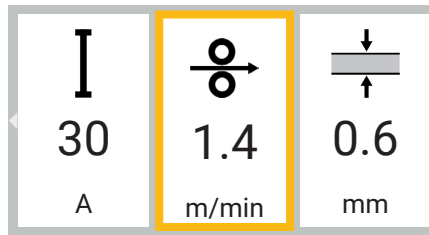


4. Turn the encoder to set the desired value.
5. Press the encoder key to confirm your selection.
6. Press the  [EXIT] key to to quit screen

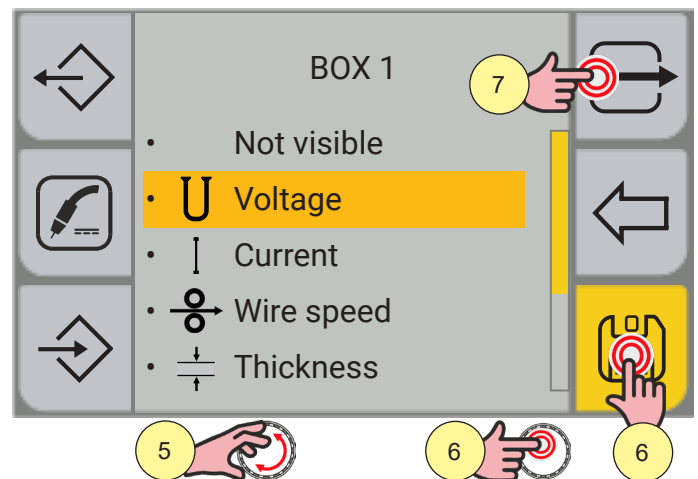
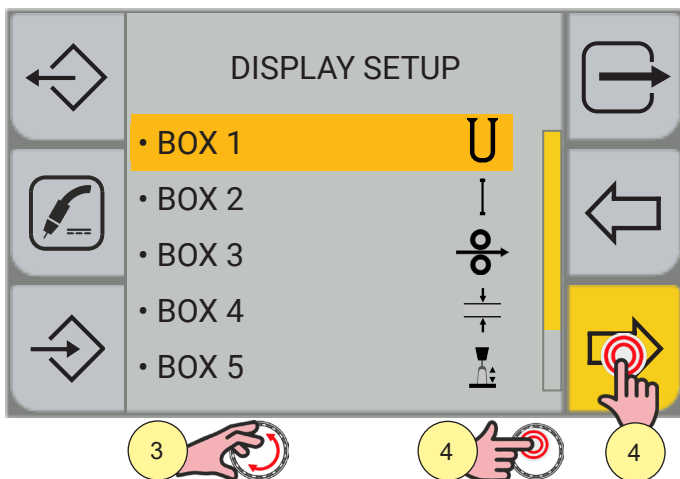
ENGLISH

Display setup

The display setup option allows the user to select the parameters to be displayed in the main screen and the order in which they are displayed.

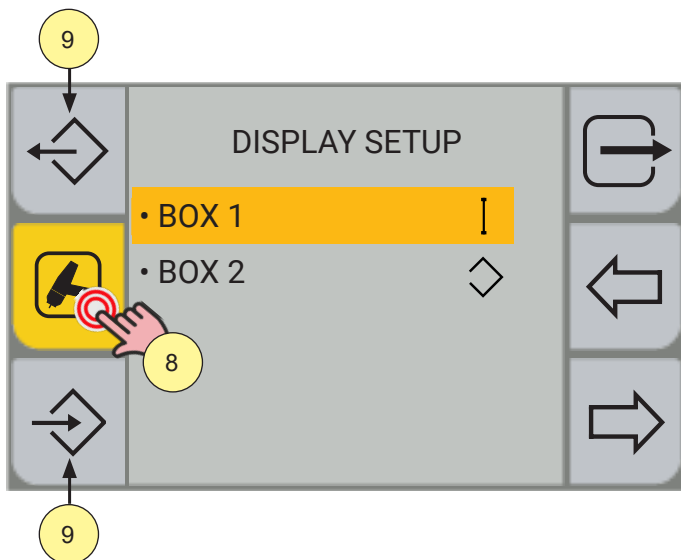


1. Turn the encoder to select the desired setting. Select the following path: Display setup>
2. Press the (ENCODER key or the[NEXT] key to confirm.



3. Turn the encoder to select the desired box.
4. Press the (ENCODER key or the[NEXT] key to confirm.
5. Turn the encoder to select the desired parameter.
6. Press the encoder key or the [SAVE] key to confirm.
7. Press the [EXIT] key to exit the screen

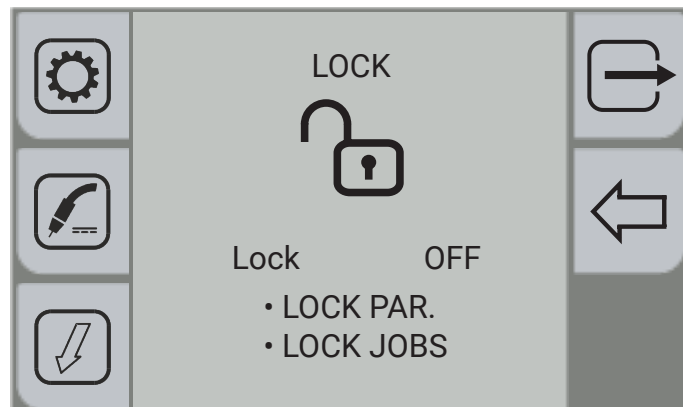
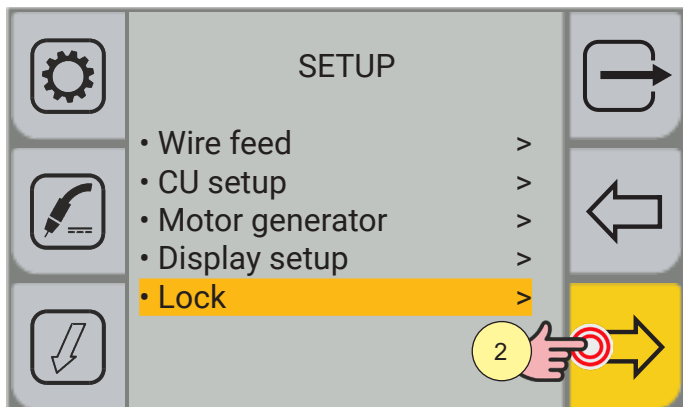




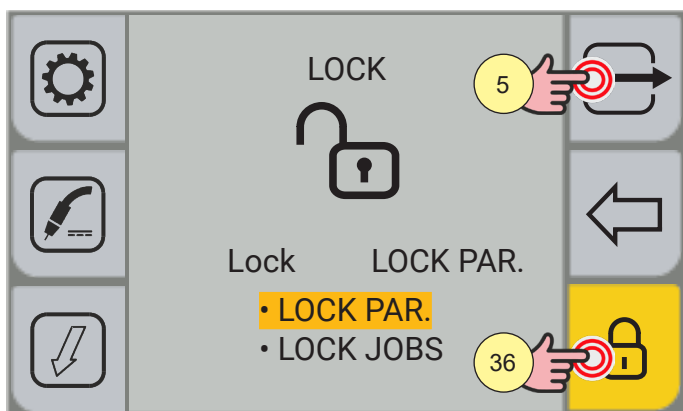
8. The display setup screen is associated with the welding process. Press repeatedly the process key to scroll the various welding process setup screens.
9. Personalised display setups can be exported or imported by means of the export/import keys.  
(see chapter ["IMPORT / EXPORT"](#) page [37](#))


ENGLISH

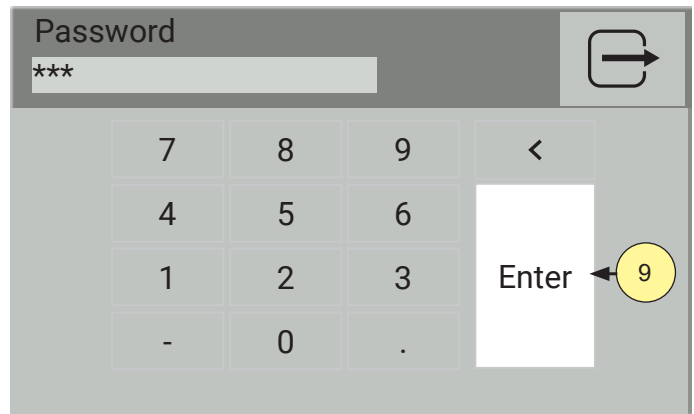
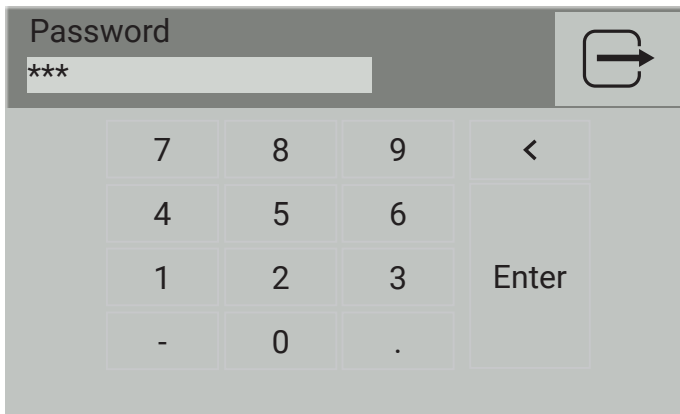
LOCK (lock/unlock the changes)



1. Turn the encoder to select the desired setting. Select the following path: Lock>
2. Press the (ENCODER key or the[NEXT] key to confirm.



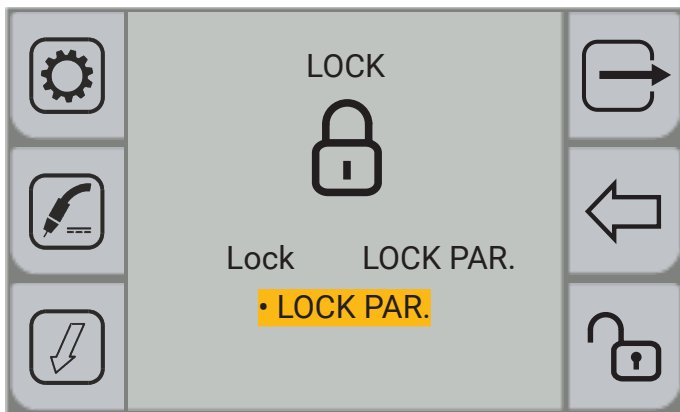
3. Turn the encoder to select the desired setting.
  - o **LOCK PAR.:** lock all parameters change except for arc correction, torch trigger mode.
  - o **LOCK JOBS:** lock the jobs parameter change; it is possible to scroll through and load saved jobs.
4. Press the (ENCODER key or the[NEXT] key to confirm.
5. Press the  [EXIT] key to exit the screen.



Enter a 3-digit password. Make a note of the saved password as it can't be deleted without deleting the stored settings and jobs.

**i Information** The touchscreen panel allows the user to set up the functions through the mechanical keys or by touching the icons displayed on the screen.

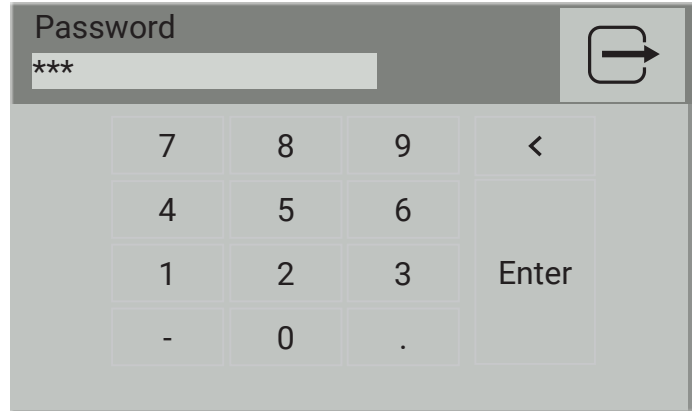
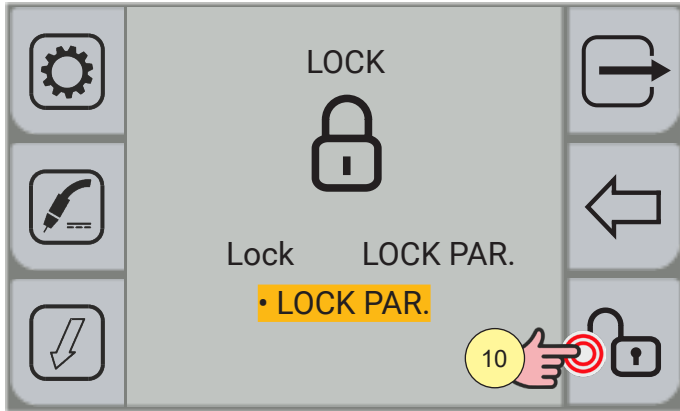
6. Turn the encoder to select the number on the keyboard.
7. Press the encoder key to confirm your selection.
8. Turn the encoder to select the (Enter) symbol on the keyboard.
9. Press the encoder key to confirm your selection. Press the [EXIT] key to exit the screen.



**i Information** The closed padlock symbol means changes lock is activated for the chosen setting.

## ENGLISH

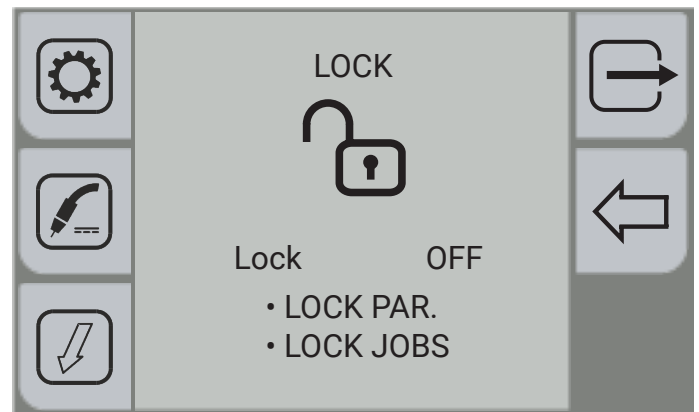
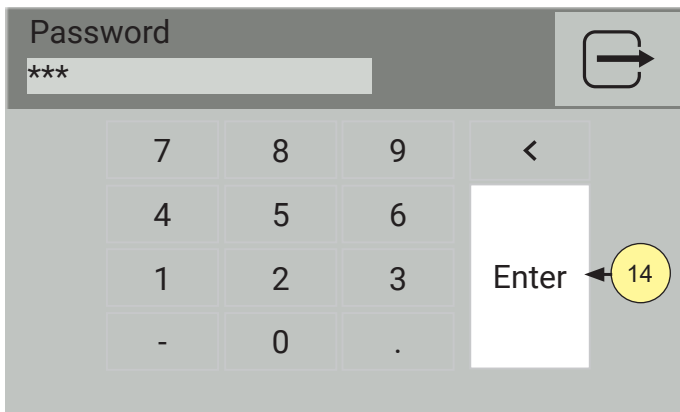
To unlock the changes, enter the LOCK screen.



10. Press the (ENCODER key or the [NEXT] key to confirm.  
Enter the 3-digit password.

**i Information** The touchscreen panel allows the user to set up the functions through the mechanical keys or by touching the icons displayed on the screen.

11. Turn the encoder to select the number on the keyboard.  
12. Press the encoder key to confirm your selection.

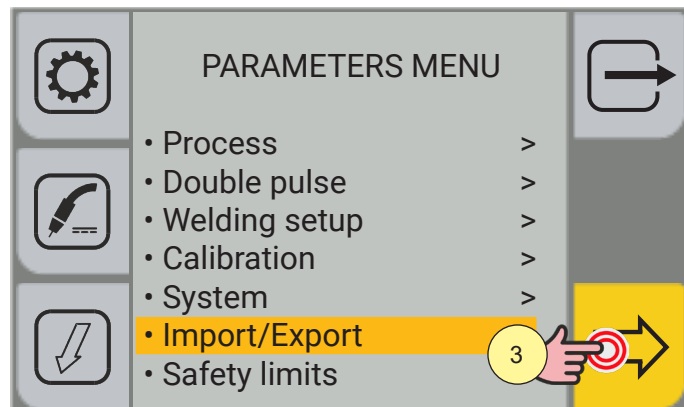
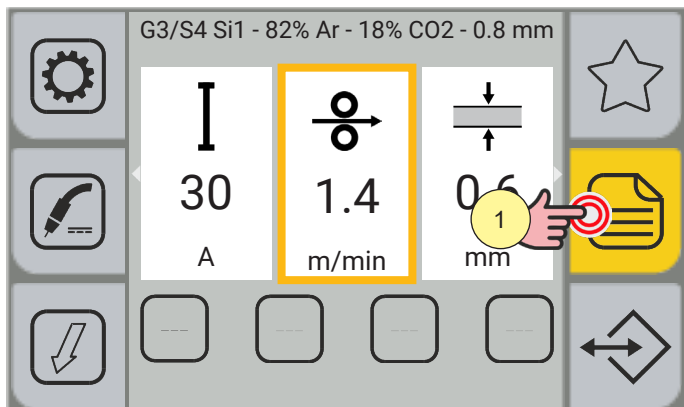


13. Turn the encoder to select the (Enter) symbol on the keyboard.

14. Press the encoder key to confirm your selection. Press the  [EXIT] key to exit the screen.

**i Information** The open padlock symbol means changes lock is deactivated.

IMPORT / EXPORT



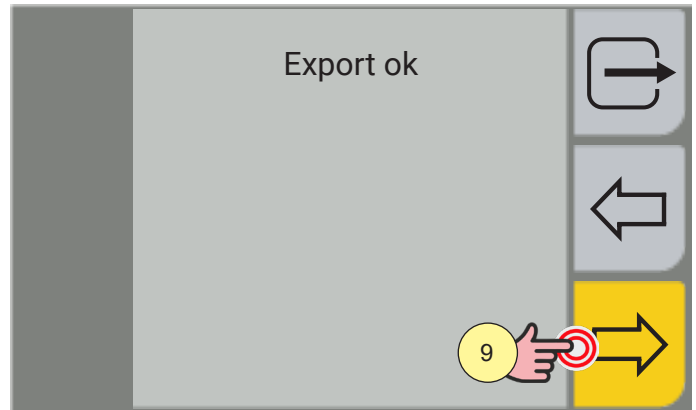
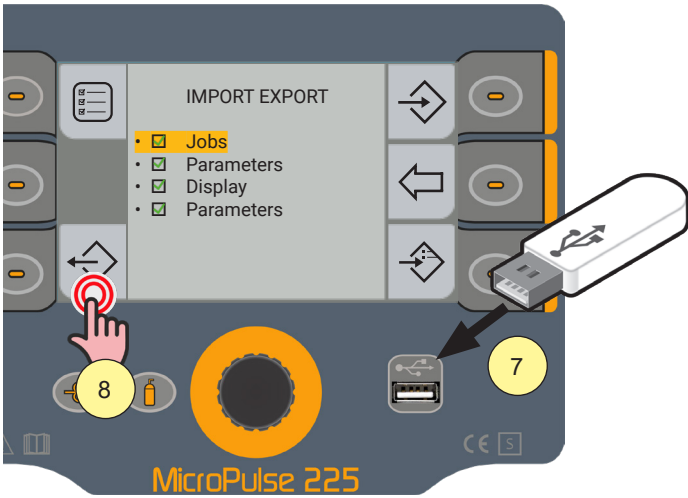
1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: Import / Export>
3. Press the (ENCODER key or the[NEXT] key to confirm.




4. Turn the encoder to select the desired setting.
  - o Jobs: jobs are imported/exported, only
  - o Parameters: unit operating parameters are imported/exported, only.
  - o Display: display setup is imported/exported, only
  - o Language
5. Press the encoder key to confirm your selection.
6. If you wish to select/deselect all the boxes, press the [SELECT ALL] / [DESELECT ALL ] key.


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EXPORT



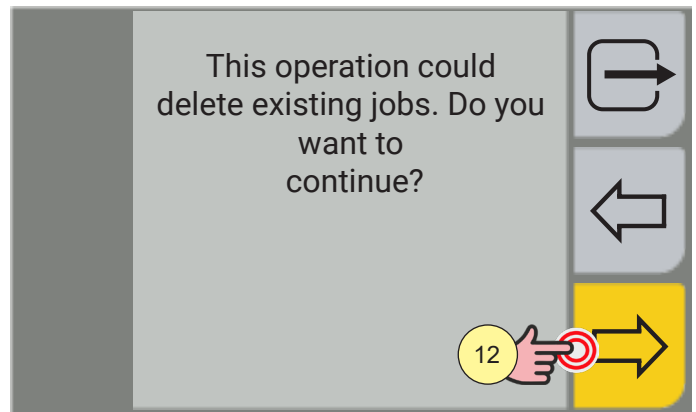
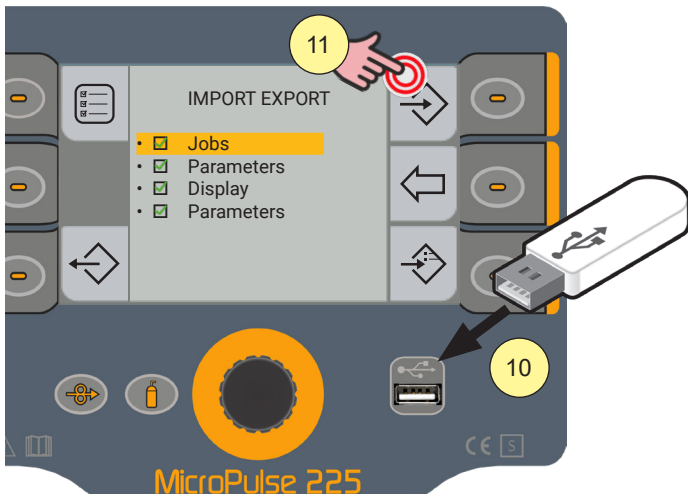
7. Insert the USB memory stick in the port provided.
8. Press the (EXPORT) key to export the files to the USB memory stick. If the exporting operation is successful, the message “Export OK” will appear.
9. Press the [OK] key.

Press the  [PREC] key to return to the previous screen.


To return to the main screen, press the  [EXIT] key.


IMPORT

Press the IMPORT key to import the files and JOBS saved onto the USB memory stick.  
If the JOB files are stored on the USB memory stick in the same position (number before name) as the files located in the MicroPulse 225, the latter will be overwritten by the files saved on the memory stick.



10. Insert the USB memory stick in the port provided.
11. Press the [KEY] to import the files saved onto the USB memory stick.
12. Press the (YES) key to confirm.


Press the  [NO] key to return to the previous screen.

To return to the main screen, press the  [EXIT] key.

## ADD

Press the [ADD] key to add to the JOBS located on the MicroPulse 225 the files saved on the USB memory stick. The files located on the USB memory stick will be added to the files located on the MicroPulse 225, renumbering and adding them at the bottom of the list.



13. Insert the USB memory stick in the port provided.
  14. Press the [ADD] key to import the files to the USB memory stick
- Press the  [PREC] key to return to the previous screen.

## ENGLISH

### 4.5 SETTING SAFETY LIMITS

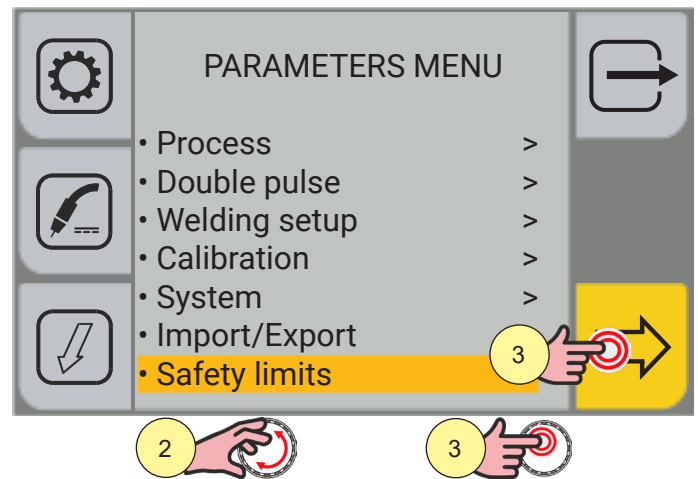
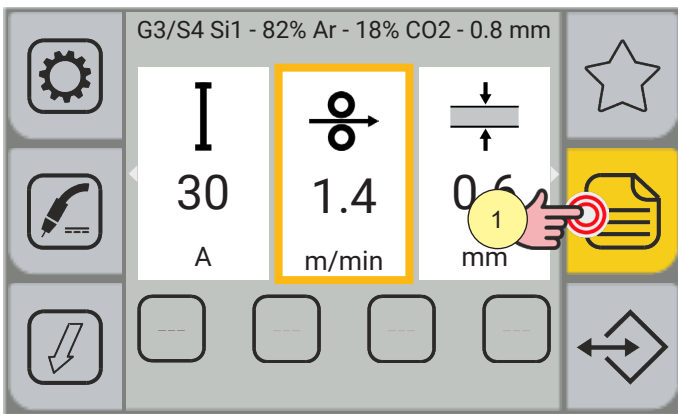
For some parameters, the safety limits can be set outside which the generator:

- sends a "WARNING" and continues the welding operations;
- sends an "ALARM" and stops welding operations.

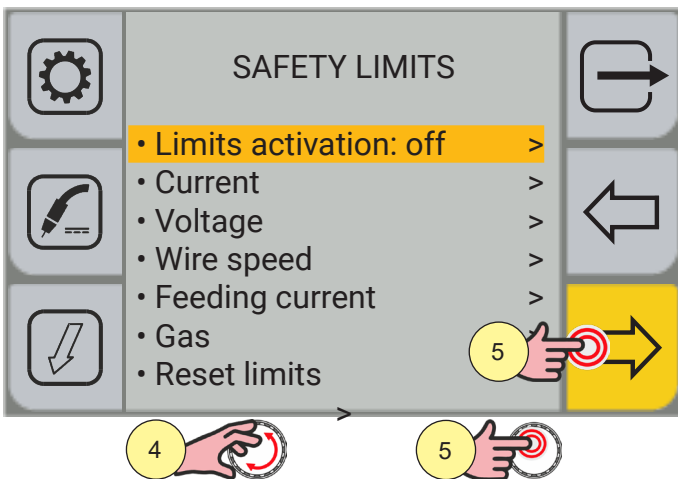
The warnings can be reset directly from the warning screen by pressing the [OK] key.

The screen displays a message showing the type of limit exceeded. The exceeding of these limits is displayed on the logs screen.

#### ACTIVATING SAFETY LIMITS

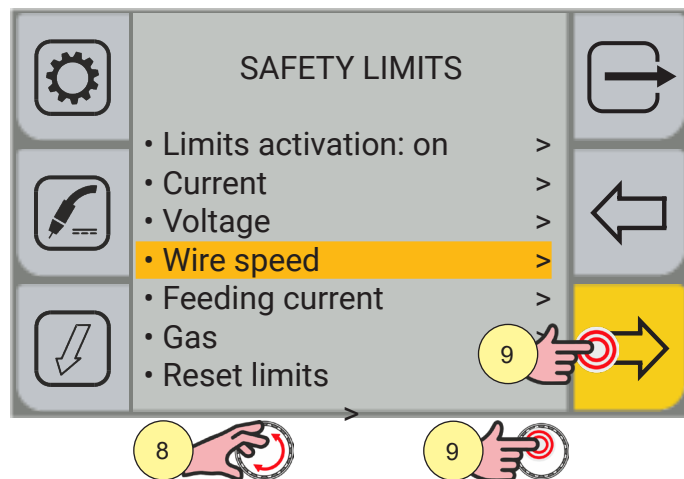
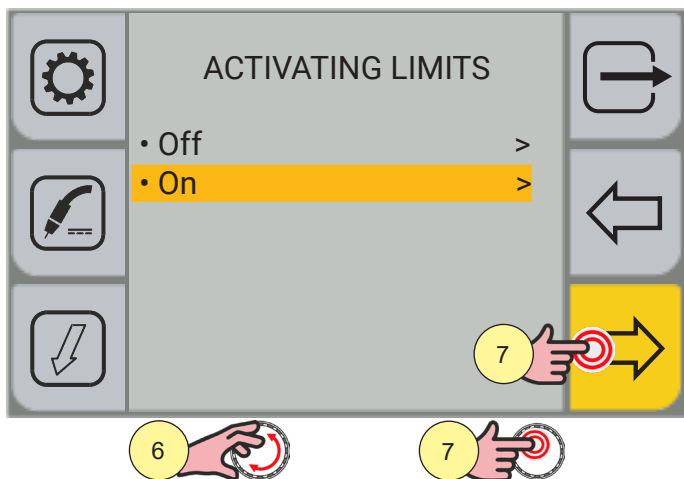


1. Press the (MENU) key.
2. Turn the encoder to select the desired setting.  
Select the following path: Safety limits>
3. Press the (ENCODER key or the[NEXT] key to confirm.

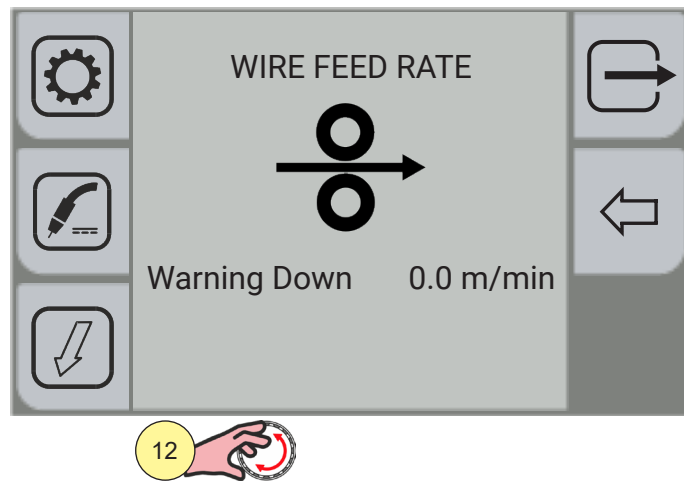
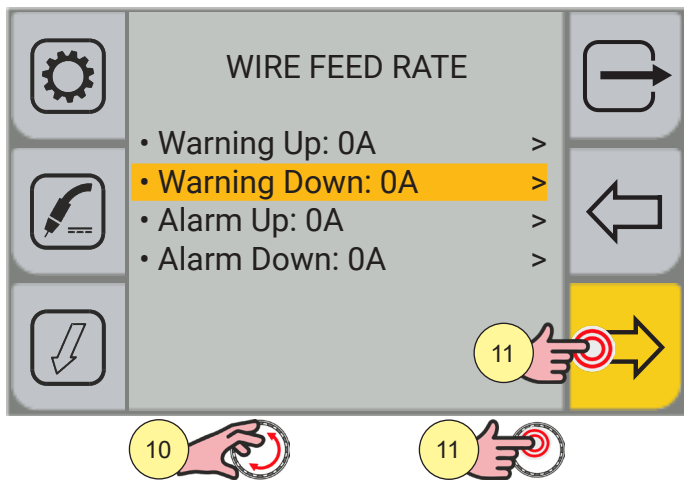


4. Turn the encoder to select the desired setting.  
Select the following path: Activating limits>
5. Press the (ENCODER key or the[NEXT] key to confirm.



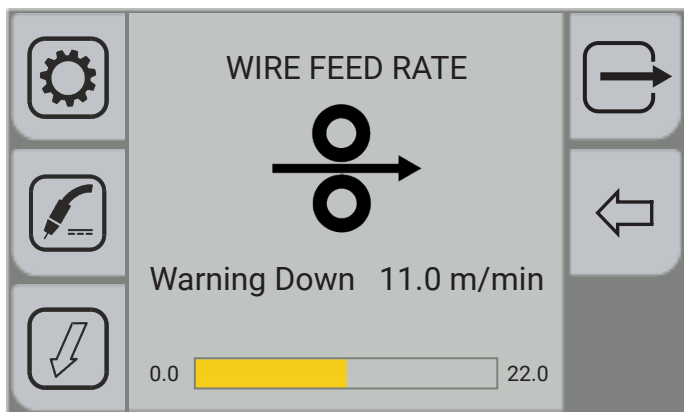




6. Turn the encoder to select the desired setting.  
Select the following path: On
7. Press the (ENCODER key or the[NEXT] key to confirm.
8. Turn the encoder to select the parameter to be activated.  
(SAFETY LIMITS: Current, Voltage, Wire Speed, Feeder Current, Gas)
9. Press the (ENCODER key or the[NEXT] key to confirm.  
Settable thresholds for each parameter:
  - Warning Up: upper warning threshold (a warning is displayed on the display)
  - Warning Down: lower warning threshold (a warning is displayed on the display)
  - Alarm Up: upper alarm threshold (welding is stopped)
  - Alarm Down: lower alarm threshold (welding is stopped)



10. Turn the encoder to select the type of threshold.
11. Press the (ENCODER key or the[NEXT] key to confirm.
12. Press the encoder key to apply the parameter change.  
When the threshold is set at 0 the parameter is not active.

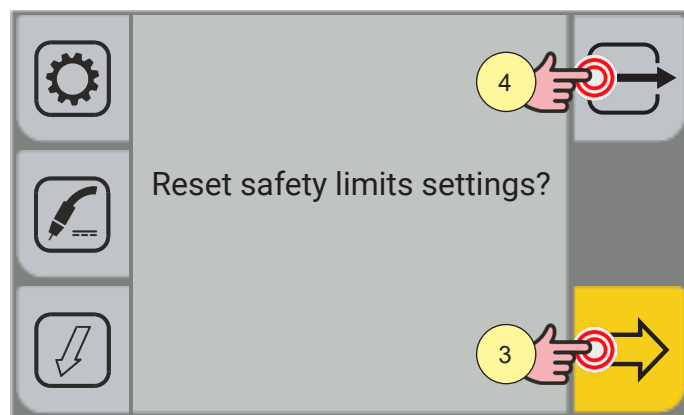
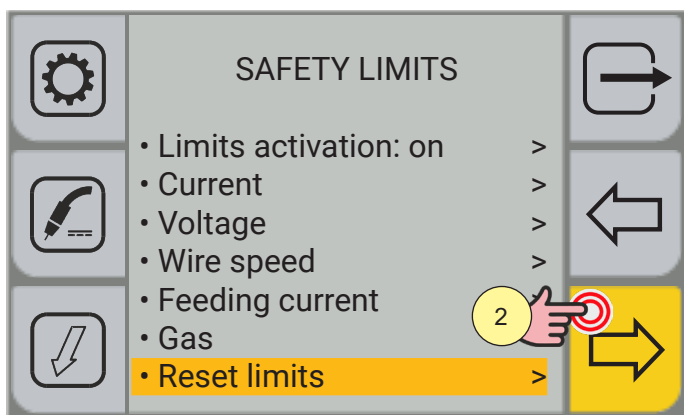
ENGLISH



13. Turn the encoder to set the desired value.
  14. Press the encoder key to confirm your selection.
- Press the  [PREC] key to return to the previous screen.
- To return to the main screen, press the  [EXIT ] key.

**SAFETY LIMITS RESET**

This function sets at 0 the threshold of all the parameters of the safety limits.  
The status of the "Limits Activation " parameter is not reset.



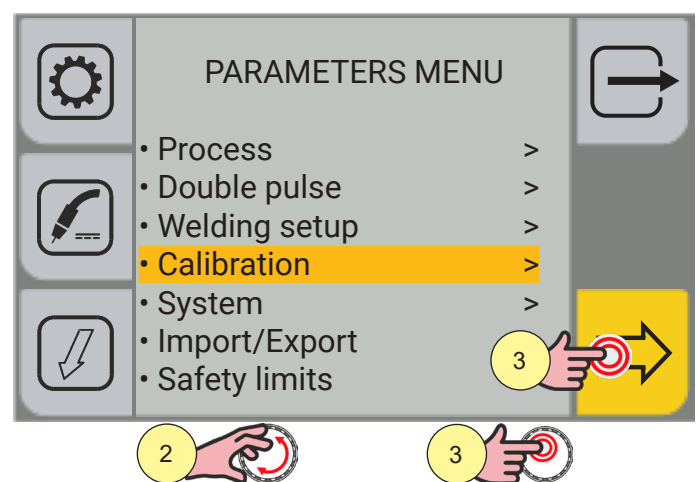
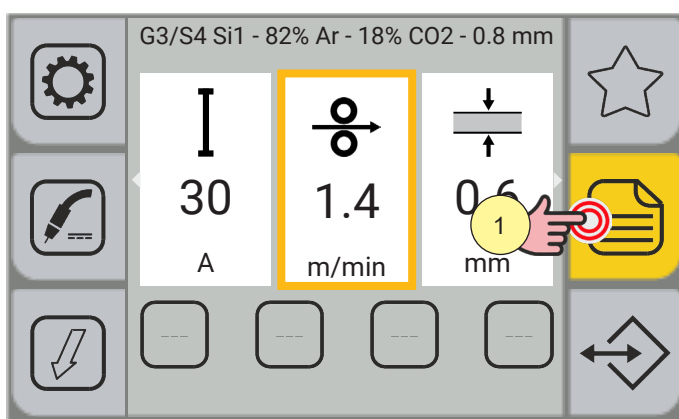
1. Turn the encoder to select the desired setting.  
Select the following path: Reset limits>
2. Press the (ENCODER key or the[NEXT] key to confirm.
3. Press the [YES] key to confirm
4. Press the [NO] key not to confirm

## 5 MIG/MAG WELDING

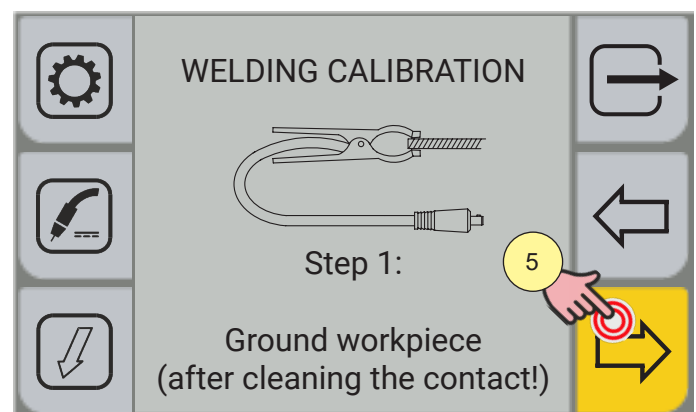
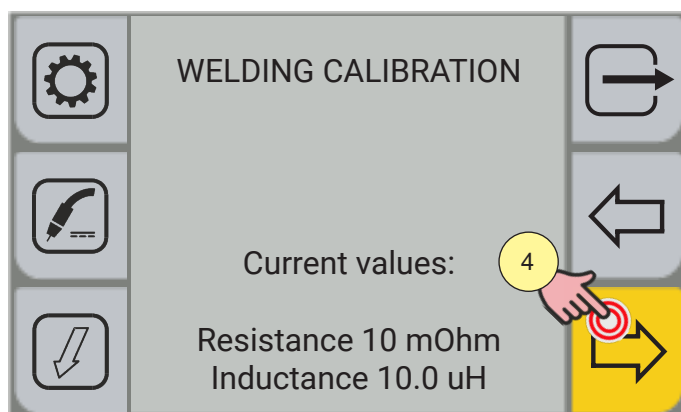
### 5.1 CALIBRATING THE WELDING CIRCUIT

By using the WELDING CIRCUIT CALIBRATION guided procedure, the resistance and inductance values of the welding circuit are measured. When the wire feeder is used with its cable harness, the welding circuit "r" resistance can be measured by using the calibration function. This allows to achieve a consistent welding quality when the cable harness length and the torch is changed. The welding circuit resistance depends on the cable harness and on the torch used; we therefore recommend that the calibration procedure is repeated when these components are changed. If a generator full RESET procedure is carried out, the default calibration value will be restored. If a partial RESET is carried out, the measured value will be stored. The calibration is not compulsory therefore, if the user decides not to carry it out, the machine will use the default value.

The power source must be on and not set up for welding.

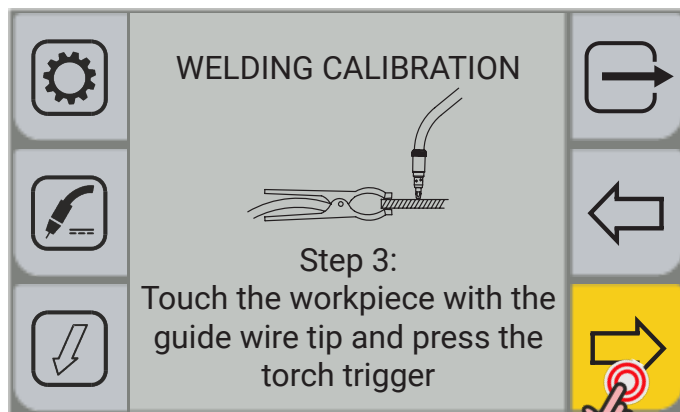
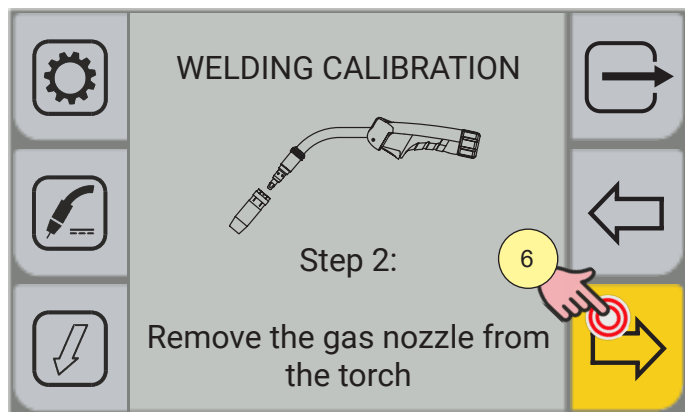


1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: Calibration>
3. Press the (ENCODER key or the[NEXT] key to confirm.



4. Press the encoder key or the [NEXT] key, or the torch trigger to confirm.
5. Press the encoder key or the [NEXT] key, or the torch trigger to confirm.

ENGLISH



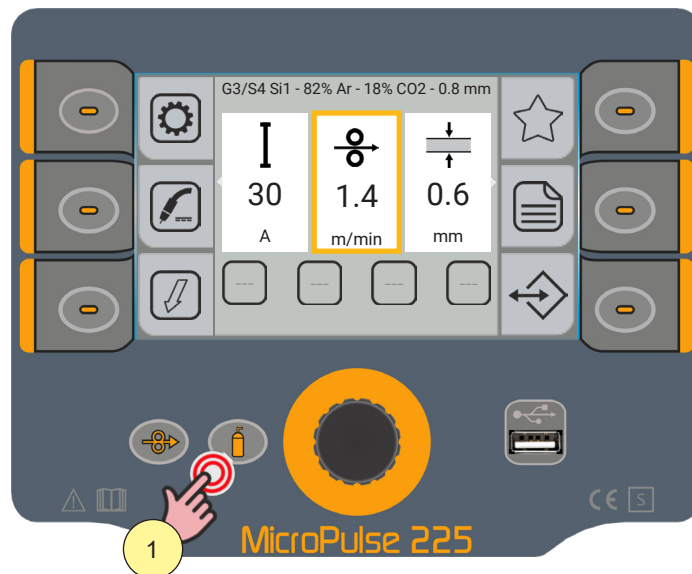
6. Press the encoder key or the [NEXT ] key, or the torch trigger to confirm.
7. Press the encoder key or the [NEXT ] key, or the torch trigger to confirm.

At the end of the procedure, the measured welding circuit resistance and inductance values will be displayed. By doing so, a consistent welding quality can be achieved when the length of the cable harness, of the earth cable and of the torch changes.

Should the measurement be unsuccessful, the "CALIBRATION ERROR" message will be displayed.

## 5.2 GAS FLOW REGULATION

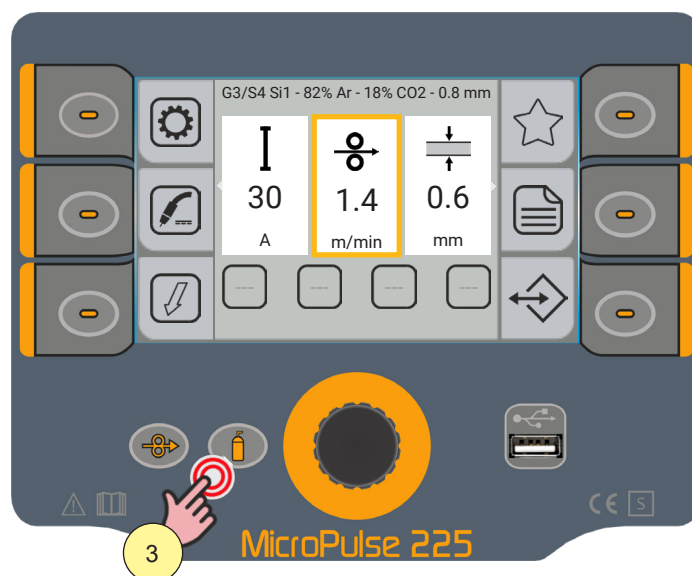
When the unit is powered up, the solenoid valve is enabled for 1 second immediately after synchronization. This fills the gas circuit.



1. Open the gas solenoid valve by pressing and releasing the (GAS) key.



2. Adjust the pressure of the gas flowing from the torch by means of the flow meter connected to the gas cylinder.



3. Close the gas solenoid valve by pressing and releasing the (GAS) key. The solenoid valve is automatically closed after 30 seconds.

## ENGLISH

### 5.3 TORCH LOADING



#### WARNING!

**Make sure the torch in use is correctly sized in relation to the welding current required and for the available and selected cooling type. This prevents the risk of burns to which the operator is potentially exposed, potential faults, and irreversible damage to the torch and the system.**

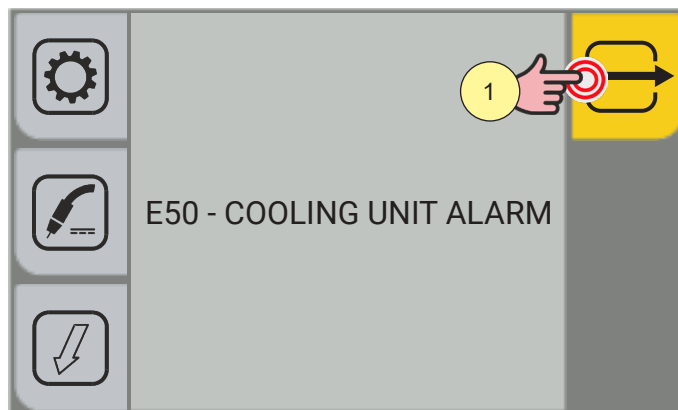
**If a torch is installed or replaced while the unit is running, the circuit of the newly installed must be filled with coolant to avoid the risk of damage to the torch in the case of high voltage arc strikes without any liquid in the circuit.**

When the generator is switched on, the presence of coolant in the cooling circuit will be automatically checked and the cooling unit will be switched on for 30 seconds.

If the coolant circuit is full, the power generator restores the most recent stable welding setup.

If the coolant circuit is not full, all functions are inhibited and there will be no output power.

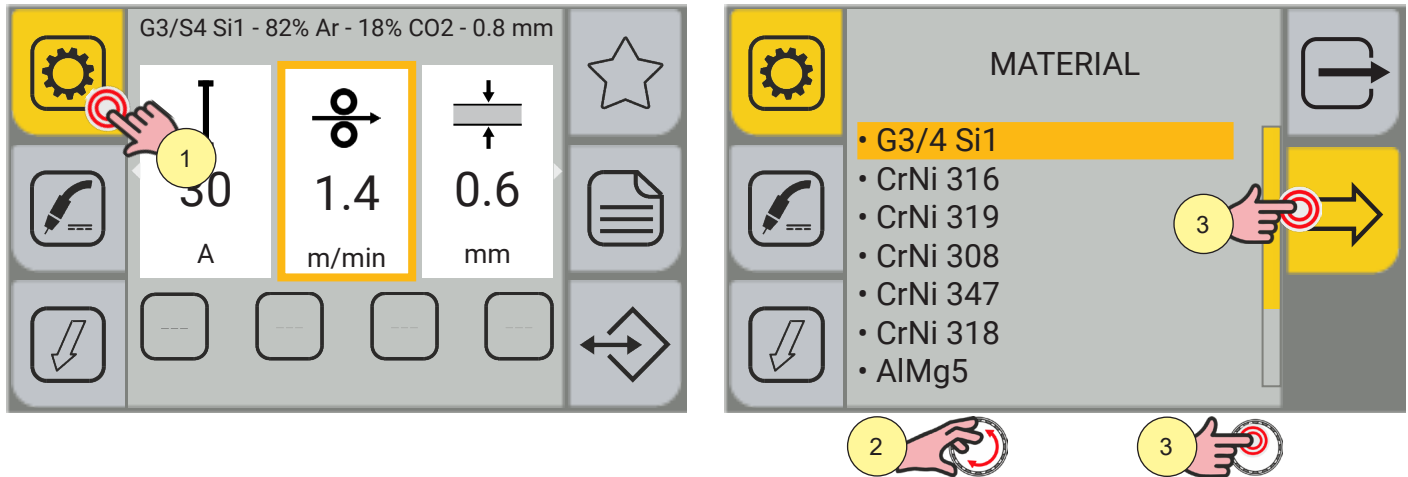
The following alarm message will be displayed: E50 - COOLING UNIT ALARM



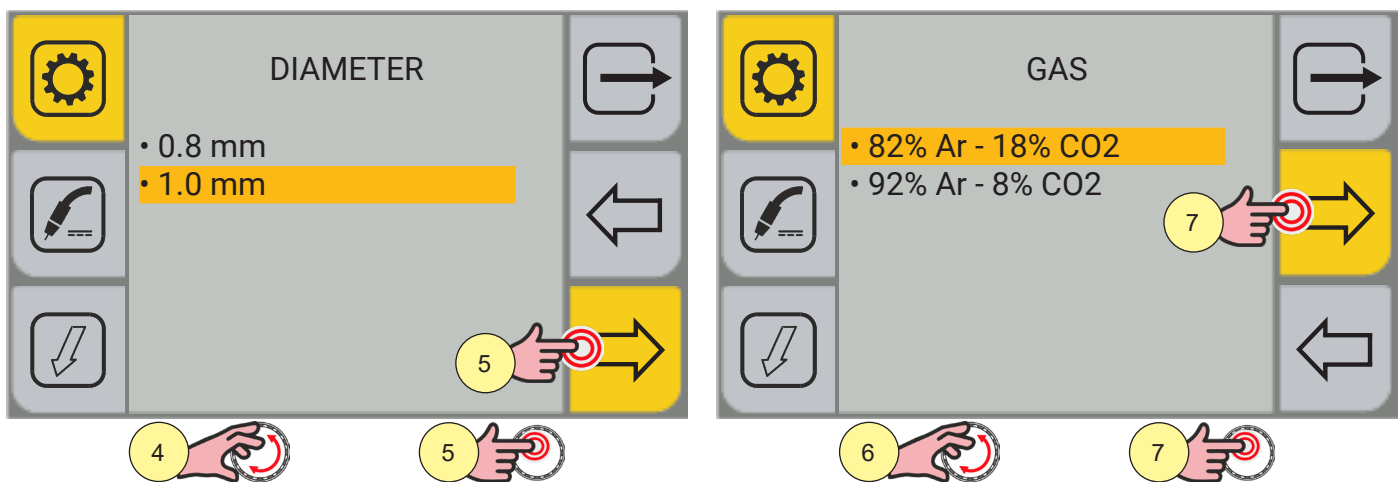
1. Press the [EXIT] key to repeat the torch filling procedure until the alarm is no longer displayed.

### 5.4 SETTING UP THE WELDING PARAMETERS

The [PROGRAM] key allows the user to access a screen sequence required to select the welding program.

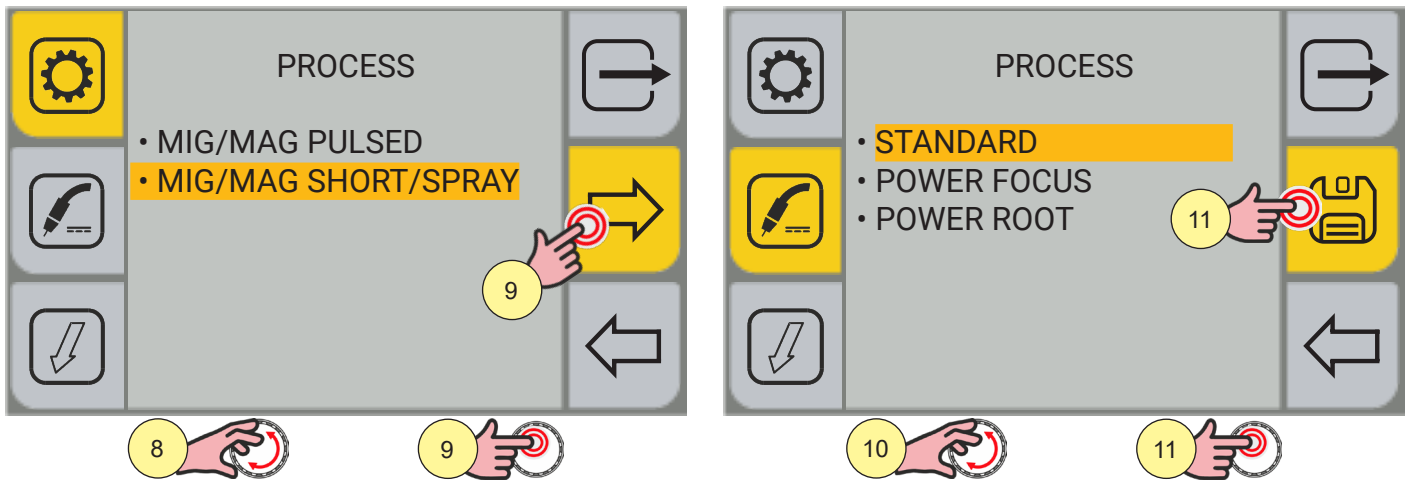


1. Press the [PROGRAM] key. Program all the sequentially displayed screens.  
**MATERIAL:** allows the material of the feed wire used for welding to be selected.
  - o (G3/4 Si1, CrNi 316, CrNi 319, CrNi 308, CrNi 347, CrNi 318, AlMg5, AlSi5, AlMg4.5MnZr, CuSi3)
2. Turn the encoder to select the desired setting.
3. Press the (ENCODER key or the[NEXT] key to confirm.



- DIAMETER:** allows the diameter of the feed wire used for welding to be selected. The wire diameters are available according to the selected material.
4. Turn the encoder to select the desired setting.
  5. Press the (ENCODER key or the[NEXT] key to confirm.
- GAS:** allows the type of welding gas to be selected. The gas mixtures are available according to the selected material.
6. Turn the encoder to select the desired setting.
  7. Press the (ENCODER key or the[NEXT] key to confirm.

ENGLISH





PROCESS (1ST LEVEL):allows only the welding processes compatible with the previously carried out settings to be selected.

8. Turn the encoder to select the desired setting.
9. Press the (ENCODER key or the[NEXT] key to confirm.

PROCESS (2ND LEVEL):allows a specific mode of a previously selected welding process to be selected.

10. Turn the encoder to select the desired setting.
11. Press the encoder key or the [SAVE] key to confirm the program.

Press the  [PREC] key to return to the previous screen.

To return to the main screen without saving the changes, press the  [EXIT] key.



## MIG/MAG welding processes

### MANUAL MIG/MAG WELDING

Welding is of the Short/Spray type.

- short arc: the drop is detached after a low amperage short-circuit.
- globular: this is the phase occurring between the short arc and the spray arc.
- spray arc: the material is deposited with high amperages without short-circuits occurring.

The main welding parameters, the wire speed, the voltage and inductance values are adjusted by the operator. The optimal work point must be identified for the required welding type.



### SYNERGIC MIG/MAG WELDING

Welding is of the Short/Spray type.

- short arc: the drop is detached after a low amperage short-circuit.
- globular: this is the phase occurring between the short arc and the spray arc.
- spray arc: the material is deposited when high amperages occur without short-circuits.

The welding related data (material, wire diameter, gas type) must be set up, as well as a single welding parameter amongst wire speed, amperage, material thickness and voltage.

The generator automatically adjusts the other secondary parameters that affect welding quality.



### PULSED MIG/MAG WELDING

The pulsed process is a welding process where material deposition is controlled by carrying out an accurate regulation of the current pulse.

The welding related data (material, wire diameter, gas type) must be set up, as well as a single welding parameter amongst wire speed, amperage, material thickness and voltage.

The generator automatically adjusts the other secondary parameters that affect welding quality.

## ENGLISH

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### MIG/ MAG welding functions



#### **DOUBLE PULSE SYNERGIC MIG/MAG WELDING**

The DOUBLE PULSE is a function available in the synergic MIG/MAG and in the pulsed MIG/MAG welding process. This function allows the two wire feed speeds to be controlled.

The welding related data (material, wire diameter, gas type) must be set up, as well as a single welding parameter amongst wire speed, amperage, material thickness and voltage.

The generator automatically adjusts the other secondary parameters that affect welding quality.



#### **PF (POWER FOCUS) SYNERGIC MIG/MAG WELDING**

The difference between a standard MIG MAG and Power Focus is its concentration and pressure. The POWER FOCUS arc concentration allows the welder to focus the high temperature of the arc in the central section of the deposition, thus avoiding to overheat the sides of the welding. The thermally changed area with the Power Focus arc is less widespread.

The welding benefits are:

- higher penetration and lower risk of sticking
- increased welding speed
- higher arc stability even with long stick-outs
- lower costs of joint preparation
- reduced volumes of bevels to be filled



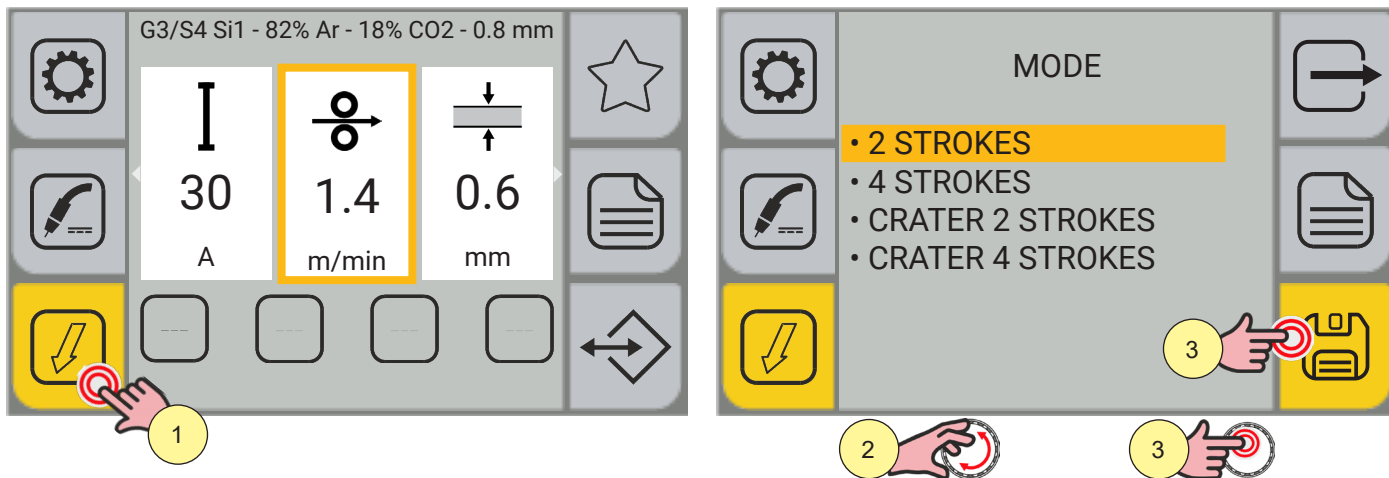
#### **PR (POWER ROOT) SYNERGIC MIG/MAG WELDING**

Power Root is an optimised short arc transfer with the feature of having a cold drop transfer. Power Root allows to achieve a very high quality in root passes.

The welding benefits are:

- optimal first pass
- quality of descending vertical welding
- excellent operability
- cold transfer of welding drop
- perfectly jointed thin metal sheets
- ideal for welding joints with large gaps

### 5.5 SETTING UP THE MIG/ MAG TORCH TRIGGER MODE

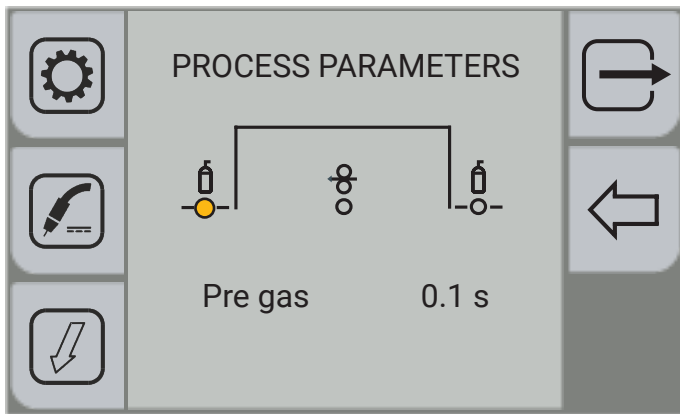


1. Press the (MODE) key.
    - o From within the menu screen, the torch trigger mode can be selected.
- [2 STROKE] - 
 [4 STROKE] - 
 [2 STROKE -3 LEVEL] - 
 [4 STROKE -3 LEVEL]
2. Turn the encoder to select the desired setting.
  3. Press the encoder key or the[SAVE] key to only set up the torch trigger mode, otherwise carry out the procedure shown in paragraph (4).

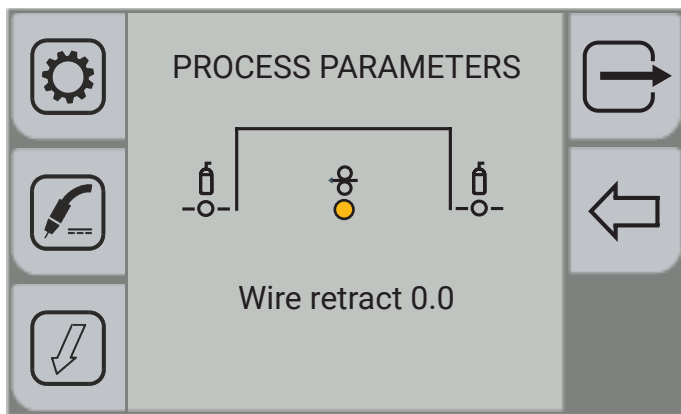
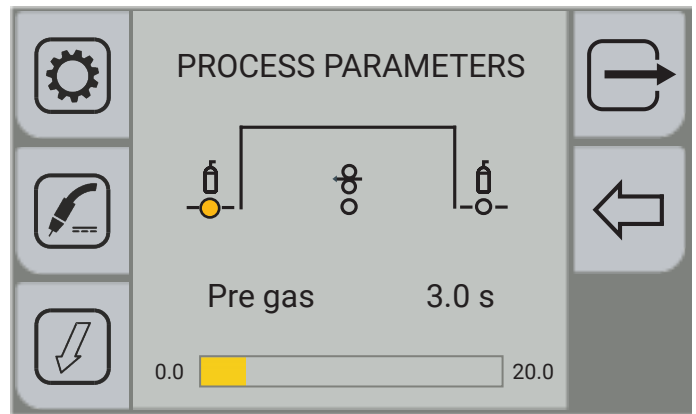



4. Press the (MENU) key.
- According to the torch trigger mode selected, different process parameters to be set are available.

ENGLISH

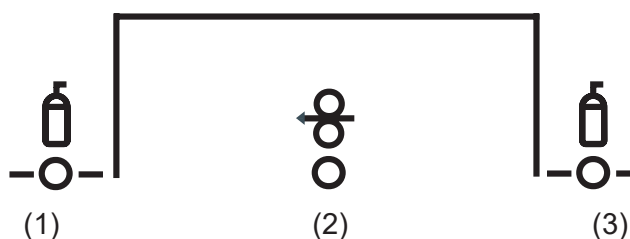


5. Turn the encoder to select the parameter to be changed.
6. Press the encoder key to confirm your selection.
7. Turn the encoder to set the desired value.
8. Press the encoder key to confirm your selection.



9. Turn the encoder again to select other parameters.
- To return to the main screen, press the  [EXIT] key.

## Process parameters with torch trigger in 2 STROKE and 4 STROKE mode



### (1) PRE GAS

- ▶ Time of gas delivery before the arc strike.

**NOTE:** if too long, it will slow down the welding procedure. Other than in the presence of special requirements the value should generally be kept at 0.0 s or anyway very low.

- ▶ Adjustment range: minimum (0.0 s) - default (0.1 s) - maximum (20.0 s)

### (2) WIRE WITHDRAWAL

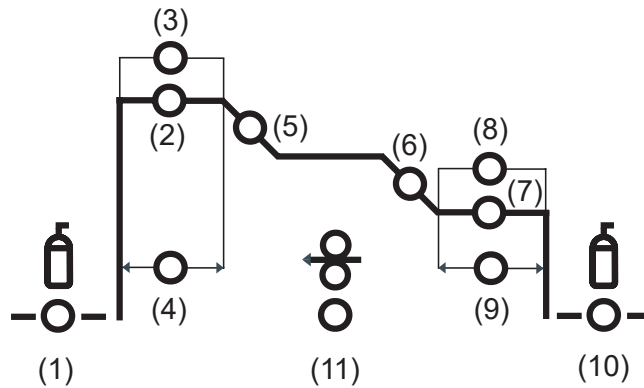
- ▶ The value is associated with the amount of wire to be withdrawn at the end of the welding operation.
- ▶ Adjustment range: minimum (0.0 s) - default (0.0 s) - maximum (10.0 s)

### (3) POST GAS

- ▶ Time of post gas delivery when the welding arc is extinguished.
- ▶ Adjustment range: minimum (0.0 s) - default (2.0 s) - maximum (20.0 s)

## ENGLISH

### Process parameters with torch trigger in 2 STROKE 3 LEVEL mode



#### (1) PRE GAS

- ▶ Time of gas delivery before the arc strike.

**NOTE:** if too long, it will slow down the welding procedure. Other than in the presence of special requirements the value should generally be kept at 0.0 s or anyway very low.

- ▶ Adjustment range: minimum (0.0 s) - default (0.1 s) - maximum (20.0 s)

#### (2) STARTING CURRENT

- ▶ The parameter adjusts the 1st level wire feed rate as a percentage of the wire feed rate set for welding (2nd level).
- ▶ Adjustment range: minimum (10 %) - default (130 %) - maximum (200 %)

#### (3) INITIAL ARC CURRENT

- ▶ This parameter corrects the synergic voltage value relative to the synergic point of the synergic and pulsed MIG/MAG processes, while it manages the correction of the voltage of the high value in the MIG/MAG double pulse process.

- ▶ Adjustment range: minimum (-10) - default (0.0) - maximum (10)

#### (4) STARTING CURRENT TIME

- ▶ This parameter specifies for how long the initial current is maintained.
- ▶ Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

#### (5) SLOPE 1

- ▶ This parameter controls the slope time connecting the HOT START level and the welding level.
- ▶ Adjustment range: minimum (0.1 s) - default (0.5 s) - maximum (10.0 s)

#### (6) SLOPE 2

- ▶ This parameter controls the slope time connecting the welding level and the crater filler level.
- ▶ Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

#### (7) FINAL CURRENT

- ▶ The parameter adjusts the 3rd level wire feed rate as a percentage of the wire feed rate set for welding (2nd level).
- ▶ Adjustment range: minimum (10 %) - default (80 %) - maximum (200 %)

**(8) FINAL ARC CORRECTION**

- ▶ This parameter corrects the synergic voltage value relative to the synergic point of the synergic and pulsed MIG/MAG processes, while it manages the correction of the voltage of the high value in the MIG/MAG double pulse process.
- ▶ Adjustment range: minimum (-10.0) - default (0) - maximum (10.0)

**(9) FINAL CURRENT TIME**

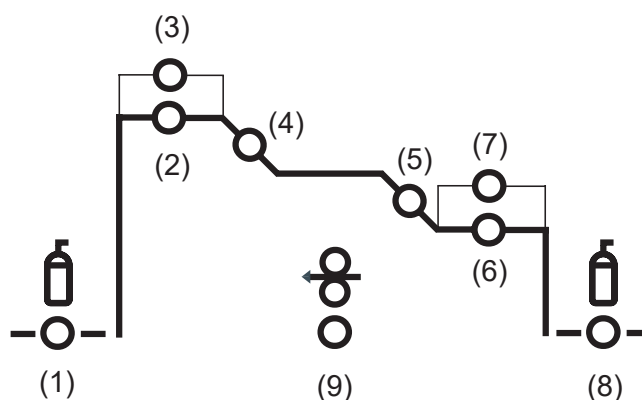
- ▶ This parameter specifies for how long the final current is maintained.
- ▶ Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

**(10) POST GAS**

- ▶ Time of post gas delivery when the welding arc is extinguished.
- ▶ Adjustment range: minimum (0.0 s) - default (2.0 s) - maximum (20.0 s)

**(11) WIRE WITHDRAWAL**

- ▶ The value is associated with the amount of wire to be withdrawn at the end of the welding operation.
- ▶ Adjustment range: minimum (0.0) - default (0.0) - maximum (10.0)

**Process parameters with torch trigger in 4 STROKE 3 LEVEL mode****(1) PRE GAS**

- ▶ Time of gas delivery before the arc strike.
- NOTE:** if too long, it will slow down the welding procedure. Other than in the presence of special requirements the value should generally be kept at 0.0 s or anyway very low.
- ▶ Adjustment range: minimum (0.0 s) - default (0.1 s) - maximum (20.0 s)

**(2) STARTING CURRENT**

- ▶ The parameter adjusts the 1st level wire feed rate as a percentage of the wire feed rate set for welding (2nd level).
- ▶ Adjustment range: minimum (10 %) - default (130 %) - maximum (200 %)

## ENGLISH

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### (3) INITIAL ARC CURRENT

- ▶ This parameter corrects the synergic voltage value relative to the synergic point of the synergic and pulsed MIG/MAG processes, while it manages the correction of the voltage of the high value in the MIG/MAG double pulse process.
- ▶ Adjustment range: minimum (-10) - default (0.0) - maximum (10)

### (4) SLOPE 1

- ▶ This parameter controls the slope time connecting the HOT START level and the welding level.
- ▶ Adjustment range: minimum (0.1 s) - default (0.5 s) - maximum (10.0 s)

### (5) SLOPE 2

- ▶ This parameter controls the slope time connecting the welding level and the crater filler level.
- ▶ Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

### (6) FINAL CURRENT

- ▶ The parameter adjusts the 3rd level wire feed rate as a percentage of the wire feed rate set for welding (2nd level).
- ▶ Adjustment range: minimum (10 %) - default (80 %) - maximum (200 %)

### (7) FINAL ARC CORRECTION

- ▶ This parameter corrects the synergic voltage value relative to the synergic point of the synergic and pulsed MIG/MAG processes, while it manages the correction of the voltage of the high value in the MIG/MAG double pulse process.
- ▶ Adjustment range: minimum (-10.0) - default (0) - maximum (10.0)

### (8) POST GAS

- ▶ Time of post gas delivery when the welding arc is extinguished.
- ▶ Adjustment range: minimum (0.0 s) - default (2.0 s) - maximum (20.0 s)

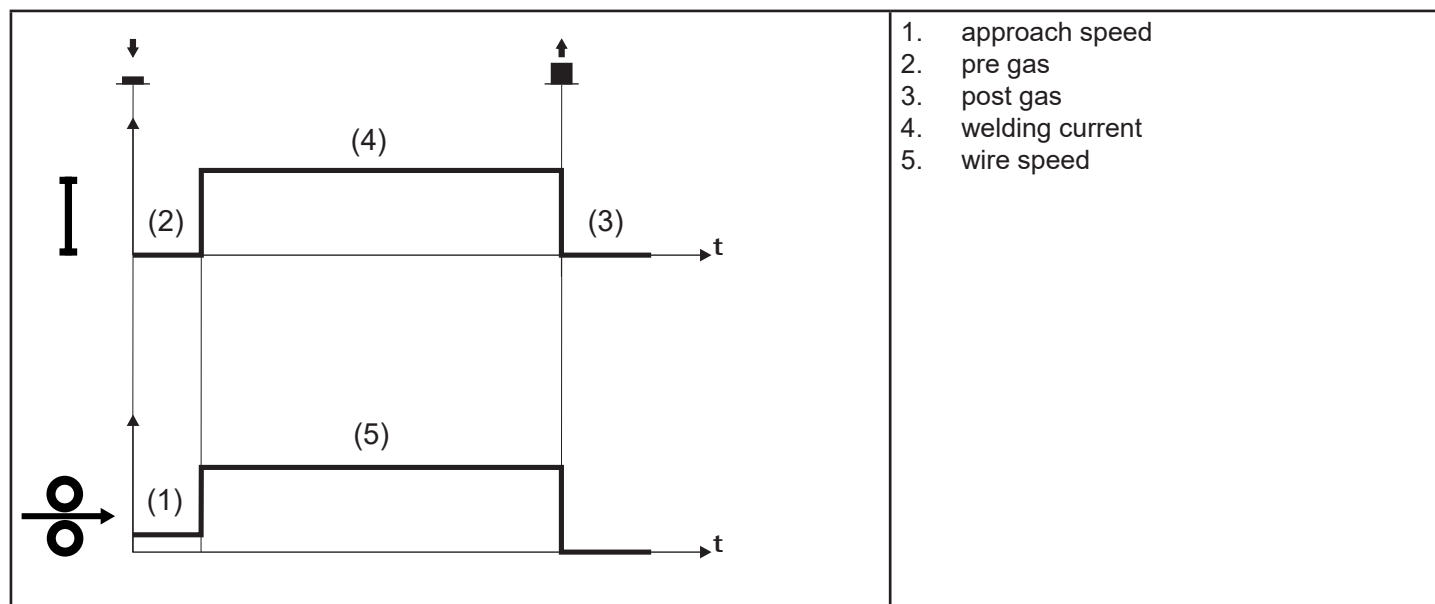
### (9) WIRE WITHDRAWAL

- ▶ The value is associated with the amount of wire that is withdrawn at the end of the welding operation.
- ▶ Adjustment range: minimum (0.0) - default (0.0) - maximum (10.0)



## MIG/ MAG 2T Operation

- ↓ : press the torch trigger  
 ↑ : release the torch trigger  
 ↓↑ : press and release the torch trigger

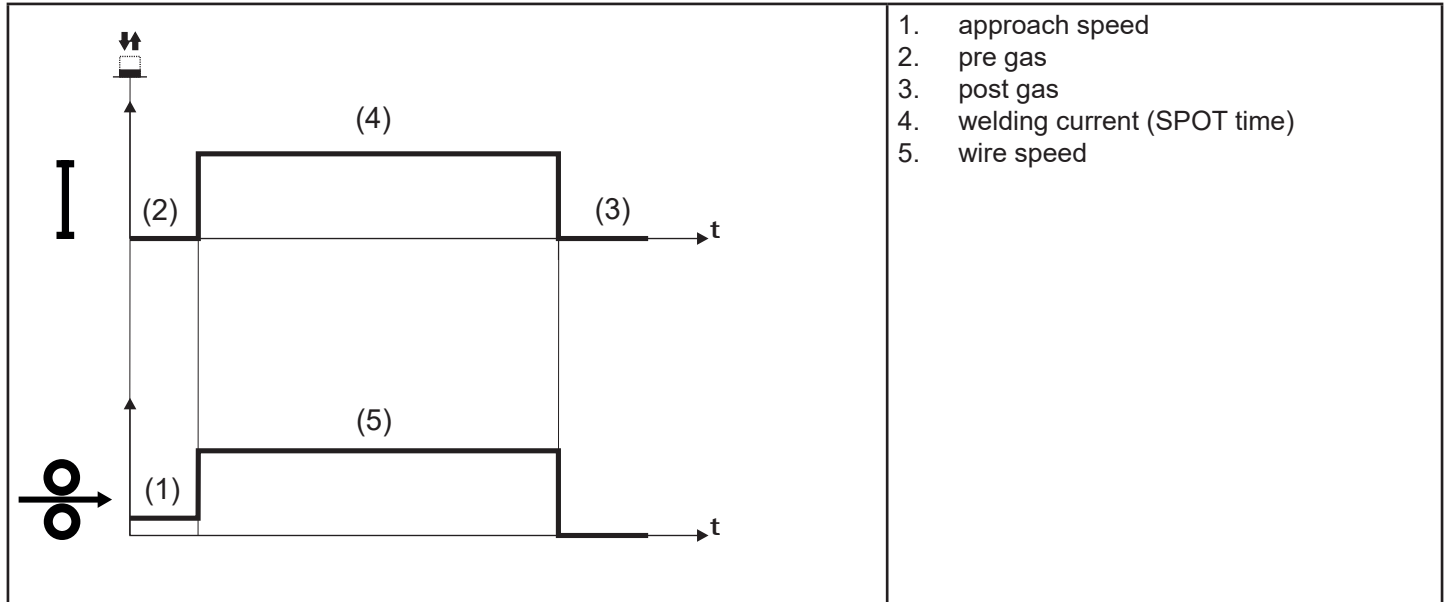


- Bring the torch up to the workpiece to be welded.
- Press (1T) and keep the torch trigger pressed.
  - The wire advances at the approach speed until making contact with the workpiece. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
  - The arc strikes and the wire feeder accelerates to the set feed rate value.
- Release (2S) the trigger to complete the welding operation.
  - Gas flow continues for the time set in the post gas parameter (adjustable time).

ENGLISH

MIG/ MAG 2T SPOT Operation

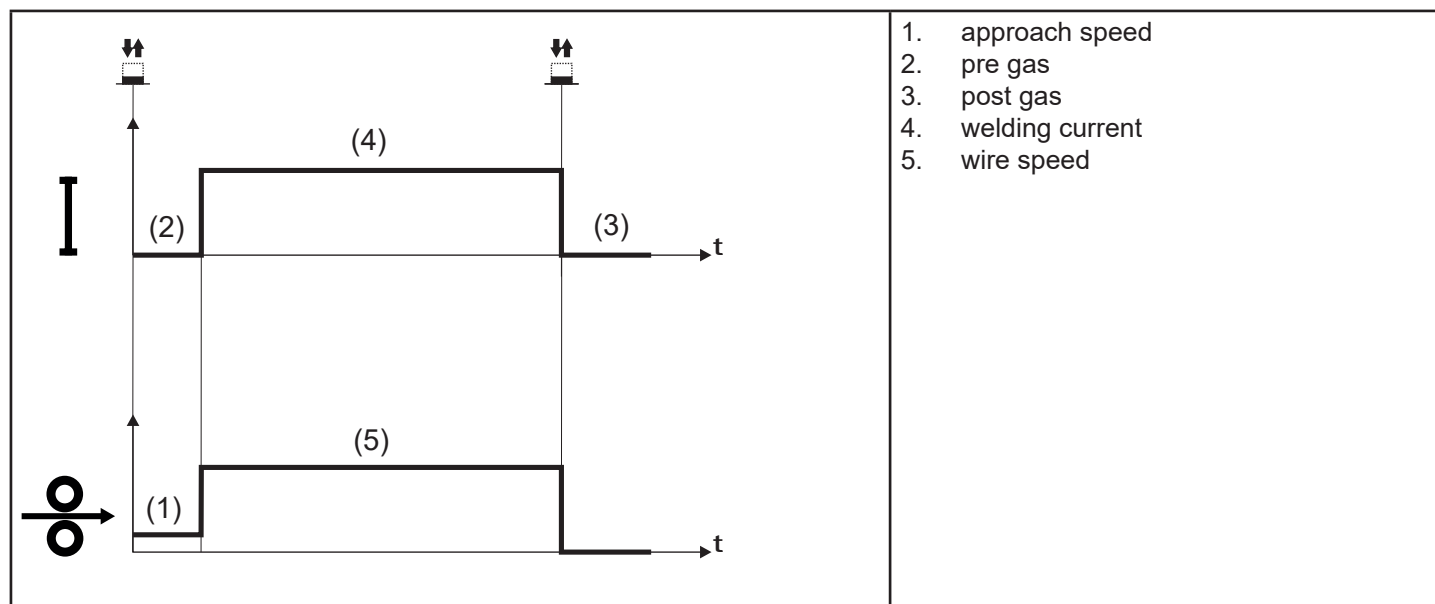
- ↓ : press the torch trigger
- ↑ : release the torch trigger
- ↕ : press and release the torch trigger



- Bring the torch up to the workpiece to be welded.
- Press (1T) and keep the torch trigger pressed.
  - The wire advances at the approach speed until making contact with the workpiece. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
  - The arc strikes and the wire feeder accelerates to the set feed rate value.
  - The welding procedure continues, at the preset current, for the time set with the spot time parameter.
  - When the SPOT time has expired, the welding operation will be automatically stopped.
  - Gas flow continues for the time set in the post gas parameter (adjustable time).

## MIG/ MAG 4T Operation

- ↓ : press the torch trigger  
 ↑ : release the torch trigger  
 ↓↑ : press and release the torch trigger

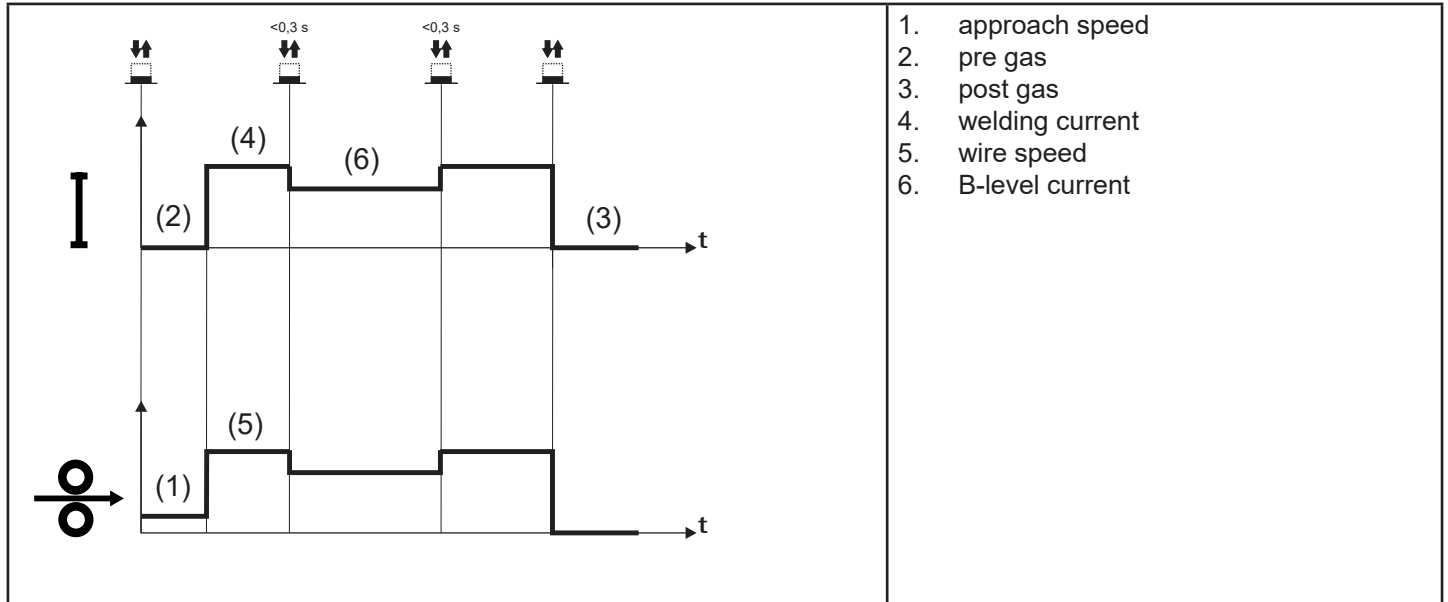


- Bring the torch up to the workpiece to be welded.
- Press (1T) and release (2T) the torch trigger.
  - The wire advances at the approach speed until making contact with the work. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
  - The arc strikes and the wire feeder accelerates to the set feed rate value.
- Press (3T) the trigger to start the weld completion procedure.
  - Gas flow continues until the torch trigger is released.
- Release (4T) the torch trigger to start the post gas procedure (adjustable time).

ENGLISH

MIG/ MAG 4T B- LEVEL Operation

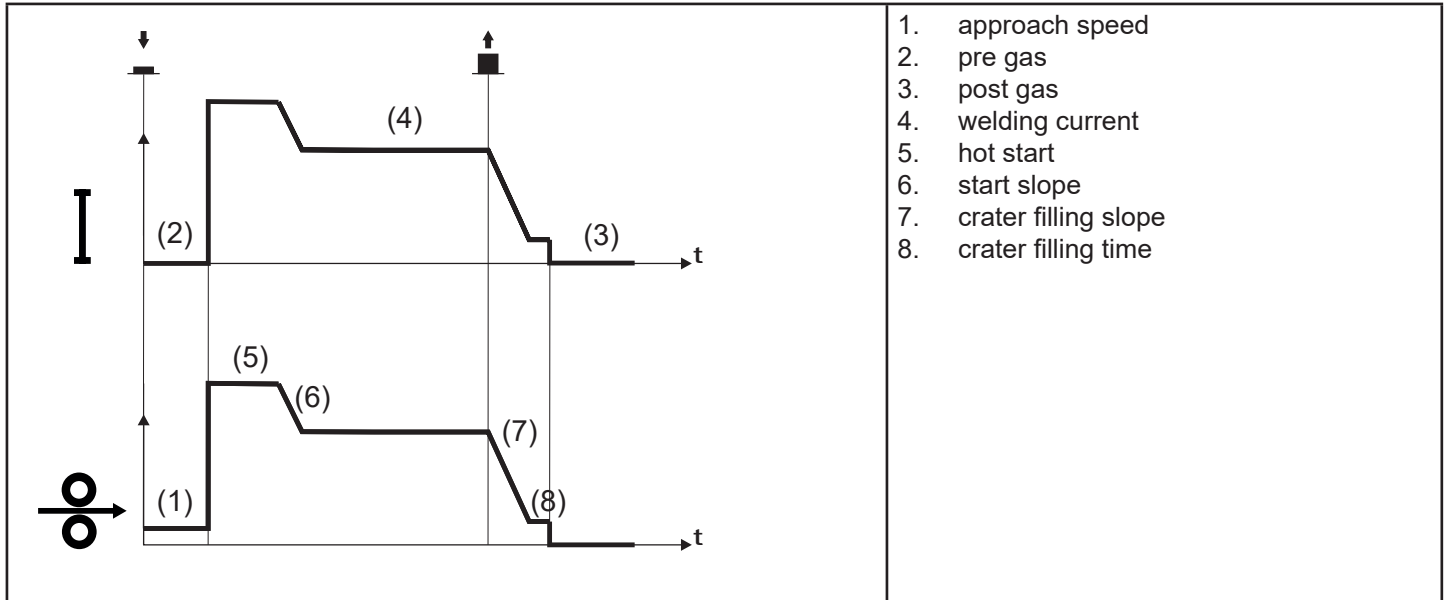
- ↓ : press the torch trigger
- ↑ : release the torch trigger
- ↕ : press and release the torch trigger



- Bring the torch up to the workpiece to be welded.
- Press (1T) and release (2T) the torch trigger.
  - The wire advances at the approach speed until making contact with the work. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
  - The arc strikes and the wire feeder accelerates to the set feed rate value.
  - During normal speed welding, press and immediately release the torch trigger to switch to the second welding current.
  - The trigger must not be pressed for more than 0.3 seconds; otherwise, the weld completion stage will start.
  - When the trigger is pressed and released immediately, the system returns to the welding current.
- Press (3T) trigger and keep it pressed to start the weld completion procedure.
  - Gas flow continues until the torch trigger is released.
- Release (4T) the torch trigger to start the post gas procedure (adjustable time).

## MMIG/MAG 2T - 3 LEVEL Operation

- ↓ : press the torch trigger  
 ↑ : release the torch trigger  
 ↓↑ : press and release the torch trigger

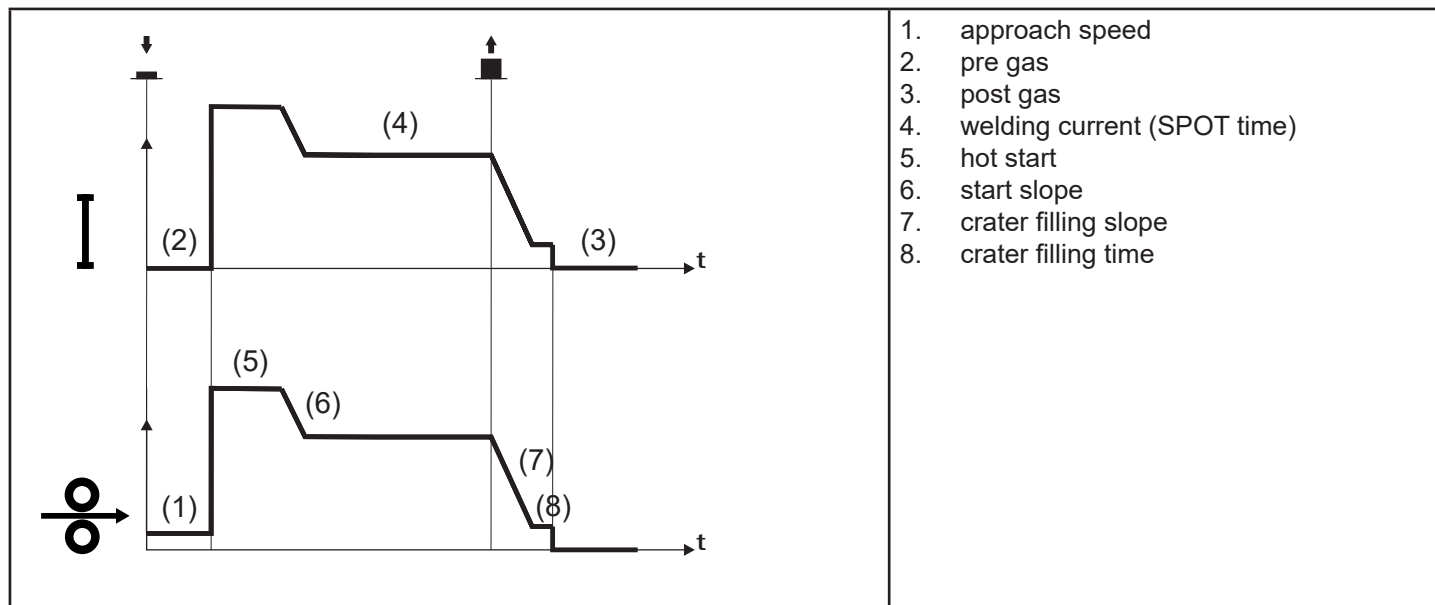


- Bring the torch up to the workpiece to be welded.
- Press (1T) torch trigger.
  - The wire advances at the approach speed until making contact with the work. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
  - The welding arc strikes and the wire feed rate changes to the first welding level (hot start), which is set as a percentage of the normal welding feed rate.
  - This first level is used to create the weld pool: for example, when welding aluminium a value of 130 % is recommended.
  - The hot start level continues for the start time, which is settable in seconds; then switch to normal welding speed is performed in accordance with the start slope, which can be set in seconds.
- Release (2 T) the torch trigger to switch to the third welding level (crater filler), which is set as a percentage of the normal welding feed rate.
  - The switch of welding current level in terms of crater filling is performed in accordance with the crater ramp, which can be set in seconds.
  - This third level is used to complete the weld and fill the final crater (crater filler) in the weld pool: for example, when welding aluminium a value of 80 % is recommended.
  - The crater filler level continues for the crater filling time, which is settable in seconds; at the end of this time welding is interrupted and the post gas stage is performed.

ENGLISH

MIG/MAG 2T SPOT - 3 LEVEL OPERATION

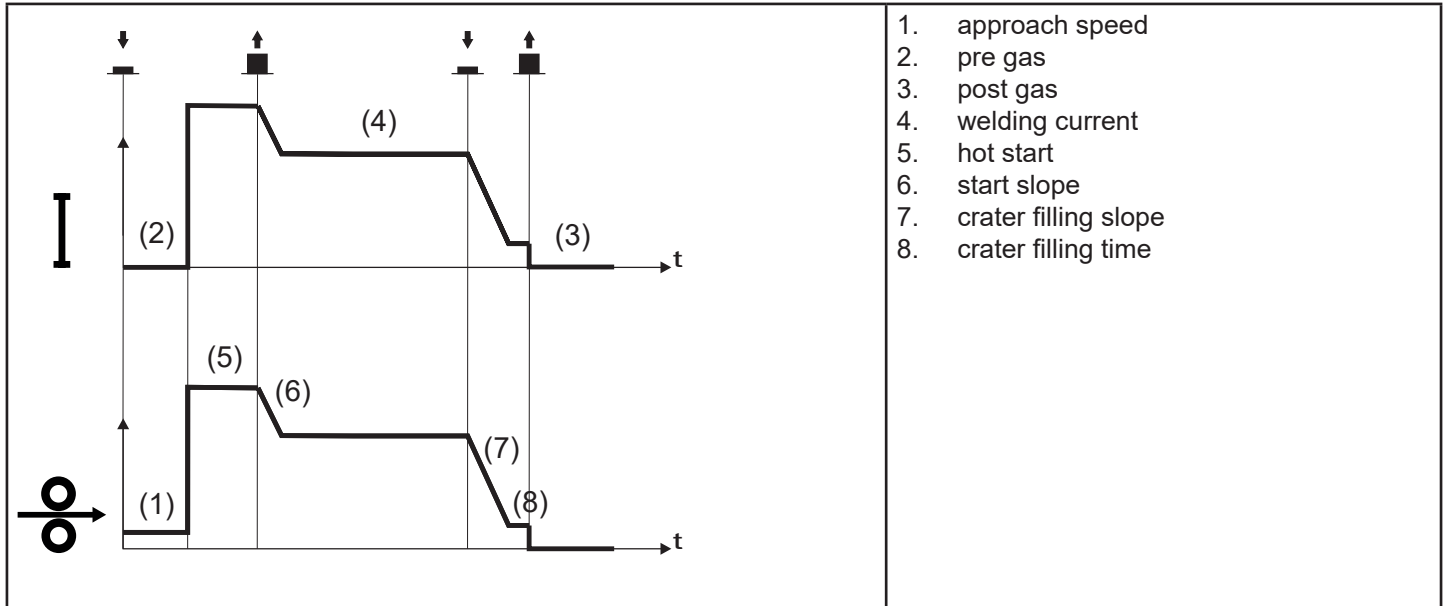
- ↓ : press the torch trigger
- ↑ : release the torch trigger
- ↕ : press and release the torch trigger



The welding process is the same as the CRATER 2S process, except that the welding procedure continues, at the preset current, for the time set with the spot time parameter.  
The weld is closed in the same way as with the 2T - 3 LEVEL process.

## MIG/MAG 4T - 3 LEVEL Operation

- ↓ : press the torch trigger  
 ↑ : release the torch trigger  
 ↓↑ : press and release the torch trigger

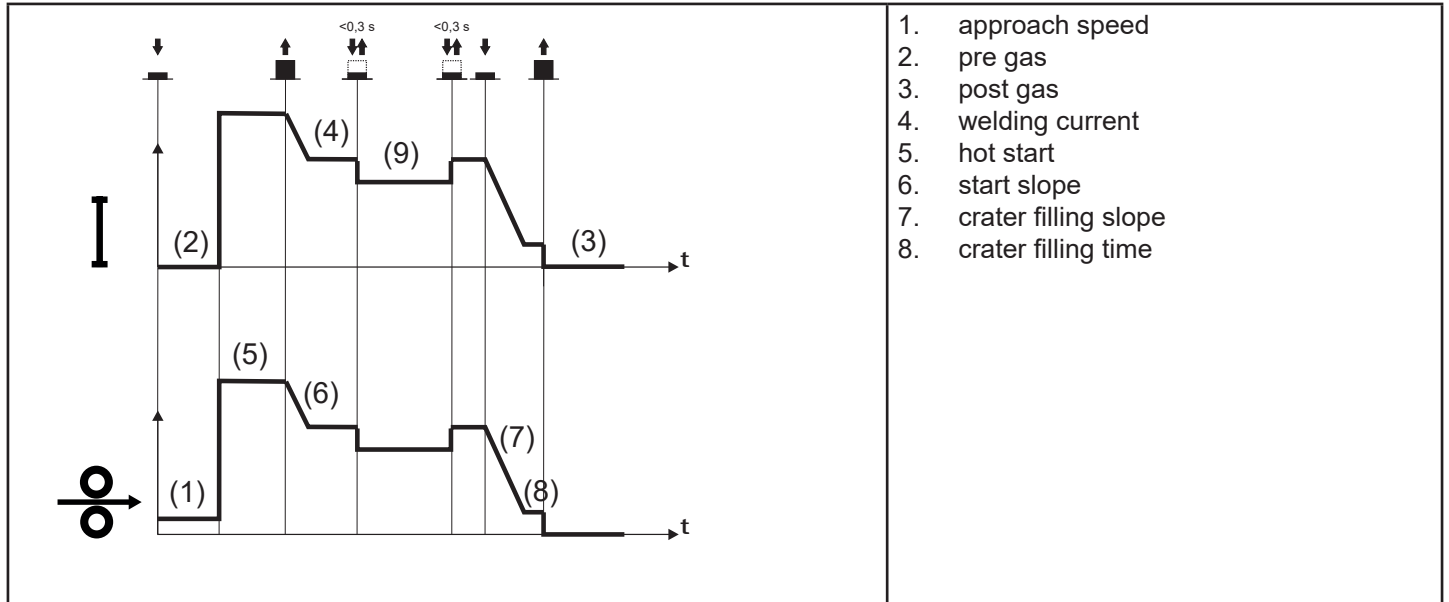


- Bring the torch up to the workpiece to be welded.
- Press (1T) torch trigger.
  - The wire advances at the approach speed until making contact with the work. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
  - The welding arc strikes and the wire feed rate changes to the first welding level (hot start), which is set as a percentage of the normal welding feed rate.
  - This first level is used to create the weld pool: for example, when welding aluminium a value of 130 % is recommended.
- Release (2S) trigger to switch to normal welding speed; then switch to normal welding speed is performed in accordance with the start slope, which can be set in seconds.
- Press the torch trigger again (3T) to switch to the third welding level (crater filling), which is set as a percentage of the normal welding feed rate.
  - The welding level is changed from the crater filling mode by using the crater slope that can be specified in seconds.
  - This third level is used to complete the weld and fill the final crater (crater filler) in the weld pool: for example, when welding aluminium a value of 80 % is recommended.
- Release the torch trigger a second time (4T) to close the weld and run the post gas procedure.

ENGLISH

MIG/MAG 4T B- LEVEL - 3 LEVEL Operation


- ↓ : press the torch trigger
- ↑ : release the torch trigger
- ⬆⬇ : press and release the torch trigger

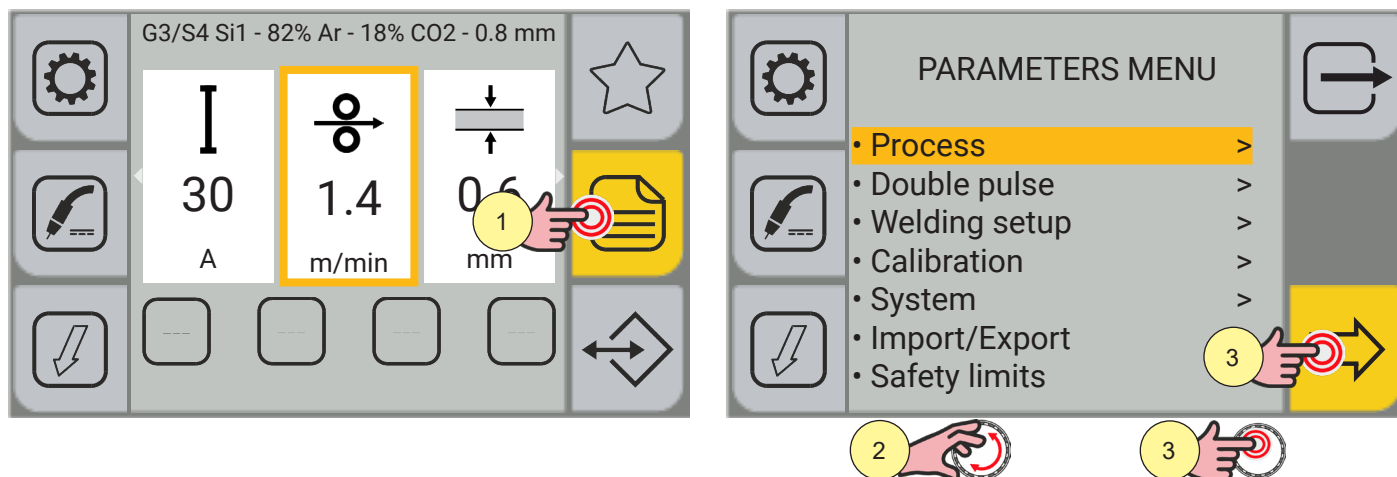


The welding process is the same as the crater 4T process; however, in this case, during the normal welding speed, if the torch trigger is pressed and released, the second welding current is applied. The trigger must not be pressed for more than 0.3 seconds; otherwise, the weld completion stage will start. When the trigger is pressed and released immediately, the system returns to the welding current. Press (3T) and keep it pressed to start the crater filling procedure. The weld is closed in the same way as with the 4T - 3 LEVELS process.



## 5.6 PARAMETERS SETTING

The  [MENU] key allows the user to access the menu used to set the main welding features. This key also features special functions such as the welding circuit calibration and the system menu.



1. Press the (MENU) key.
2. Turn the encoder to select the desired setting.
3. Press the ENCODER key or the[NEXT] key to confirm.

Use this method to program all the sequentially displayed screens:

### - Process

By using the PROCESS PARAMETERS menu, the values of the parameters associated with the set torch trigger mode can be set.

### - Double pulse

by using the DOUBLE PULSE PARAMETERS menu, the values of the parameters associated with the DOUBLE PULSE welding process can be set.

### - Welding setup


by using the WELDING SETUP menu, the available operating modes for the torch trigger can be enabled and the torch trigger parameters can be set.

### - Calibration

by using the WELDING CIRCUIT CALIBRATION guided procedure, the resistance and inductance values of the welding circuit are measured.

### - System

the SYSTEM menu includes several submenus:

- Language: to set the language used to display the messages
- FW upgrade: to update the equipment software by using the USB memory stick.
- Alarm list: allows the user to view a list of the alarms detected.
- Date & Time: sets the time zone, the date and the time.
- Info: provides information on using the equipment (hours of operation, hours of welding)
- Welding log: provides information on welding data on the last 500 welds executed.
- Reset: the reset procedure allows the user to delete the data stored.
- Setup: sets the wire feed speed when the S8  (WIRE FORWARD) key is pressed.
- Service: to be used by service staff only.

**ENGLISH**

- Import / Export:

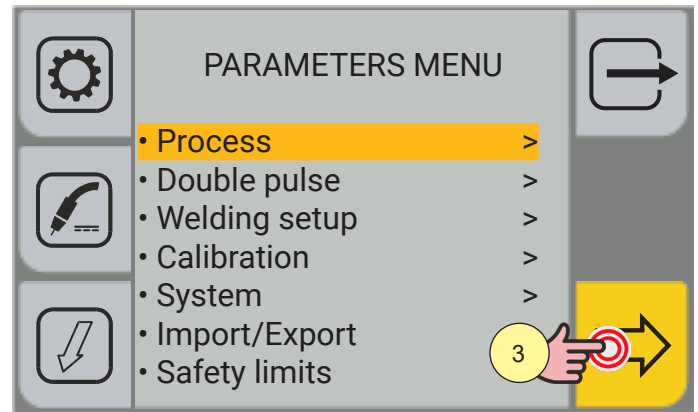
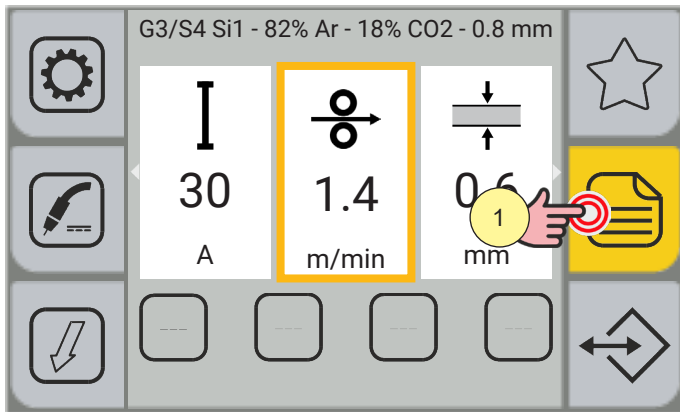
Some equipment configurations (Jobs, parameters, display setups, language) can be exported or imported onto/from an USB memory stick

- Safety limits

the SAFETY LIMITS menu can be used to set for certain parameters safety limits outside which the generator:

- sends a "WARNING" and continues the welding operations;
- sends an "ALARM" and stops welding operations.

**Setting the process parameters**

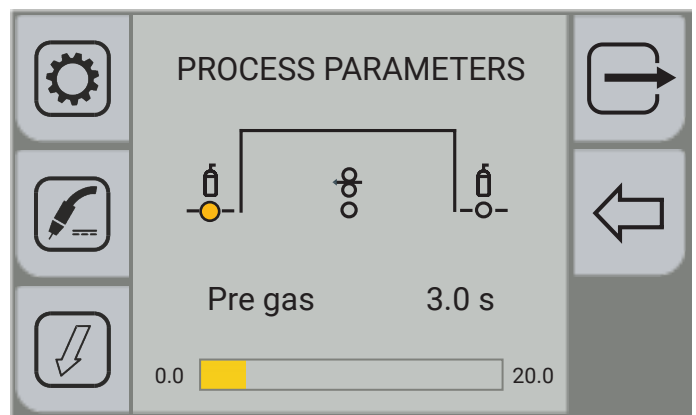
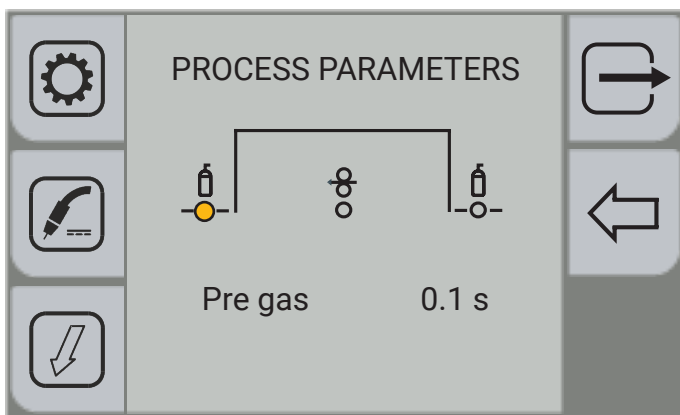


1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: Process>
3. Press the ENCODER key or the[NEXT] key to confirm.

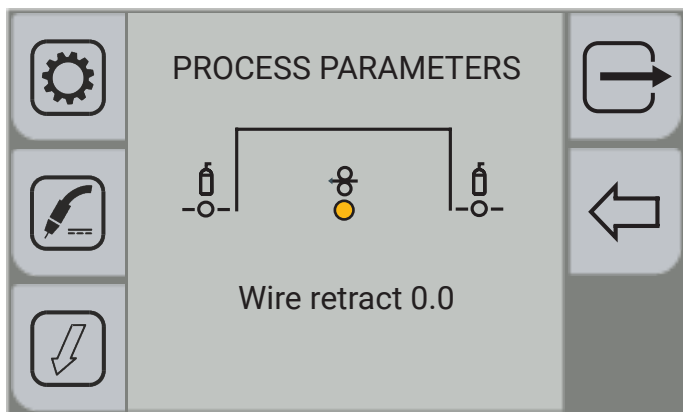
According to the torch trigger mode selected, some process parameters to be set are available.

**i Information** To view the full list of parameters, please see:

- ["Process parameters with torch trigger in 2 STROKE and 4 STROKE mode" on page 53](#)
- ["Process parameters with torch trigger in 2 STROKE 3 LEVEL mode" on page 54](#)
- ["Process parameters with torch trigger in 4 STROKE 3 LEVEL mode" on page 55](#)



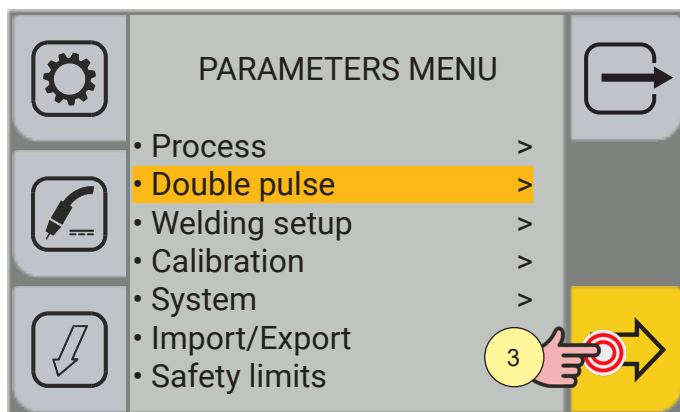
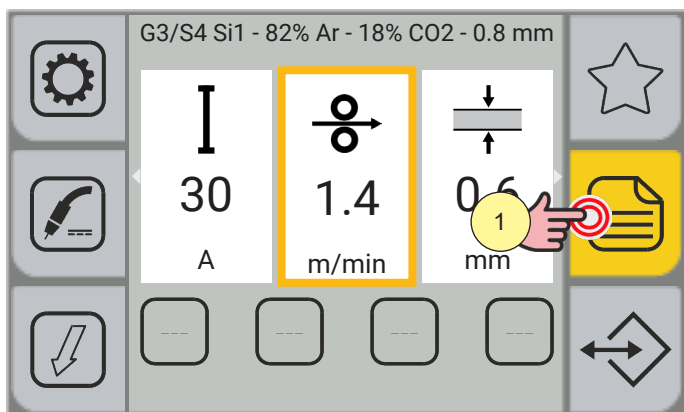
4. Turn the encoder to select the parameter to be changed.
5. Press the encoder key to confirm your selection.
6. Turn the encoder to set the desired value.
7. Press the encoder key to confirm your selection.



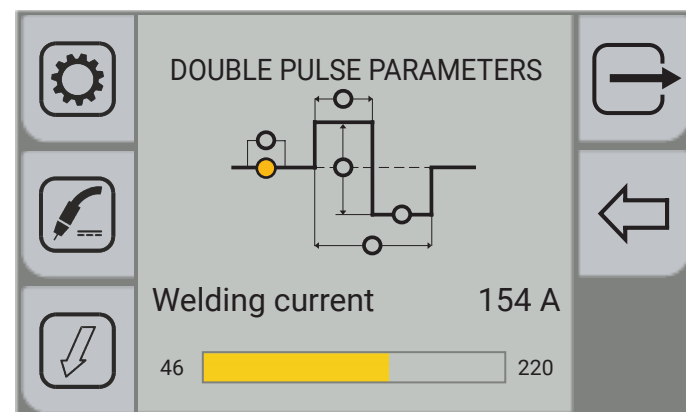
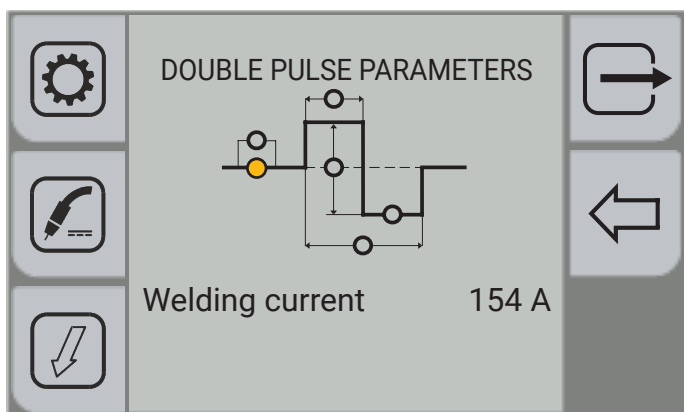
8. Turn the encoder again to select other parameters.

To return to the main screen, press the [EXIT] key.

### Setting the double pulse parameters



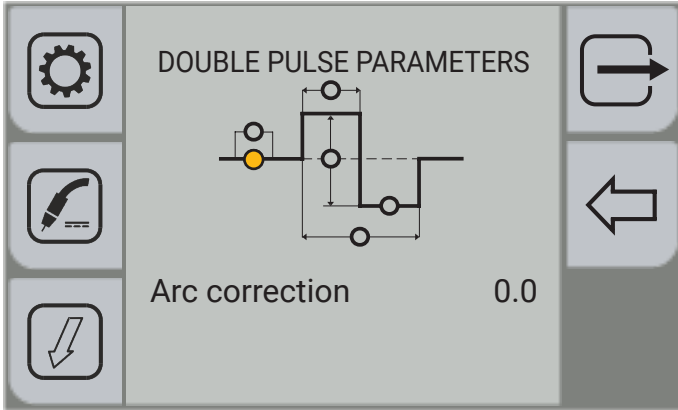
1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: Double pulse
3. Press the ENCODER key or the [NEXT] key to confirm.




4. Turn the encoder to select the parameter to be changed.

## ENGLISH

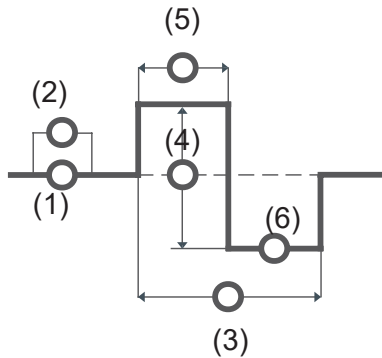
5. Press the encoder key
6. Turn the encoder to set the desired value.
7. Press the encoder key



8. Turn the encoder again to select the parameters.

To return to the main screen, press the  [EXIT] key.

### Double pulse parameters



#### DOUBLE SPEED ACTIVE

- ▶ This parameter enables/disables the double pulse mode.
- ▶ Adjustment range: minimum (0.0 s) - default (0.1 s) - maximum (20.0 s)

#### (1) WELDING CURRENT

- ▶ This parameter regulates the average amperage of the welding arc.
- ▶ Adjustment range: minimum (30 A) - default (30 A) - maximum (200 A)

#### (2) ARC CORRECTION

- ▶ This parameter corrects the synergic voltage value relative to the synergic point of the synergic and pulsed MIG/MAG processes, while it manages the correction of the voltage of the high value in the MIG/MAG double pulse process.
- ▶ Adjustment range: minimum (-10) - default (0.0) - maximum (10)

### (3) PULSE FREQUENCY

- ▶ This parameter sets the frequency applied to the two wire speeds set with the DOUBLE SPEED AMPL. parameter.
- ▶ Adjustment range: minimum (0.0 Hz) - default (2.0 Hz) - maximum (5.0 Hz)

### (4) DOUBLE SPEED AMPL

- ▶ The parameter generates the two wire speeds (high and low) used in the double pulse mode, which are alternated with the frequency specified by the DOUBLE SPEED FREQUENCY parameter.
- ▶ Adjustment range: minimum (0 %) - default (50 %) - maximum (100 %)

### (5) DUTY PULSE FREQUENCY

- ▶ This parameter adjusts the high speed time.
- ▶ Adjustment range: minimum (10 %) - default (50 %) - maximum (90 %)

### (6) LOW ARC CORRECTION

- ▶ This parameter corrects the synergic voltage value relative to the synergic point of the synergic and pulse MIG/MAG processes, while it manages correction of the voltage of the low value in the MIG/MAG double pulse process.
- ▶ Adjustment range: minimum (-10) - default (0.0) - maximum (10)

ENGLISH

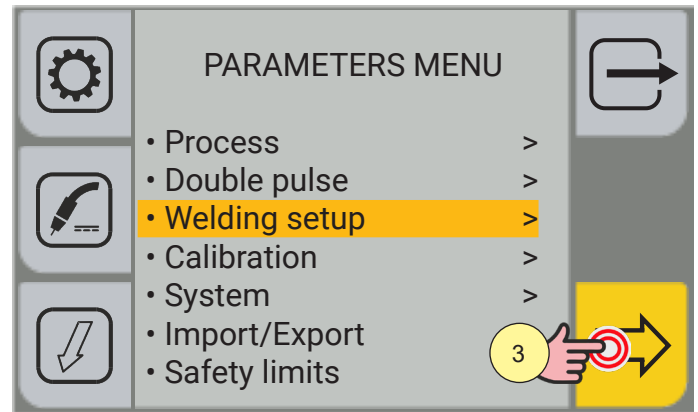
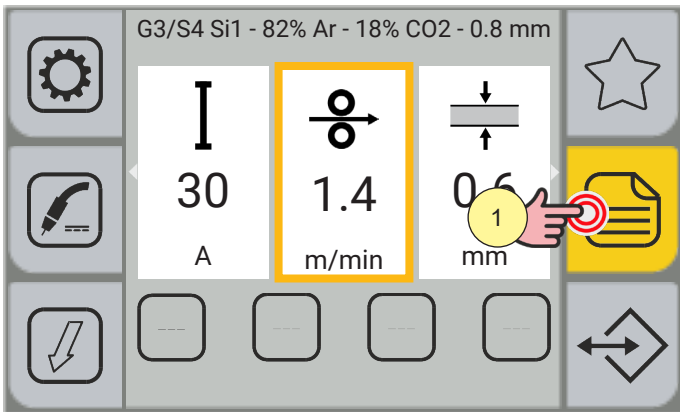
5.7 SETTING THE JOB SELECTION

When the JOB SEL function is enabled, the torch trigger operates in 4 stroke 3 level mode with the B-Level functions disabled. Therefore, if jobs are saved with different modes, they are automatically shown according to these conditions (which are not saved).

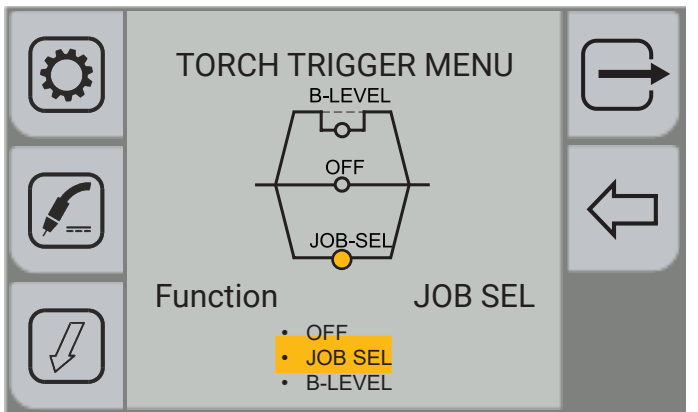
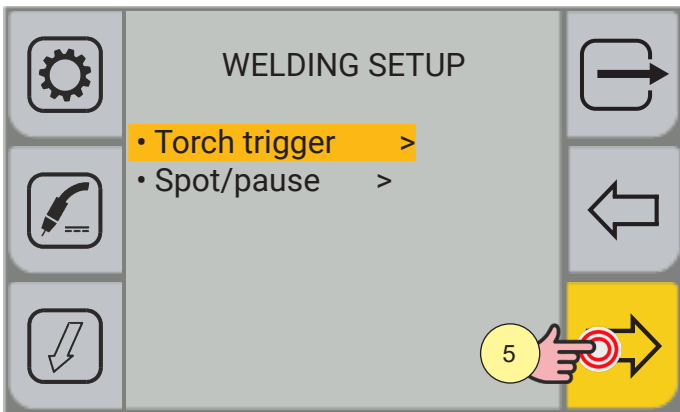
the JOBS in a sequence can be scrolled through during the welding operation by quickly pressing and releasing the torch trigger.

All the saved JOBS can be scrolled through during the welding operation by quickly pressing and releasing the torch trigger.

When an UP/DOWN torch is installed, the JOBS can be scrolled by using the torch triggers.



1. Press the (MENU) key.
2. Turn the encoder to select the desired item. Select the following path: Welding setup>
3. Press the encoder key or the [NEXT] key to confirm the selection.



4. Turn the encoder to select the desired item. Select the following path: Torch trigger>
5. Press the encoder key or the [NEXT] key to confirm the selection.
6. Press the encoder key to enable function selection.
7. Turn the encoder to select the function. JOB SEL.
8. Press the encoder key to confirm the selection.

Press the [PREC] key to return to the previous screen.

To return to the main screen, press the [EXIT] key.

## Scrolling the JOBS with an UP/DOWN torch

When an UP/DOWN torch is installed, JOBS can be selected in a JOB sequence using the triggers on the welding torch. To create the JOB sequence, leave a free memory slot before and after the group of JOBS to be included in the sequence.

Sequence 1			JOB not saved	Sequence 2			JOB not saved	Sequence 3		
J.01	J.02	J.03		J.05	J.06	J.07		J.09	J.10	J.11

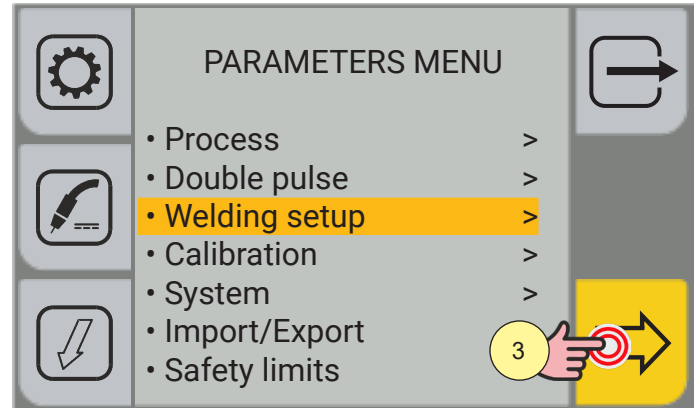
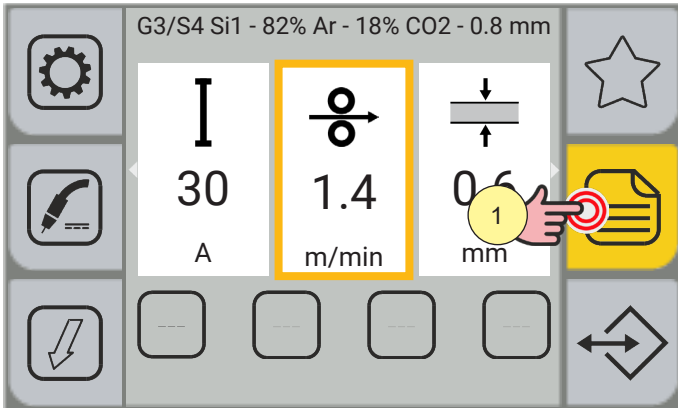
Select and load one of the JOBS in the desired sequence (for example J.06).

By using the torch UP/DOWN keys, all the JOBS in sequence 2 can be scrolled (J.05,J.06,J.07).

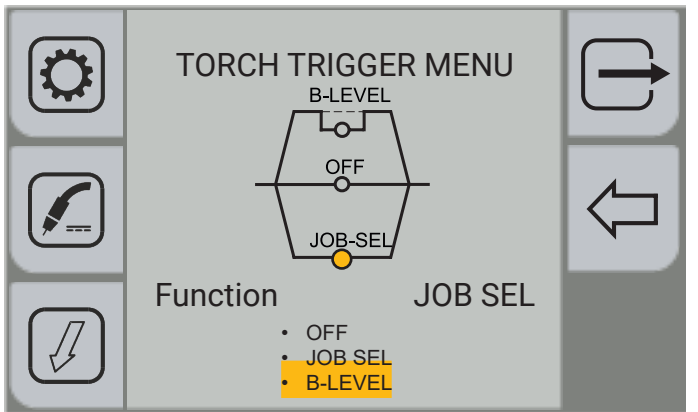
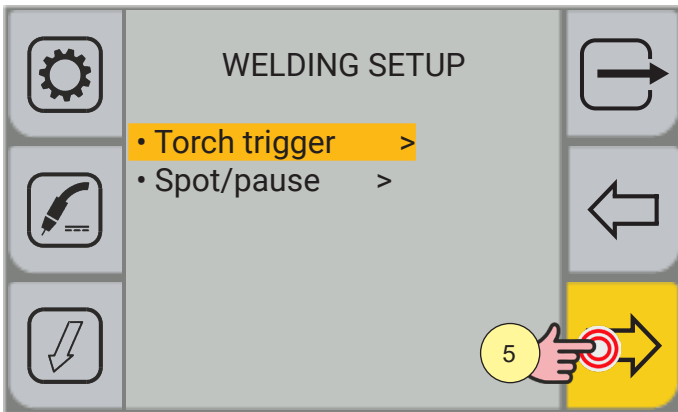
When the torch UP/DOWN key is pressed again, the arc length can be changed.

ENGLISH

5.8 SETTING THE B- LEVEL

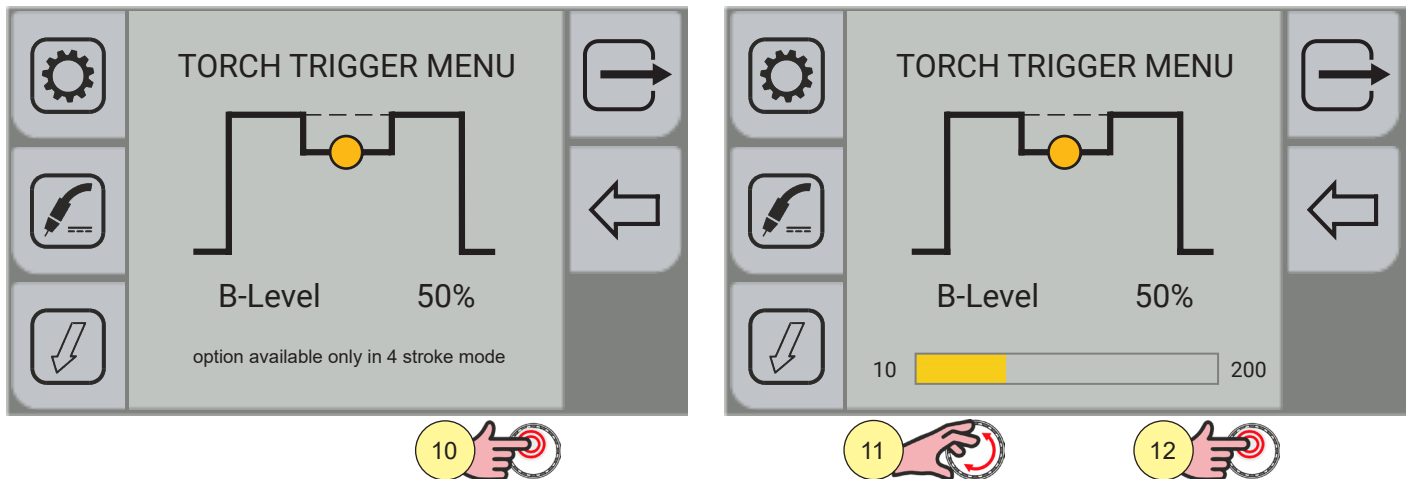


1. Press the (MENU) key.
2. Turn the encoder to select the desired item. Select the following path: Welding setup>
3. Press the encoder key or the [NEXT] key to confirm the selection.





4. Turn the encoder to select the desired item. Select the following path: Torch trigger>
5. Press the encoder key or the [NEXT] key to confirm the selection.
6. Press the encoder key to enable function selection.
7. Turn the encoder to select the B-LEVEL function..
8. Press the encoder key to confirm the selection.
9. Turn the encoder to view the B- LEVEL parameter graph.





10. Press the encoder key to apply the parameter change.
11. Turn the encoder to set the desired value.
12. Press the encoder key to confirm the selection.

Press the  [PREC] key to return to the previous screen.

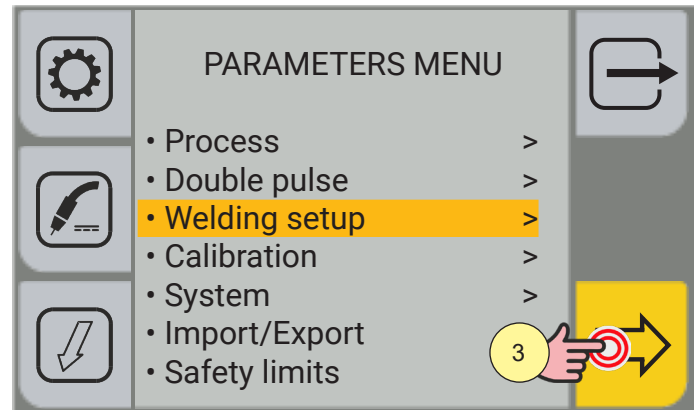
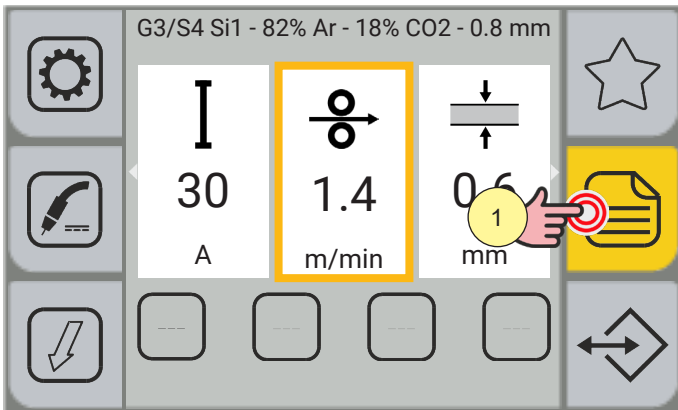
To return to the main screen, press the  [EXIT] key.

### B-LEVEL CURRENT

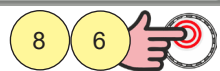
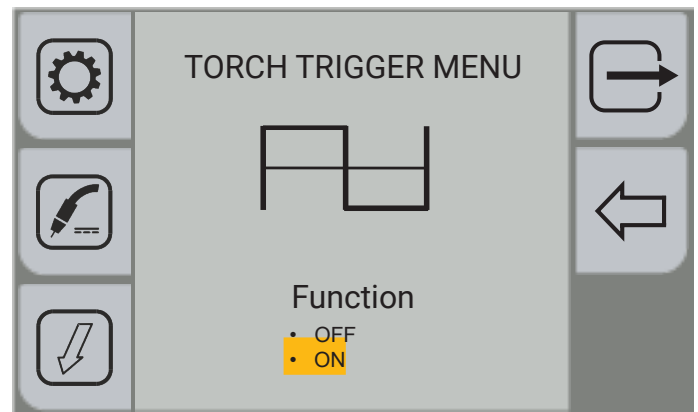
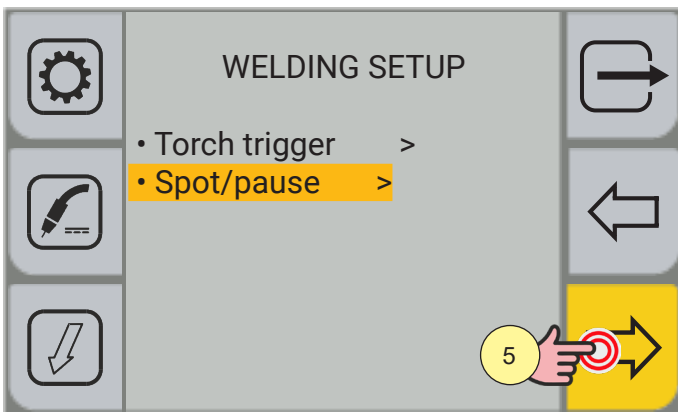
- ▶ The parameter enables a special torch trigger function.
- ▶ Pressing and releasing the torch trigger rapidly in welding mode (in 2nd stroke) switches from the main welding current to a secondary current.
- ▶ Pressing and releasing the torch trigger again switches from the secondary current to the main current. This switching can be performed repeatedly at the discretion of the operator.
- ▶ To close the welding cycle (3rd stroke) press the torch trigger for a longer period of time. When the trigger is released the welding cycle will be closed (4th stroke).
- ▶ Adjustment range: minimum (0 %) - default (0 %) - maximum (100 %)

ENGLISH

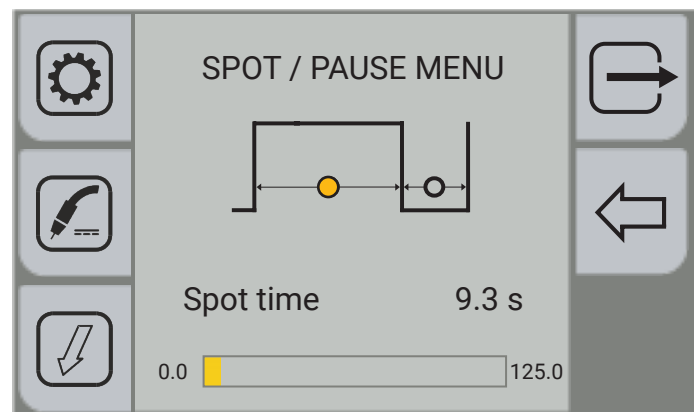
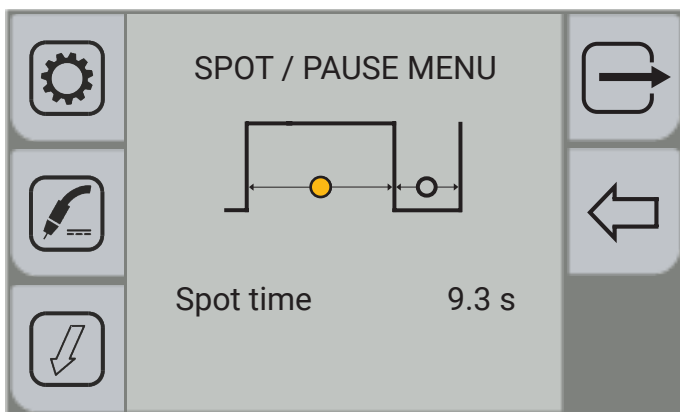
5.9 SETTING THE SPOT/PAUSE FUNCTION



1. Press the (MENU) key.
2. Turn the encoder to select the desired item. Select the following path: Welding setup>
3. Press the encoder key or the [NEXT] key to confirm the selection.





4. Turn the encoder to select the desired item. Select the following path: Spot/pause>
5. Press the encoder key or the [NEXT] key to confirm the selection
6. Press the encoder key to enable function selection.
7. Turn the encoder to select the function. ON
8. Press the encoder key to confirm the selection.



9. Turn the encoder to select the desired parameter.

10. Press the encoder key to apply the parameter change.
11. Turn the encoder to set the desired value.
12. Press the encoder key to confirm the selection.

Press the  [PREC] key to return to the previous screen.

To return to the main screen, press the  [EXIT] key.

### **SPOT WELDING TIME**

- ▶ When the torch trigger is pressed the welding arc persists for the time set in the parameter.
- ▶ Press the torch trigger again to resume the welding process.
- ▶ The welding process cannot be interrupted once it has been started.
- ▶ When the torch trigger is pressed, if the arc does not strike within 10 seconds, the process is deactivated.
- ▶ The welding parameters can be modified during the welding process.
- ▶ Adjustment range: minimum (0.0 s) - default (0.0 s) - maximum (25.0 s)

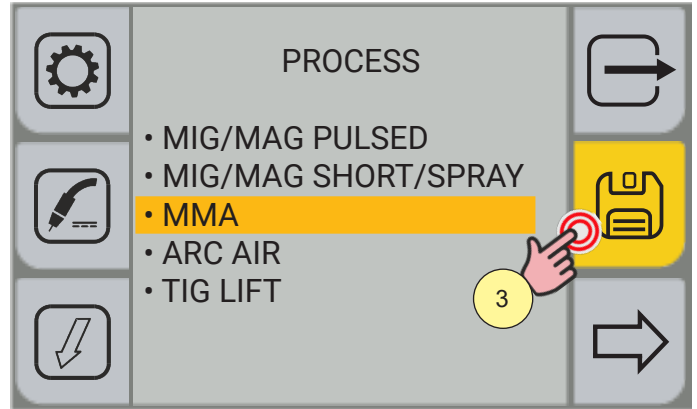
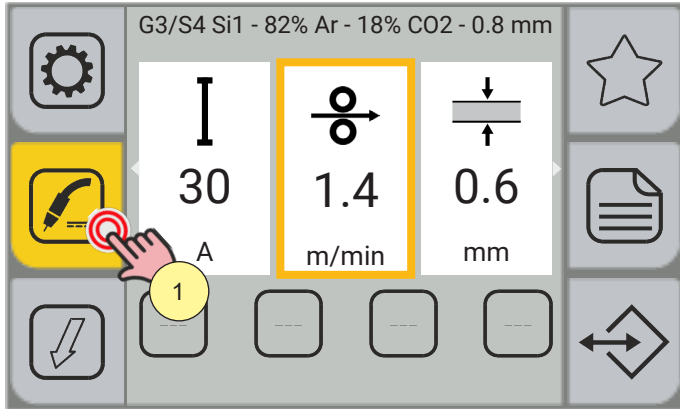
### **PAUSE TIME**

- ▶ The parameter sets the pause time after the spot pulse.
- ▶ Adjustment range: minimum (0.0 s) - default (0.0 s) - maximum (25.0 s)

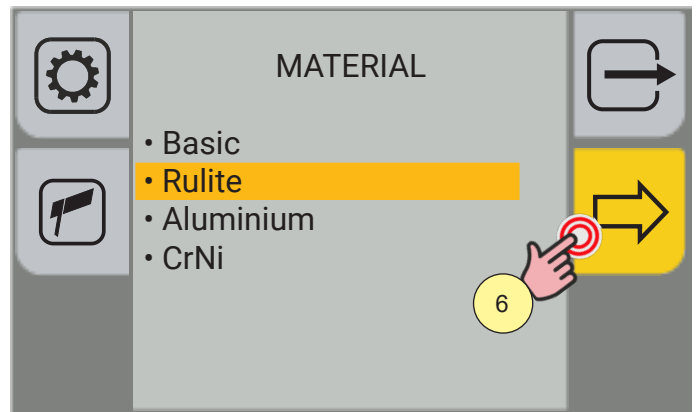
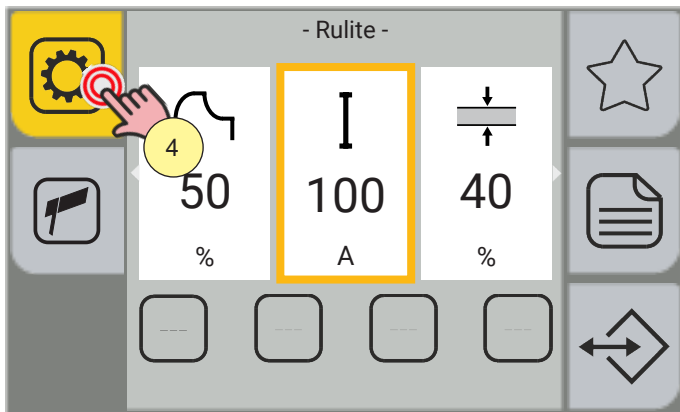
ENGLISH

## 6 MMA WELDING


### 6.1 SETTING THE MMA PROCESS



1. Press the [PROCESS] key.
2. Turn the encoder to select the desired setting. Select the following path: MMA
3. Press the encoder key or the [SAVE] key to confirm.

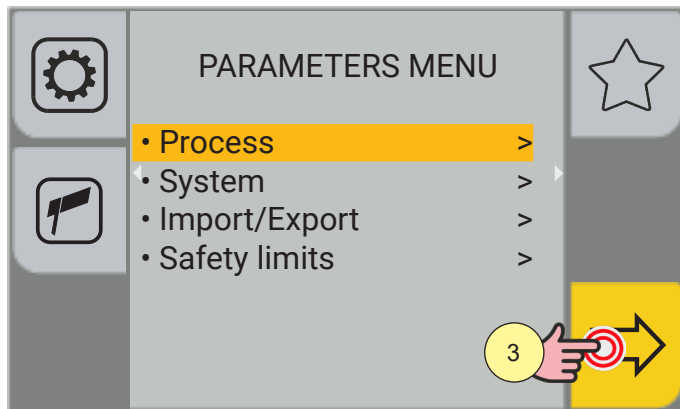
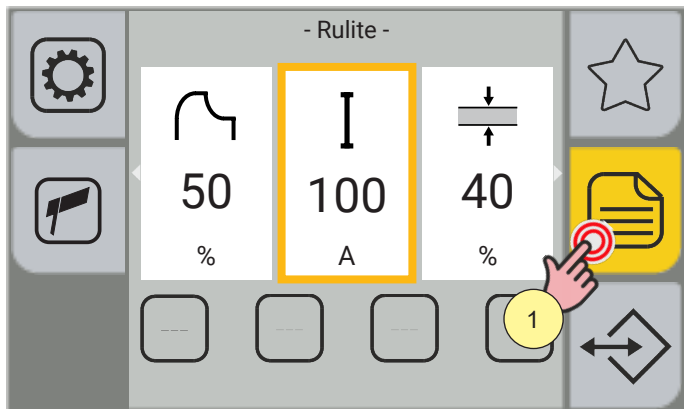


4. Press the [PROGRAM] key.
5. Turn the encoder to select the desired setting.
  - o (Basic, Rutile, Aluminium, CrNi)
6. Press the encoder key or the [NEXT] key to confirm.

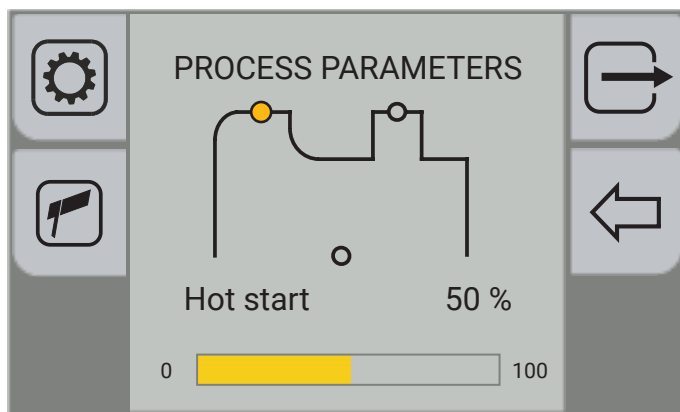
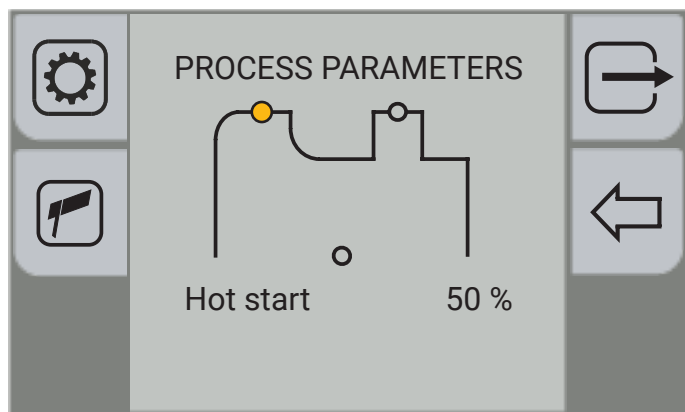
Press the  [EXIT] key to exit the screen.

## 6.2 SETTING THE PROCESS PARAMETERS

The [MENU] key allows the user to access the menu used to set the main welding features.

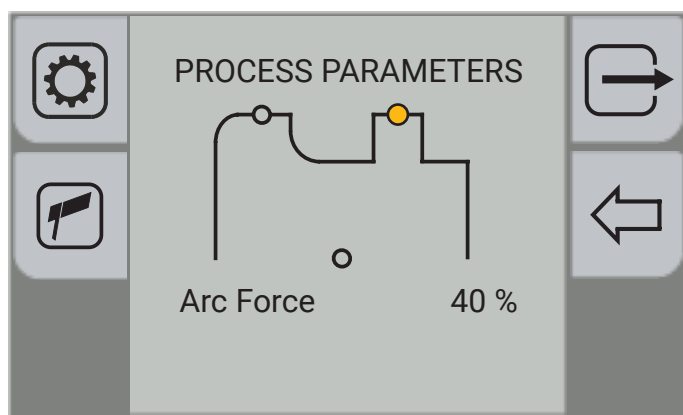


1. Press the [MENU].
2. Turn the encoder to select the desired setting. Select the following path: Process>
3. Press the encoder key or the [NEXT] key to confirm the selection.




4. Turn the encoder to select the parameter to be changed.
5. Press the encoder key to confirm.
6. Turn the encoder to set the desired value.
7. Press the encoder key to confirm your selection.

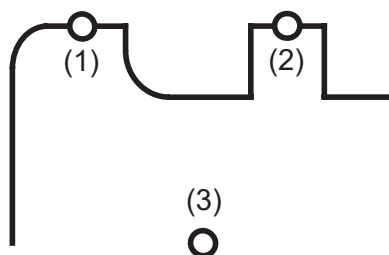
## ENGLISH



8. Turn the encoder again to select other parameters.

To return to the main screen, press the  [EXIT] key.

### MMA parameters (parameters menu)



#### (1) HOT START

- ▶ This parameter aids electrode melting at the time of arc striking. It is set as a percentage referred to the value of the WELDING CURRENT. The value is limited to 250A max.
- ▶ Adjustment range: minimum (0 %) - default (50 %) - maximum (100 %)

#### (2) ARC FORCE

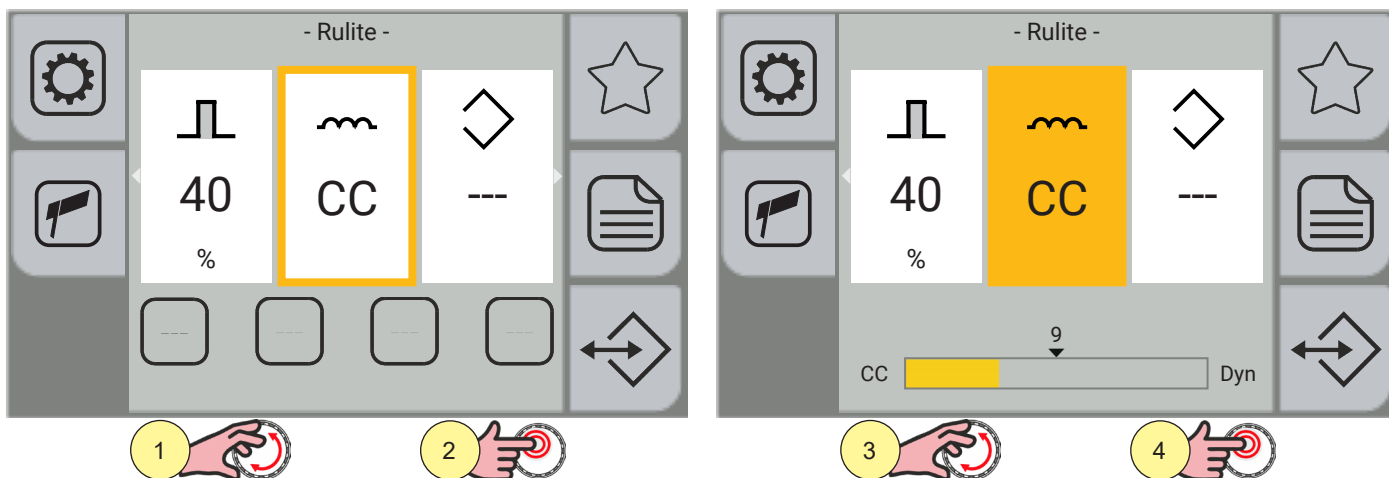
- ▶ This parameter helps to avoid electrode sticking during welding. It is set as a percentage referred to the value of the WELDING CURRENT.
- ▶ Adjustment range: minimum (0 %) - default (40 %) - maximum (200 %)

#### (3) VOLT END


- ▶ The parameter sets the voltage value once the welding process is exited by lifting the electrode. To exit the MMA welding process the electrode must be lifted considerably; set the parameter at a low value to stop the welding process by slightly lifting the electrode. In this way, less welding spatters are produced and the workpiece is cleaner.
- ▶ Be careful when setting the parameter because a too low value can lead to frequent welding interruptions.
- ▶ Adjustment range: minimum (20 V) - default (50 V) - maximum (70 V)

### MMA parameters (main screen)

The following welding parameters can be set on the main screen in addition to the parameters menu.



1. Turn the encoder to select the parameter to be changed.
2. Press the encoder key to confirm.
3. Turn the encoder to set the desired value.
4. Press the encoder key to confirm.

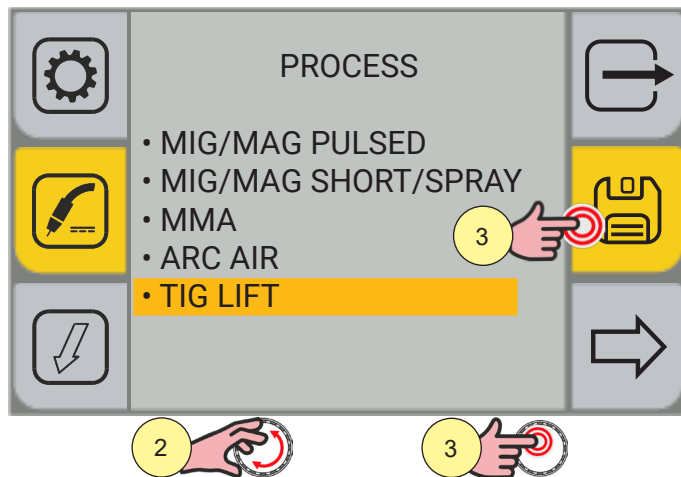
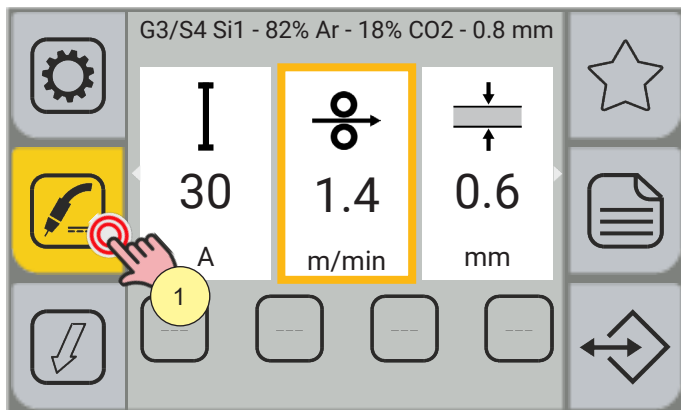
 <b>CC</b>	<p><b>INDUCTANCE</b></p> <p>A low-value parameter allows to obtain a softer arc and fewer spatters while a higher value allows to obtain an harder and more stable arc.</p> <p>With “CC” (constant current) setting, preset welding current is constantly output. This setting is recommended for welding processes with basic, rutile and stainless steel electrodes.</p> <p>With “Dyn” setting, the current output remains constant (the arc voltage increases and the current output decreases when the electrode is lifted).</p> <p>This setting is recommended for welding processes with cellulose electrodes to carry out route passes onto pipes and with aluminium electrodes to improve arc stability especially at reduced current values.</p> <p>Adjustment range: minimum (CC constant current) - default (CC) - maximum (Dyn)</p>
---	---

Turn the encoder again to select other parameters.

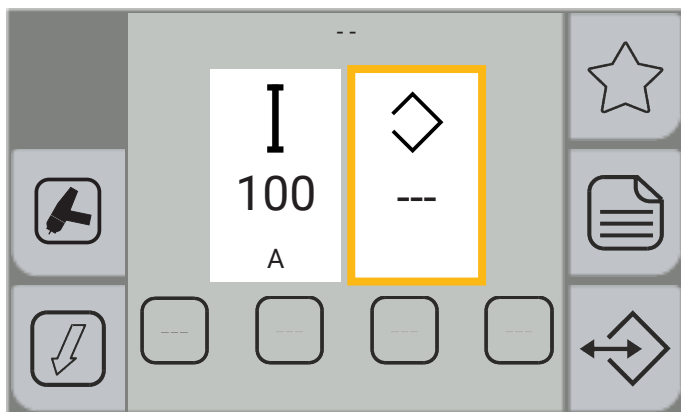
## ENGLISH


# 7 TIG LIFT WELDING

## 7.1 SETTING THE TIG LIFT PROCESS



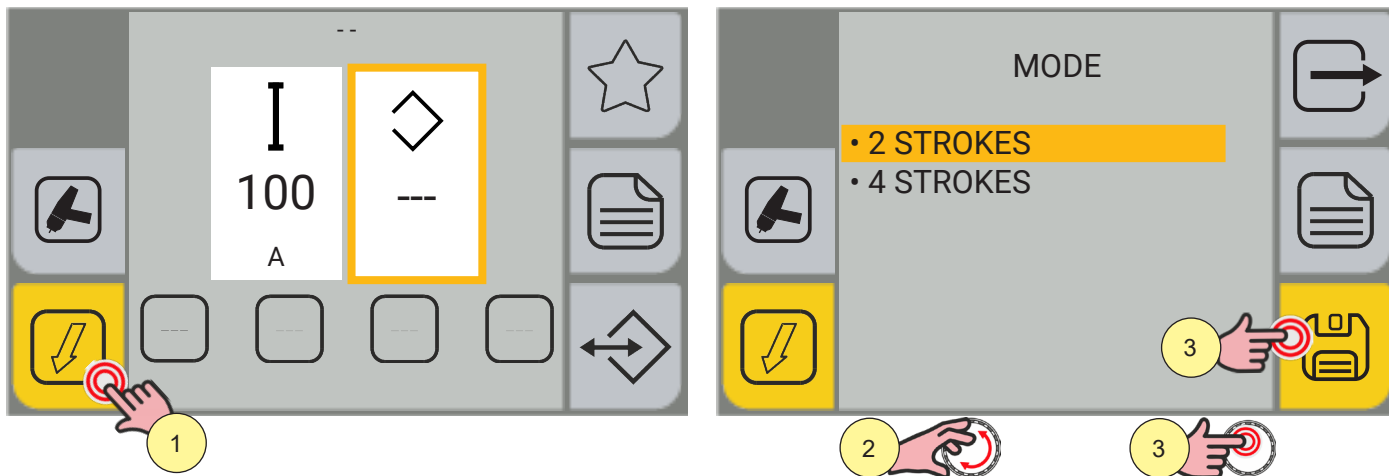
1. Press the [PROCESS] key.
2. Turn the encoder to select the desired setting. Select the following path: TIG LIFT
3. Press the encoder key or the [SAVE] key to confirm.





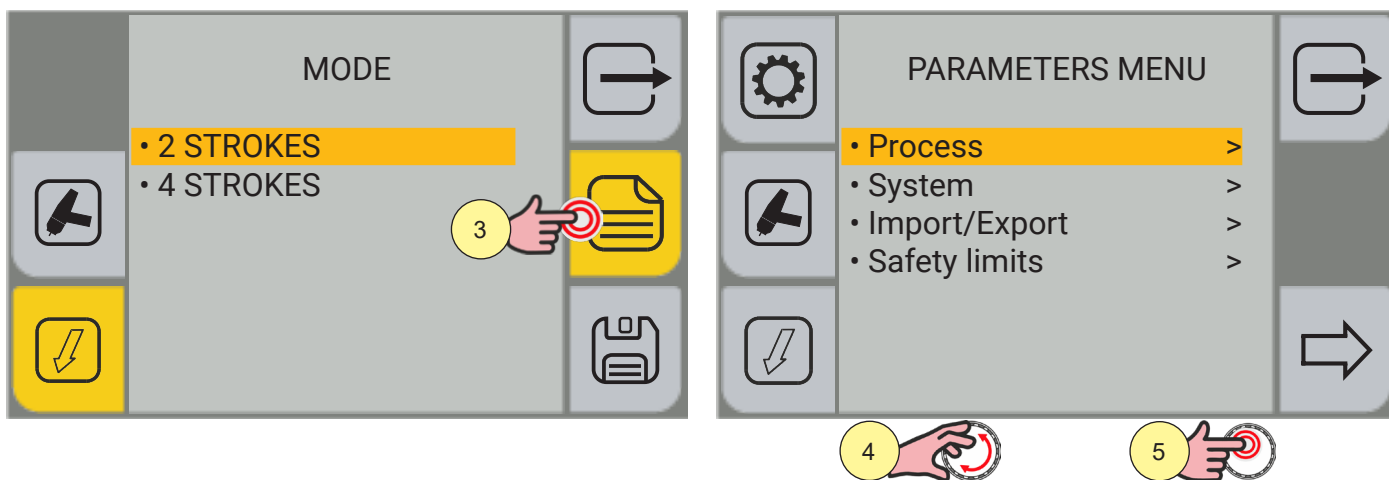
Press the  key to exit the screen.



## 7.2 SETTING UP THE TIG TORCH TRIGGER MODE

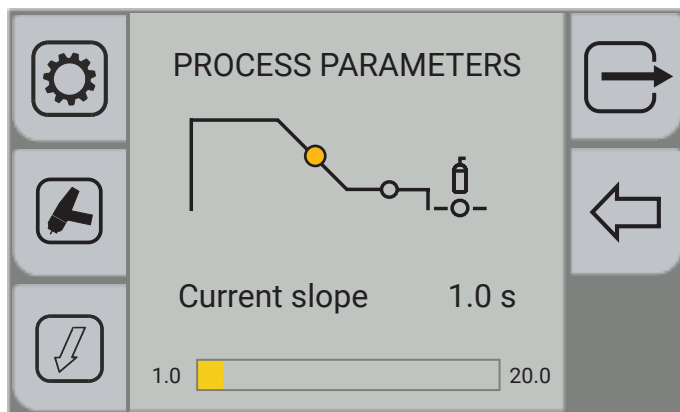
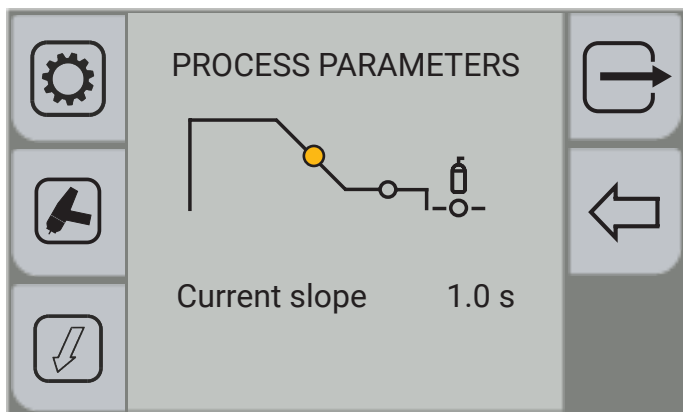


1. Press the [MODE].
    - o From within the menu screen, the torch trigger mode can be selected.
-  (2 STROKE) -  (4 STROKE)
2. Turn the encoder to select the desired setting.
  3. Press the encoder key or the [SAVE] key to only set up the torch trigger mode, otherwise carry out the procedure shown in paragraph (4).

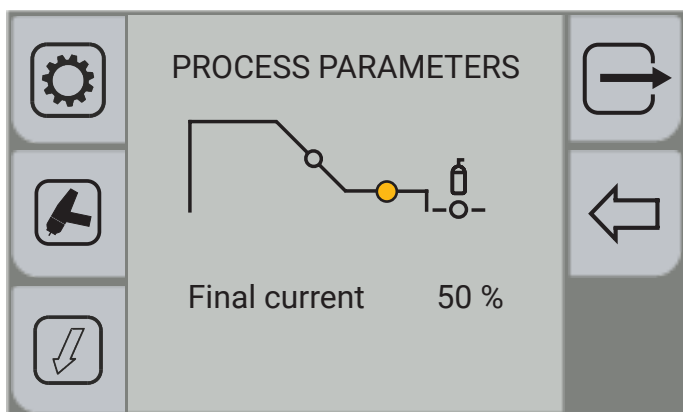



4. Press the [MENU].
5. Turn the encoder to select the desired setting. Select the following path: Process>
6. Press the encoder key or the [NEXT].

ENGLISH

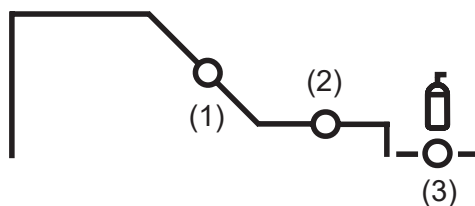


7. Turn the encoder to select the parameter to be changed.
8. Press the encoder key to confirm.
9. Turn the encoder to set the desired value.
10. Press the encoder key to confirm.



11. Turn the encoder again to select other parameters.
- To return to the main screen, press the  [EXIT] key.

## Process parameters with torch trigger in 2 STROKE and 4 STROKE mode



### (1) CURRENT SLOPE

- ▶ The parameter sets the time during which the current changes from the welding value to the end value by means of a slope. Prevents the formation of craters in the process of turning off the arc.
- ▶ Adjustment range: minimum (0.0 s) - default (1.0 s) - maximum (20.0 s)

### (2) FINAL CURRENT

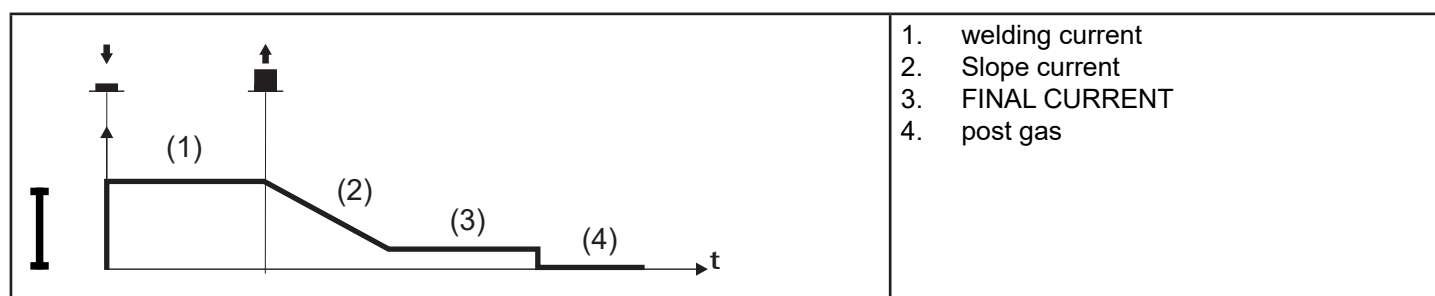
- ▶ The parameter sets the final current value. During electrode welding the parameter makes it possible to obtain a uniform deposit of filler material from the start to the end of the welding process, closing the deposition crater with a current such as to deposit a final droplet of filler material.
- ▶ Adjustment range: minimum (0 A) - default (50 A) - maximum (500 A)

### (3) POST GAS

- ▶ Time of post gas delivery when the welding arc is extinguished.
- ▶ Adjustment range: minimum (0.0 s) - default (2.0 s) - maximum (20.0 s)

## TIG LIFT 2T operation

- ↓ : press the torch trigger  
 ↑ : release the torch trigger

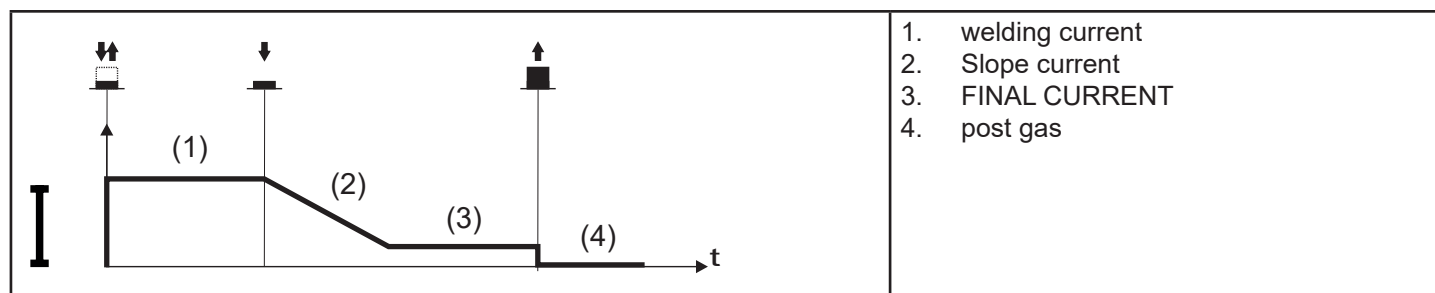


- Touch the workpiece with the torch electrode.
- Press (1T) and keep the torch trigger pressed.
- Slowly lift the torch to strike the arc.
- The welding current reaches the preset value.
- Release (2T) trigger to start the weld completion procedure.
- The current reaches the end current value in the time set in the down slope time parameter.
- The arc is extinguished.
- Gas delivery continues for the time set in the post gas parameter.

## ENGLISH

### TIG LIFT 4T operation

- ↓ : press the torch trigger
- ↑ : release the torch trigger
- ↑↓ : press and release the torch trigger



- Touch the workpiece with the torch electrode.
- Press (1T) and release (2T) the torch trigger.
- Slowly lift the torch to strike the arc.
- The welding current reaches the preset value.
- Press (3T) trigger and keep it pressed to start the weld completion procedure.
- The current reaches the end current value in the time set in the down slope time parameter.
- The arc continues and the current output will be the value set in the end current parameter.
- In these conditions the weld pool can be closed (crater filler current).
- Release (4T) trigger to extinguish the arc.
- Gas delivery continues for the time set in the post gas parameter.

## 8 JOBS MANAGEMENT

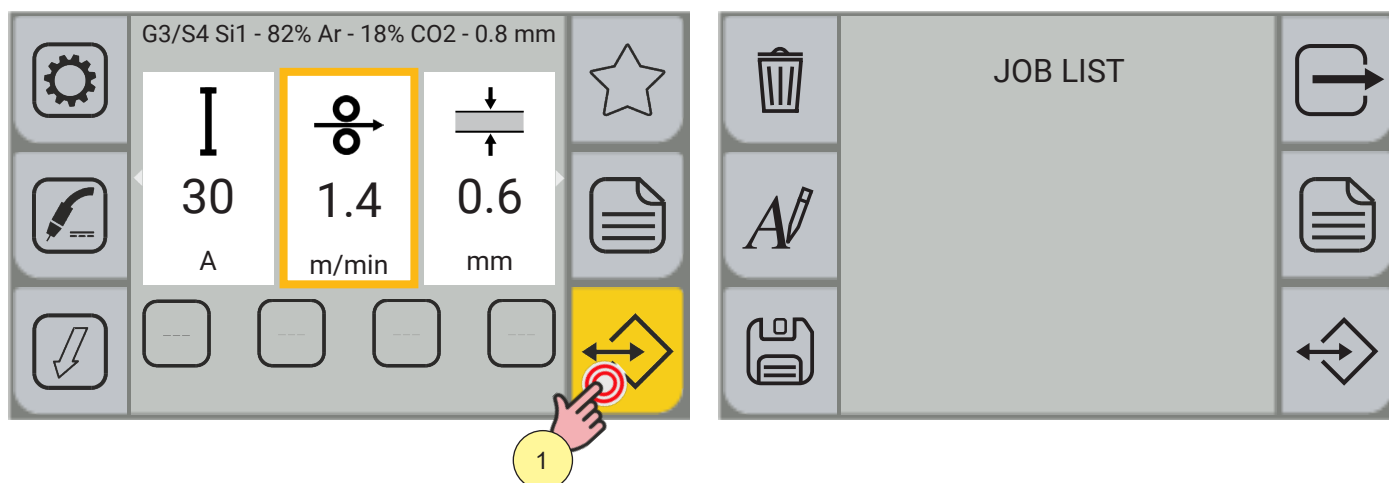
Personalised welding settings, or JOBS, can be saved in memory locations and subsequently uploaded.

The Job is saving the image of all the parameters set in the device. Parameters are the wire speed values, correction of the welding arc, inductance/dynamic, slopes, torch trigger modes, process, program used, special functions, safety limits, etc ...

The settings of the SETUP menu are not saved.

100 JOBS are available.

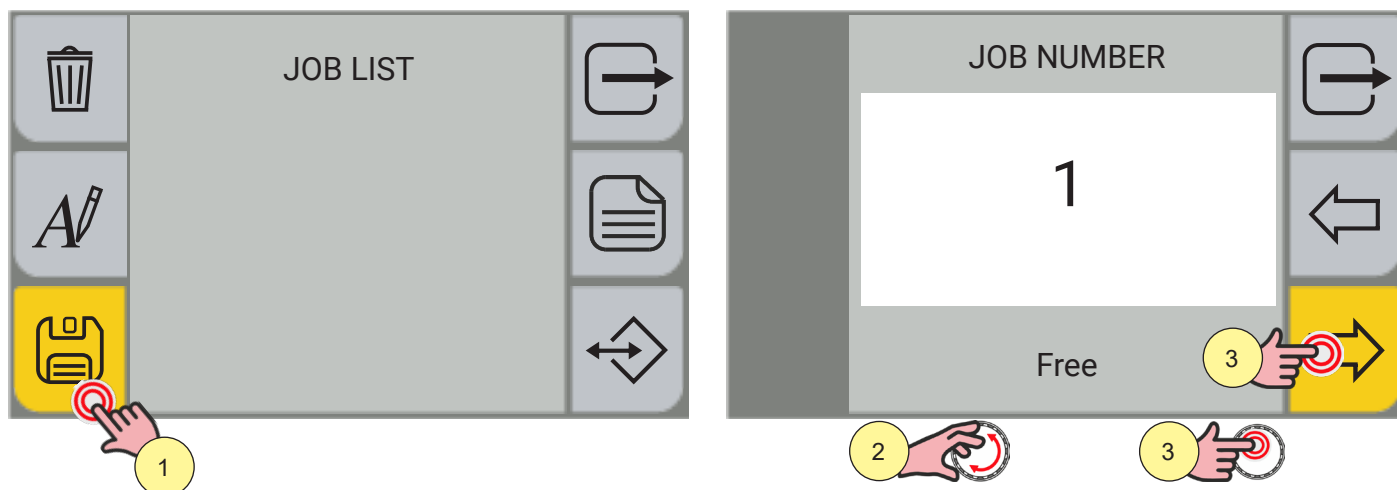
This function is available when welding mode is not active.



1. To enter the JOB menu, press the [JOB] key.

### 8.1 CREATING A JOB

Enter the JOB screen.

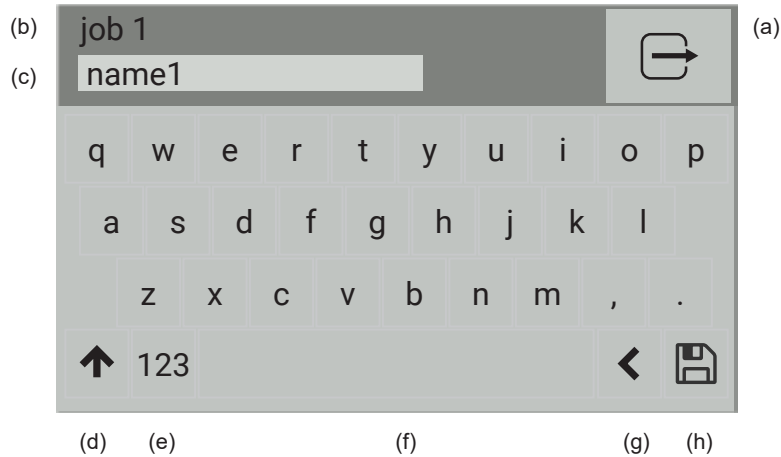


1. Press the [CREATE JOB] key. The JOB position selection screen will appear.
2. Use the encoder to select the JOB position.
3. Press the encoder key or the [NEXT] key to confirm the position. The keyboard will appear to write the name of the job.

## ENGLISH

### Keyboard functions

- a. exit without saving changes
- b. JOB position
- c. JOB name
- d. upper case
- e. numbers/special characters
- f. space bar
- g. delete text
- h. save




**i Information** The touchscreen panel allows the user to set up the functions through the mechanical keys or by touching the icons displayed on the screen.

### Naming a job

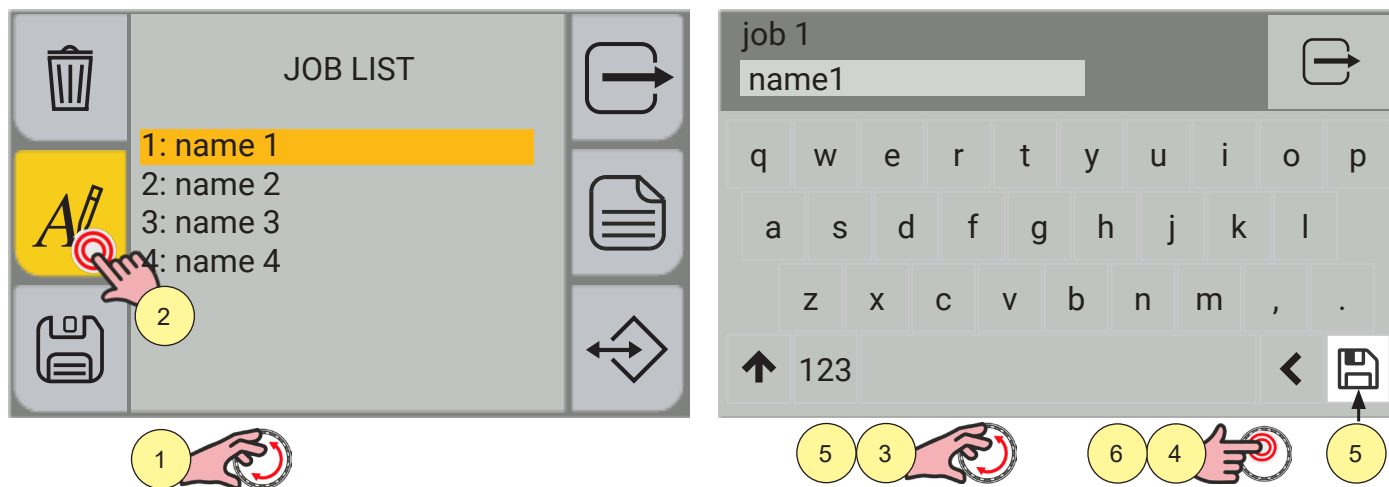


1. Turn the encoder to select the letter on the keyboard.
2. Press the encoder key to confirm the selection.
3. Turn the encoder to select the (SAVE) symbol on the keyboard.
4. Press the encoder code to save and exit.

Press the  [EXIT] key to exit without saving.

## 8.2 RENAMING A JOB


Enter the JOB screen, which contains the list of stored JOBS.



1. Select the JOB to be renamed by using the encoder.
2. Press the [RENAME] key. The keyboard will appear to write the name of the job.

**i Information** The touchscreen panel allows the user to set up the functions through the mechanical keys or by touching the icons displayed on the screen.

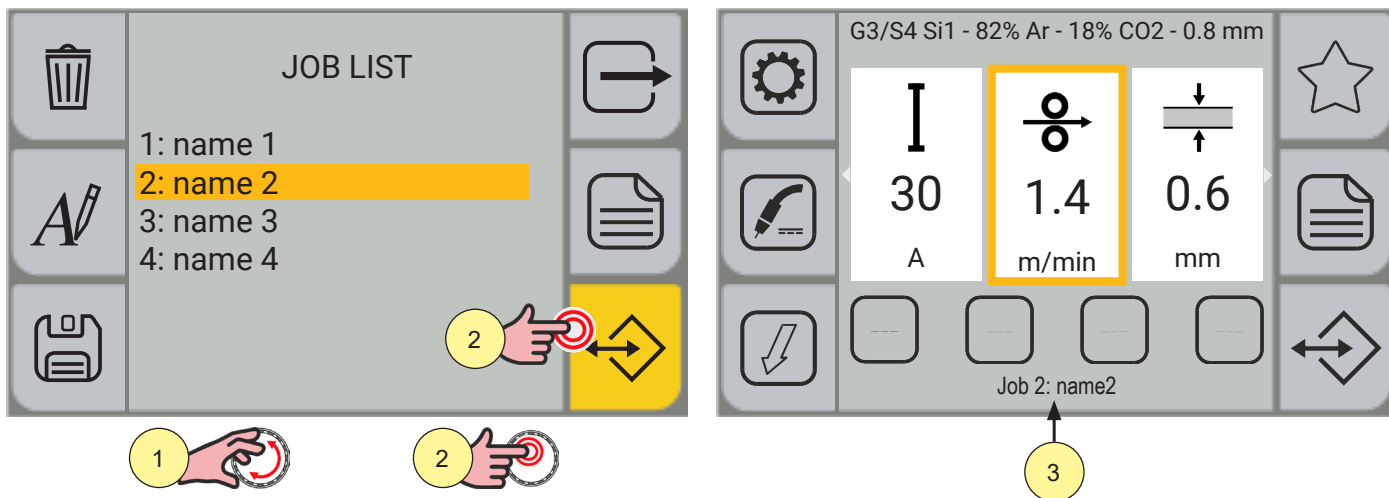
3. Turn the encoder to select the letter on the keyboard.
4. Press the encoder key to confirm the selection.
5. Turn the encoder to select the (SAVE) symbol on the keyboard.
6. Press the encoder code to save and exit.

Press the  [EXIT] key to exit without saving.

## ENGLISH

### 8.3 LOADING A JOB

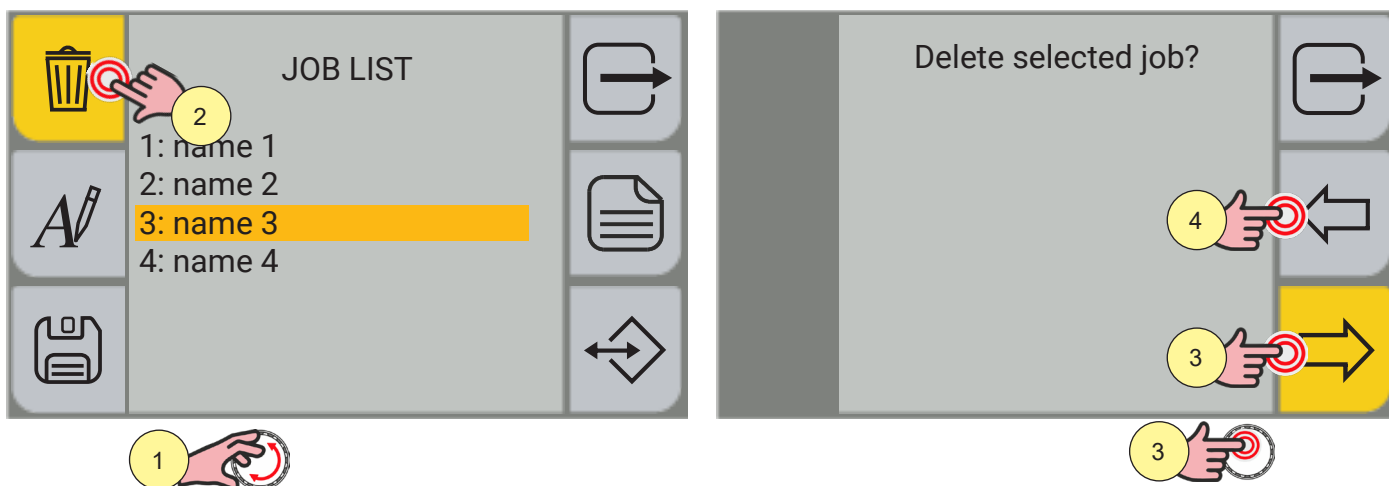
Enter the JOB screen, which contains the list of stored JOBS.



1. Select the JOB to be loaded by using the encoder.
2. Press the encoder key or the [LOAD] key to confirm.
3. The main screen appears with the name of the loaded job.

### 8.4 DELETING A JOB

Enter the JOB screen, which contains the list of stored JOBS.

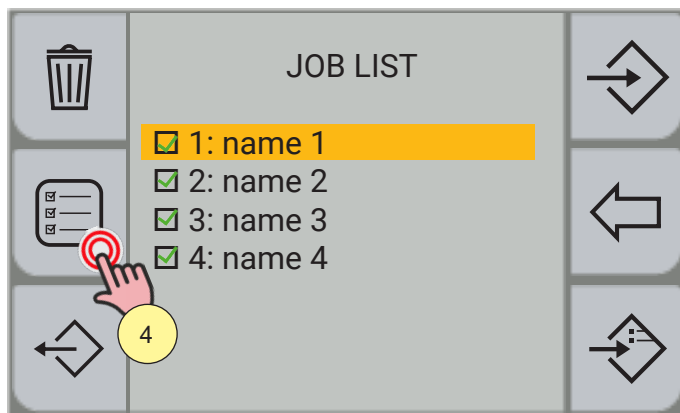
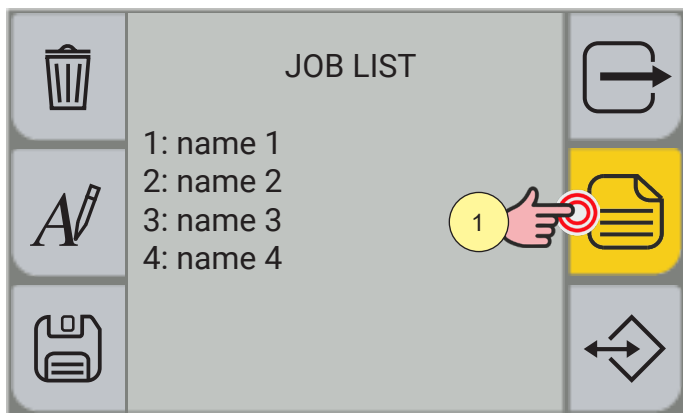


1. Select the JOB to be deleted by using the encoder.
2. Press the [DELETE] key.
3. Press the encoder key or the [YES] key to confirm,
4. or press the [NO] KEY to return to the previous screen.

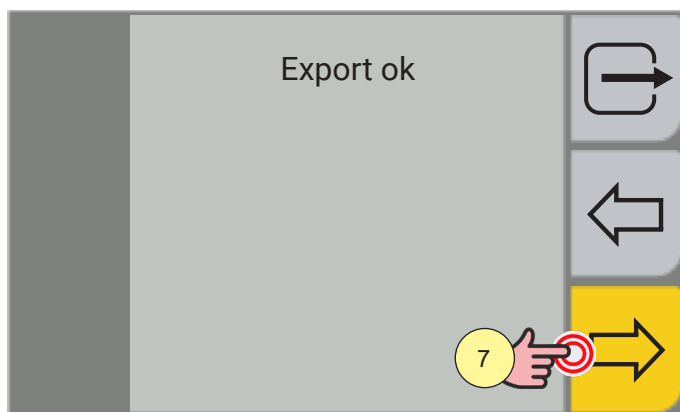
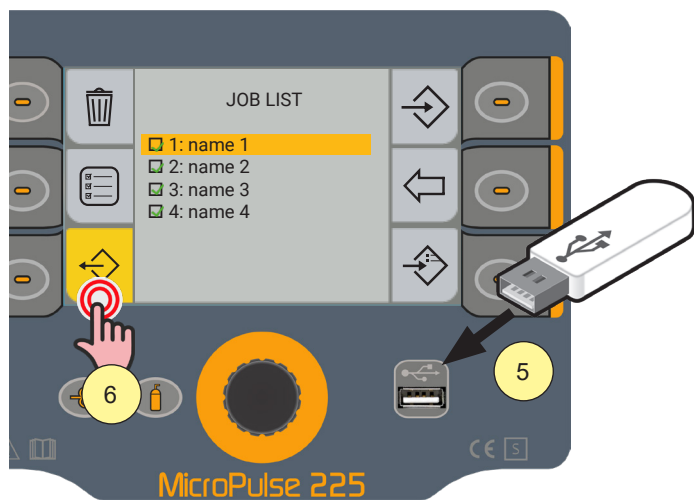


### 8.5 EXPORTING JOBS

Enter the JOB screen.



1. Press the (MENU) key.
2. Select the JOB to be exported by using the encoder.
3. Press the encoder key to confirm the selection.
4. If you wish to select/deselect all the JOBS, press the [SELECT ALL] / [DESELECT ALL] key.



5. Insert the USB memory stick in the port provided.
6. Press the (EXPORT) key to export the files to the USB memory stick. If the exporting operation is successful, the message “Export OK” will appear.
7. Press the (OK) key.

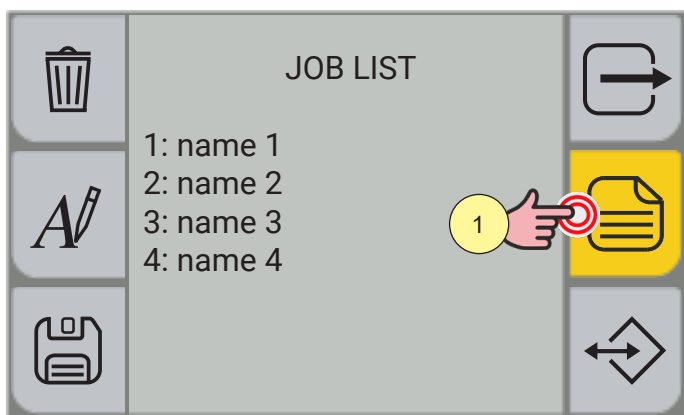
Press the [PREC] key to return to the previous screen.

To return to the main screen, press the [EXIT] key.


## ENGLISH

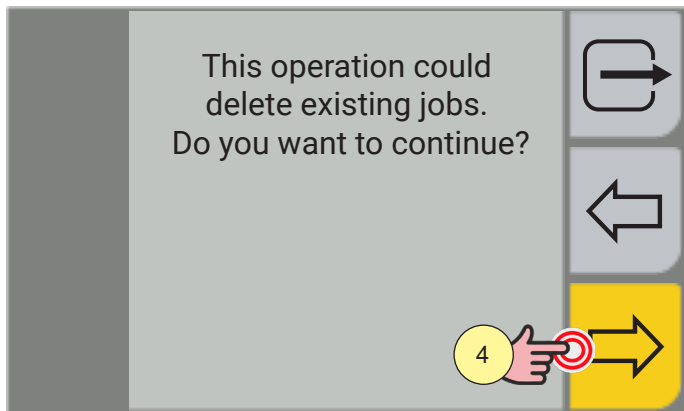
### 8.6 IMPORTING JOBS

Enter the JOB screen.





1. Press the (MENU) key.
2. Insert the USB memory stick in the port provided.
3. Press the [IMPORT] key to import the files saved onto the USB memory stick.

 **WARNING!** If the files located on the USB memory stick occupy the same position (number before name) as the files located in the MicroPulse 225, the latter will be overwritten by the files saved on the memory stick.



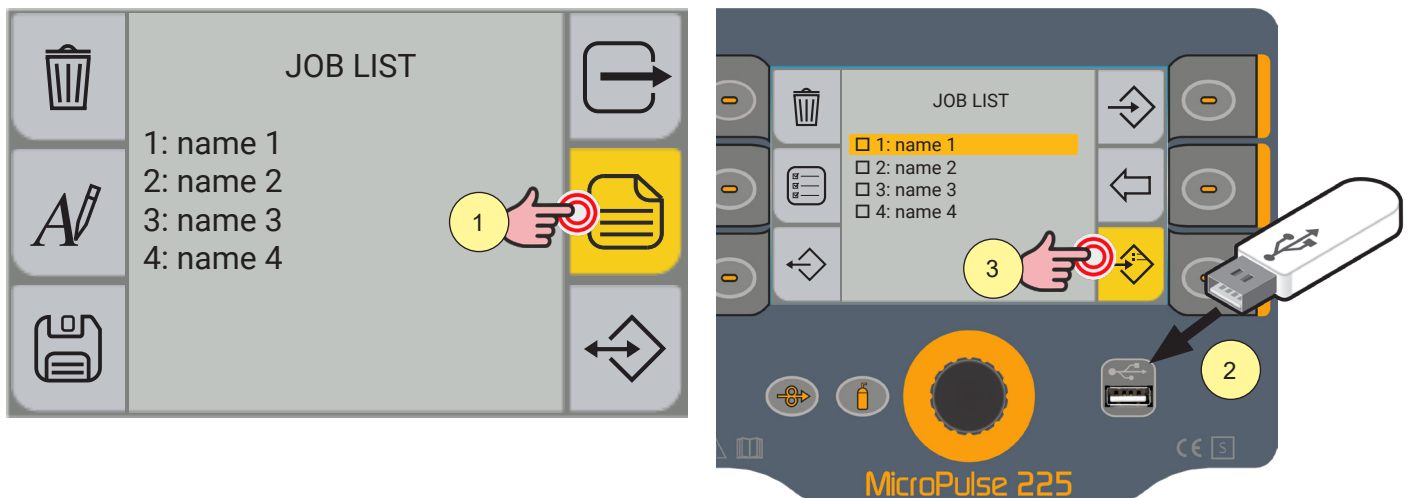
4. Press the (SI) key.

Press the  [NO] key to return to the previous screen.

To return to the main screen, press the  [EXIT] key.

## 8.7 ADDING JOBS

Enter the JOB screen.



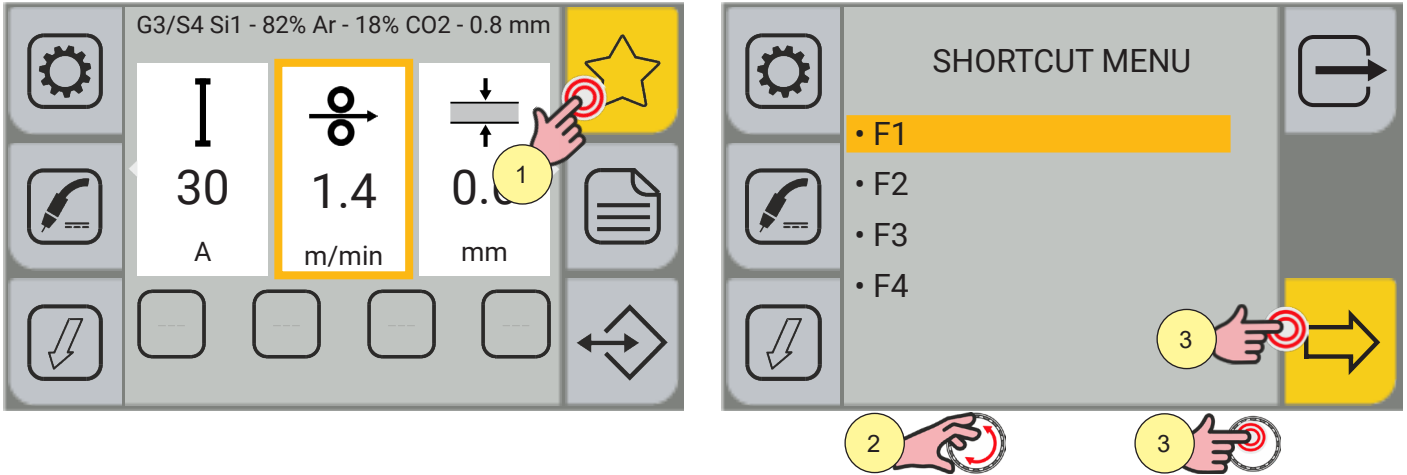
1. Press the (MENU) key.
2. Insert the USB memory stick in the port provided.
3. Press the [ADD] key to add to the JOBS located on the MicroPulse 225 of the USB memory stick.

**i Information:** the files located on the USB memory stick will be added to the files located on the MicroPulse 225, renumbering and adding them at the bottom of the list.

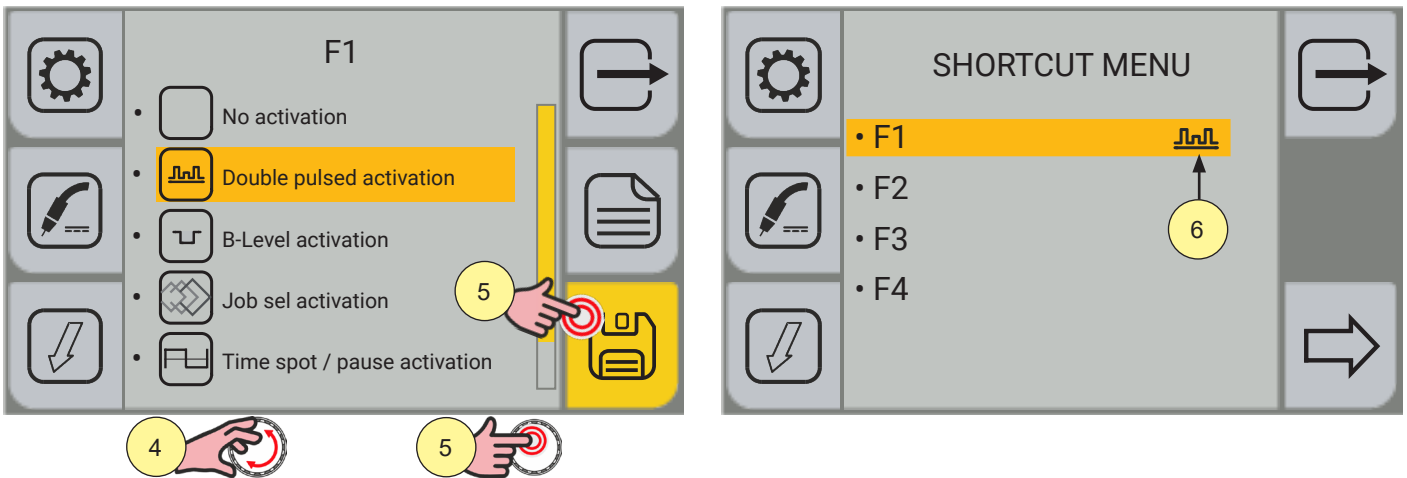
ENGLISH

## 9 SETTING THE FAVOURITE KEY

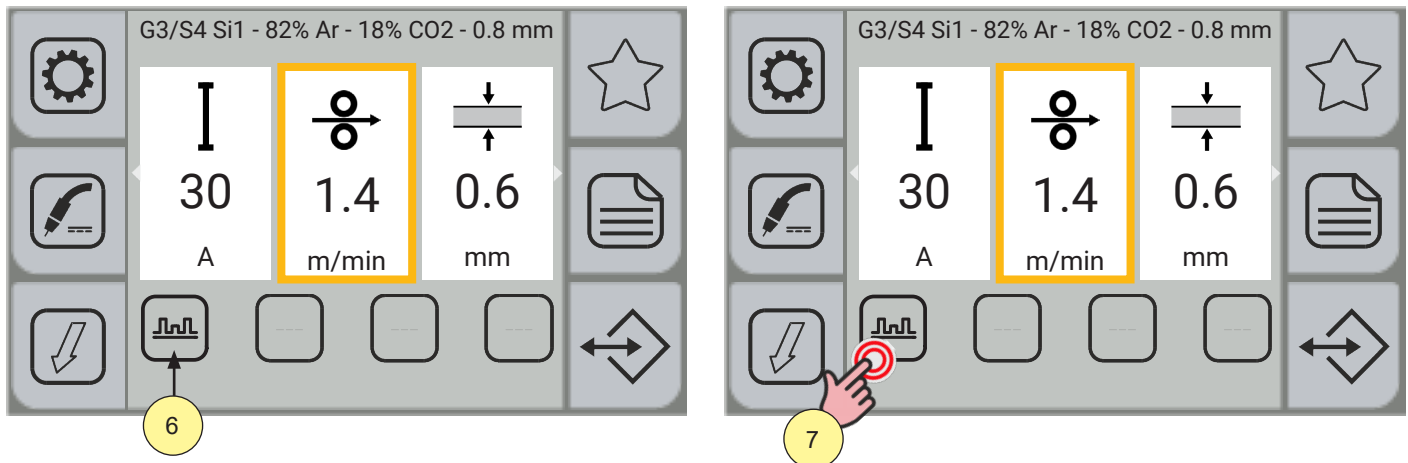
[SHORTCUT] keys can be associated with a specific function amongst those available from a preset list.



1. Press the [FAVOURITE] key; the SHORTCUT MENU will be displayed. From the menu screen, the (Fn) key can be selected to associate it with a specific function.  
Keep [SHORTCUT] key pressed for 3 seconds to access the functions screen directly.
2. Turn the encoder to select the desired key.
3. Press the ENCODER key or the [NEXT] key to confirm.



4. Turn the encoder to select the desired function.
    - o [No activation, Double pulse activation, B-Level activation, Job sel activation, Time spot / pause activation, K Deep activation, Job load activation].
  5. Press the encoder key or the [SAVE] key.
- Press the [EXIT] key to exit the screen.



6. After associating the desired function with the SHORTCUT key, the function icon will be displayed both in the SHORTCUT menu and on the key displayed in the main screen. □ □
7. Press the key with the associated function to enable/disable the function. When the function is enabled, the key will be highlighted in yellow.

ENGLISH

## 10 RESET

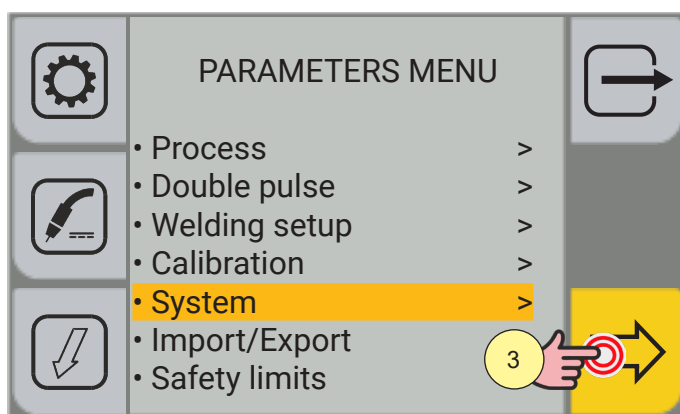
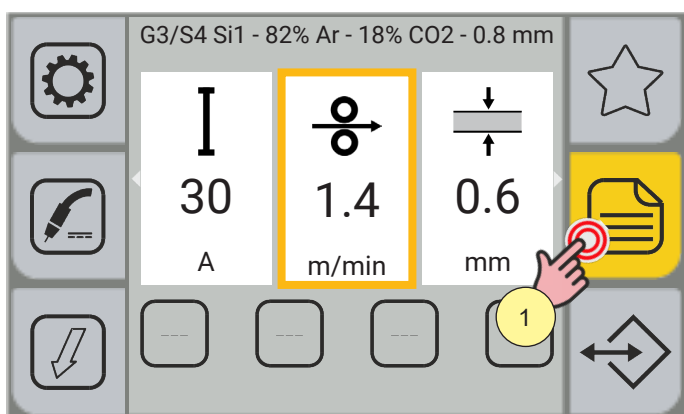
The reset procedure is useful in the following cases:

- Too many changes made to the welding parameters so user finds it difficult to restore defaults.
- Unidentified software problems that prevent the current power source from functioning correctly.

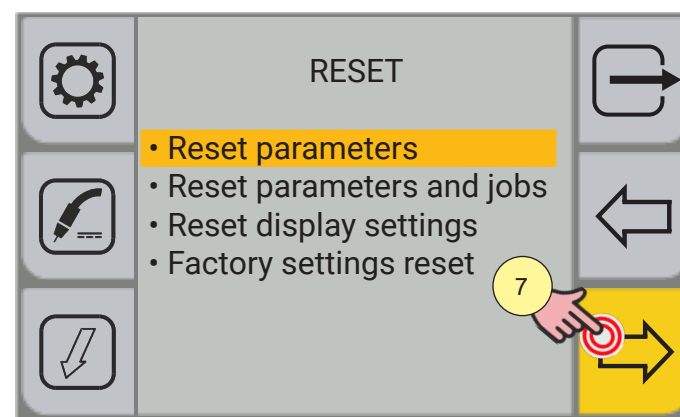
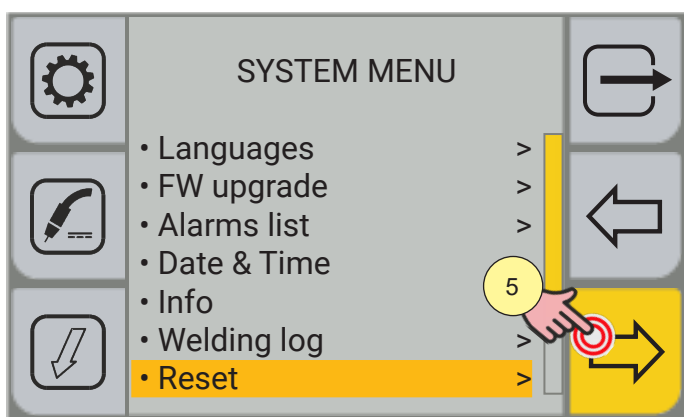
### 10.1 RESET PARAMETERS

The reset procedure involves restoration of the parameter values and settings, except for the following settings:

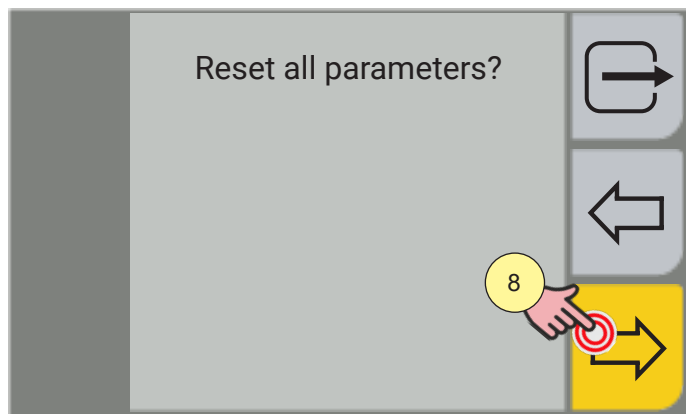
- System menu settings.
- Saved JOBs.



1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the[NEXT] key to confirm.



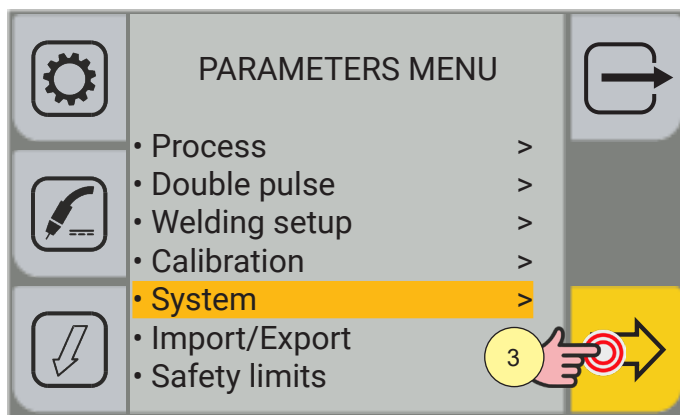
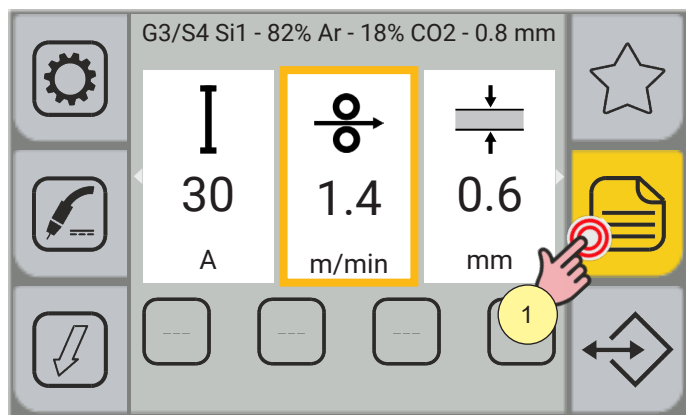
4. Turn the encoder to select the desired setting. Select the following path: Reset>
5. Press the ENCODER key or the[NEXT] key to confirm.
6. Turn the encoder to select the desired setting. Select the following path: Reset parameters
7. Press the ENCODER key or the[NEXT] key to confirm.



8. Press the ENCODER key or the [YES] key to confirm.  
Press the [NO] key to return to the previous screen.  
To return to the main screen, press the [EXIT ] key.

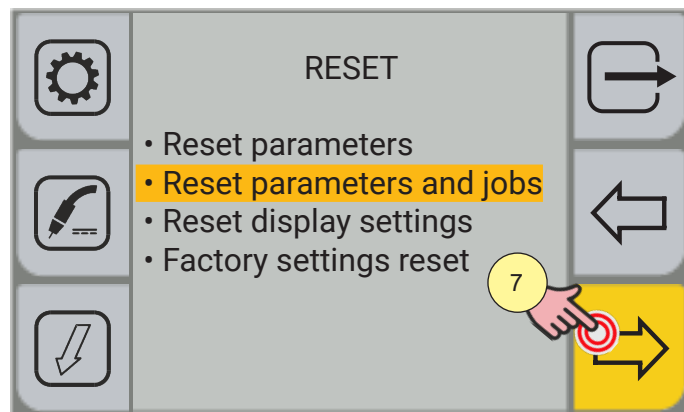
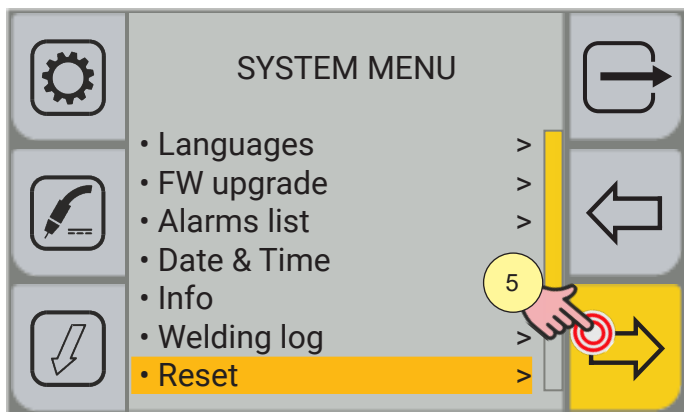
## 10.2 RESET PARAMETERS AND JOBS

The reset procedure involves complete restoration of the values, parameters and memory settings set in the factory. All memory locations will be reset and hence all your personal welding settings will be lost!

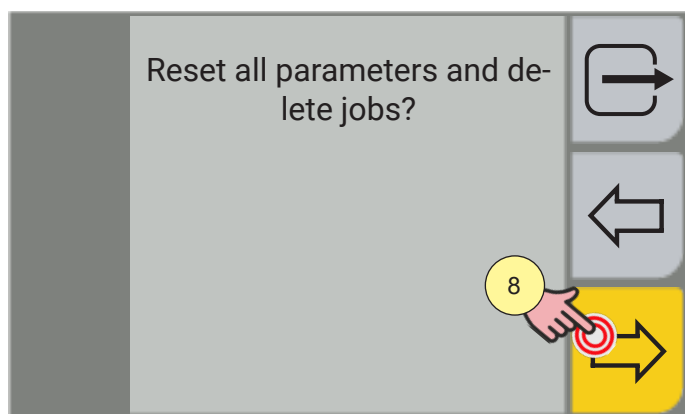




1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the [NEXT] key to confirm.

ENGLISH



4. Turn the encoder to select the desired setting. Select the following path: Reset>
5. Press the ENCODER key or the[**NEXT**] key to confirm.
6. Turn the encoder to select the desired setting. Select the following path: Reset parameters and jobs
7. Press the ENCODER key or the[**NEXT**] key to confirm.

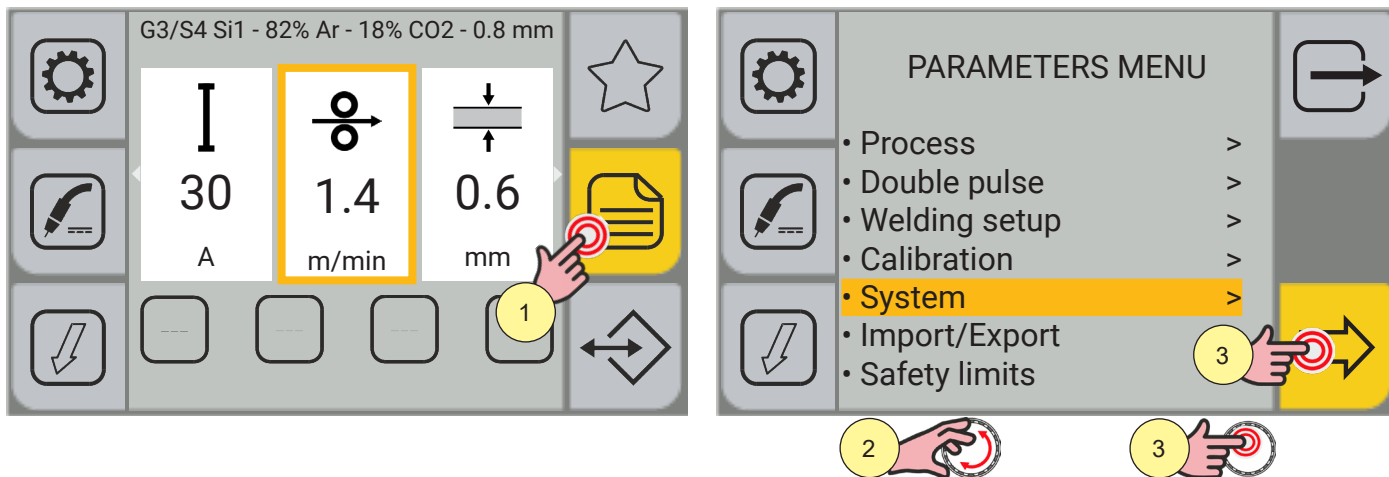


8. Press the ENCODER key or the[**YES**] key to confirm.  
Press the  [NO] key to return to the previous screen.  
To return to the main screen, press the  [EXIT ] key.

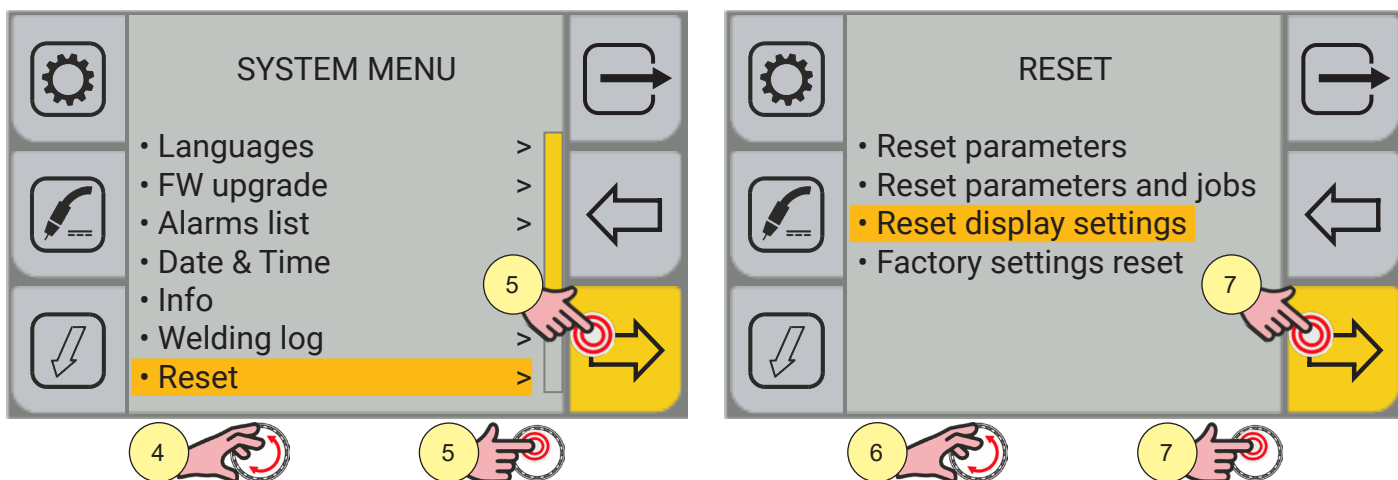


### 10.3 RESET DISPLAY SETTINGS

The reset display settings procedure restores the display preset settings. The default language [English], is restored; the shortcut keys are reset; the default parameter display settings are restored.

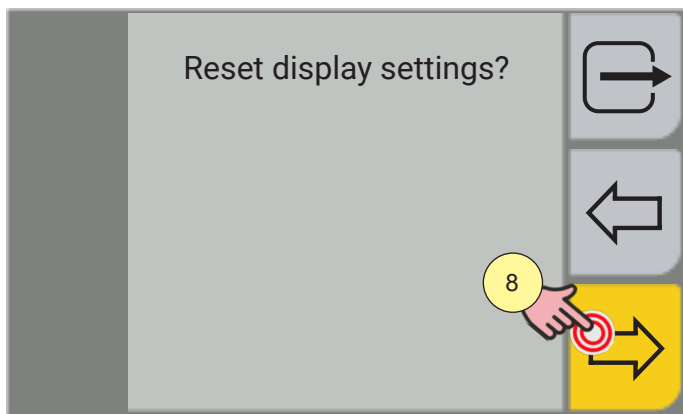


1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the[NEXT] key to confirm.



4. Turn the encoder to select the desired setting. Select the following path: Reset>
5. Press the ENCODER key or the[NEXT] key to confirm.
6. Turn the encoder to select the desired setting. Select the following path: Reset display settings
7. Press the ENCODER key or the[NEXT] key to confirm.

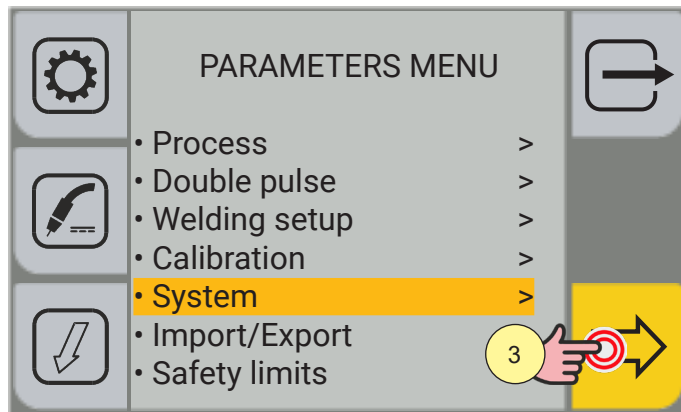
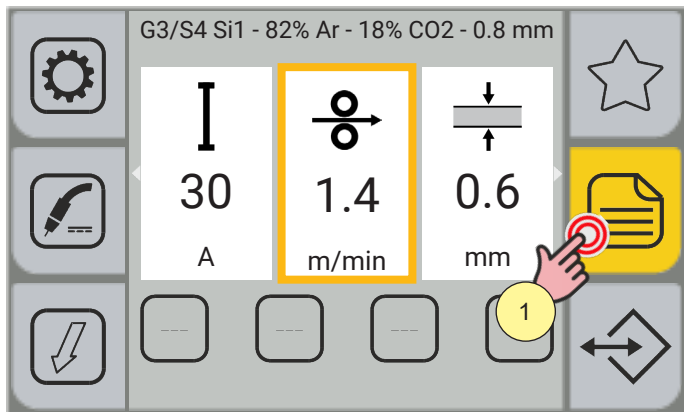
ENGLISH



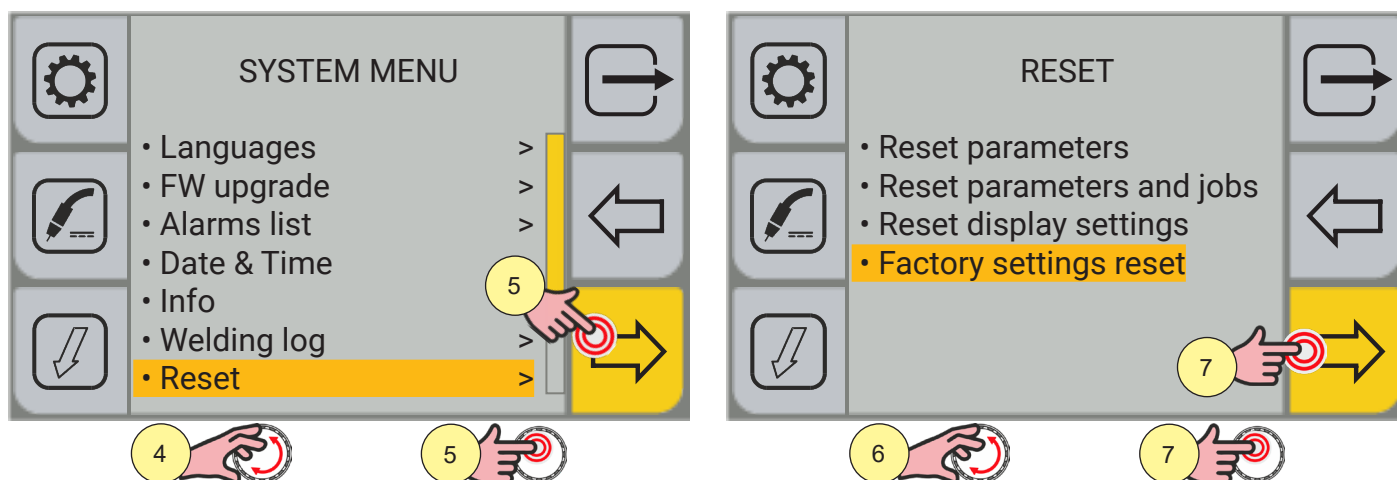
8. Press the ENCODER key or the [YES] key to confirm.  
Press the [NO] key to return to the previous screen.  
To return to the main screen, press the [EXIT ] key.

10.4 FACTORY SETTINGS RESET

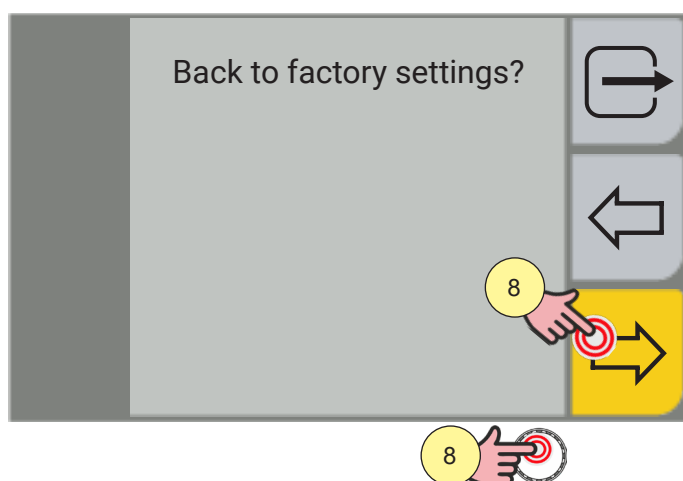
The factory settings reset procedure involves fully restoring the default settings for values, parameters and memories. All memory locations will be reset and hence all your personal welding settings will be lost! Date, time and language settings remain saved, only.





1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the [NEXT] key to confirm.



4. Turn the encoder to select the desired setting. Select the following path: Reset>
5. Press the ENCODER key or the[**NEXT**] key to confirm.
6. Turn the encoder to select the desired setting. Select the following path: Factory settings reset
7. Press the ENCODER key or the[**NEXT**] key to confirm.

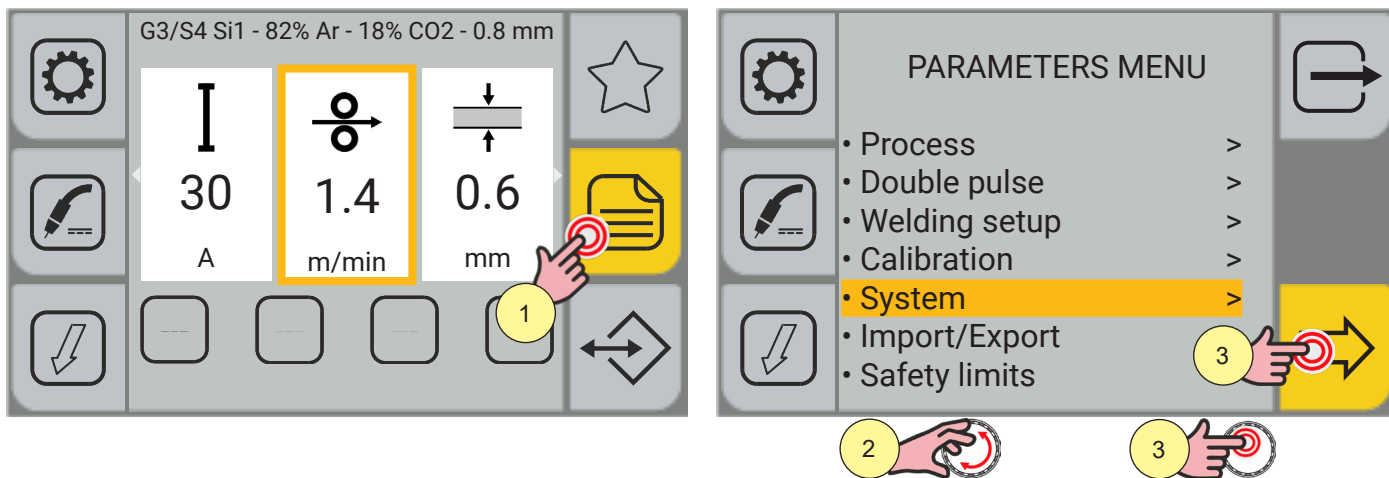


8. Press the ENCODER key or the[**YES**] key to confirm.  
Press the  [NO] key to return to the previous screen.  
To return to the main screen, press the  [EXIT ] key.

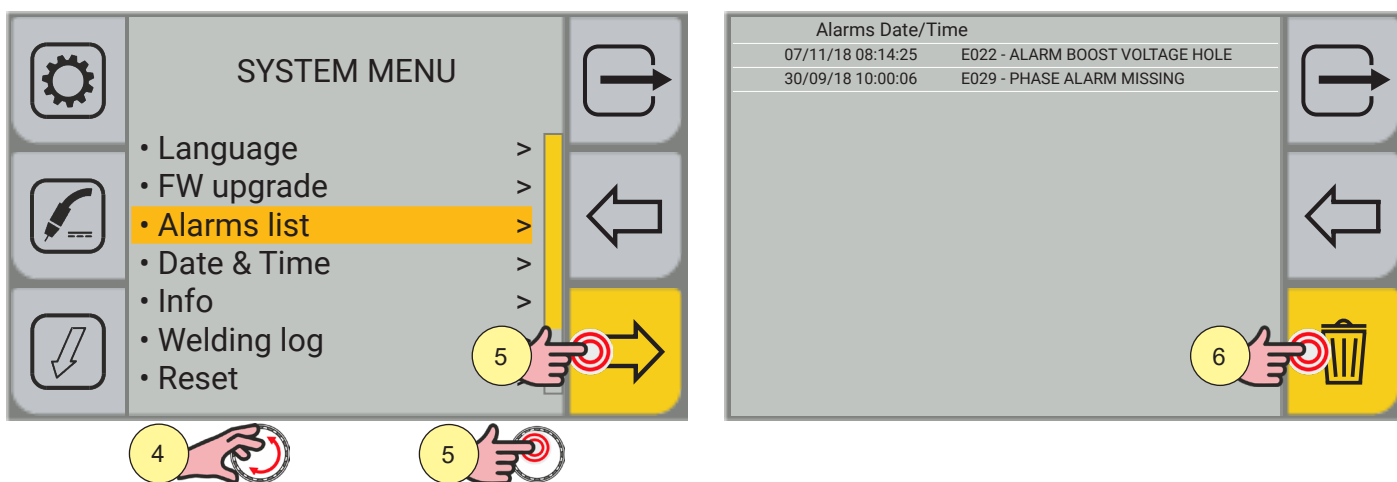
ENGLISH

# 11 ALARM MANAGEMENT

This function is available when the welding mode is disabled.



1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the[NEXT] key to confirm.



4. Turn the encoder to select the desired setting. Select the following path: Alarms list >
5. Press the ENCODER key or the[NEXT] key to confirm. The list of alarms stored is displayed.
6. Press the [RESET ALARMS] key to delete the list.

When an alarm condition occurs, all functions are disabled, with the exception of:

- the cooling fan
- the cooling unit (if enabled)

### E02: NTC DISCONNECTED

- ▶ This indicates that the information between the NTC and the monitoring system is no longer being sent.
- ▶ Solution
  - Qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E04: VOUT DISCONNECTED

- ▶ This indicates that there is a short-circuit between the welding sockets (+) and (-).
- ▶ Solution
  - Check to ensure the welding torch is not resting on the workpiece connected to ground.
  - Check that when the power source is switched on there is no short circuit between the sockets (voltage must be greater than/equivalent to  $U_r$ ).
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E05: WELD TORCH TRIGGER PRESSED

- ▶ This indicates that, when the generator is switched on, a short-circuit has been detected on the torch trigger input.
- ▶ Solution

When the problem is solved, the power source will be automatically reset.

  - Make sure the torch trigger is not pressed, jammed, or short circuiting.
  - Make sure the torch and torch connector are intact.

### E22: BOOST VOLTAGE HOLE

- ▶ This alarm indicates that a sudden power outage in the power mains has occurred..
- ▶ Solution

When the unit has cooled, the welding power source will reset automatically.

  - If the problem occurs frequently check the stability of the mains power.

### E23: BOOST CURRENT LIMIT ALARM

- ▶ Mains power boost overcurrent.
- ▶ Solution
  - Qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E25: BOOST CURRENT NOT CALIBRATED ALARM

- ▶ Current phases input is unbalanced.
- ▶ Solution
  - Qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E26: ALARM GROUND CURRENT

- ▶ Current is re-circulated on the ground circuit.
- ▶ Solution
  - Qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E27: ALARM UNDERVOLTAGE

- ▶ Low power supply voltage.
- ▶ Solution
  - Make sure the mains power does not go below the minimum permitted values.

## ENGLISH

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### E28: ALARM OVERVOLTAGE

- ▶ High voltage.
- ▶ Solution
  - Make sure the mains power does not exceed the maximum permitted values.

### E29: ALARM PHASE MISSING

- ▶ A phase is missing.
- ▶ Solution
  - Make sure that all three phases reach the equipment from the power mains.
  - Make sure that the line fuses on the power supply panel are intact.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E30: ALARM OVERCURRENT

- ▶ The main current threshold has been exceeded.
- ▶ Solution
  - The welding currents are close to the maximum threshold: reduce the welding parameter values.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E31: INVERTER THERMAL ALARM

- ▶ Indicates that the welding power generator thermal cut-out switch has tripped.
- ▶ Solution
  - Leave the equipment running so that the overheated components cool as rapidly as possible. When the problem is solved, the power source will be automatically reset.
  - Make sure that the fans are working correctly.
  - Make sure that the power required by the welding process is lower than the maximum rated power output.
  - Check that the operating conditions are in compliance with the welding power source data plate specifications.
  - Check for the presence of adequate air circulation around the welding power source.

### E32: SECONDARY THERMAL ALARM

- ▶ Indicates that the welding power generator thermal cut-out switch has tripped.
- ▶ Solution
  - Leave the equipment running so that the overheated components cool as rapidly as possible. When the problem is solved, the power source will be automatically reset.
  - Make sure that the fans are working correctly.
  - Make sure that the power required by the welding process is lower than the maximum rated power output.
  - Check that the operating conditions are in compliance with the welding power source data plate specifications.
  - Check for the presence of adequate air circulation around the welding power source.

### E33: GENERAL THERMAL ALARM

- ▶ Indicates that the welding power generator thermal cut-out switch has tripped.
- ▶ Solution
  - Leave the equipment running so that the overheated components cool as rapidly as possible. When the problem is solved, the power source will be automatically reset.
  - Make sure that the fans are working correctly.
  - Make sure that the power required by the welding process is lower than the maximum rated power output.
  - Check that the operating conditions are in compliance with the welding power source data plate specifications.
  - Check for the presence of adequate air circulation around the welding power source.

### E50: WARNING COOLING SYSTEM

- ▶ Indicates insufficient pressure in the torch cooling circuit.
- ▶ Solution
  - Check that the connection to the cooling unit is correct.
  - Check that the O/I switch is set to "I" and that it illuminates when the pump is running.
  - Check that the cooling unit is filled with coolant.
  - Make sure that the pump delivers the coolant (external bypass present)
  - Check that the cooling circuit is intact, notably the torch hoses and the internal connections of the cooling unit.
  - Make sure that the fans are working correctly.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E51: COOLING UNIT ALARM

- ▶ The coolant temperature exceeds the threshold.
- ▶ Solution
  - Check that the connection to the cooling unit is correct.
  - Check that the O/I switch is set to "I" and that it illuminates when the pump is running.
  - Check that the cooling unit is filled with coolant.
  - Make sure that the pump delivers the coolant (external bypass present)
  - Check that the cooling circuit is intact, notably the torch hoses and the internal connections of the cooling unit.
  - Make sure that the fans are working correctly.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E52: COOLING UNIT NTC ALARM

- ▶ NTC on the CU disconnected.
- ▶ Solution
  - Qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E60: MOTOR CURRENT ALARM WF

- ▶ High motor input current.
- ▶ Solution
  - Make sure that the motor is not physically blocked by an object.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E70: NO GAS ALARM

- ▶ No gas flow detected.
- ▶ Solution
  - Check that the gas in the system is connected to the device.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### E81: UPPER CURRENT LIMIT EXCEEDED ALARM

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

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### **E82: LOWER CURRENT LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

### **E83: UPPER VOLTAGE LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions.

### **E84: LOWER VOLTAGE LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions.

### **E85: UPPER WIRE SPEED LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

### **E86: LOWER WIRE SPEED LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

### **E87: UPPER GAS LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the gas in the system is connected to the device.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### **E88: LOWER GAS LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the gas in the system is connected to the device.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

### **E89: UPPER MOTOR CURRENT LIMIT EXCEEDED ALARM**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, welding position, torch, wire feeding.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.



**W81: UPPER CURRENT LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

**W82: LOWER CURRENT LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

**W83: UPPER VOLTAGE LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions.

**W84: LOWER VOLTAGE LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions.

**W85: UPPER WIRE SPEED LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

**W86: LOWER WIRE SPEED LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, gas used, welding position, mass, torch, wire feeding, active special functions (K-Deep).

**W87: UPPER GAS LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the gas in the system is connected to the device.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

**W88: LOWER GAS LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the gas in the system is connected to the device.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

## ENGLISH

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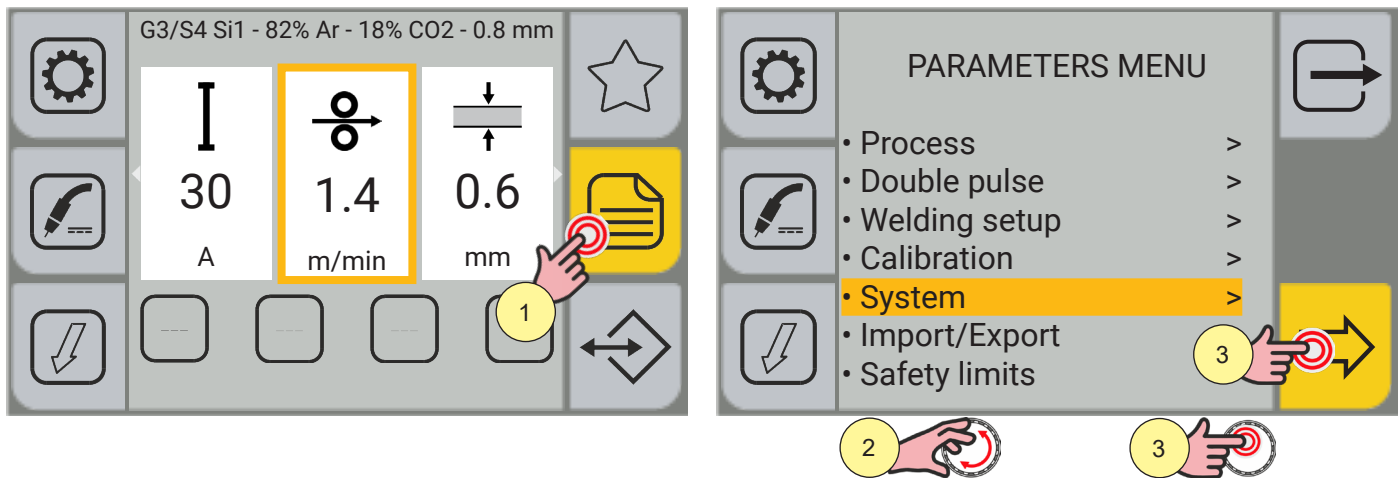
### **W89: UPPER MOTOR CURRENT LIMIT EXCEEDED WARNING**

- ▶ Solution
  - Check that the safety limit parameter for the set welding parameters is correct.
  - Check that there are no welding problems linked to the consumable, welding position, torch, wire feeding.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

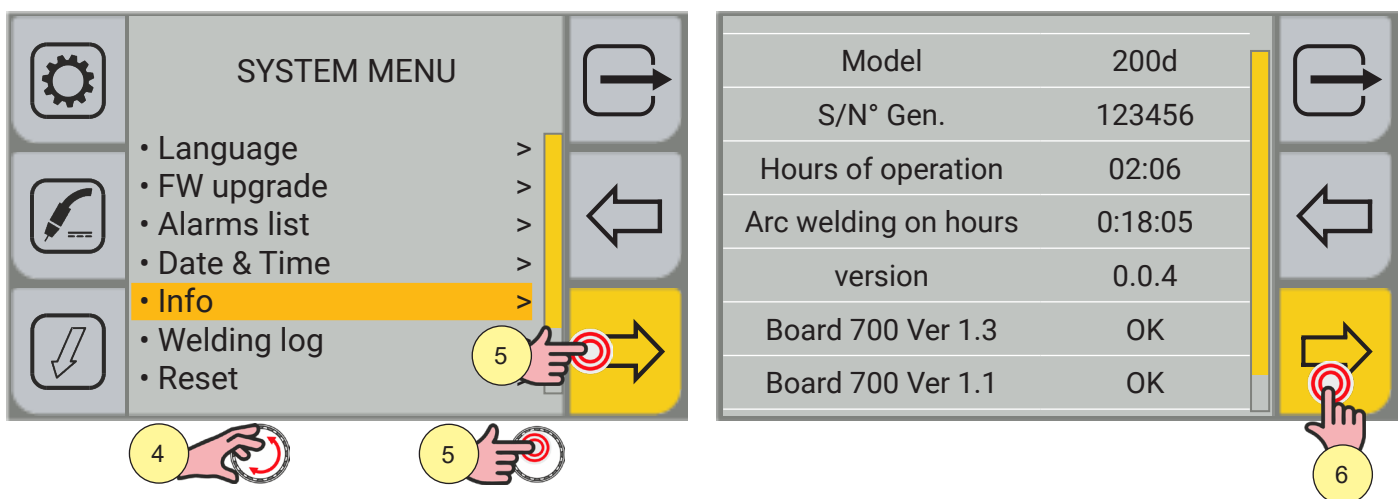
### **E99: GENERAL ALARM**

- ▶ Indicates that generator is not recognized
- ▶ Solution
  - Make sure that the connections between the generator and remote devices (wire feeders, remote devices, other devices) are intact.
  - If the problem persists qualified technical staff must be called out to carry out the repairs/maintenance operations.

## 12 SYSTEM INFO



1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the[NEXT] key to confirm.



4. Turn the encoder to select the desired setting. Select the following path: Info>
5. Press the ENCODER key or the[NEXT] key to confirm.

The screen shows:

- generator model
- the serial number of the generator
- the number of hours of operation of the machine
- the number of hours with the arc on












After 10 seconds, the screen will show:

- the list of boards with microprocessor and their firmware version.

6. Press the (DATI) key.

The screen is accessed that shows the system data in real time.


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I A 140	U V 20.0	 m/min 10.4	 l/min 1.0	
 1	 s 45	 kW 1.25	 kJ 1.09	
 A 2.3	 C° 20	 C° 20		







<p>I A 140</p>	Current value of welding current.
------------------------	-----------------------------------


<p>U V 20.0</p>	Current value of welding voltage.
-------------------------	-----------------------------------


<p> m/min 10.4</p>	Current value of wire speed.
---	------------------------------

<p> l/min 1.0</p>	Value of gas flow in litres/minute (only if sensor is present).
--	---

<p>  1</p>	Consecutive number of the weld bead from moment of powering up of the generator (starts from 1 at each powering up).
---	--

 s 45	Duration of welding of the single bead.
 kW 1.25	Current power of the welding arc in kW. CURRENT POWER: Average value of the current power that is the VOLTAGE product by CURRENT sampled every 100 micro seconds.
 kJ 1.09	Energy of the welding arc in kJ. CURRENT ENERGY: Average value of the current power that is the VOLTAGE product by CURRENT OVER THE UNIT OF TIME sampled every 100 micro seconds.
 A 2.3	Value of the wire feeder motor. Measures the current absorbed by wire feeder motor during welding. Excessive values mean feeding problems (jammed wire, dirty sheath, worn or clogged current conductor, etc).
 C° 20.0	Temperature of the power heat sink in the generator.
 C° 20.0	Temperature of the water of the cooling unit.

Press the  [PREC] key to return to the previous screen.

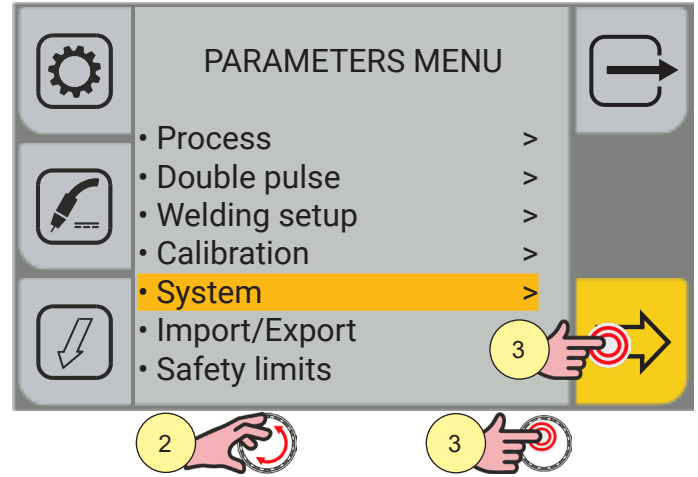
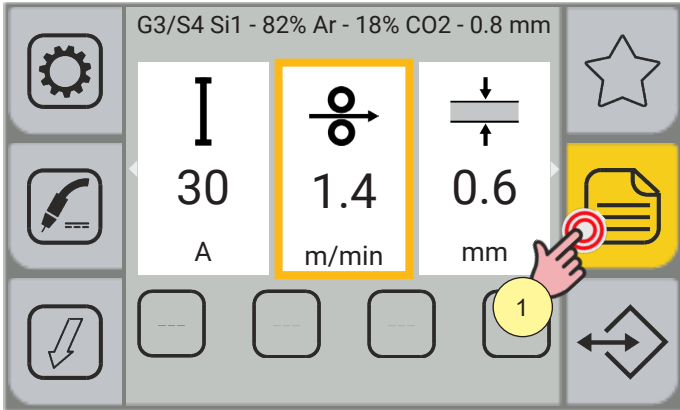
To return to the main screen, press the  [EXIT] key.

ENGLISH

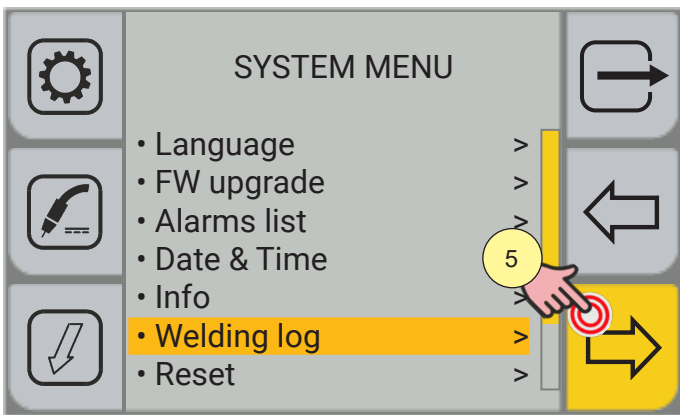
### 13 WELDING LOG

The screen displays welding data on the last 500 welds executed.  
The data can be exported in CSV file format onto a USB memory stick.

#### Display of welding log



1. Press the (MENU) key.
2. Turn the encoder to select the desired setting. Select the following path: System>
3. Press the ENCODER key or the[NEXT] key to confirm.



No.	yyymmdd	hhmmss	s	A	V	m/min	No.	kJ
4	13/04/2022	09:58	2.4	60	26.2	2.3	0	0.1
3	13/04/2022	09:58	3.8	69	18.2	2.3	0	0.3
2	13/04/2022	09:58	0.6	42	20.7	1.7	0	0.0
1	13/04/2022	09:57	1.6	69	19.2	2.4	0	0.1

4. Turn the encoder to select the desired setting. Select the following path: Welding log>
5. Press the ENCODER key or the[NEXT] key to confirm.

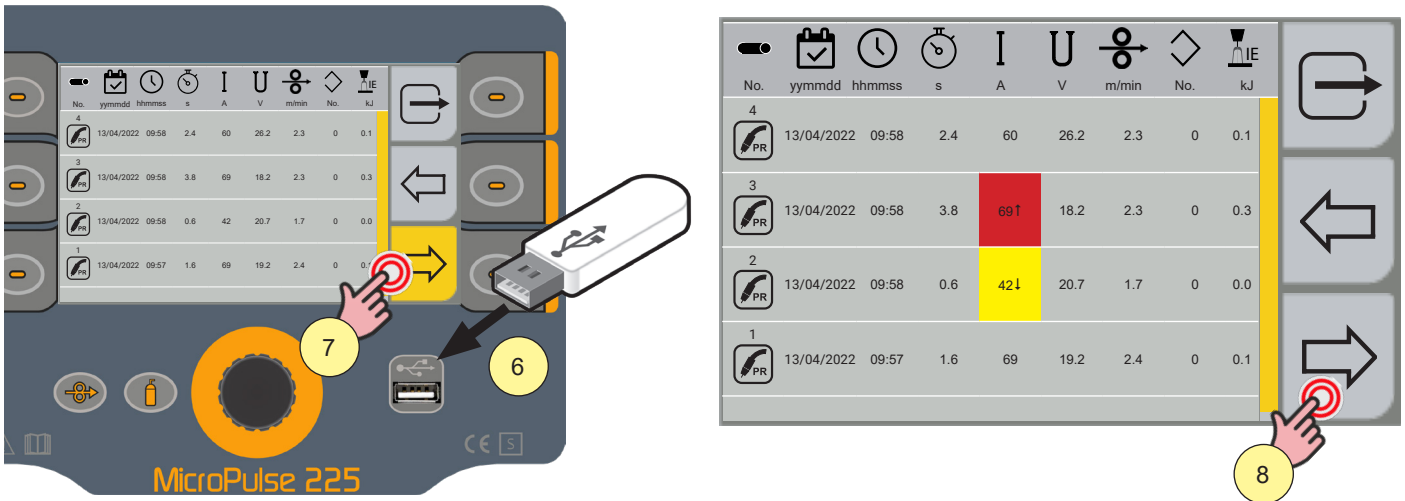
The screen shows:

- Consecutive number of the weld bead from moment of powering up of the generator (starts form 1 at each powering up)
- date (day/month/year)
- hour (hour/minutes/seconds) start of welding
- duration of welding in seconds (single bead)
- average welding current (bead carried out)
- average welding voltage (bead carried out)
- average wire speed (changes only if with deep k)
- number of job (if loaded)
- current energy of the arc in kJ

If the SAFETY LIMITS are enabled, when an alarm/warning condition occurs the box corresponding to the controlled parameter changes colour:

- alarm limit value exceeded (red box + symbol ↓ for lower limit or symbol ↑ for upper limit)
- set warning limit exceeded (yellow box + symbol ↓ for lower limit or symbol ↑ for upper limit)

### Exporting welding log



6. Insert the USB memory stick in the port provided.
7. Press the [EXPORT] key.
8. Press the [csv] key.

The data are saved in CSV format that can be for example imported by Excel.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Type : weldlogs												
2	Date : 2021/04/01 12:49:43												
3	Machine : 257												
4	NumSer : 180027												
5	Seam	Date	Start	Arc time	Current	Voltage	Speed	Power	Energy	Gas	Job	Alarm	
6				s	A	V	m/min	W	kJ	l/min			
7	6	16/03/2021	10:01:49	5,6	100	20,1	2,3	1435	8	0	0	0	
8	5	16/03/2021	10:00:40	10,2	104	16,2	2,3	1499	15,3	0	0	0	
9	4	16/03/2021	09:57:49	5,6	110	15,2	2,4	895	5	0	0	0	
10	3	16/03/2021	09:52:22	3,4	133	15,8	2,3	887	3	0	0	0	
11	2	16/03/2021	09:27:07	6,8	116	17	2,3	1627	11,1	0	0	0	
12	1	16/03/2021	09:25:56	22,8	114	15,7	2,3	1616	36,8	0	0	0	
13	3	15/03/2021	14:44:55	1,6	110	21,1	2,2	1430	2,3	0	0	0	
14	2	15/03/2021	14:43:58	1,4	114	18,1	2,1	1560	2,2	0	0	0	
15	1	15/03/2021	14:43:01	4,2	113	16,4	2,2	1571	6,6	0	0	0	
16	2	15/03/2021	14:29:50	5,8	113	15,3	2,2	1539	8,9	0	0	0	
17	1	15/03/2021	14:24:43	4,2	107	16,6	2,3	1434	6	0	0	0	
18	3	15/03/2021	14:13:52	1,2	99	22,7	2,1	1407	1,7	0	0	0	
19	2	15/03/2021	14:13:00	2	104	20,7	2,3	1386	2,8	0	0	0	
20	1	15/03/2021	14:11:14	3,2	100	21,7	411,7	1311	4,2	0	0	0	
21	4	15/03/2021	13:52:07	2,6	107	18	2,2	1492	3,9	0	0	0	
22	3	15/03/2021	13:50:49	3	113	16,7	2,3	1438	4,3	0	0	0	
23	2	15/03/2021	13:49:49	3,4	107	18	2,3	1443	4,9	0	0	0	
24	1	15/03/2021	13:48:04	5,8	106	18,2	2,3	1390	8,1	0	0	0	
25	2	15/03/2021	13:35:37	4,6	117	14,8	2,3	1400	6,4	0	0	0	
26	1	15/03/2021	13:07:38	5,8	111	16,2	2,3	1332	7,7	0	0	0	

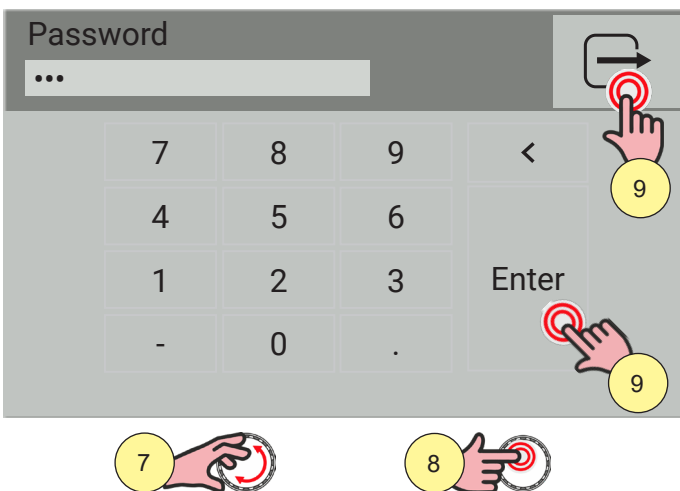
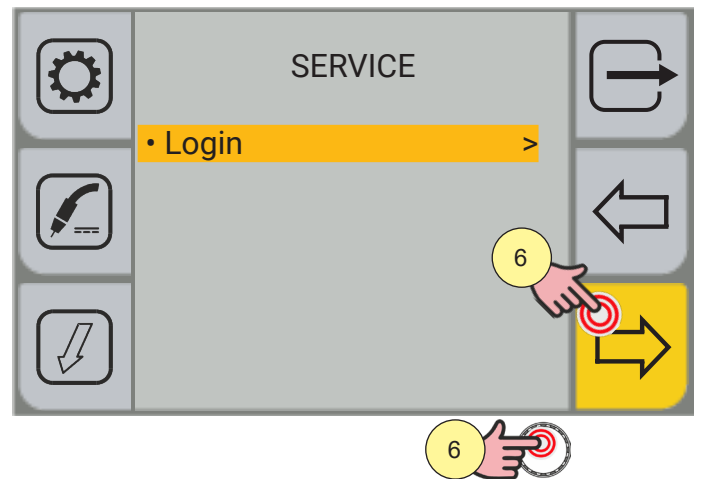
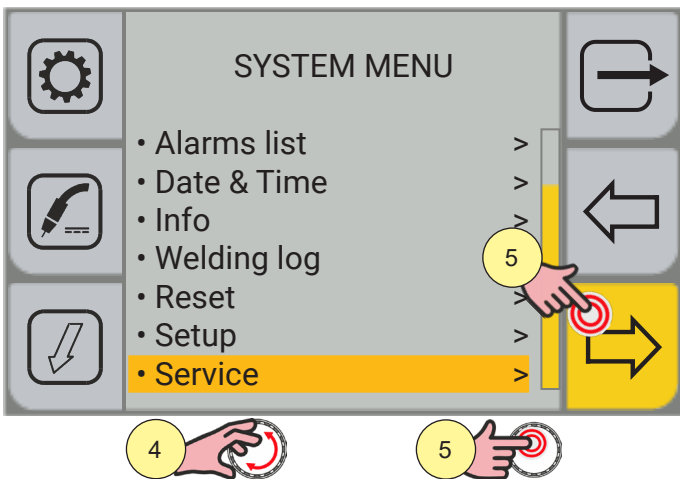
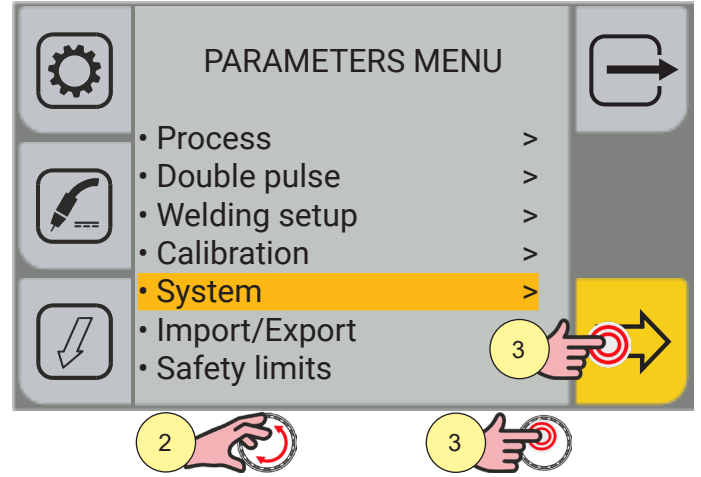
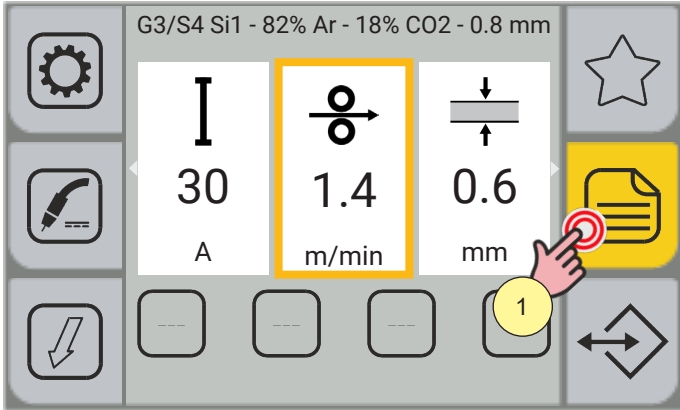
Press the ← [PREC] key to return to the previous screen.

To return to the main screen, press the → [EXIT] key.

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# 14 SERVICE

The service menu is used to activate additional functions; the password is not provided to the end user as these functions are activated by qualified technical personnel, only authorised by the manufacturer to carry out maintenance and troubleshooting tasks.








## 15 TECHNICAL DATA

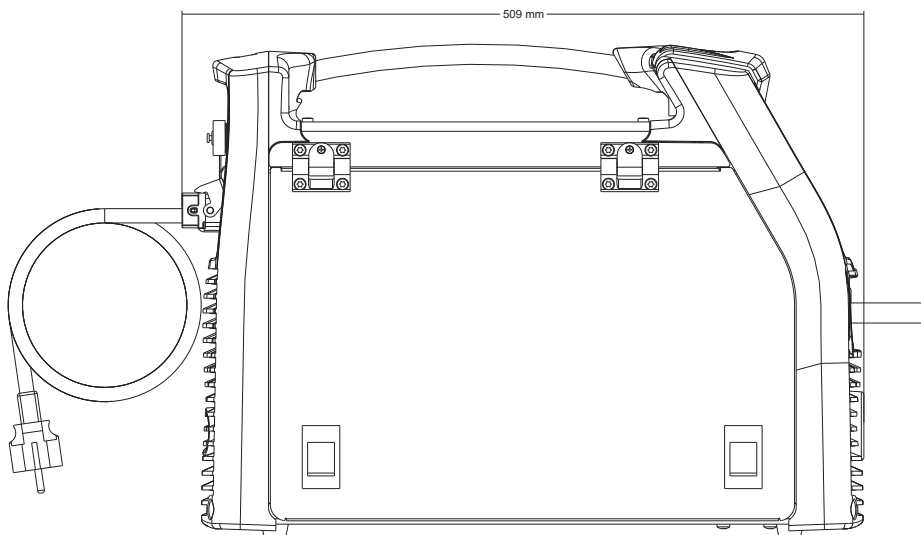
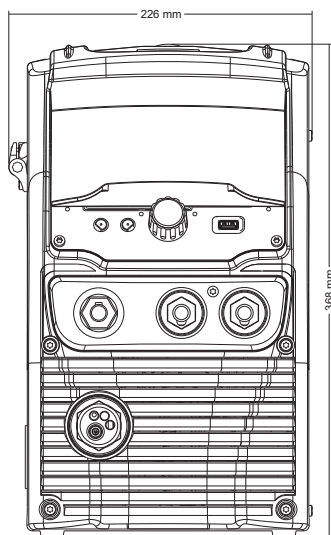
Directives applied	Waste electrical and electronic equipment (WEEE)
	Electromagnetic compatibility (EMC)
	Low voltage (LVD)
	Restriction of the use of certain hazardous substances (RoHS)
	Ecodesign of energy-related products (Eco Design)
Construction standards	EN 60974-1; EN 60974-5; EN 60974-10 Class A
Conformity markings	 Equipment compliant with European directives in force
	 Suitable in an environment with increased hazard of electric shock
	 Compliant with WEEE directive
	 Equipment compliant with RoHS directive

## 15.1 MICROPULSE 225

Supply voltage	1 x 230 Va.c. $\pm$ 15% 50/60 Hz			
Mains protection	16 A Delayed			
Zmax				
Dimensions	height: 368 mm / width: 226 mm / depth: 509 mm			
Weight	16.0 kg			
Insulation class	H			
Protection rating	IP23S			
Cooling	AF: Air-over cooling (fan assisted)			
Maximum gas pressure	0,5 MPa (5 bar)			
Static characteristic	MMA:  Drooping characteristic			
	TIG:  Drooping characteristic			
	MIG:  Static characteristic			
Welding mode		MMA	TIG	MIG
Current and voltage adjustment range		10 A - 20.4 V	10 A - 10.4 V	10 A - 14.5 V
		180 A - 27.2 V	220 A - 18.8 V	220 A - 25.0 V
Welding current / Working voltage	30% (40° C)	---	---	220 A - 25.0 V
	40% (40° C)	180 A - 27.2 V	---	---
	55% (40° C)	---	220 A - 18.8 V	---
	60% (40° C)	155 A - 26.2 V	210 A - 18.4 V	175 A - 22.8 V
	100% (40° C)	125 A - 25.0 V	175 A - 17.0 V	145 A - 21.2 V
Maximum input power	30% (40° C)	---	---	6.5 KVA - 6.4 KW
	40% (40° C)	5.7 KVA - 5.6 KW	---	---
	55% (40° C)	---	5.0 KVA - 4.9 KW	---
	60% (40° C)	4.7 KVA - 4.6 KW	4.8 KVA - 4.6 KW	4.8 KVA - 4.6 KW
	100% (40° C)	3.7 KVA - 3.6 KW	3.7 KVA - 3.6 KW	3.7 KVA - 3.6 KW
Maximum input current	30% (40° C)	---	---	28.4A
	40% (40° C)	25.3 A	---	---
	55% (40° C)	---	21.6 A	---
	60% (40° C)	20.7 A	20.7 A	20.7 A
	100% (40° C)	16.0 A	16.0 A	16.0 A
Actual input current	30% (40° C)	---	---	15.5 A
	40% (40° C)	16.0 A	---	---
	55% (40° C)	---	16.0 A	---
	60% (40° C)	16.0 A	16.0 A	16.0 A
	100% (40° C)	16.0 A	16.0 A	16.0 A
No-load voltage (U0)	52 V			

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<b>Reduced no-load voltage (Ur)</b>	5 V
<b>Efficiency of the source of energy</b>	Efficiency (MIG @ 220 A / 25 V): 87.3 %
	Energy consumption in conditions of absence of load (U1= 230 VAC): 26 W
<b>Essential raw materials</b>	According to information provided by our suppliers, this product contains no essential raw materials in quantities exceeding 1 g per component.



## 16 SPARE PARTS

### 16.1 WIRE FEED ROLLERS

CODE	DESCRIPTION	WIRE Ø	TYPE
			
002.0000.0140	ROLLER 0.6/0.8 D=37x12/D= 19 V	0.6/0.8	  V groove at 35° for solid wires (steel - stainless steel)
002.0000.0141	ROLLER 0.8/1.0 D=37x12/D= 19 V	0.8/1.0	
002.0000.0142	ROLLER 1.0/1.2 D=37x12/D= 19 V	1.0/1.2	
002.0000.0143	ROLLER 1.2/1.6 D=37x12/D= 19 V	1.2/1.6	
002.0000.0144	ROLLER 0.8/1.0 D=37x12/D=19 U	0.8/1.0	  V groove at 90° for aluminium wires
002.0000.0145	ROLLER 1.0/1.2 D=37x12/D=19 U	1.0/1.2	
002.0000.0146	ROLLER 1.2/1.6 D=37x12/D=19 U	1.2/1.6	
002.0000.0147	ROLLER 1.6/2.0 D=37x12/D=19 U	1.6/2.0	
002.0000.0148	ROLLER 2.4/3.2 D=37x12/D=19 U	2.4/3.2	  VK groove at 90° Knurled for tubular wires
002.0000.0149	ROLLER 1.0/1.2 D=37x12/D=19 VK	1.0/1.2	
002.0000.0150	ROLLER 1.2/1.6 D=37x12/D=19 VK	1.6/2.0	
002.0000.0151	ROLLER 2.4/3.2 D=37x12/D=19 VK	2.4/3.2	
002.0000.0303	SMOOTH ROLLER WITH BEARINGS		
002.0000.0152	SMOOTH ROLLER D=37x12/D=19		
002.0000.0153	KNURLED ROLLER D=37x12/D=19		

- ▶ The diameter of the roll groove must be compatible with the diameter of the welding wire.
- ▶ The roll must be of suitable shape in relation to the composition of the wire material.
  - The groove must feature a "V 90°" profile for soft materials (aluminium and its alloys, CuSi3).
  - The groove must feature a "V 35°" profile for harder materials (SG2-SG3, stainless steels).
  - The groove must feature a "VK 90°" knurled profile for flux-cored wire.



WELD THE WORLD

**ENGLISH**

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WELD THE WORLD

**WECO srl**  
**[www.weco.it](http://www.weco.it)**

Code006.0001.2270  
31/05/2022 V.1.0

