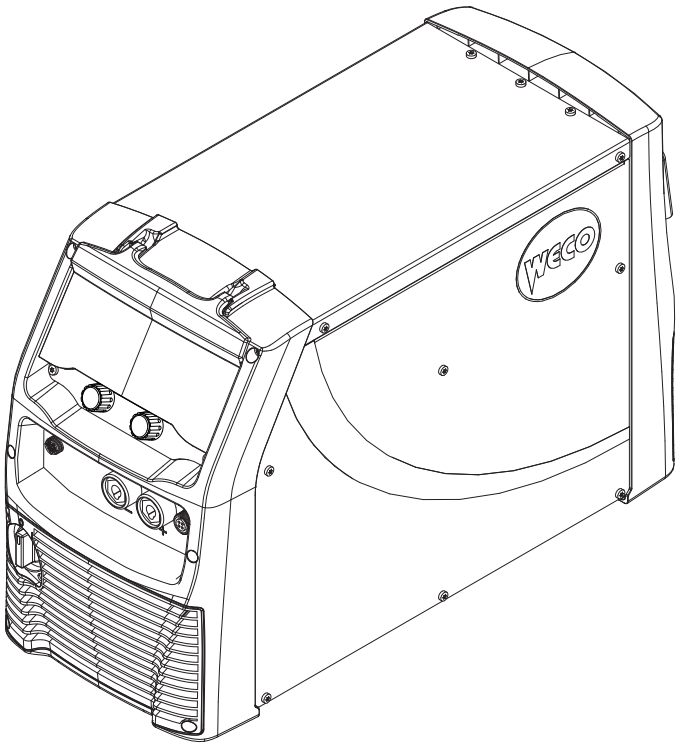
WELD THE WORLD

Pioneer 3200-4000-5000 dms
Pioneer Pulse 3200-4000-5000 dms

Instruction Manual

ENGLISH

Translation of original instructions



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1 GENERAL INFORMATION

IMPORTANT!
For your safety

This documentation must be consigned to the user prior to installation and commissioning of the unit.
Read the manual "GENERAL INSTRUCTIONS FOR USE" provided separately from this manual before installing and commissioning the equipment.
The meaning of the symbols in this manual and the associated precautionary information are given in the "GENERAL INSTRUCTIONS FOR USE".
If the "GENERAL INSTRUCTIONS FOR USE" are not present, it is mandatory to request a replacement copy from the manufacturer or from your dealer.
Retain these documents for future consultation.

1.1 MEANING OF THE 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.

NOTICE!

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

Information

This pictogram indicates additional information or refers to another section of the manual with the related information.

- in the illustrations:
  -  press
  -  turn 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.

1.2 PRESENTATION

Pioneer 3200-4000-5000 dms e Pioneer Pulse 3200-4000-5000 dms are multifunction current generators for MIG/MAG, MMA and TIG welding (with contact ignition).
They are compact electronic devices, managed by high-performance digital control systems, suitable for professional quality welding.

- **Fan.** The fan is switched on only during the welding phase, at the end of which it remains switched on for a predetermined time.
  - The fan is controlled by special thermal sensors that guarantee proper cooling of the machine.

- **Accessories/auxiliary devices that can be connected to the equipment:**
  - Generator carriage for multifunction configuration (MIG/MAG).
  - Liquid cooling unit for MIG/MAG torches.

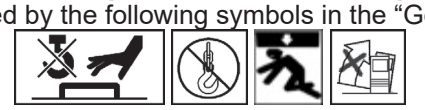
Information For an up-to-date list of accessories and the latest news available, contact your dealer.

2 INSTALLATION

DANGER!

Lifting and positioning

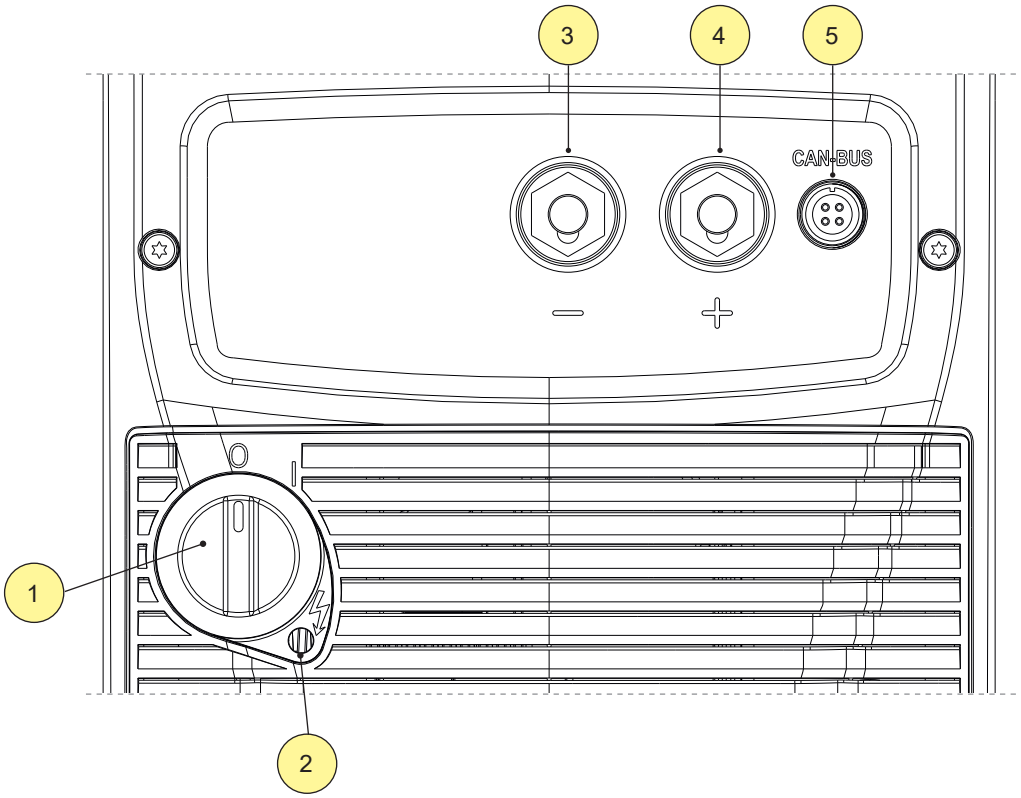
Read the warnings highlighted by the following symbols in the “General prescriptions for use”.



2.1 CONNECTION TO THE POWER SUPPLY NETWORK

The characteristics of the power supply network to which the equipment must be connected are indicated in chapter “TECHNICAL DATA”.
The machine can be connected to generator sets provided that they have a stabilised voltage.
Perform connection/disconnection operations between the various devices with the machine switched off.

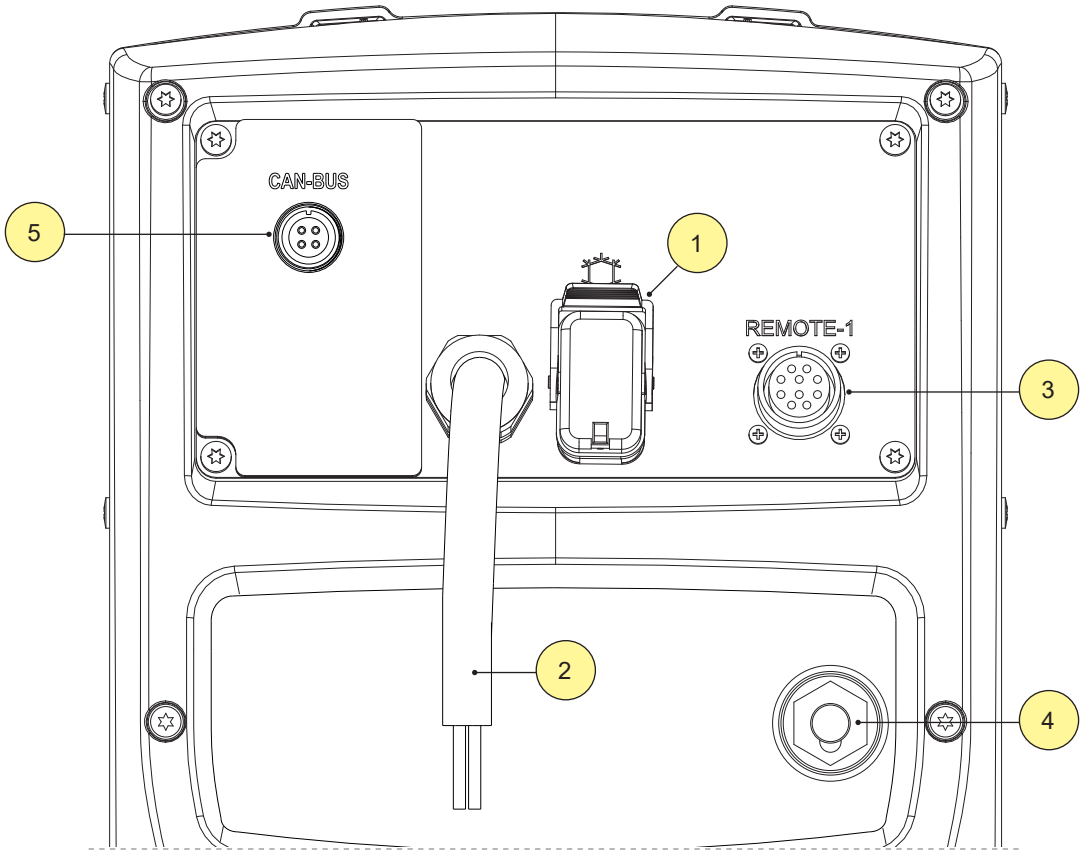
2.2 FRONT PANEL



1. Switch to switch the generator off and on.
2. Network protection activation LED.
3. Negative polarity welding socket
4. Positive polarity welding socket
5. Connector for CAN-BUS devices: devices that communicate via CAN-BUS can be connected to this connector (remote control, data manager, IR robot interface, etc.).

2.3 REAR PANEL

Pioneer 3200 - 4000 - 5000 dms, Pioneer Pulse 3200 - 4000 - 5000 dms

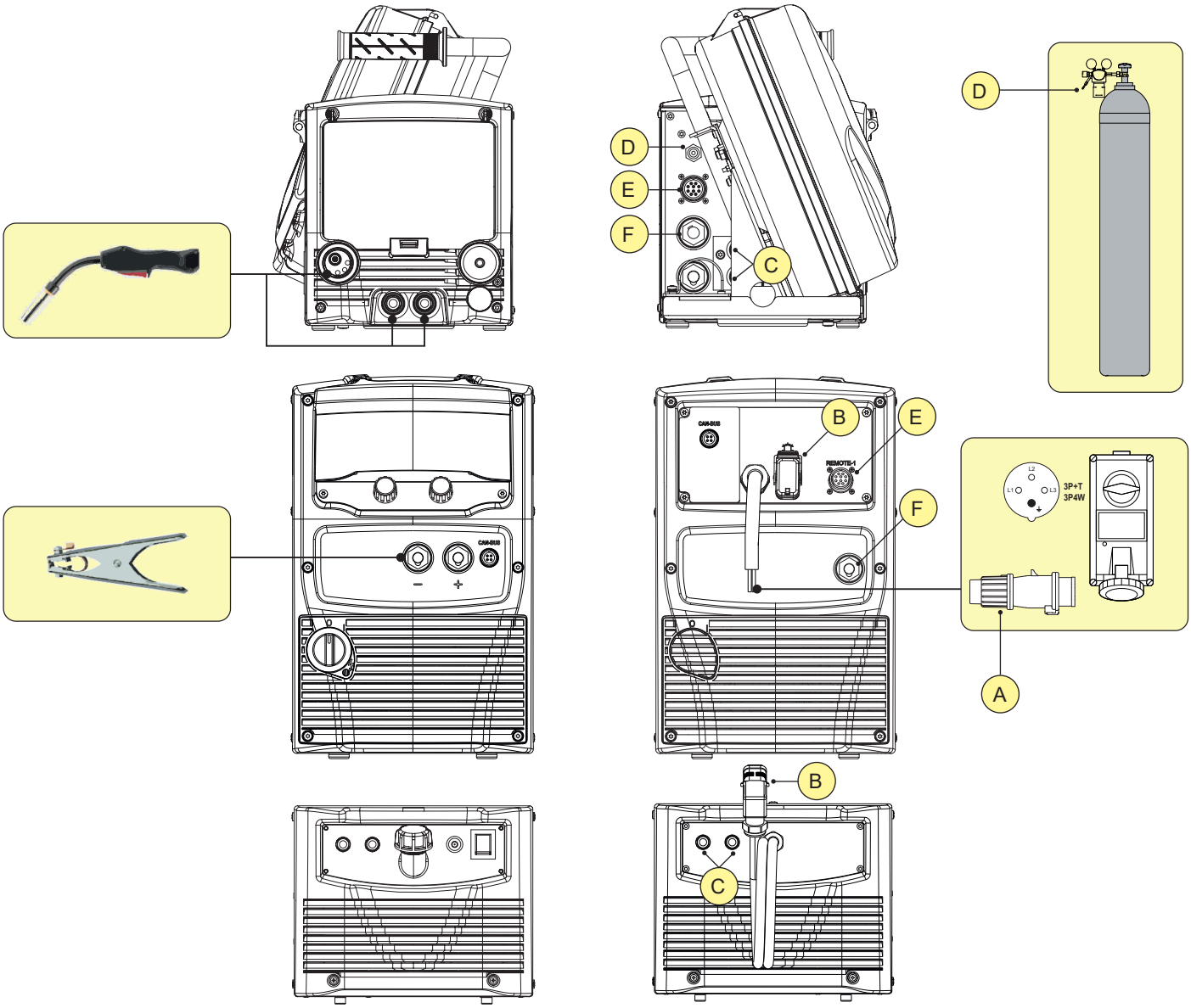


1. Connector for powering the cooling unit
   - Voltage: 400 V a.c.
   - Current supplied: 1.2 A
   - IP protection class: IP20 (cap open) / IP66 (cap closed)

⚠ **DANGER!** **Dangerous voltage!** If no equipment is connected to the socket, always keep the cover closed.

2. Power supply cable
   - Total length (external part): 4.3 m
   - Number and section of conductors: 4 x 4 mm^2
   - Type of electrical plug: not supplied
1. Cable bundle connector to connect the generator to the remote unit
2. Socket to connect the power cable between the generator and the remote device
3. Connector for CAN-BUS devices: devices that communicate via CAN-BUS can be connected to this connector (remote control, data manager, IR robot interface, etc.).

2.4 PREPARING FOR MIG/MAG WELDING



1. Assemble the various units as described in the instruction manual of the power source trolley.
2. Place the current generator switch in position “O” (equipment off).
3. Connect the power source mains supply cable to the mains socket outlet.
4. Secure to cable bundle connectors to the wire feeder carriage.
5. Secure to cable bundle connectors to the power source.
6. If cooling unit is provided:
   - Connect the power supply cable of the cooling unit to the auxiliary power socket on the power source.
   - Connect the delivery and return hoses for the cooling liquid of the cable bundle to the connections on the cooling unit and in the wire feeder carriage.
   - Connect the delivery and return hoses for the cooling liquid of the MIG/MAG torch to the connections for the cooling liquid in the wire feeder carriage.

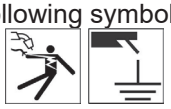
ⓘ **Information** For the cooling unit to power source assembly procedure, refer to the cooling unit instruction manual.

7. Secure the cable bundle by means of the locking device.
8. Connect the ground terminal plug to the negative polarity socket of the power source.

DANGER!

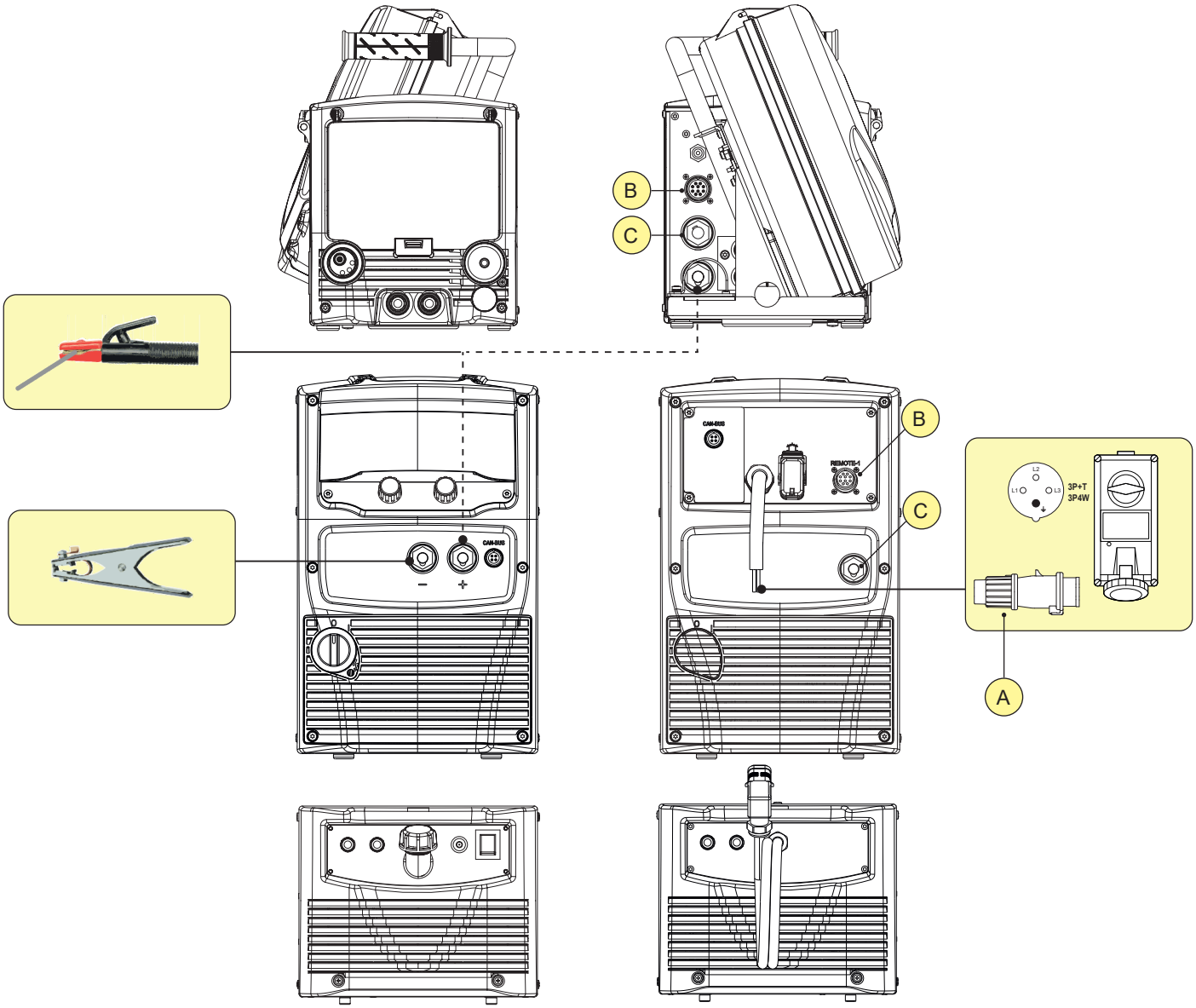
Electric shock hazard!

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



9. Connect the ground terminal to the workpiece being processed.
10. Connect the MIG/MAG torch plug to the EURO TORCH welding socket.
11. Connect the welding gas pipe between the wire feeder carriage and the gas cylinder or centralised system.
12. Set the welding power source ON/OFF switch to “I” (unit powered).

2.5 PREPARATION FOR MMA WELDING

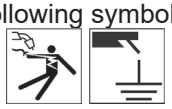


1. Place the current generator switch in position “O” (equipment off).
2. Plug the power cable plug into a mains socket outlet.
3. Choose the electrode based on the type of material and thickness of the workpiece to be welded.
4. Insert the electrode in the electrode holder.
5. Connect the electrode holder cable to the welding socket based on the polarity requested by the type of electrode used.
   Depending on the processing needs, it is possible to use both the welding socket located on the front panel of the generator and the socket in the wire feeder carriage.
6. Connect the plug of the ground terminal to the welding socket on the basis of the polarity required.
7. Connect the ground terminal to the workpiece being processed.

DANGER!

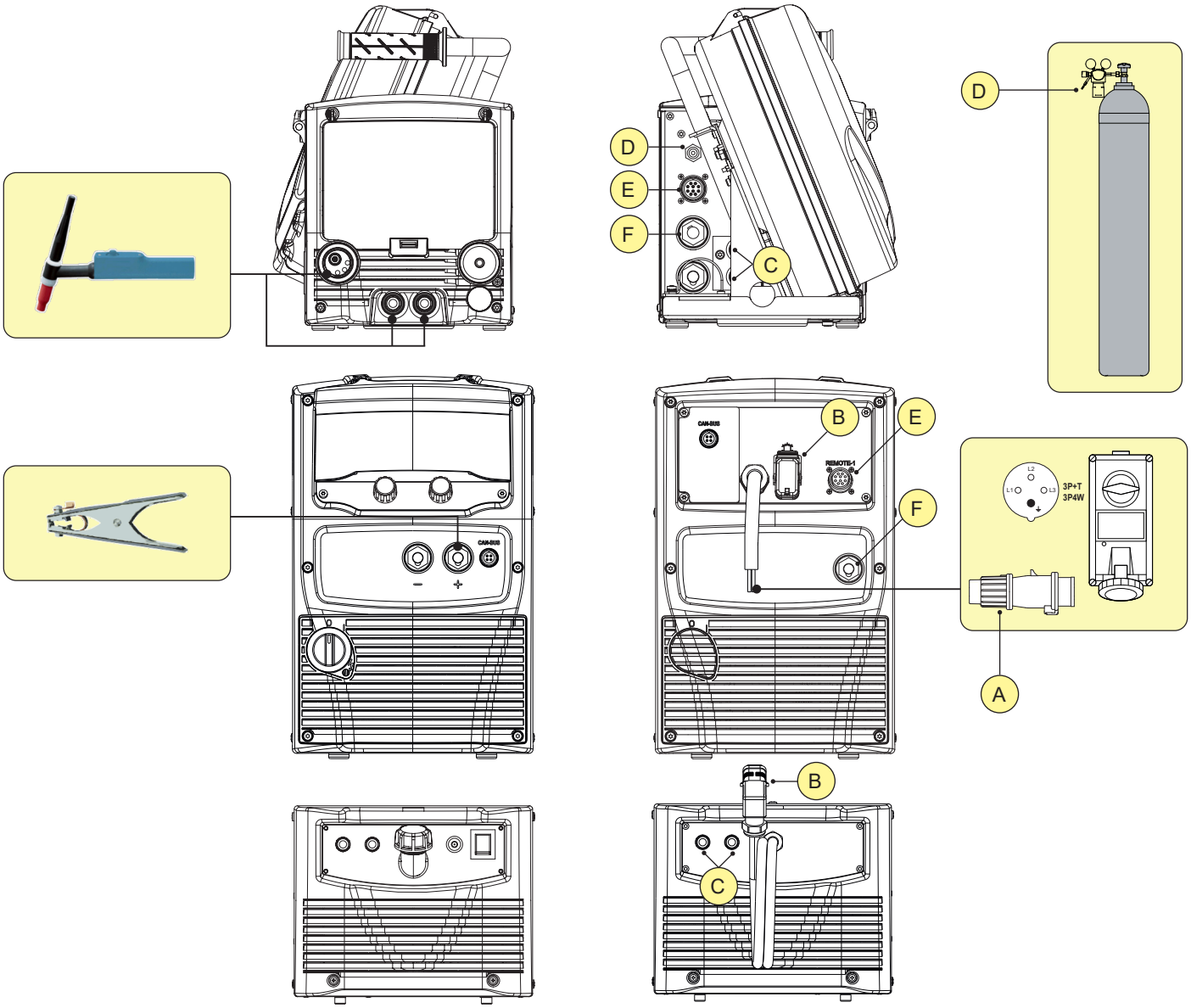
Electric shock hazard!

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 powered).

2.6 PREPARATION FOR TIG WELDING

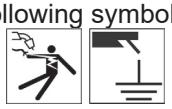


1. Place the current generator switch in position “O” (equipment off).
2. Plug the power cable plug into a mains socket outlet.
3. Connect the gas hose from the welding gas cylinder to the rear gas socket.
4. Open the cylinder gas valve.
5. Choose the electrode based on the type of material and thickness of the workpiece to be welded.
6. Insert the electrode in the TIG torch.
7. Connect the torch plug to the EURO welding socket.
8. Connect the ground terminal plug to the positive polarity welding socket.
9. Connect the ground terminal to the workpiece being processed.

DANGER!

Electric shock hazard!

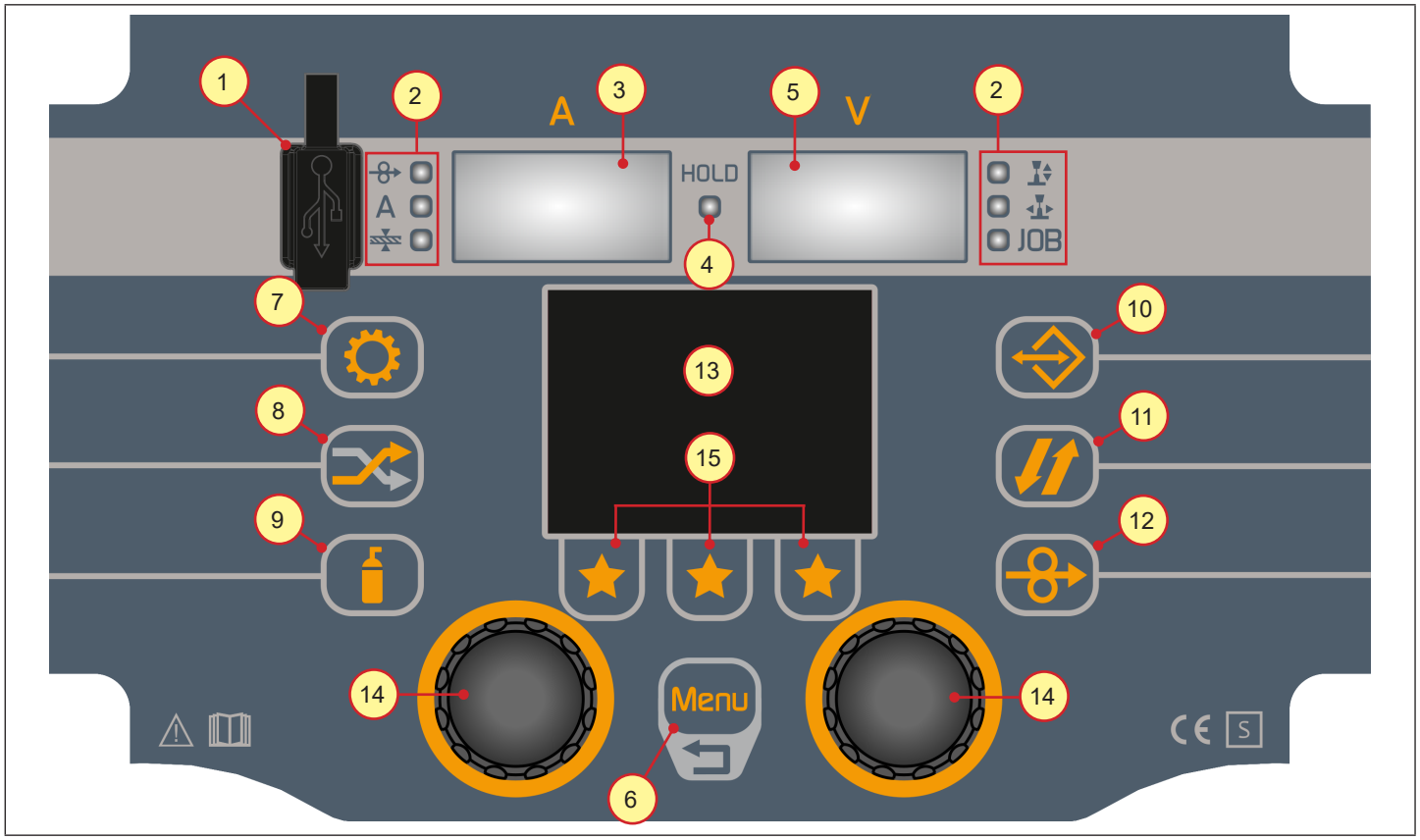
Read the warnings highlighted by the following symbols in the “General prescriptions for use”.

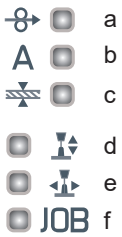


10. Set the welding power source ON/OFF switch to “I” (unit powered).

3 USER INTERFACE

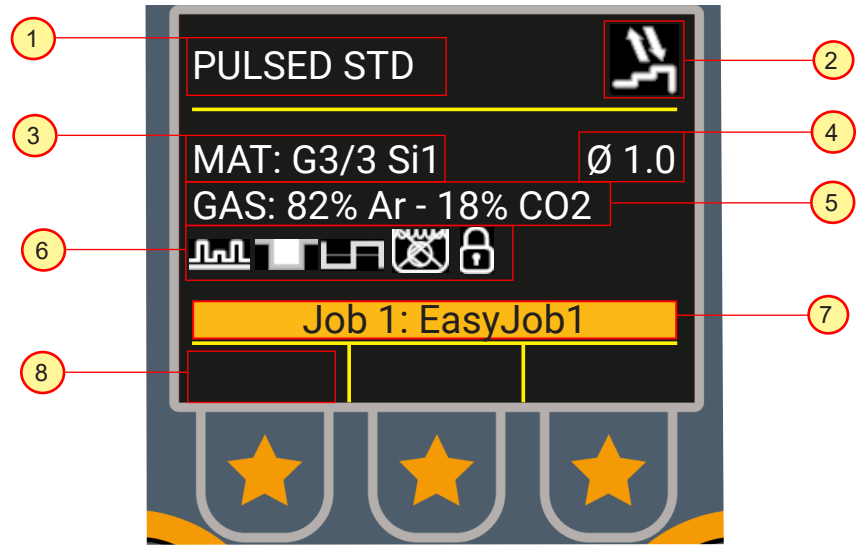
Pioneer 3200 - 4000 - 5000 dms, Pioneer Pulse 3200 - 4000 - 5000 dms

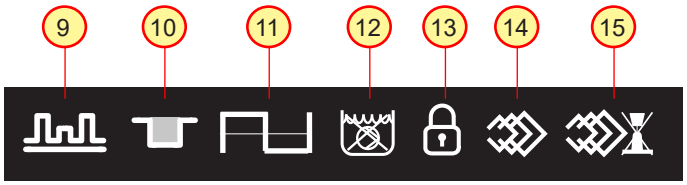


ELEMENT		FUNCTION
1		Port provided to connect a USB pen drive to export/import JOBs. The system firmware can be updated via the USB port.
2	 a A b c d e JOB f	The lighting of the LED indicates that the following parameters are being displayed and can be varied: a) wire speed b) welding current c) thickness of the material to be welded d) arc height correction e) arc dynamic f) retrieving a saved job
3		► **During welding:** The display shows the actual Amps. ► **With LED HOLD access:** The display shows the last measured current value.
4	HOLD	Switching on signals the display of the last voltage and current value measured during welding on displays **3** and **5**. The LED switches off when a new welding procedure is started, or when any of the welding settings is modified.

ELEMENT		FUNCTION
5		► **During welding:** The display shows the actual volts. ► **With HOLD LED on:** The display shows the latest measured voltage value.
6		**Menu Key** allows access to the menu through which the main characteristics of the weld are set.
7		**Program Key**: Active only in MIG/MAG and MMA welding mode. When pressed it allows access to the menu from which you can select the material to be welded and/or the type of electrode used.
8		**Process Key**: When pressed it allows access to the menu from which you can select the welding process to be used. Selectable processes: • MIG/MAG SHORT/SPRAY • TIG • MMA
9		**GAS Key:** Active only in MIG/MAG and TIG welding mode. Pressing the key activates the gas solenoid valve to calibrate the flow pressure with the regulator mounted in the gas cylinder or centralised system.
10		**JOB Key:** Personalised welding settings, or JOBs, can be saved in memory locations and subsequently uploaded. When pressed, it allows access to the menu for managing JOBs.
11		**TORCH TRIGGER MODE Key:** Active only in MIG/MAG and TIG welding mode. When pressed, it allows access to the menu through which the torch trigger mode is selected.
12		**WIRE FEEDER SPEED Key:** Active only in MIG/MAG welding mode. When pressed, it controls the wire feeder speed.
13		**LCD:** The display shows the menus for setting up the welding machine and its functions.
14		**ENCODER WITH BUILT-IN KEY** **In the menu screens:** The list of parameters/settings is scrolled through the encoder. Pressing the encoder (ENCODER KEY) selects the highlighted setting. **During welding:** the encoder changes the value of the active parameter.
15		**Fast Job Keys:** These keys are assigned JOBs from the quick save and recall. (Within the menu the assigned function is specified by the writing that appears above the key in the display).

3.1 CENTRAL DISPLAY





ELEMENT	FUNCTION
1	**WELDING PROCESS** of the selected synergistic program currently in use.
2	**TORCH TRIGGER MODE** selected.
3	**MATERIAL** of the selected synergistic program.
4	**DIAMETER OF THE WIRE** of the selected synergistic program.
5	**GAS** of the selected synergistic program.
6	STATUS BAR.
7	The name of the **JOB** currently in use.
8	Boxes dedicated to the **FAST JOBS**. (FAST JOBS are JOBs that can be saved, recalled and overwritten quickly).
9	**DOUBLE PULSE**: the symbol is displayed with the function is active.
10	**BILEVEL**: the symbol is displayed when the function is active.
11	**SPOT-PAUSE**: the symbol is displayed when the function is active.
12	**COOLING UNIT DISABLED**: the symbol is displayed when the cooling unit is not provided or is disconnected.
13	**LOCK:** the symbol is displayed when the function is active.
14	**JOB SELECTION:** the symbol is displayed when the torch trigger function is active.
15	**JOB SELECTION (NO ARC):** the symbol is displayed when the torch trigger function is active.

3.2 NUMERIC DISPLAYS

By means of the left encoder, it is possible to select and change the value of the following parameters.

- Wire speed
- Welding current A
- Thickness of the material to be welded

When the LED near the relative icon lights up, it means that the numeric display is showing the corresponding parameter.

1. Press the encoder key to activate parameter change.
2. Turn the encoder to set the desired value.

Press the encoder key again to select the following parameter

By means of the right encoder, it is possible to select and change the value of the following parameters.

- Arc height correction
- Arc dynamics
- Recall a saved job JOB

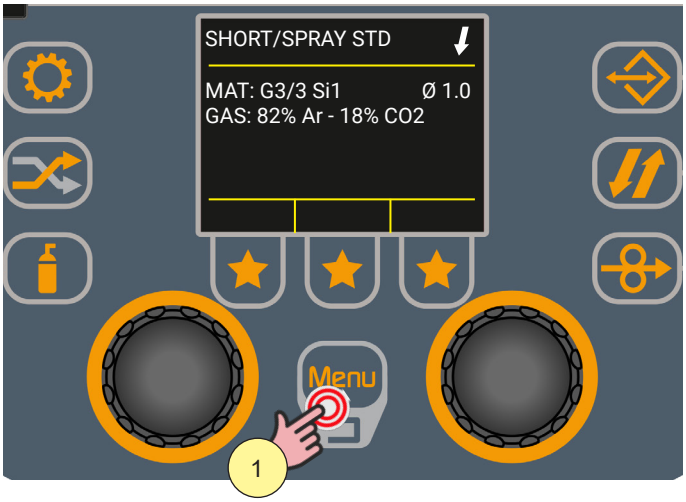
When the LED near the relative icon lights up, it means that the numeric display is showing the corresponding parameter.

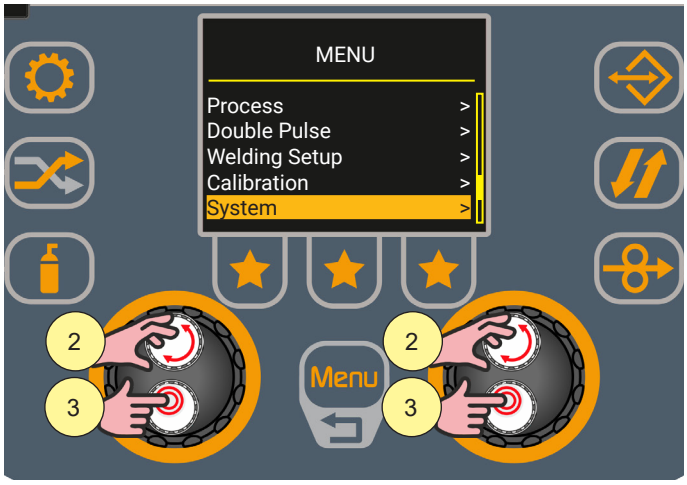
1. Press the encoder key to activate parameter change.
2. Turn the encoder to set the desired value.

Press the encoder key again to select the following parameter

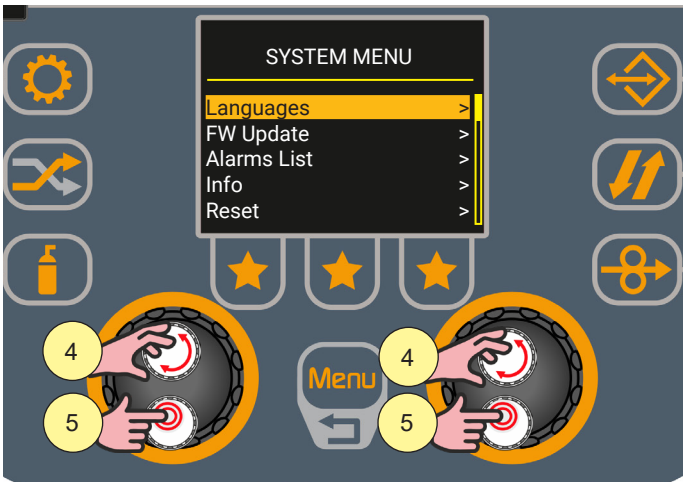
4 PRELIMINARY SETTINGS

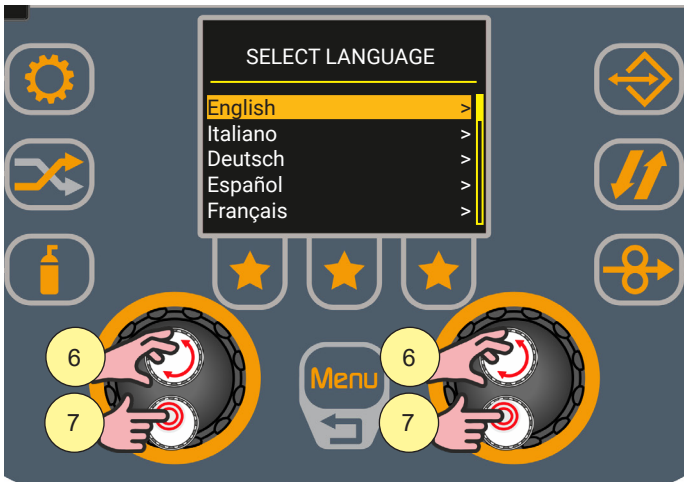
4.1 LANGUAGE SETTING





1. Press the [Menu] key.
2. Select the desired setting by turning the encoder.
   Select the following path: System>
3. Press the encoder key to confirm.

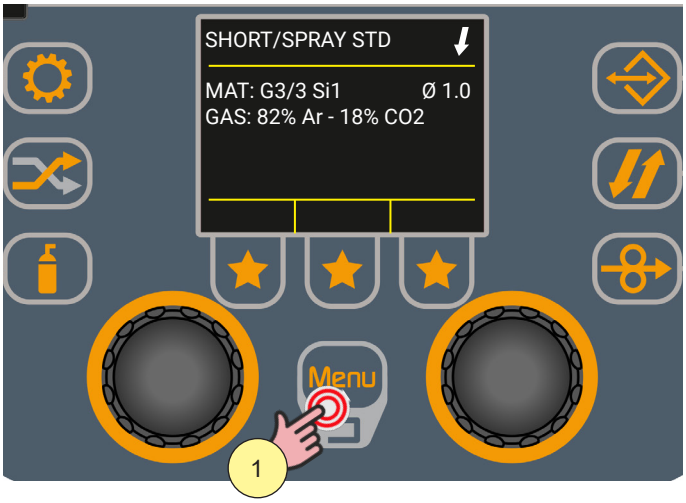


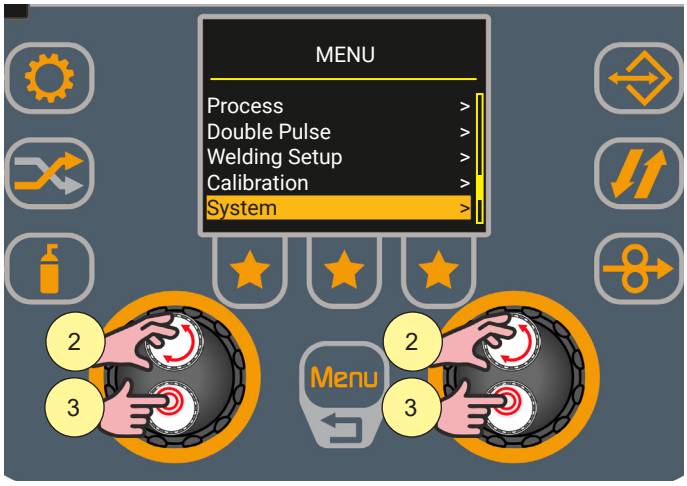


4. Select the desired setting by turning the encoder.
   Select the following path: Languages
5. Press the encoder key to confirm.
6. Turn the encoder to select the desired language.
7. Press the encoder key to confirm.

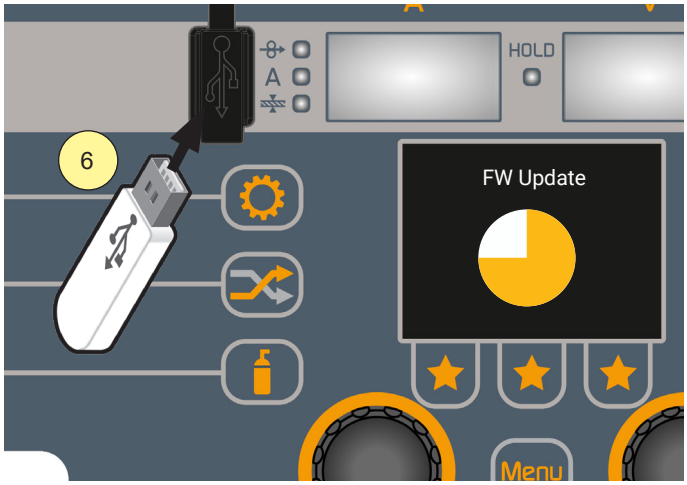
Pressing the [Menu] key returns you to the previous screen.

4.2 FIRMWARE UPDATE





1. Press the [Menu] key.
2. Select the desired setting by turning the encoder.
   Select the following path: System>
3. Press the encoder key to confirm.



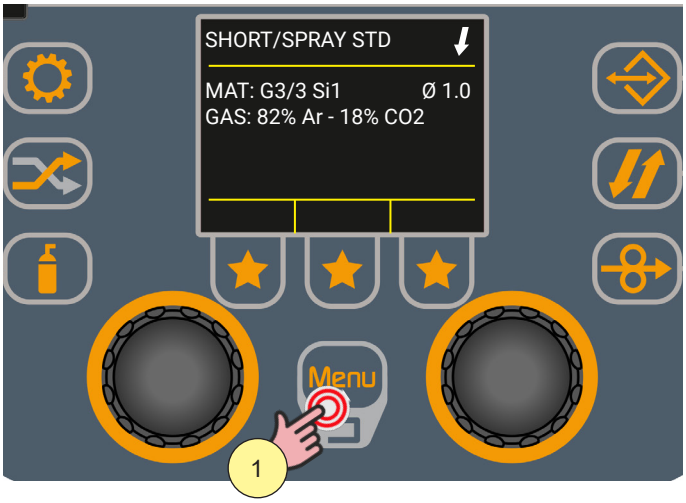
4. Select the desired setting by turning the encoder.
   Select the following path: FW Update
5. Press the encoder key to confirm.
6. Insert the USB pen drive with the loaded firmware into the appropriate port.

If a USB pen drive is not inserted in the appropriate port, the message "A USB pen drive with FAT32 partition must be inserted" appears on the display.
Follow the instructions on the display to start the update.
Wait for the update procedure to finish.

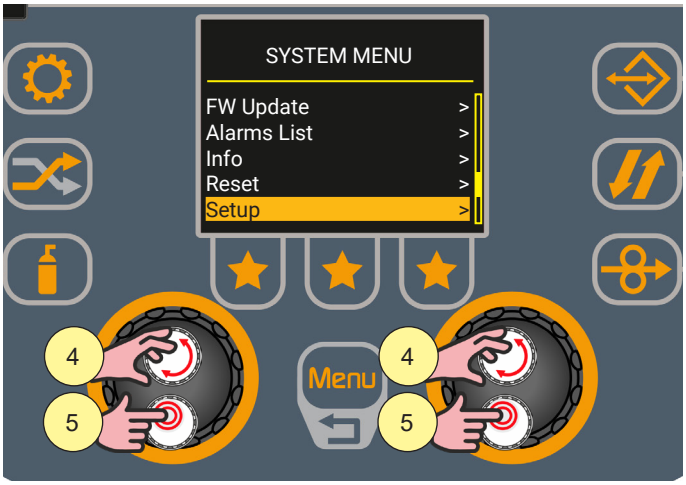
If problems are found in the update, the display shows a notice.

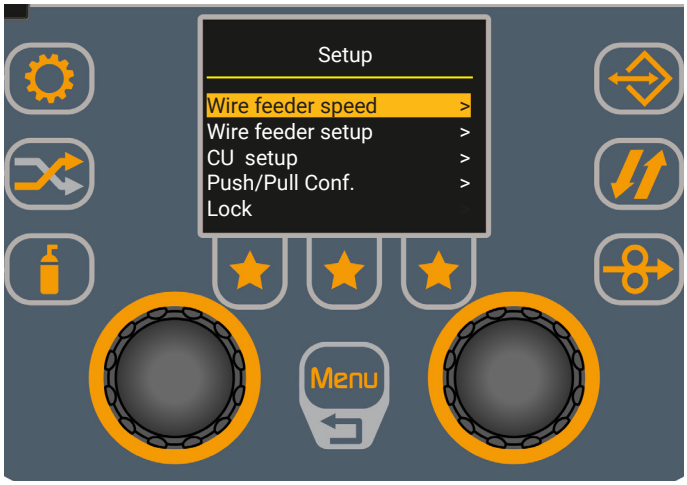
NOTICE	MEANING
File not found	File not present in the USB pen drive.
A USB pen drive with a FAT32 partition must be inserted	USB pen drive not recognised (there isn't one or it is inserted incorrectly). Check the correct insertion of the USB pen drive. Use a different USB pen drive.
File not correct	File corrupt or with changed name (never rename the provided update file).
File not correct	Contact the customer service.
Error machine	The file uploaded to the USB pen drive is not compatible with the electronic board.
Error Pkg No.	You cannot downgrade the installed software.

4.3 System Settings



1. Press the [Menu] key.
2. Select the desired setting by turning the encoder.
   Select the following path: System>
3. Press the encoder key to confirm.

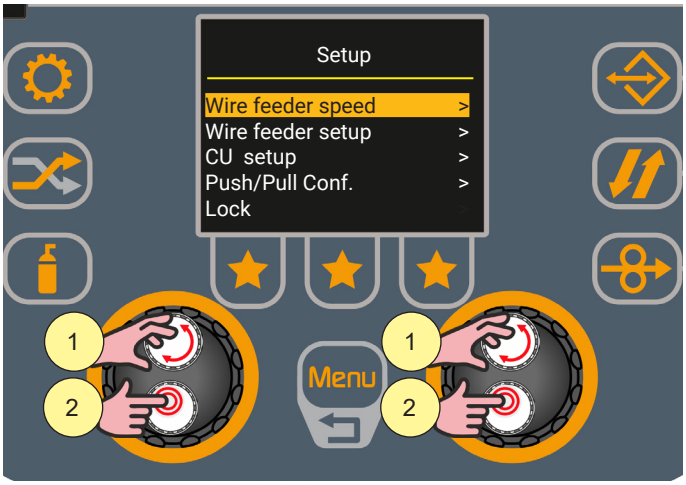


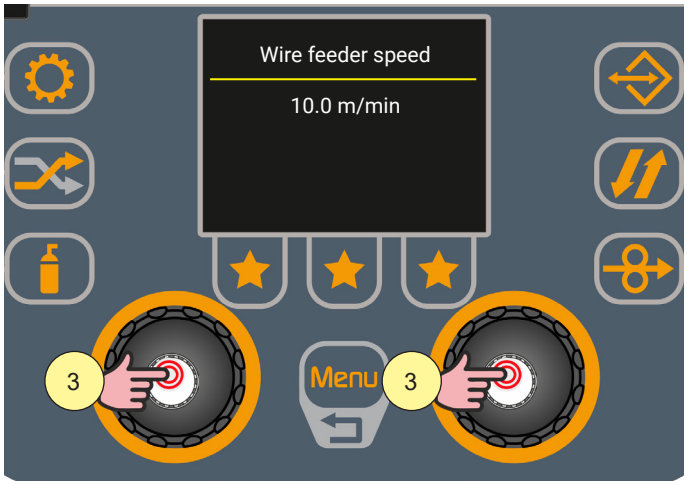


4. Select the desired setting by turning the encoder.
   Select the following path: Setup>
5. Press the encoder key to confirm.

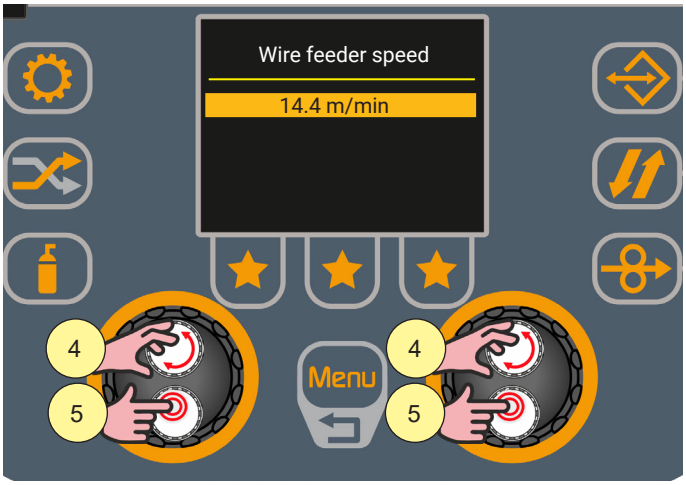
Wire feeder speed setting

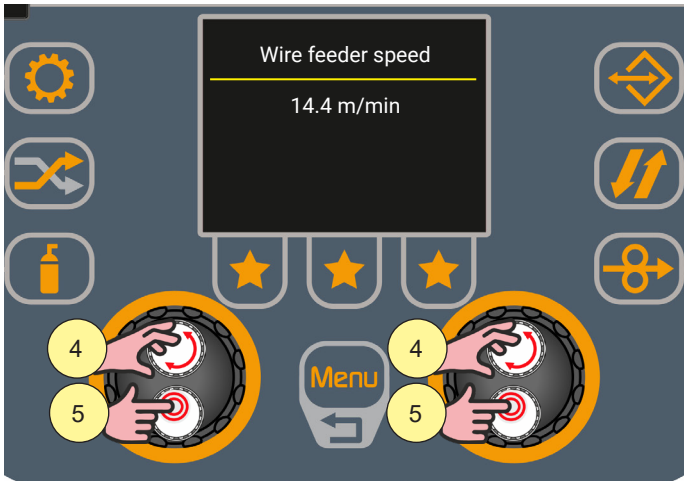
Using the WIRE FEEDER SPEED parameter, the wire threading speed that you have when you press the [THREADING] key is set.





1. Select the desired setting by turning the encoder.
   Select the following path: Wire feeder speed>
2. Press the encoder key to confirm.
3. Press the encoder key to activate the parameter change.



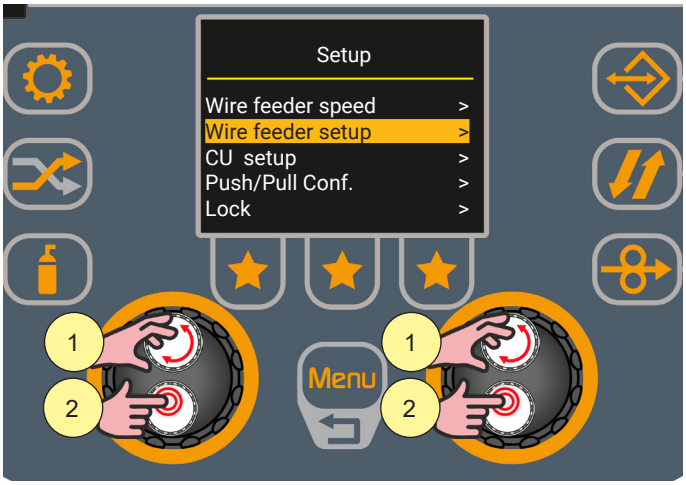


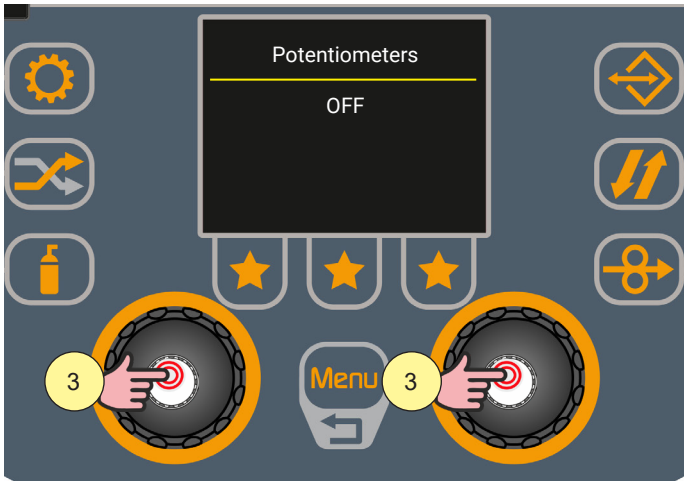
4. Turn the encoder to set the desired value.
5. Press the encoder key to confirm.

Pressing the [Menu] key returns you to the previous screen.

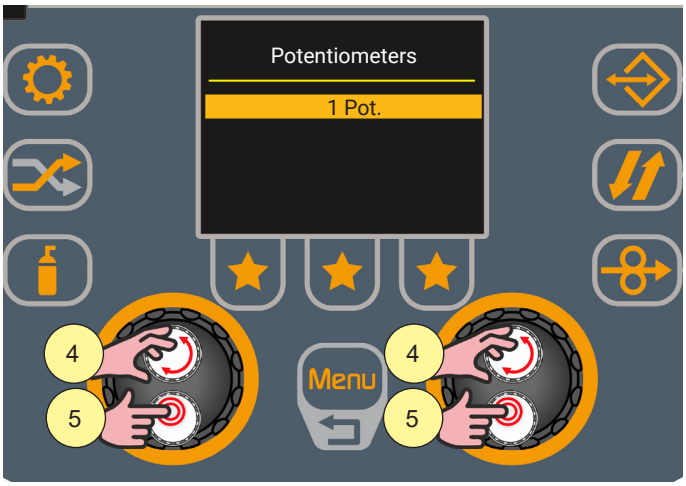
Wire feeder setup

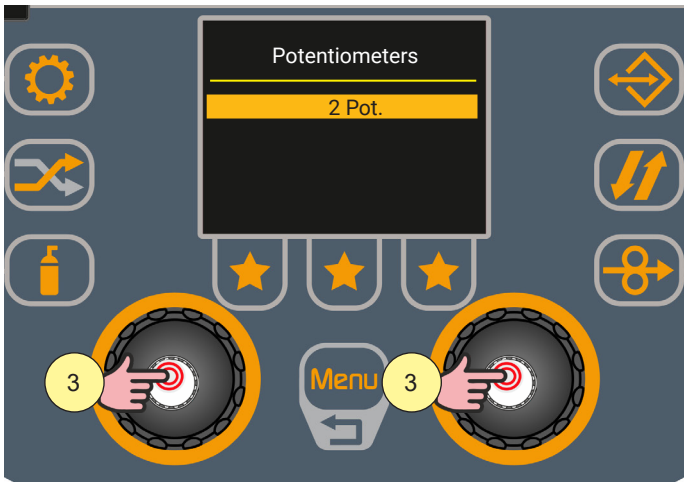
By means of a WIRE FEEDER SETUP, the reception of the commands of an outdoor unit with 1 or 2 potentiometers is enabled.





1. Select the desired setting by turning the encoder.
   Select the following path: Wire feeder setup>
2. Press the encoder key to confirm.
3. Press the encoder key to activate the parameter change.

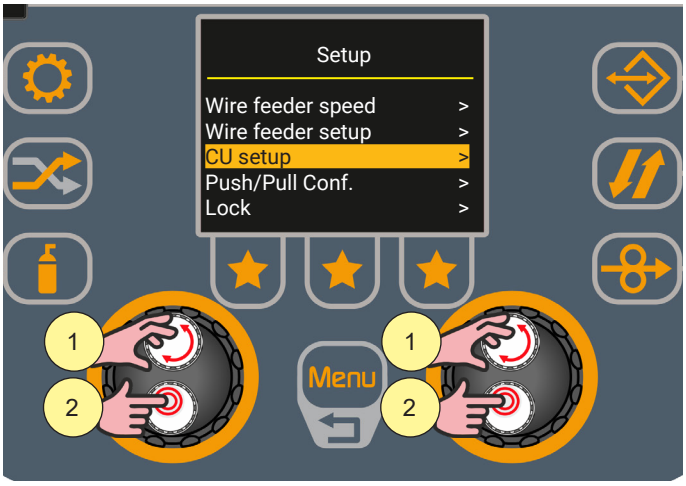


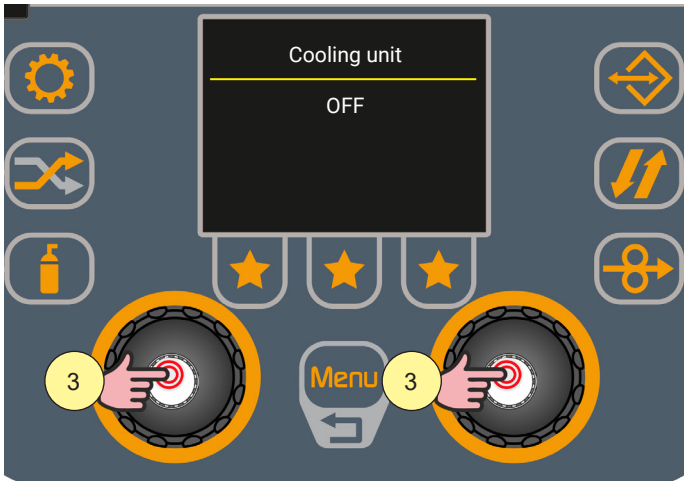


4. Turn the encoder to set the desired value.
5. Press the encoder key to confirm.

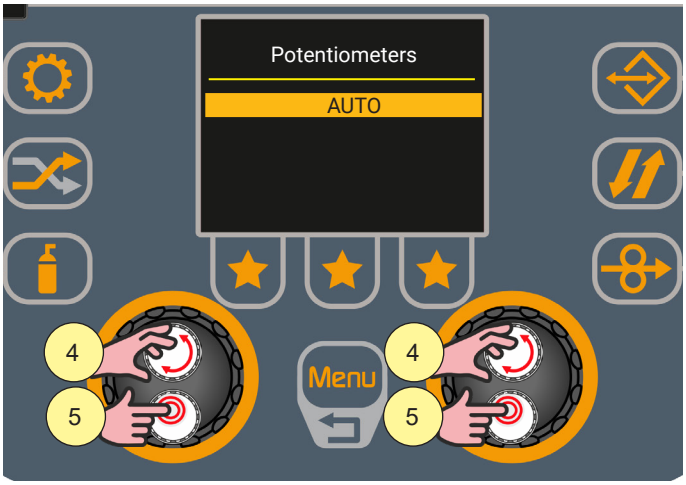
Pressing the [Menu] key returns you to the previous screen.

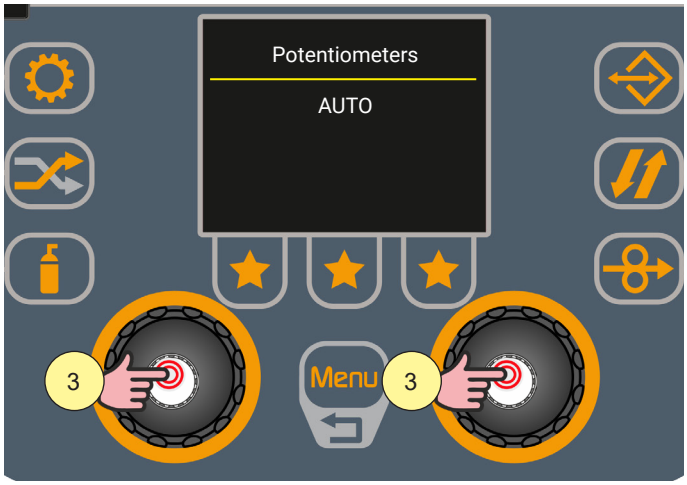
Cooling unit setup





1. Select the desired setting by turning the encoder.
   Select the following path: CU setup>
2. Press the encoder key to confirm.
3. Press the encoder key to activate the parameter change.





4. Turn the encoder to set the desired value.
   - (AUTO, ON, OFF)

AUTO: When the unit is switched on, the cooling system is switched on for 30 s. During welding procedures, the cooling system runs constantly. At the end of welding, the unit remains on for a predefined time.

- **ON:** The cooling unit is always switched 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 disabled; to be selected if you are using an air-cooled torch.

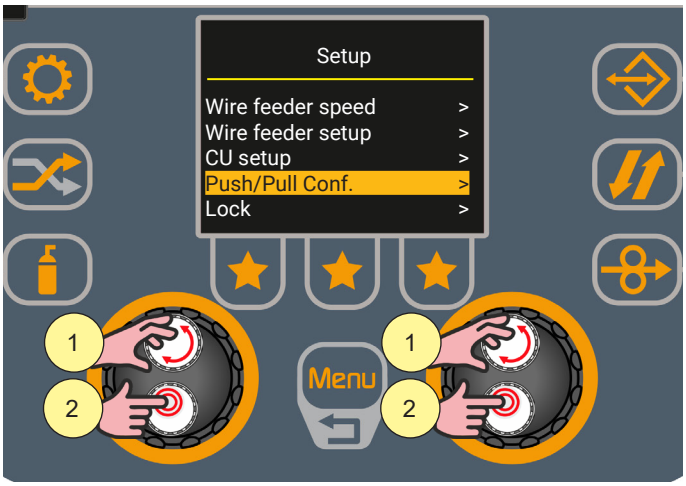
5. Press the encoder key to confirm.

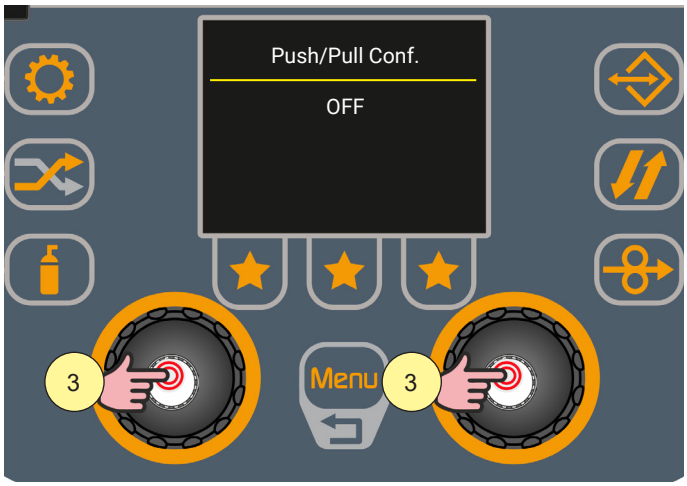
Pressing the [Menu] key returns you to the previous screen.

Push/Pull Configuration

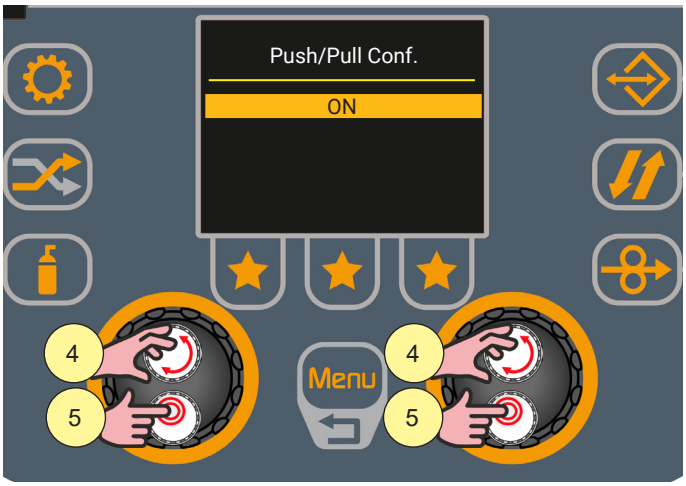
A PushPull torch can be installed.
When you want to enable the PushPull torch motor command, you must enable this function.

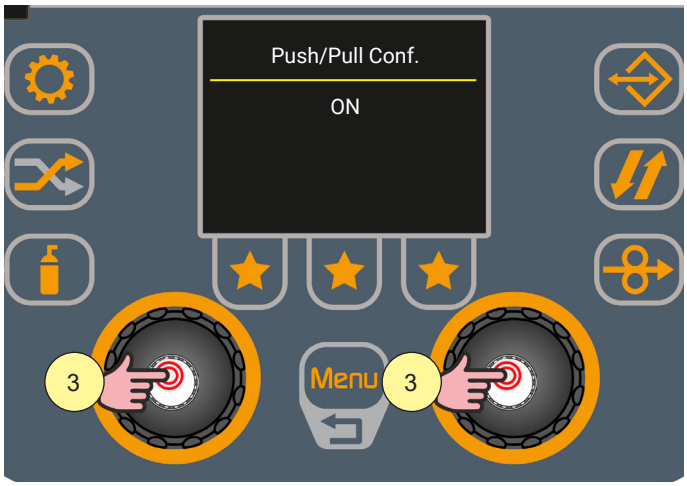
Information To use the PushPull torch, the PushPull kit (card, torch connector) must be installed in the wire feeder.





1. Select the desired setting by turning the encoder.
   Select the following path: Push/Pull Conf.>
2. Press the encoder key to confirm.
3. Press the encoder key to activate the parameter change.

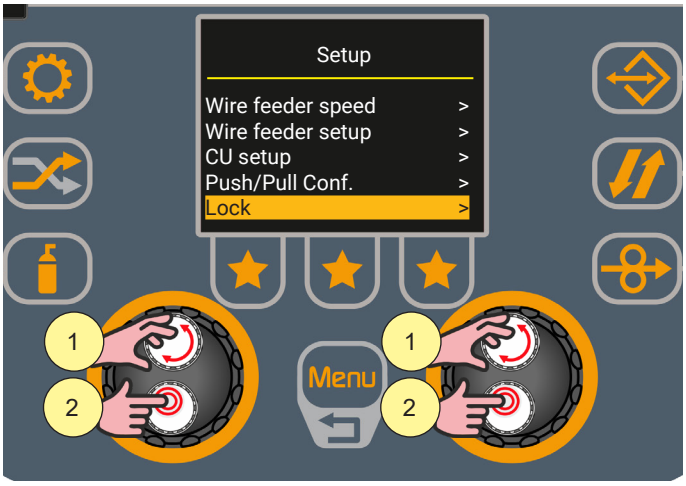


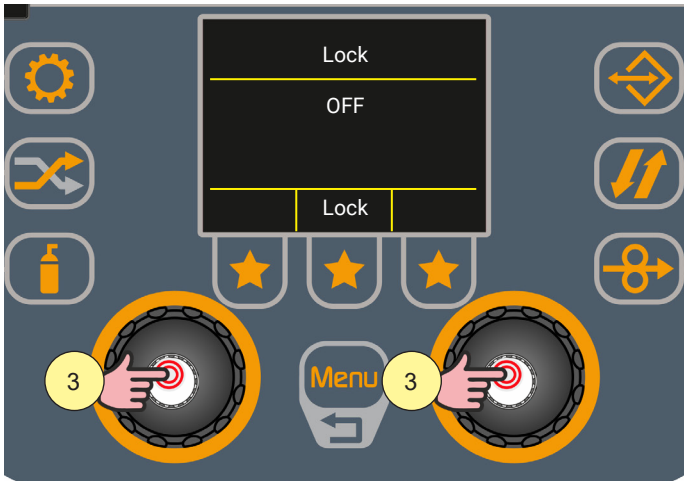


4. Turn the encoder to set the desired value.
   - (ON, OFF)
5. Press the encoder key to confirm.

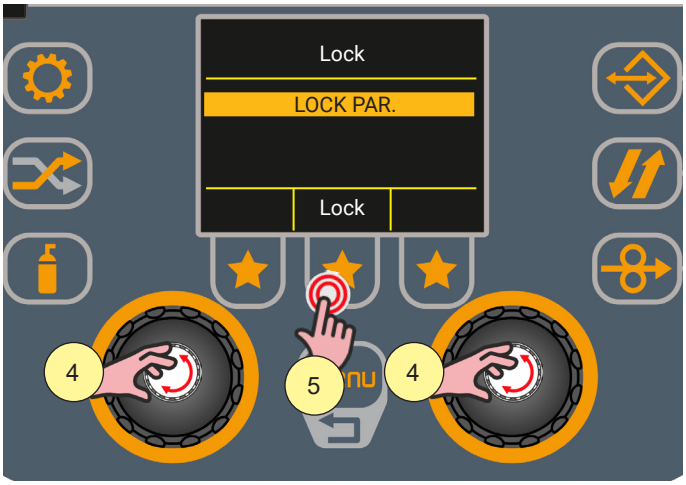
Pressing the [Menu] key returns you to the previous screen.

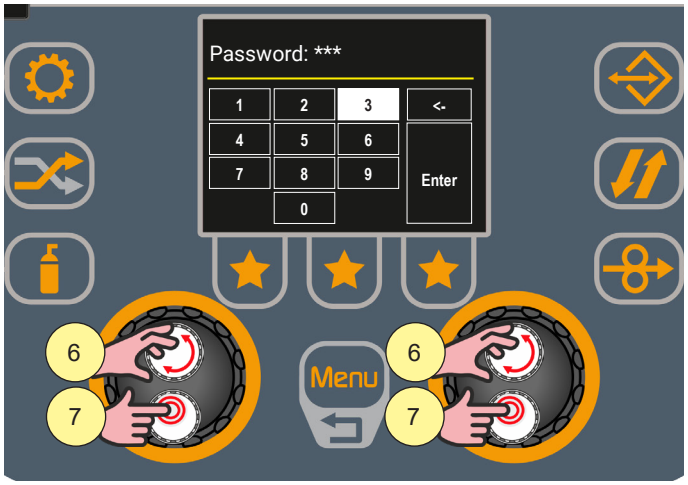
LOCK (Locking/Unlocking changes)





1. Select the desired setting by turning the encoder.
   Select the following path: Lock>
2. Press the encoder key to confirm.
3. Press the encoder key to activate the parameter change.





4. Turn the encoder to set the desired value.
   - (LOCK PAR, LOCK JOBS).
   - **LOCK PAR.:** locks the change of all parameters except: arc length, torch trigger mode.
   - **LOCK JOBS:** locks the change of job parameters; you can scroll through the saved jobs and load them.
5. Press the [Lock] key to confirm.

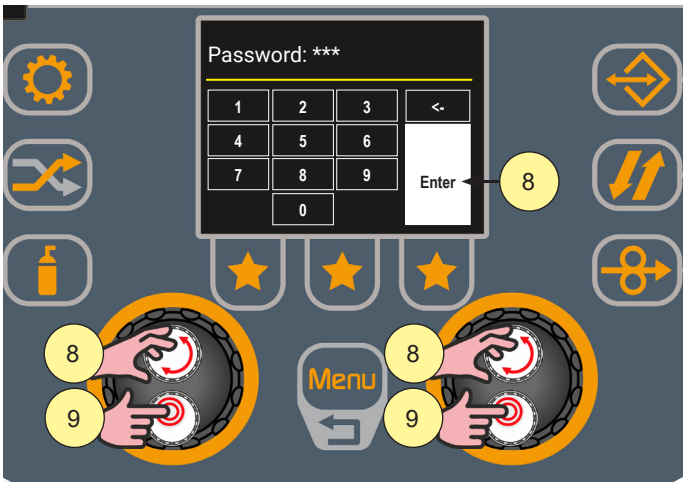
6. Pressing the [Menu] key returns you to the previous screen.

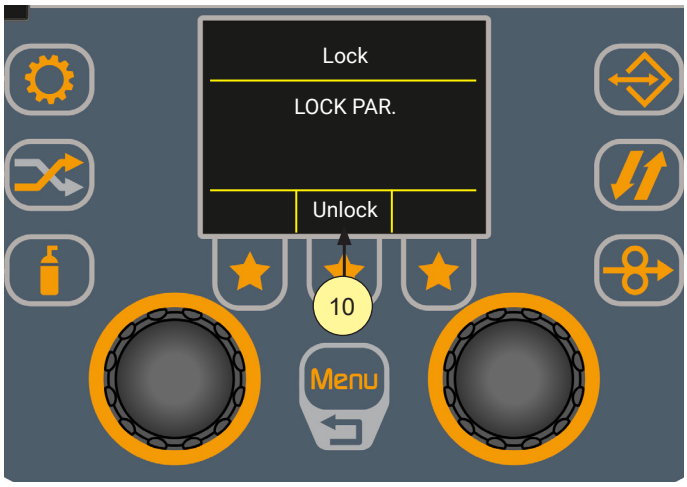
Type a 3-digit password.

NOTICE! Keep a note of the saved password as in case of loss it will be necessary to request the intervention of our Service department.

7. Turn the encoder to select the number on the keyboard.
8. Press the encoder key to confirm the selection.

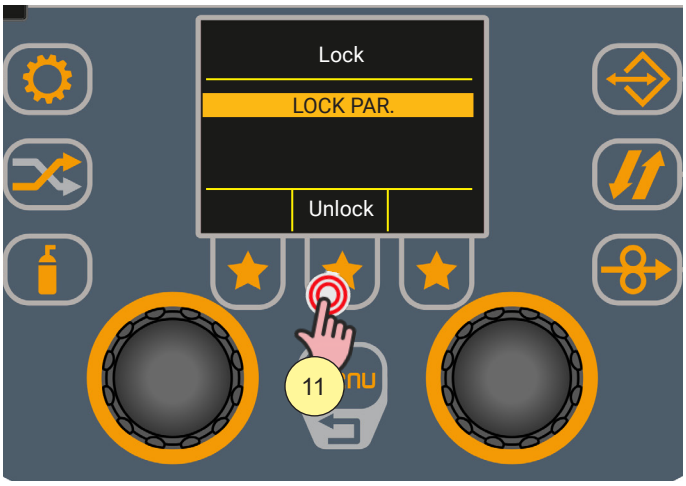
Repeat steps 6 and 7 three times until the full password is entered.

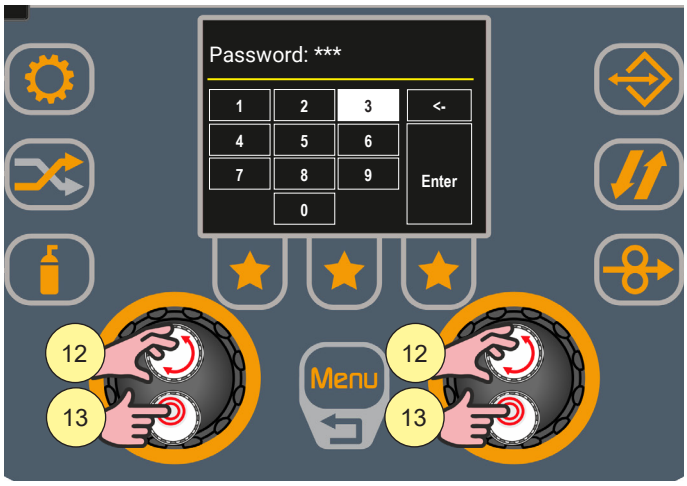




9. Turn the encoder to select the [Enter] key on the keyboard.
10. Press the encoder key to confirm the password entered.
    Pressing the [Menu] key returns you to the previous screen without confirming the password entered.
11. The "Unlock" item displayed on the display indicates that the change lock is active for the chosen setting.

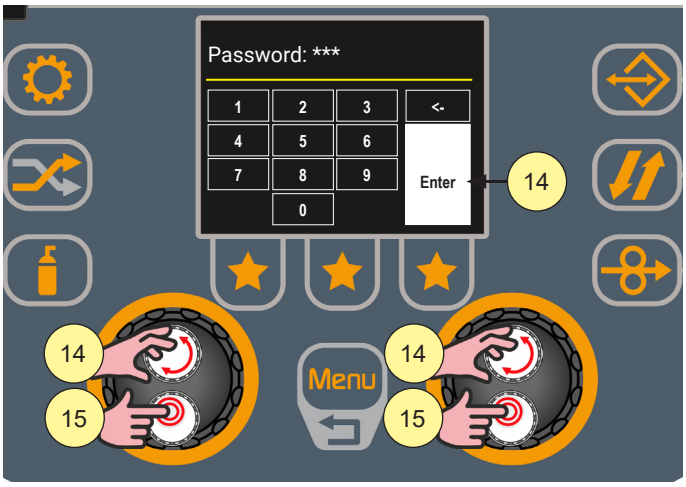
To unlock the changes it is necessary to enter the LOCK screen.

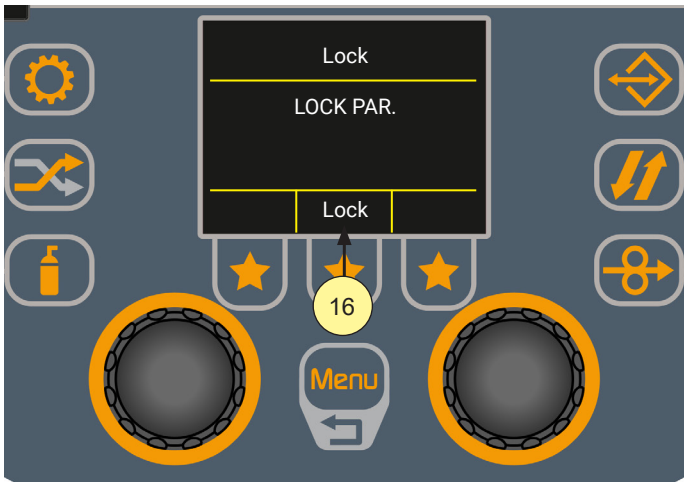




12. Press the [Unlock] key to confirm.
    Type the 3-digit password.
13. Turn the encoder to select the number on the keyboard.
14. Press the encoder key to confirm the selection.

Repeat steps 12 and 13 three times until the full password is entered.



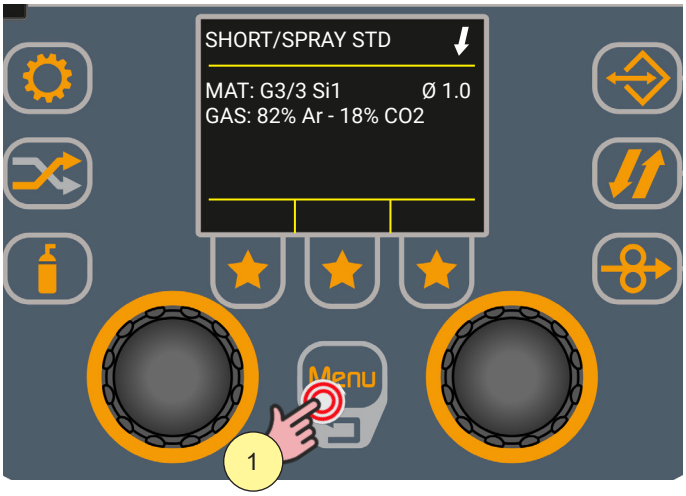


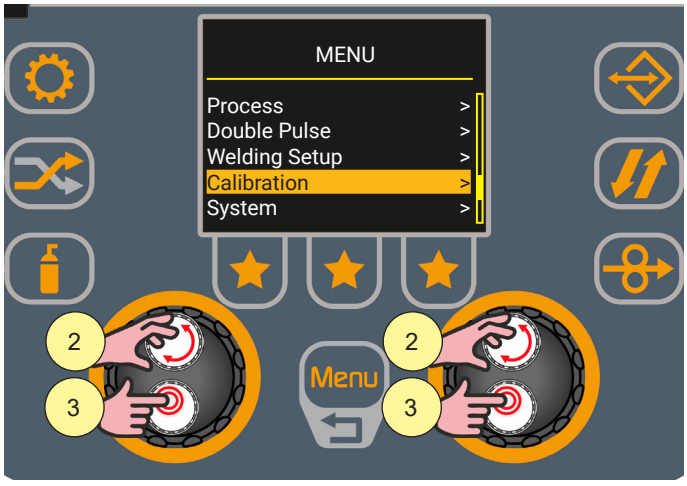
15. Turn the encoder to select the [Enter] key on the keyboard.
16. Press the encoder key to confirm the password entered.
    Pressing the [Menu] key returns you to the previous screen without confirming the password entered.
17. The "Lock" item displayed indicates that the change lock has been disabled for the chosen setting.

5 MIG/MAG WELDING

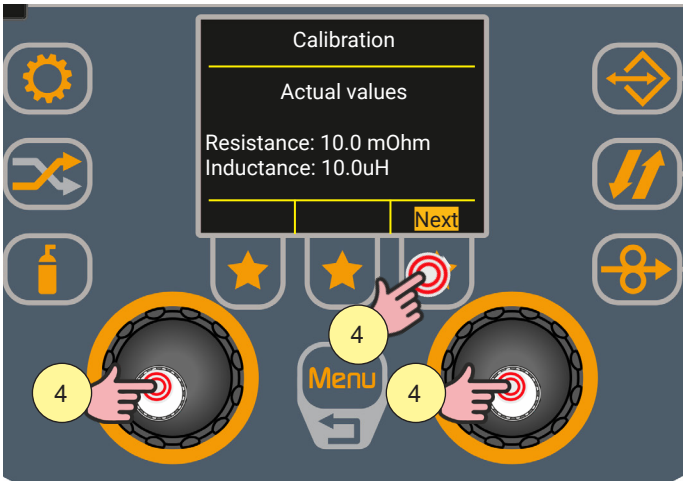
5.1 Welding circuit calibration

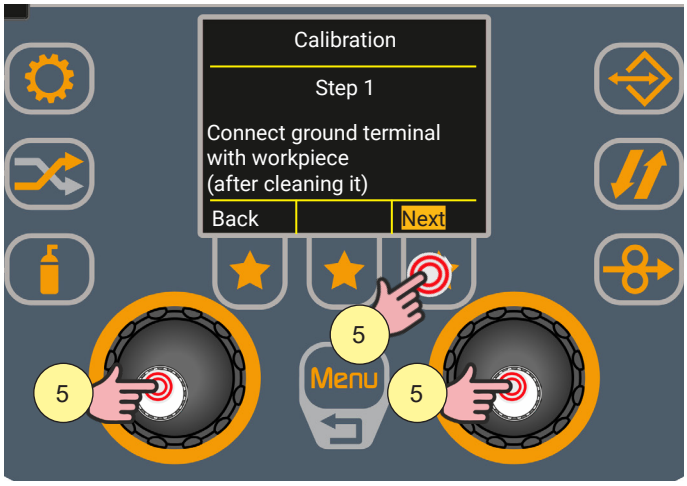
Through the welding circuit calibration wizard, the resistance and inductance values of the welding circuit are detected. When the wire feeder trolley is used with the associated cable bundle, the welding circuit “R” resistance must be measured by using the calibration function. In this way it is possible to obtain a constant quality weld with cable bundles and torches of different lengths. The resistance of the welding circuit depends on the cable bundle and torch used, so it is advisable to repeat the calibration procedure when changing these components. If the power source total RESET is carried out, the calibration value will be replaced by the default value. If a partial RESET SETUP is carried out, the measured value will be saved. Calibration is not mandatory, therefore, if the user decides not to carry it out, the machine will keep the factory default value. The generator must be switched on.



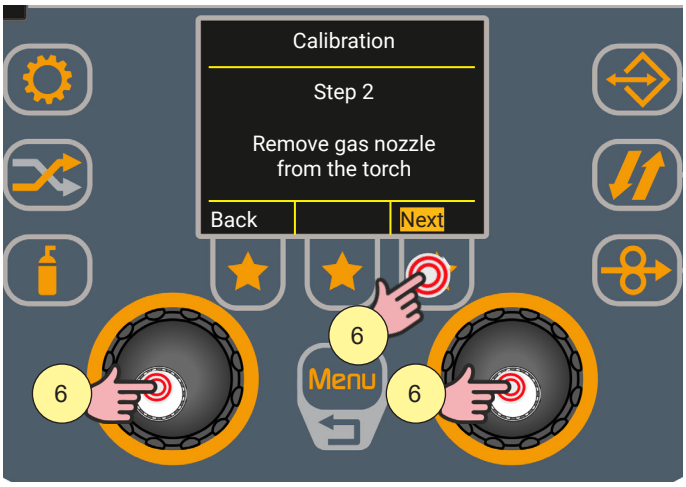


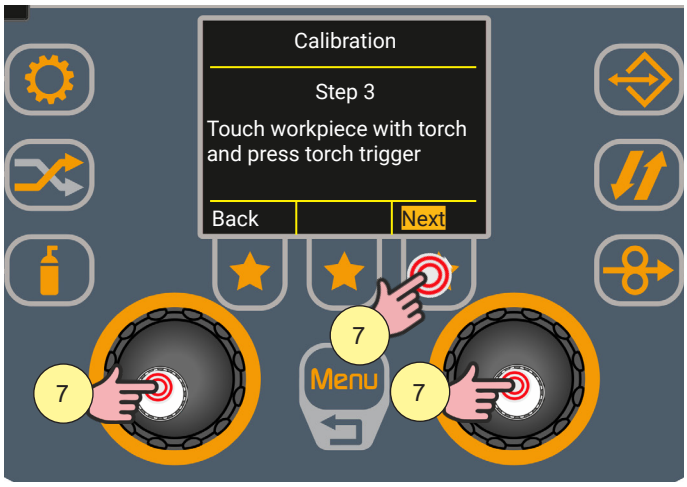
1. Press the [Menu] key.
2. Select the desired setting by turning the encoder.
   Select the following path: Calibration>
3. Press the encoder key to confirm.





4. Press the encoder key, or the [Next] key, or the torch trigger to confirm.
5. Follow the instructions on the display (Step 1), then press the encoder key, or the [Next] key, or the torch trigger to confirm.





6. Follow the instructions on the display (Step 2), then press the encoder key, or the [Next] key, or the torch trigger to confirm.
7. Follow the instructions on the display (Step 3), then press the encoder key, or the [Next] key, or the torch trigger to confirm.

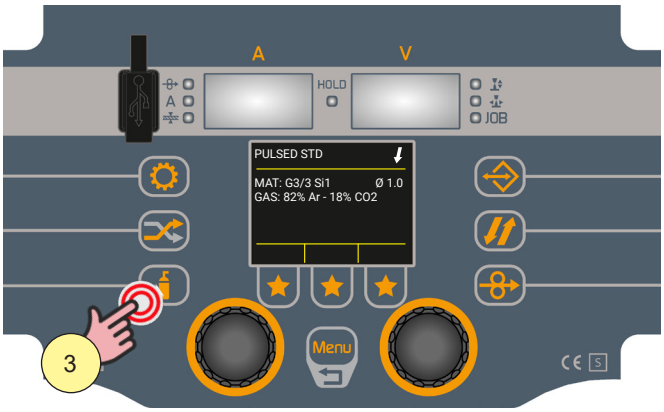
At the end of the procedure, the measured resistance and inductance values of the welding circuit will be displayed.
In this way it is possible to obtain a constant quality weld as the length of the cable bundle, ground cable and torch varies.
If the measurement is unsuccessful, the message "Calibration error" appears and the procedure can be repeated starting from Step 3.

GAS FLOW ADJUSTMENT

When the unit is powered on, straight after program update, the solenoid valve opens for 1 second.
This serves to fill the gas circuit.

8. Open the gas solenoid valve by pressing and releasing the [GAS] key  .

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

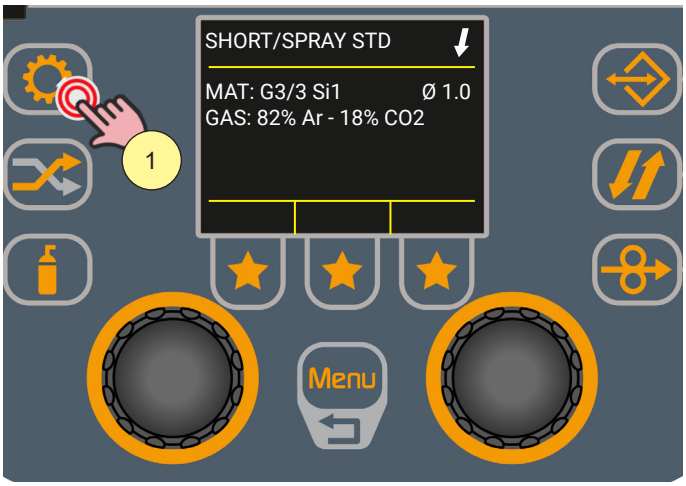


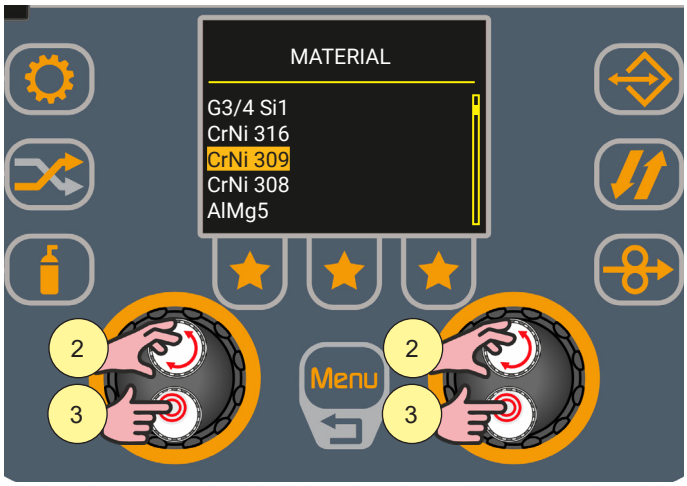
10. Close the gas solenoid valve by pressing and releasing the [GAS] key  .

Information The solenoid valve closes automatically after 30 seconds.

5.2 WELDING PROGRAM SETTING

The [PROGRAM] key  allows access to a sequence of screens through which the welding program can be chosen.



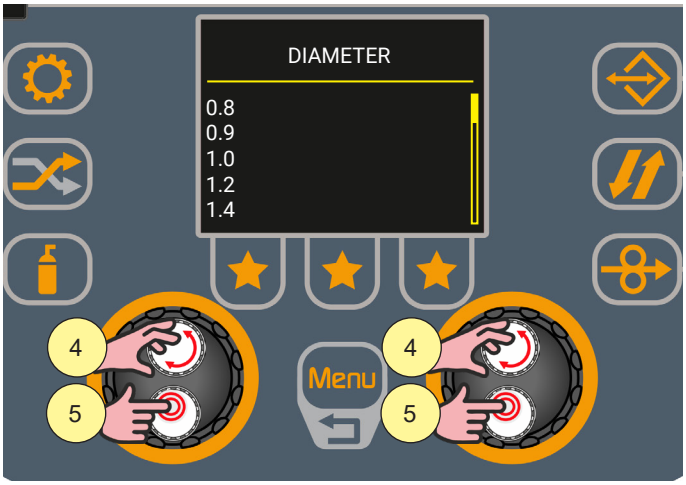


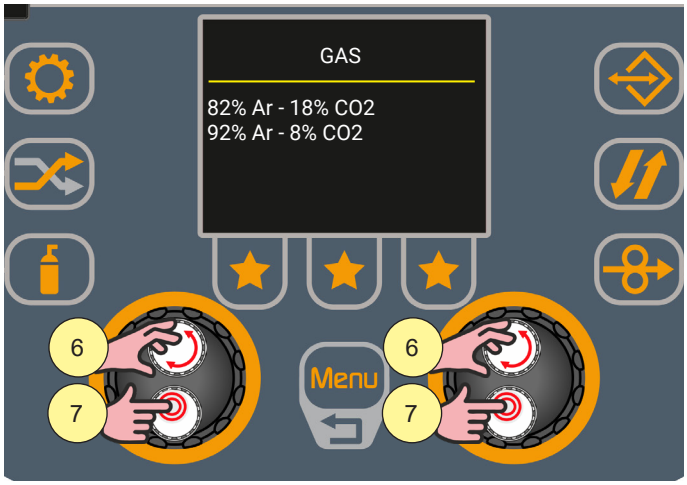
1. Press the [PROGRAM] key. Choose the combination of welding settings in the sequential screens.

► MATERIAL**:** allows you to select the material of the filler wire for welding.

- (e.g.: G3/4 SI1, CrNi 316, CrNi 308, AlMg5.....)

2. Turn the encoder to select the desired setting.
3. Press the encoder key to confirm.





► DIAMETER**:** allows you to select the diameter of the filler wire for welding.
The available wire diameters depend on the material selected.

4. Turn the encoder to select the desired setting.

- (e.g.: 0.8, 0.9, 1.0, 1.2.....)

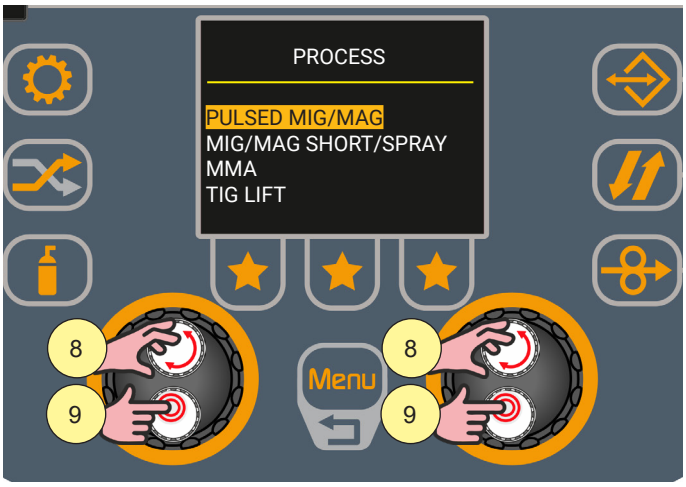
5. Press the encoder key to confirm.

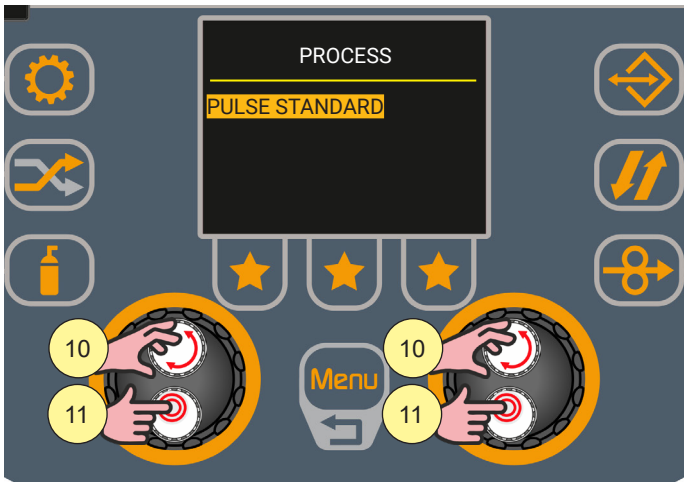
► GAS**:** allows you to select the gas type for welding.

6. Turn the encoder to select the desired setting.
The gas mixtures available depend on the material selected.

- (e.g.: 82% Ar - 18% CO2, 92% Ar - 8% CO2.....)

7. Press the encoder key to confirm.





► PROCESS (1 level): allows you to select only the welding processes compatible with the settings previously made.

8. Turn the encoder to select the desired setting..
   - (e.g.: MIG/MAG PULSED, MIG/MAG SHORT/SPRAY.....)
9. Press the encoder key to confirm.

NOTICE! The Pulsed MIG/MAG process is available only for Pioneer Pulse 3200-4000-5000 versions

► PROCESS (2 level): allows you to select a specific mode of the previously selected welding process.

10. Turn the encoder to select the desired setting.
11. Press the encoder key to confirm.

MIG/MAG Welding processes

SYNERGISTIC MIG/MAG WELDING (STANDARD)

Welding is of the Short/Spray type.
- short arc: the drop is disconnected due to a short circuit at low amperages.
- globular: it is a transition phase between the short arc and the spray arc.
- spray arc: the deposit of material takes place without short circuits occurring at high amperages.

Synergistic means a process where the operator sets only one of the parameters chosen from Amperage, wire speed or voltage and the other parameters are adjusted automatically.

SYNERGISTIC MIG/MAG WELDING PF (POWER FOCUS)

The difference between Standard and Power Focus arc lies in its concentration and pressure that the arc exerts on the casting bath.
The concentration of the Power Focus arc allows you to focus the high temperature in the central part of the deposit.
The thermally changed area with the Power Focus arc is less widespread.
The benefits in welding are:
- greater penetration and less risk of sticking
- faster execution speed
- greater arch stability even with long stick-outs
- lower joint preparation costs
- reduction in the volumes of the weld joints to be filled

SYNERGISTIC MIG/MAG WELDING PR (POWER ROOT)

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 benefits in welding are:
- first pass optimisation
- downward vertical welding quality
- excellent operation
- cold transfer of the drop
- perfect union of thin sheets
- ideal for welding joints with high gaps.

MANUAL MIG/MAG WELDING

Welding is of the Short/Spray type.
- short arc: the drop is disconnected due to a short circuit at low amperages.
- globular: it is a transition phase between the short arc and the spray arc.
- spray arc: the deposit of material takes place without short circuits occurring at high amperages.

The adjustment of the main welding parameters, wire speed, voltage and inductance, is entirely left to the operator. The optimal work point must be identified for the required welding type.

PULSED MIG/MAG WELDING

The pulsed process is a welding mode in which the material is deposited in a controlled manner through a precise regulation of the current pulse.
For each combination of type and thickness of the material to be welded, gas, wire speed and diameter, specific programs have been created to simplify the setting of parameters. The welding data (type of material, diameter of the wire, type of gas) must be set, and only one welding parameter, between wire speed, amperes, thickness of the material and tension.
The generator automatically adjusts the other parameters related to that particular chosen work point to obtain the best welding quality.

NOTICE! The Pulsed MIG/MAG process is available only for Pioneer Pulse 3200-4000-5000 versions

MIG/MAG welding functions

DOUBLE PULSE

It is a function that can be activated in the synergistic MIG/MAG welding process (standard, power focus, power root).
This function allows the control of two wire feeder speeds that alternate cyclically according to the parameters of the double speed set by the operator.

JOB-SELECTION FUNCTION

The JOB-SELECTION is a function that allows you to call and change JOBs directly from the torch trigger. Changing from one JOB to another is also possible during welding.
This allows you to weld under different conditions (such as switching from one welding position to another) without interrupting the welding and without having to go to the user interface to change JOBs or parameters.
It is possible (by changing JOBs) to switch from one process to another as long as the saved JOB processes belong to the same process category.
Categories:

- MIG/MAG (manual, synergistic, power focus, power root and double speed)
- MMA
- TIG

JOB-SELECTION FUNCTION (WITH ARC OFF)

This function is similar to JOB-SELECTION; however, the jobs can be selected with the torch trigger only when the welding arc is off.

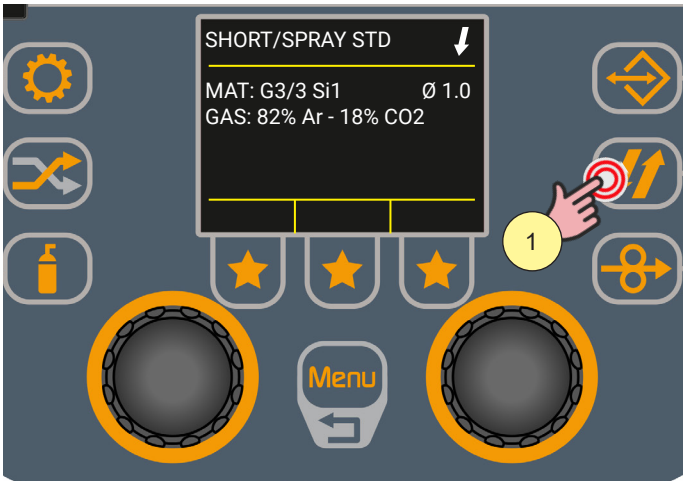
B-LEVEL FUNCTION

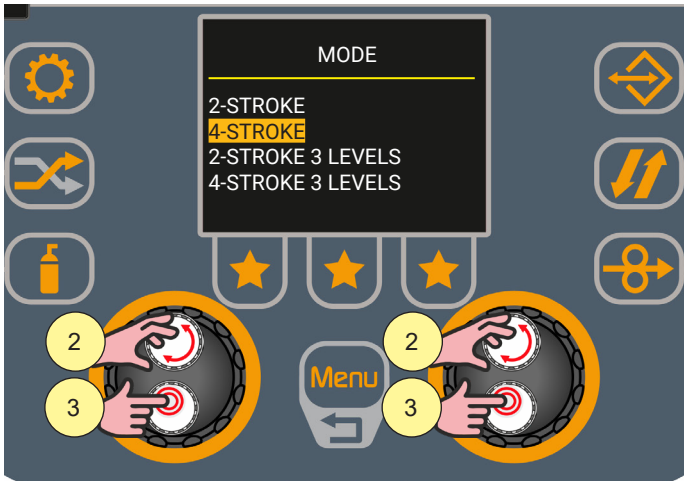
The B-LEVEL is a function that allows you to activate a second current value during welding.
The second current value is invoked (as many times as desired) via the torch trigger without having to stop the welding process.

SPOT/PAUSE FUNCTION

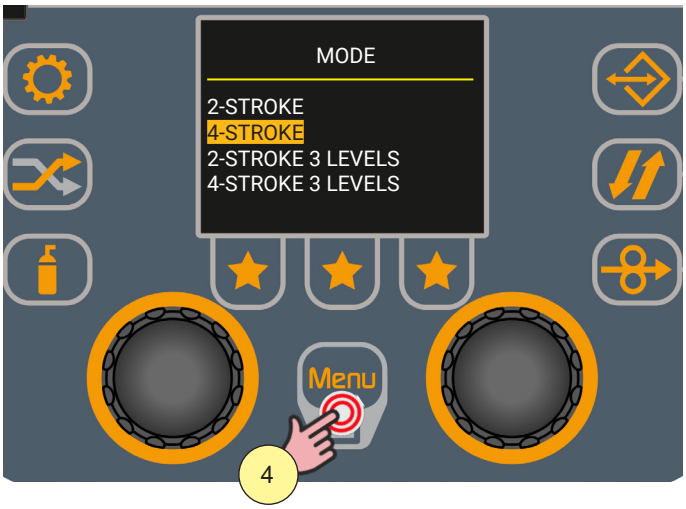
The SPOT/PAUSE is a function that allows you to alternate a fixed welding time with a fixed pause time.
The welding and pause times are set by the operator.
This function is useful for punching work and when you want to perform several welding sections of the same length.

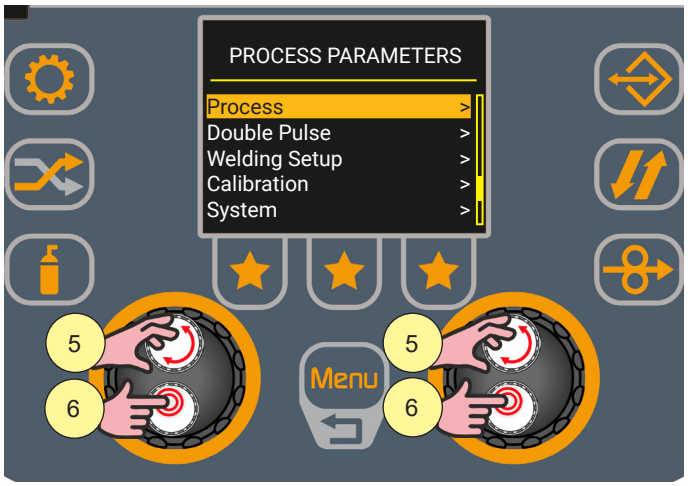
5.3 MIG/MAG TORCH TRIGGER MODE SETTING



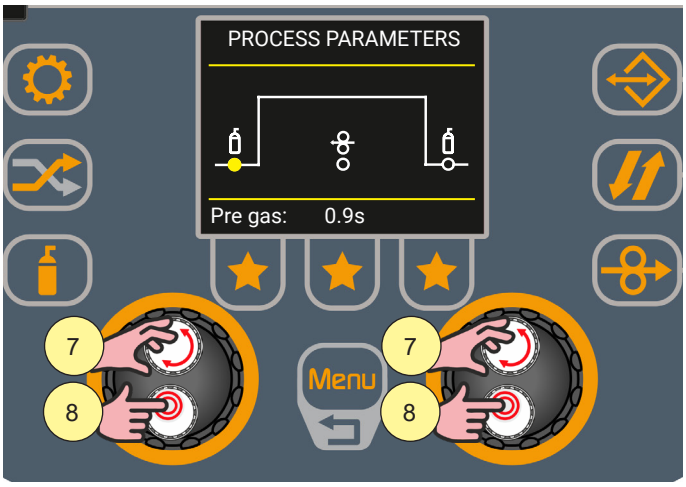


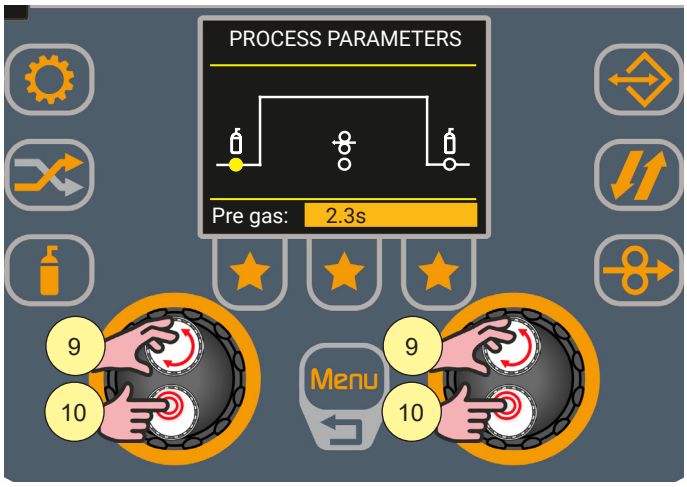
1. Press the [TORCH TRIGGER MODE] key.
2. Select the desired setting by turning the encoder.
   - (2-STROKES, 4-STROKES, 2-STROKES 3 LEVELS, 4-STROKES 3 LEVELS)
3. Press the encoder key if you only want to set the torch trigger mode, otherwise continue with the action in step (4).





4. Press the [Menu] key.
5. Select the desired setting by turning the encoder.
   Select the following path: Process>
   Depending on the mode of the selected torch trigger, different process parameters are available to be set.
6. Press the encoder key to confirm.

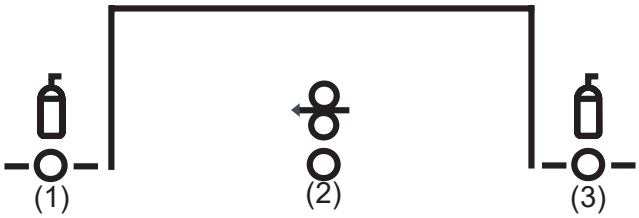




7. Turn the encoder to select the parameter to be modified.
8. Press the encoder key to activate parameter change.
9. Turn the encoder to set the desired value.
10. Press the encoder key once again to confirm the set value and select the parameters again.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

Process parameters with torch trigger in 2-strokes and 4-strokes mode



(1) Pre gas

► Time of gas delivery before the arc strike.

ⓘ **Information** if too long slows 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 retraction

► The value is related to the amount of wire that is retracted at the end of welding.

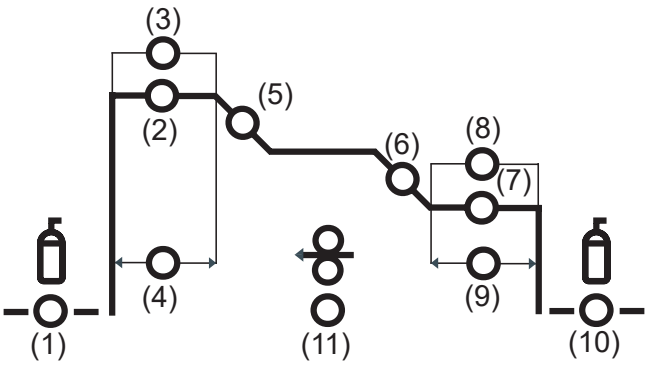
► Adjustment range: minimum (0.0 s) - default (0.0 s) - maximum (10.0 s)

(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)

Process parameters with torch trigger in 2-strokes and 3 levels mode



(1) Pre gas

► Time of gas delivery before the arc strike.

ⓘ **Information** if too long slows 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 speed as a percentage of the wire speed set for welding (2nd level).

► Adjustment range: minimum (10%) - default (130%) - maximum (200%)

(3) Starting Arc Corr. (Starting Arc Length Corr.)

► The parameter manages the correction of the starting current voltage.

► Adjustment range: minimum (-9.9) - default (0.0) - maximum (10)

(4) Start. Curr. Arc Time (Starting Arc Current Time)

► The parameter adjusts the time for which you stay at the starting current.

► Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

(5) Slope1

► The parameter adjusts the time of the connecting slope between the starting current level and the welding level.

► Adjustment range: minimum (0.1 s) - default (0.5 s) - maximum (10.0 s)

(6) Slope2

► The parameter adjusts the time of the connecting slope between the welding level and the final current level.

► Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

(7) Final current

► The parameter adjusts the wire speed of the 3rd level as a percentage of the wire speed set for welding

(2nd level).

► Adjustment range: minimum (10%) - default (80 %) - maximum (200%)

(8) Starting Arc Corr. (Final Arc Length Corr.)

► The parameter manages the correction of the final current voltage.
► Adjustment range: minimum (-9.9) - default (0) - maximum (10.0)

(9) Final Arc Curr. Time (Final Arc Current Time)

► The parameter adjusts the time for which you stay at the final current.
► Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

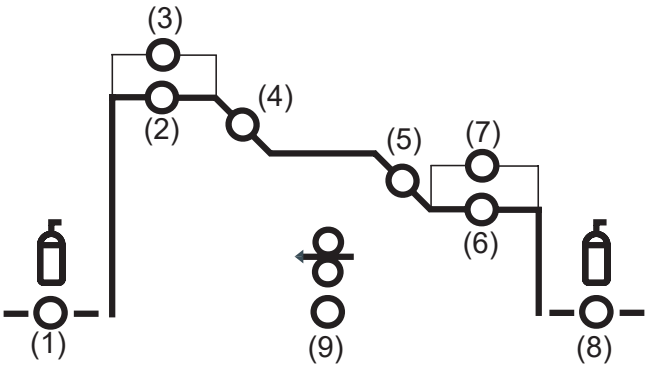
(10) Post gas

► 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 retraction

► The value is related to the amount of wire that is retracted at the end of welding.
► Adjustment range: minimum (0.0) - default (0.0) - maximum (10.0)

Process parameters with torch trigger in 4-strokes and 3 levels mode



(1) Pre gas

► Time of gas delivery before the arc strike.

ⓘ **Information** if too long, it slows 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 speed as a percentage of the wire speed set for welding (2nd level).

► Adjustment range: minimum (10%) - default (130 %) - maximum (200%)

(3) Starting Arc Corr. (Starting Arc Length Corr.)

► The parameter manages the correction of the starting current voltage.

► Adjustment range: minimum (-9.9) - default (0.0) - maximum (10)

(4) Slope1

► The parameter adjusts the time of the connecting slope between the starting current level and the welding level.

► Adjustment range: minimum (0.1 s) - default (0.5 s) - maximum (10.0 s)

(5) Slope2

► The parameter adjusts the time of the connecting slope between the welding level and the final current level.

► Adjustment range: minimum (0.0 s) - default (0.5 s) - maximum (10.0 s)

(6) Final current

► The parameter adjusts the wire speed of the 3rd level as a percentage of the wire speed set for welding (2nd level).

► Adjustment range: minimum (10%) - default (80 %) - maximum (200%)

(7) Starting Arc Corr. (Final Arc Length Corr.)

► The parameter manages the correction of the final current voltage.
► Adjustment range: minimum (-9.9) - 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 retraction

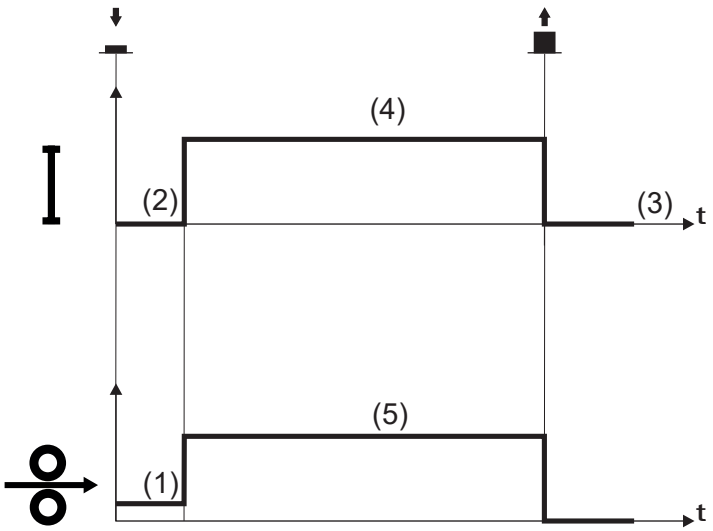
► The value is related to the amount of wire that is retracted at the end of welding.
► Adjustment range: minimum (0.0) - default (0.0) - maximum (10.0).

MIG/MAG 2T OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



1. matching speed
2. pre gas
3. post gas
4. welding current
5. wire speed

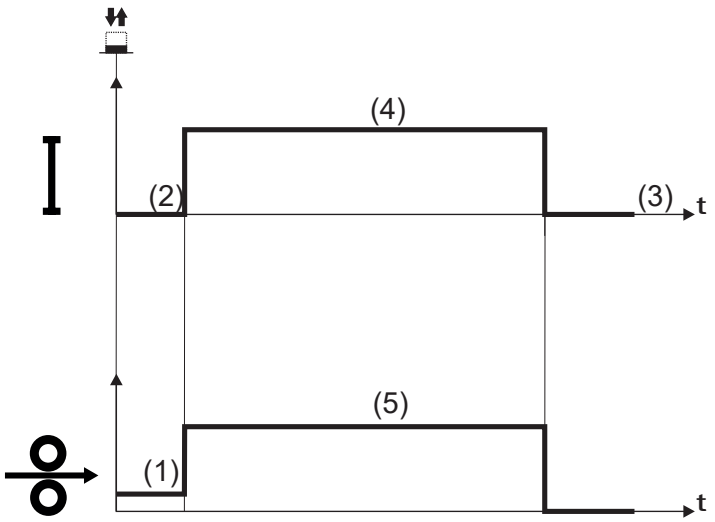
○ Bring the torch up to the workpiece.
○ Press (1T) and keep the torch trigger pressed.
- The wire advances at the approach speed until it makes contact with the material. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
- The arc strikes and the wire speed reaches the set value.
○ Release (2T) the button to finish welding.
- Gas flow continues for the time set in the post gas parameter (adjustable time).

MIG/MAG 2T SPOT OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



1. matching speed
2. pre gas
3. post gas
4. welding current (SPOT time)
5. wire speed

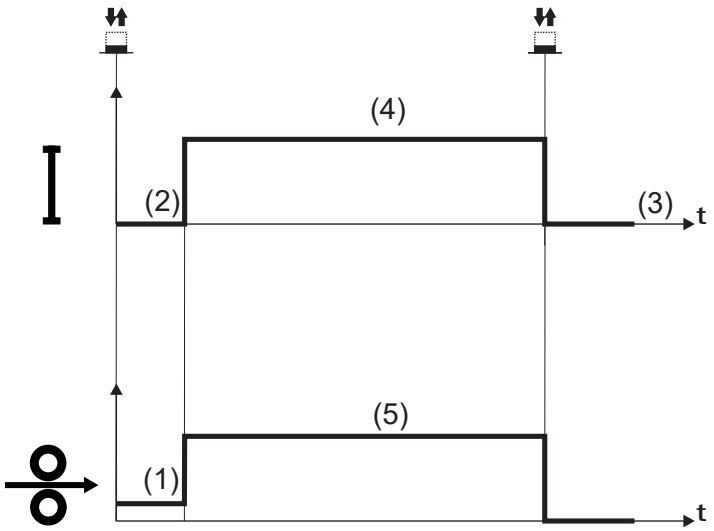
○ Bring the torch up to the workpiece.
○ Press (1T) and keep the torch trigger pressed.
- The wire advances at the approach speed until it makes contact with the material. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
- The arc strikes and the wire speed reaches the set value.
- The welding procedure continues, at the preset current, for the time set with the spot time parameter.
- After the SPOT time has elapsed, the welding ends automatically.
- 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



1. matching speed
2. pre gas
3. post gas
4. welding current
5. wire speed

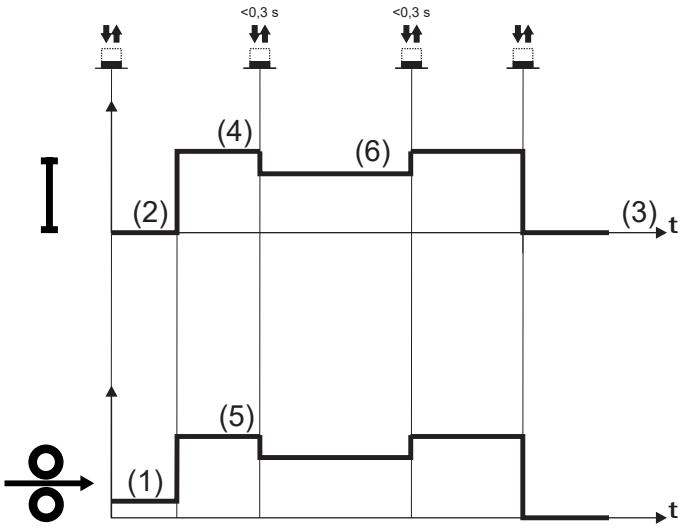
○ Bring the torch up to the workpiece.
○ Press (1T) and release (2T) the torch trigger.
- The wire advances at the approach speed until it makes contact with the material. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
- The arc strikes and the wire speed reaches the set 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).

MIG/MAG 4T B-LEVEL OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



1. matching speed
2. pre gas
3. post gas
4. welding current
5. wire speed
6. B-level current

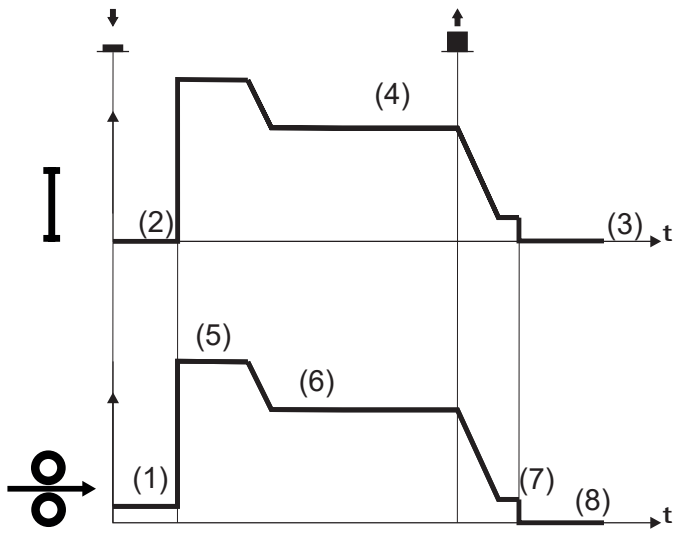
○ Bring the torch up to the workpiece.
○ Press (1T) and release (2T) the torch trigger.
- The wire advances at the approach speed until it makes contact with the material. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
- The arc strikes and the wire speed reaches the set 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).

MIG/MAG 2T - 3 LEVELS OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



1. matching speed
2. pre gas
3. post gas
4. welding current
5. hot start
6. start slope
7. crater slope
8. crater time

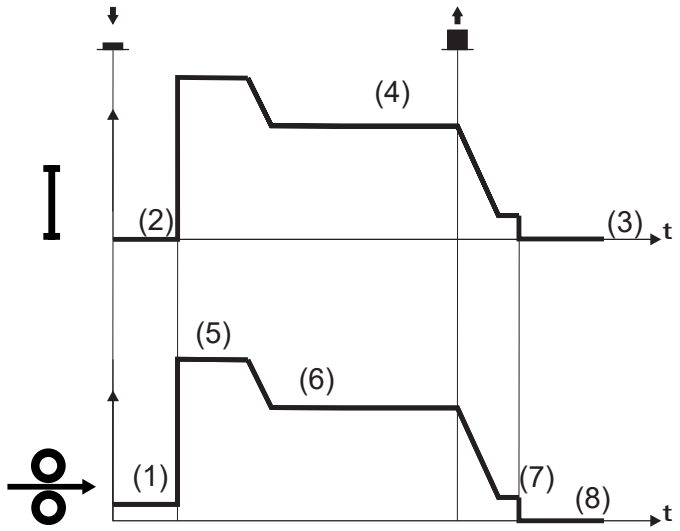
○ Bring the torch up to the workpiece.
○ Press (1T) torch trigger.
- The wire advances at the approach speed until it makes contact with the material. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
- The welding arc strikes and the wire speed 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 (2T) 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 slope, 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 time, which is settable in seconds; at the end of this time welding is interrupted and the post gas stage is performed.

MIG/MAG 2T SPOT - 3 LEVELS OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



1. matching speed
2. pre gas
3. post gas
4. welding current (SPOT time)
5. hot start
6. start slope
7. crater slope
8. crater time

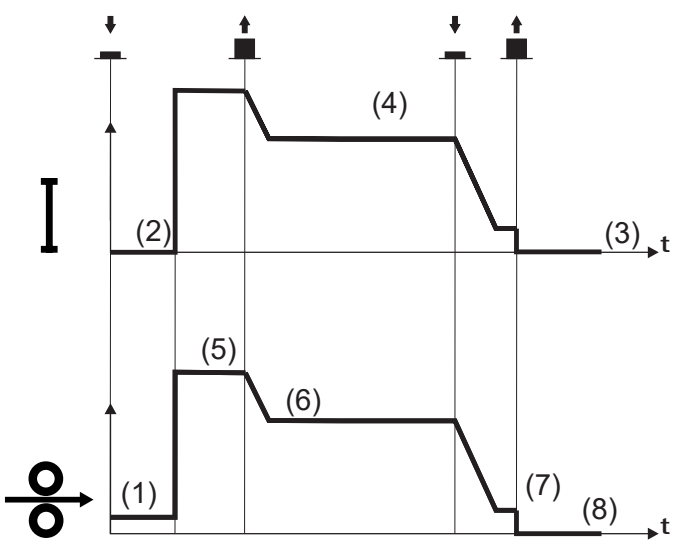
The welding process is the same as the 2T - 3 LEVELS process, except that the welding procedure continues, at the preset current, for the time set with the spot time parameter.
The weld is closed in the same way as with the 2T - 3 LEVELS process.

MIG/MAG 4T - 3 LEVELS OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



1. matching speed
2. pre gas
3. post gas
4. welding current
5. hot start
6. start slope
7. crater slope
8. crater time

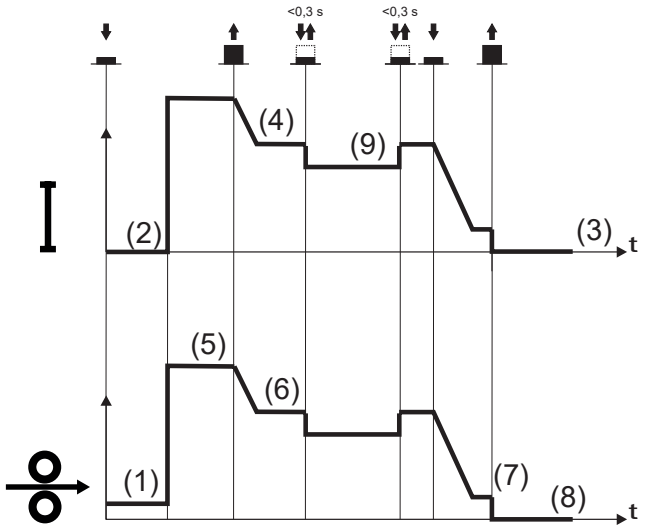
- ○ Bring the torch up to the workpiece.
- ○ Press (1T) torch trigger.
- - The wire advances at the approach speed until it makes contact with the material. If the arc does not strike after 10 cm wire protrusion, wire feeding is locked and the welding unit outputs are de-energized.
- - The welding arc strikes and the wire speed 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 (2T) 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 (Level 3) 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 slope, 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.
- ○ Release the torch trigger a second time (4T) to close the weld and run the post gas procedure.

MIG/MAG 4T B-LEVEL - 3 LEVELS OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger



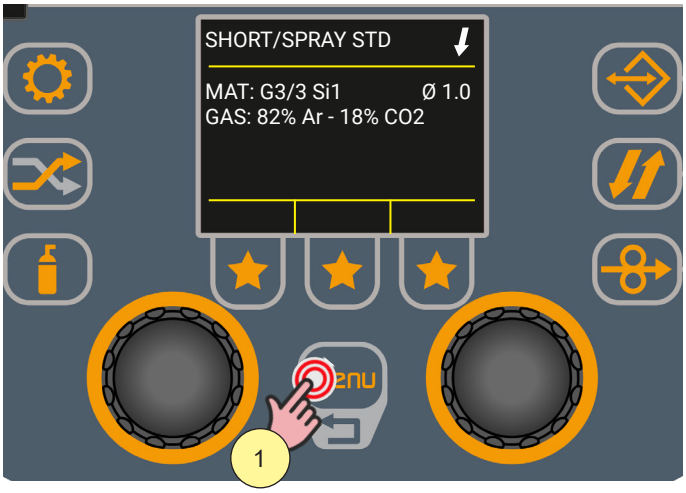
1. matching speed
2. pre gas
3. post gas
4. welding current
5. hot start
6. start slope
7. crater slope
8. crater time
9. B-level current

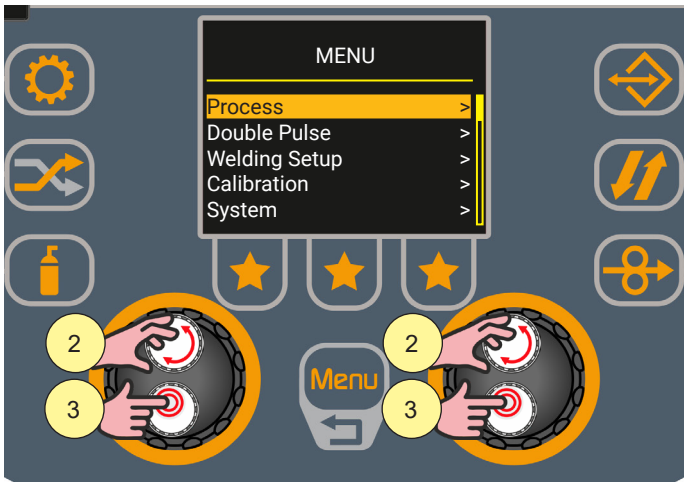
The welding process is the same as the 4T - 3 LEVELS process except that during normal speed welding pressing and immediately releasing the torch trigger switches the unit to the second welding current.
The trigger must not be pressed for more than 0.3 seconds; otherwise, the weld completion stage will 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 crater filler procedure.
The weld is closed in the same way as with the 4T - 3 LEVELS process.

6 PARAMETERS SETTING

The 

[Menu] key allows access to the menu through which the main characteristics of the weld are set.





1. Press the [Menu] key to access the PROCESS PARAMETERS menu.
2. Select the desired setting by turning the encoder.
3. Press the encoder key to confirm the selection.

Menu items:

► Process
- You can set the values of the parameters relating to the mode of the torch trigger set.

► Double pulse
- You can set the values of the DOUBLE PULSE welding process parameters.

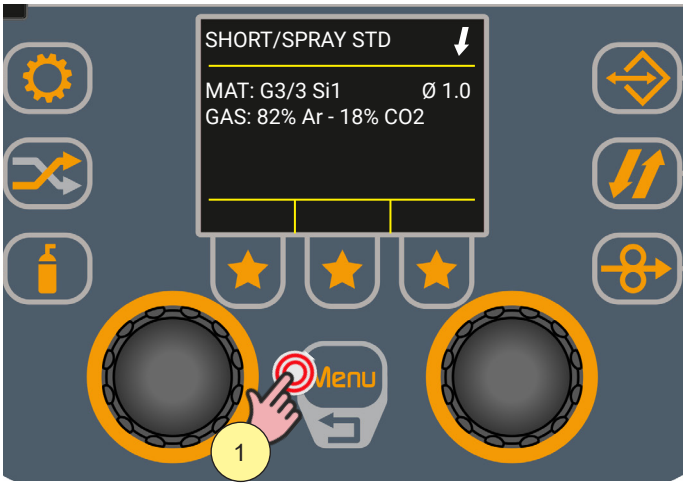
► Welding Setup
- The different operating modes of the torch trigger can be activated and the parameters of the torch trigger can be set.

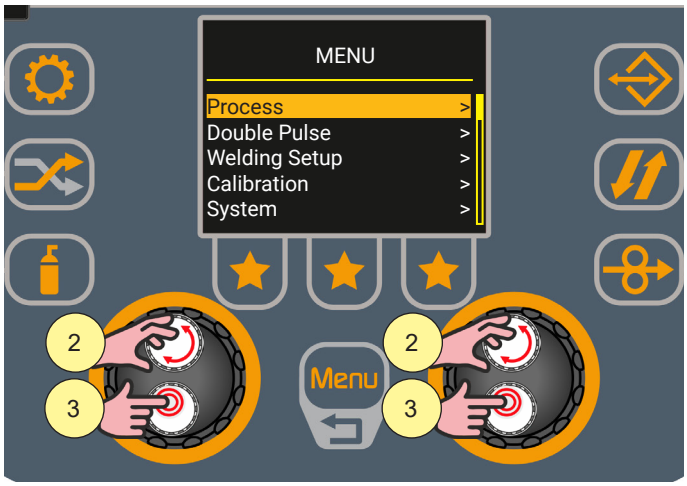
► Calibration
- The calibration wizard can be performed through which the generator detects the resistance and inductance values of the welding circuit and self-calibrates some useful parameters. In this way it is possible to obtain a constant quality weld with cable bundles and torches of different lengths

► System (submenu items)
- Languages: You set the language in which messages are displayed
- FW Update: You will update the equipment software via USB.
- Alarms List: All alarms reported by the equipment can be viewed through the display.
- Info: Information is provided regarding the use of the equipment (live hours, weld hours)
- Reset: You can delete parameters, save jobs or return to factory settings.
- Setup: The wire feeder speed is set when the [WIRE FEED] key is pressed
- Service: Reserved for personnel assigned to the technical assistance of the device.

► Import/Export
- some equipment configurations (Jobs, parameters, display setup, language) can be exported or imported via the import/export procedure via USB pen drive.

6.1 PROCESS PARAMETERS SETTING

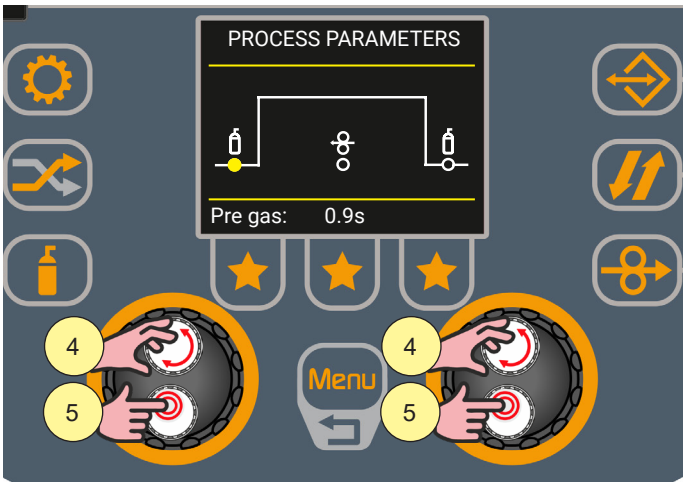


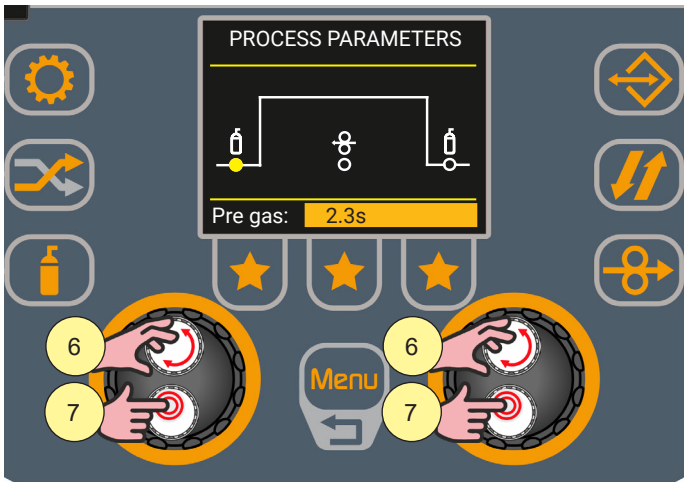


1. Press the [Menu] key to access the menu.
2. Turn the encoder to select the desired setting.
   Select the following path: Process>
3. Press the encoder key to confirm the selection.

Depending on the mode of the selected torch trigger, process parameters are available to be set.

Information For the list of process parameters, please refer to:
"Process parameters with torch trigger in 2-strokes and 4-strokes mode" p. 40
"Process parameters with torch trigger in 2-strokes and 3 levels mode" p. 41
"Process parameters with torch trigger in 4-strokes and 3 levels mode" p. 43

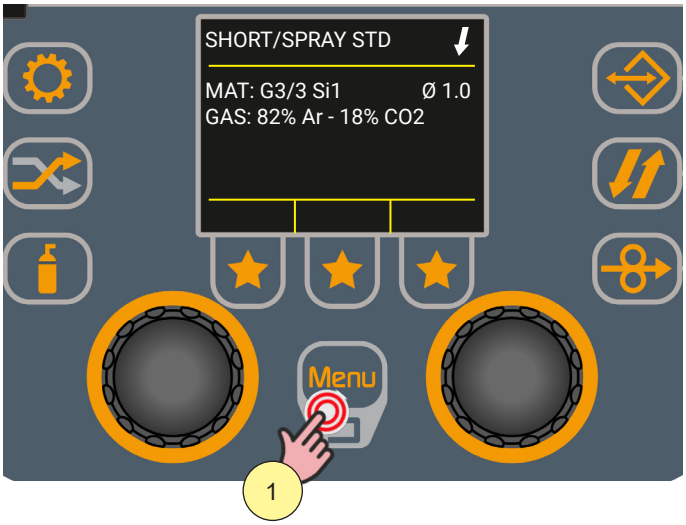


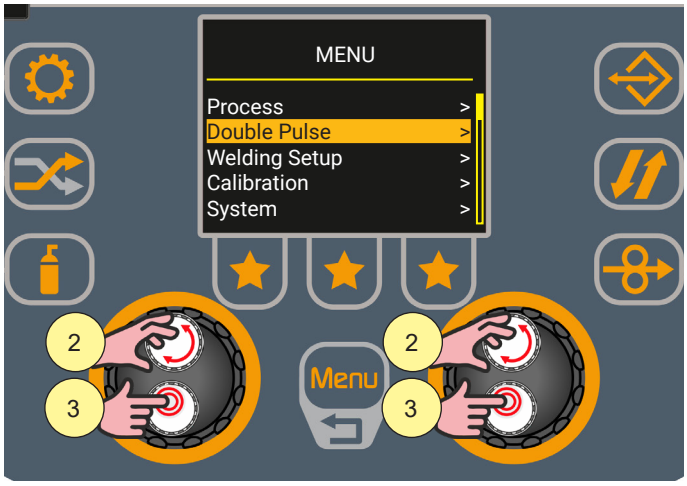


4. Turn the encoder to select the parameter to be modified.
5. Press the encoder key to activate parameter change.
6. Turn the encoder to set the desired value.
7. Press the encoder key once again to confirm the set value and select the parameters again.

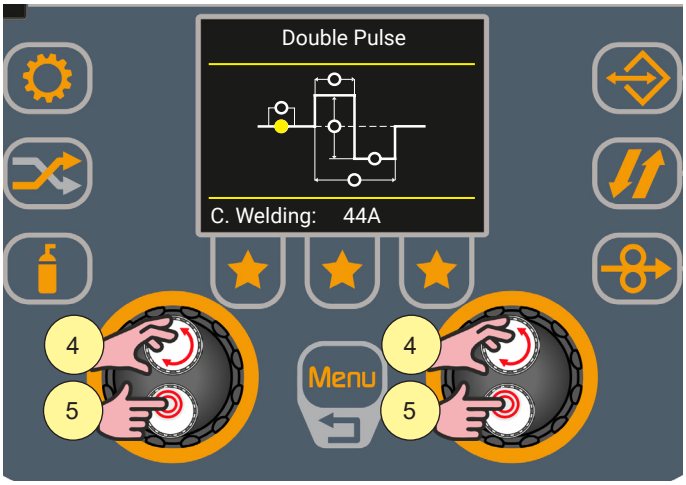
Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

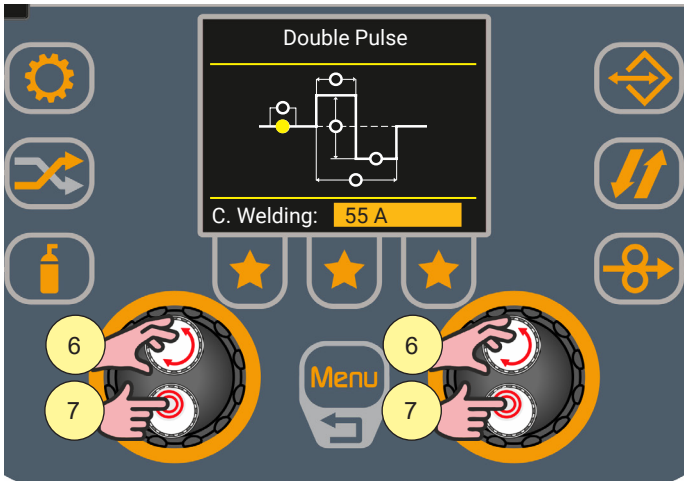
6.2 SETTING DOUBLE PULSE PARAMETERS





1. Press the [Menu] key to access the menu.
2. Turn the encoder to select the desired setting.
   Select the following path: Double Pulse>
3. Press the encoder key to confirm the selection.

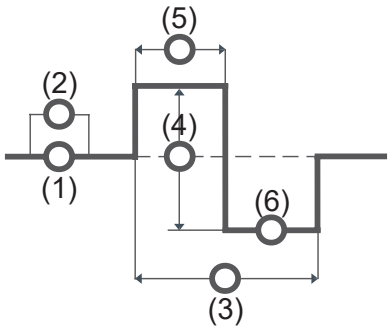




4. Turn the encoder to select the parameter to be modified.
5. Press the encoder key to activate parameter change.
6. Turn the encoder to set the desired value.
7. Press the encoder key once again to confirm the set value and select the parameters again.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

Double pulse parameters



ACTIVATE D.P. (Activate double pulse)

- ► The parameter activates/disables the double pulse.
- ► Adjustment range: ON - OFF

(1) Welding C. (Welding current)

- ► The parameter adjusts the average amperes of the welding arc.

(2) Arc Corr. (Arc correction)

- ► The parameter manages the correction of the high value voltage in the MIG/MAG process with double pulse active.
- ► Adjustment range: minimum (-9.9) - default (0.0) - maximum (10)

(3) Pulse Freq. (DP frequency)

- ► The parameter adjusts the frequency with which the two wire speeds set with the **DP AMPLITUDE** parameter alternate.
- ► Regulation range: minimum (0.1 Hz) - default (2.0 Hz) - maximum (5.0 Hz)

(4) Delta P (DP amplitude)

- ► The parameter generates the two wire speeds (high and low), which alternate with the frequency defined by the **DP FREQUENCY** parameter.
- ► Adjustment range: minimum (0 %) - default (50 %) - maximum (100 %)

(5) Double sp. duty (DP Duty)

- ► The parameter adjusts the high feed rate time.
- ► Adjustment range: minimum (10 %) - default (50 %) - maximum (90 %)

(6) Low Arc Corr. (DP Arc Correction)

- ► The parameter manages the correction of the low value voltage in the MIG/MAG process with double pulse active.
- ► Adjustment range: minimum (-9.9) - default (0.0) - maximum (10)

6.3 JOB SELECTION SETTING

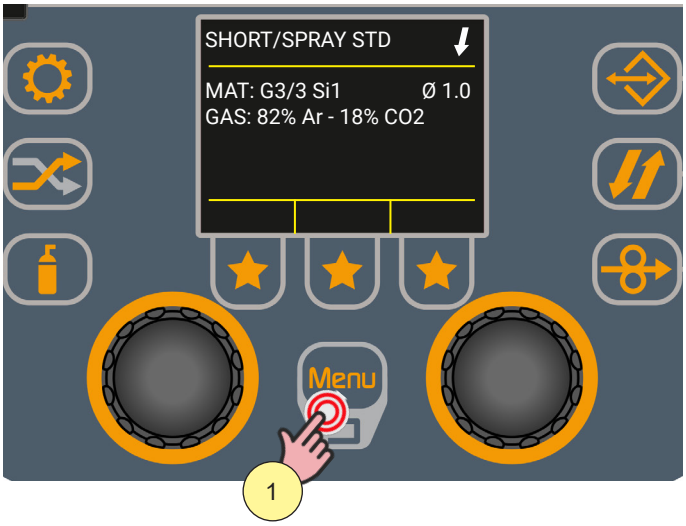
When the JOB SEL function is active, the torch trigger operates in 4-strokes or 4-strokes 3 levels with B-Level functions disabled.
Therefore, if the Jobs have been saved in different ways, they are automatically returned in these conditions.
It is possible to scroll through the JOBs in a sequence both when you are welding and when you are not welding, by pressing and releasing the torch trigger quickly.

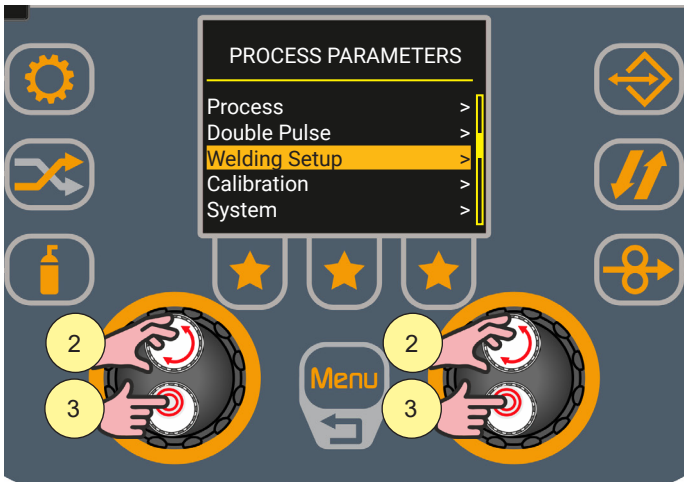
Swiping JOBs with UP/DOWN torch

When an UP/DOWN torch is installed, JOBs can be selected in a JOB sequence using the buttons on the welding torch. To create the JOB sequence, leave a free memory location before and after the JOB group for which you want to create the sequence.

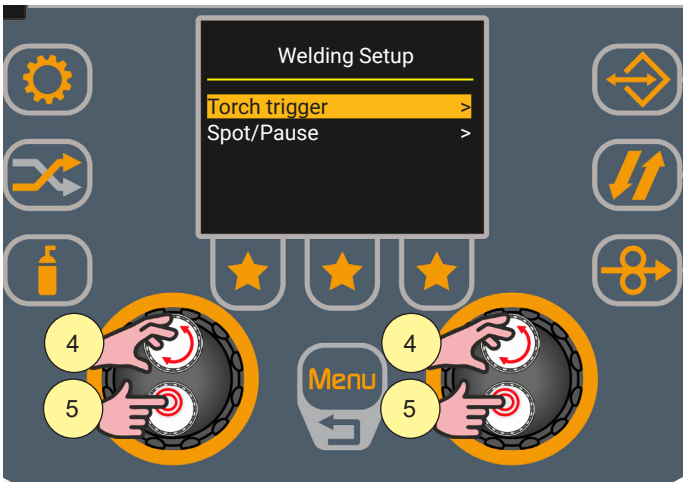
Sequence 1			JOB not saved	Sequence 2			JOB not saved	Sequence 3		
J.01	J.02	J.03		J.05	J.06	J.07		J.09	J.10	J.11

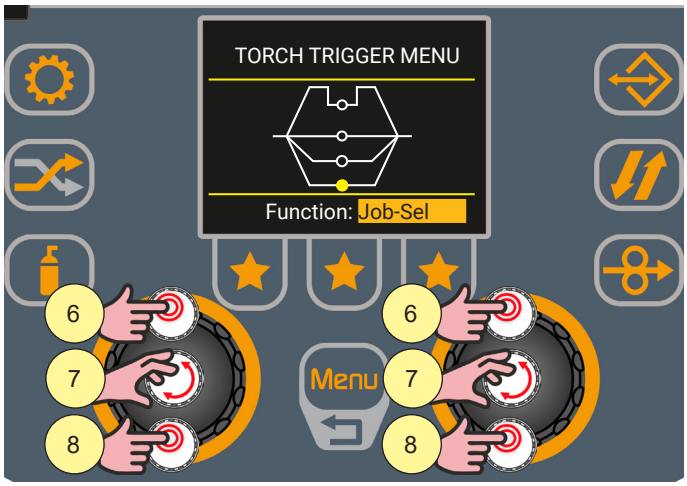
Select and load one of the JOBs belonging to the desired sequence (for example J.06).
Using the UP/DOWN keys on the torch you can now scroll through the JOBs in sequence 2 (J.05, J.06, J.07).
With the second UP/DOWN of the torch, the arc length is adjusted.





1. Press the [Menu] key to access the PROCESS PARAMETERS menu.
2. Turn the encoder to select the desired item.
   Select the following path: Welding setup>
3. Press the encoder key to confirm the selection.



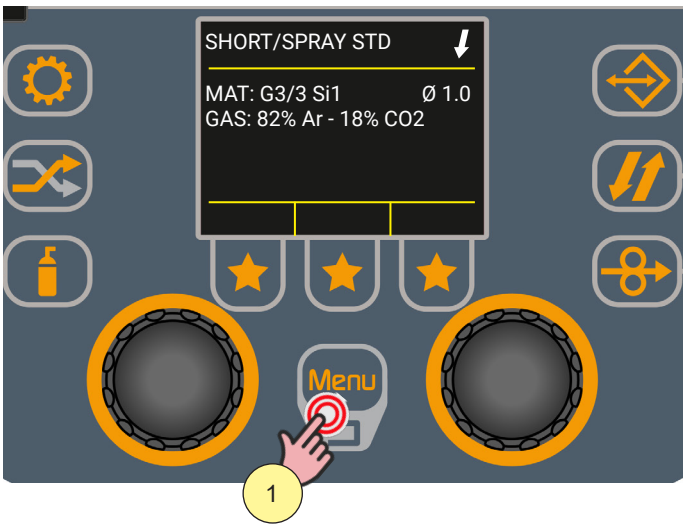


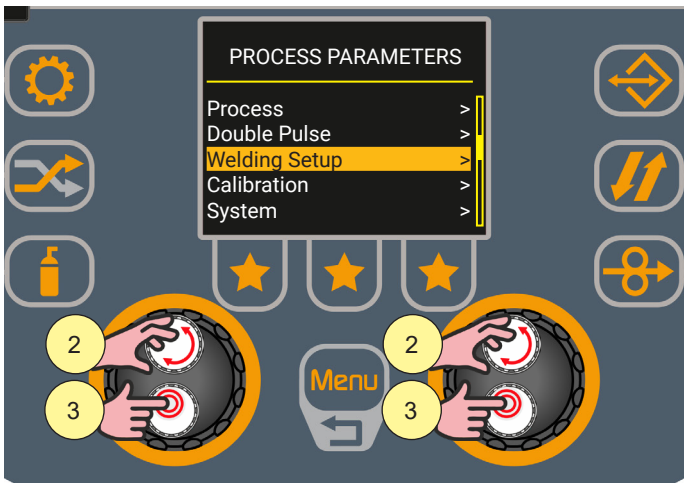
4. Turn the encoder to select the desired item.
   Select the following path: Torch trigger>
5. Press the encoder key to confirm the selection.
6. Press the encoder key to activate the function selection.
7. Turn the encoder to select the Job-Sel function.
   ○ (Off, B-Level, Job-Sel, A off job-sel).
8. Press the encoder key to confirm the selection.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

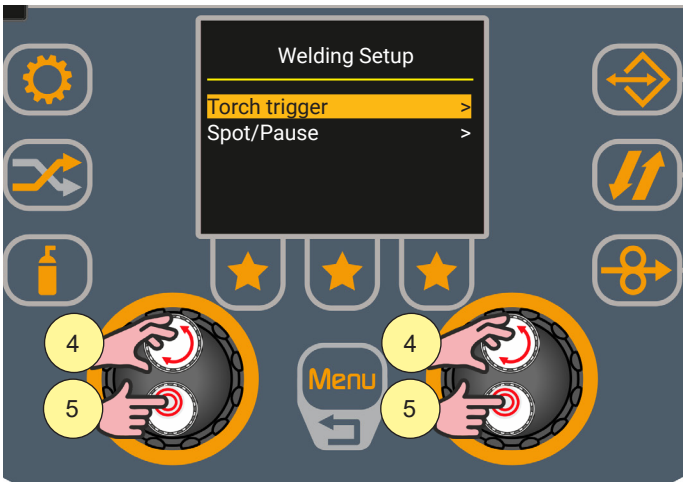
ⓘ **Information** If the option “A off job-sel” is selected at point 7, job selection via the torch trigger is only possible when the welding arc is off.

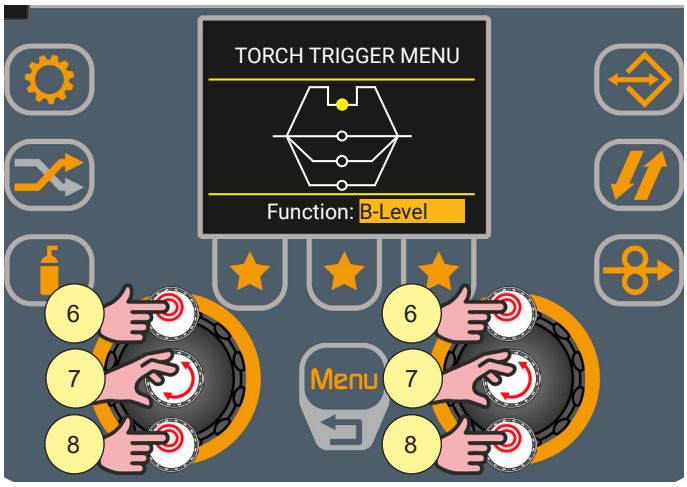
6.4 B-LEVEL SETTING



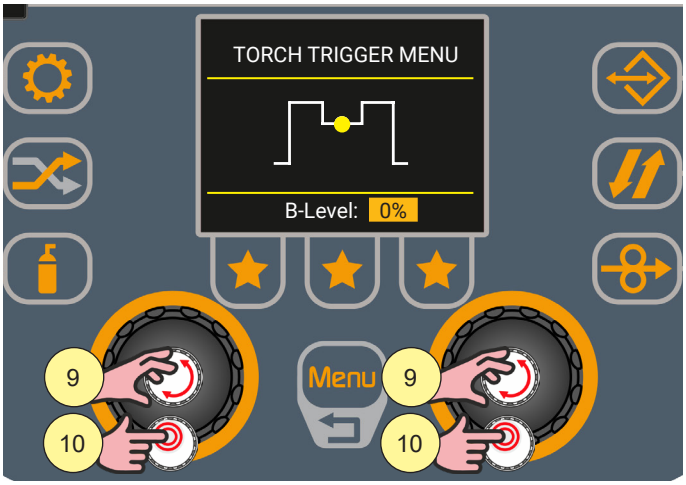


1. Press the [Menu] key to access the PROCESS PARAMETERS menu.
2. Turn the encoder to select the desired item. Select the following path: Welding setup>
3. Press the encoder key to confirm the selection.





4. Turn the encoder to select the desired item.
   Select the following path: Torch trigger>
5. Press the encoder key to confirm the selection.
6. Press the encoder key to activate the function selection.
7. Turn the encoder to select the B-Levelfunction.
   ○ (Off, B-Level, Job-Sel, A off job-sel).
8. Press the encoder key to confirm the selection and activate the parameter change.



9. Turn the encoder to set the desired value.
10. Press the encoder key to confirm the setting.

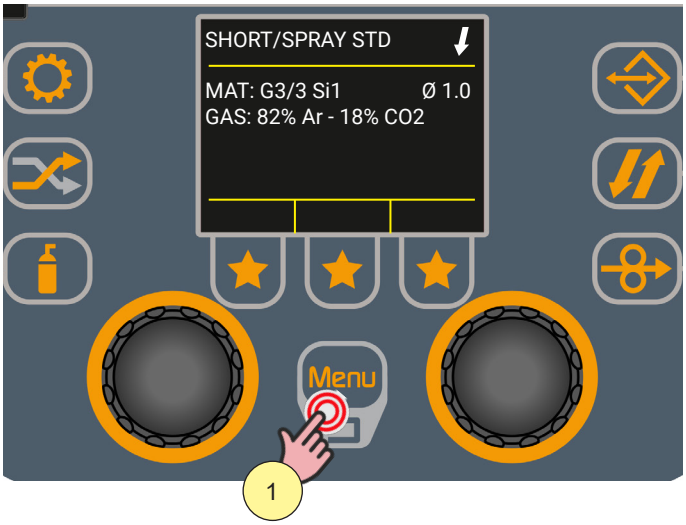
Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

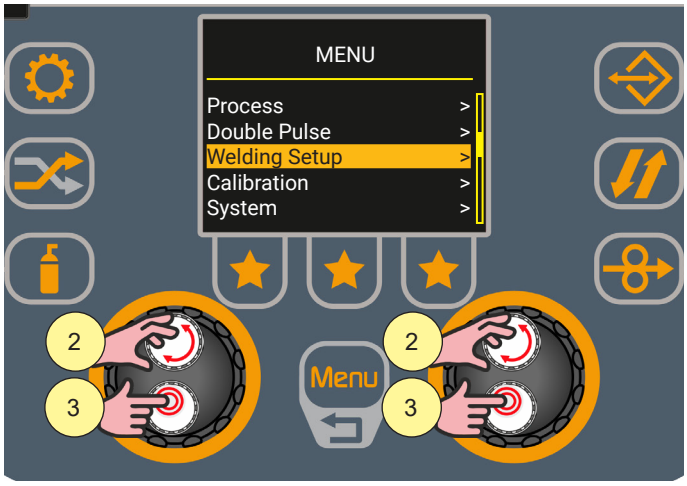
B-LEVEL CURRENT

► The parameter enables a special torch trigger function.
- Pressing and releasing the torch trigger rapidly in welding mode (in stroke 2) serves to switch 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 (stroke 3) operate the torch trigger with a prolonged press. When the trigger is released the welding cycle will close (stroke 4).

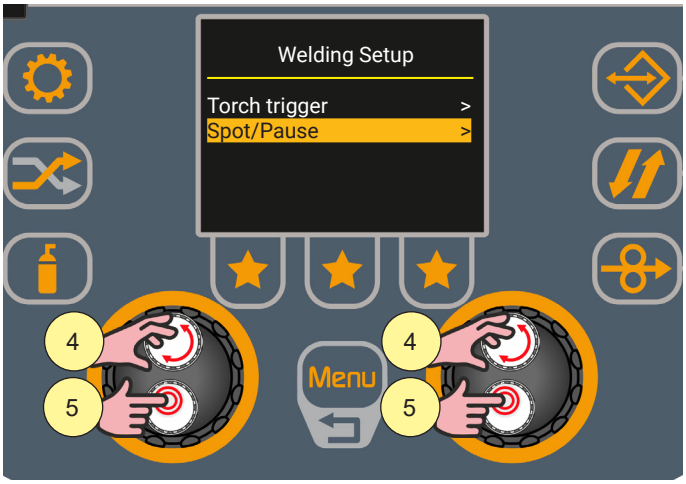
► Adjustment range: minimum (10 %) - default (50 %) - maximum (200 %)

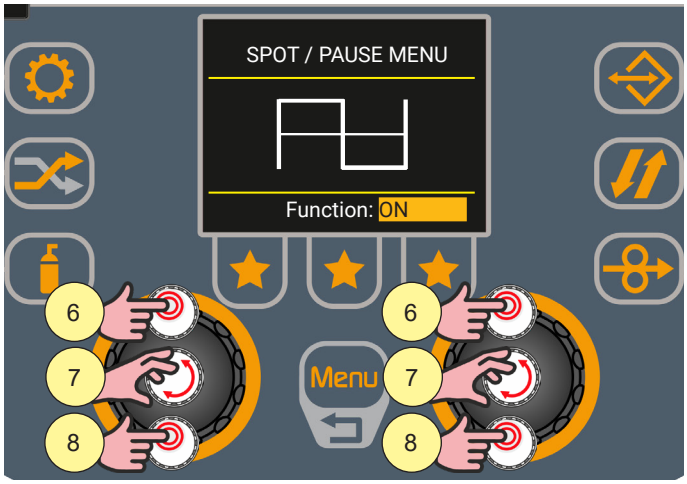
6.5 SPOT/PAUSE FUNCTION SETTING



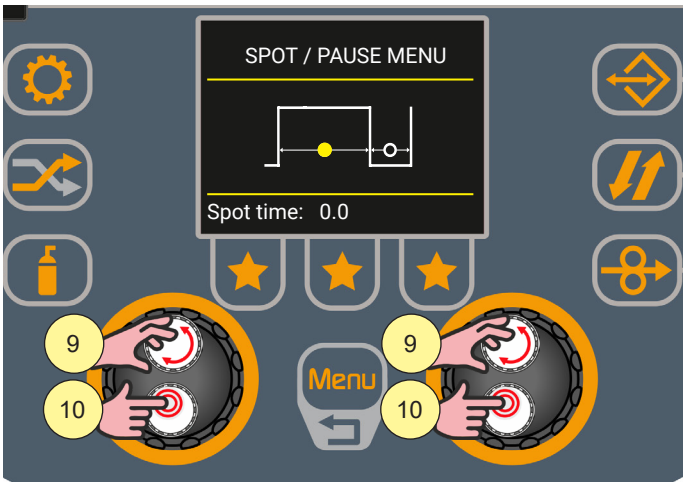


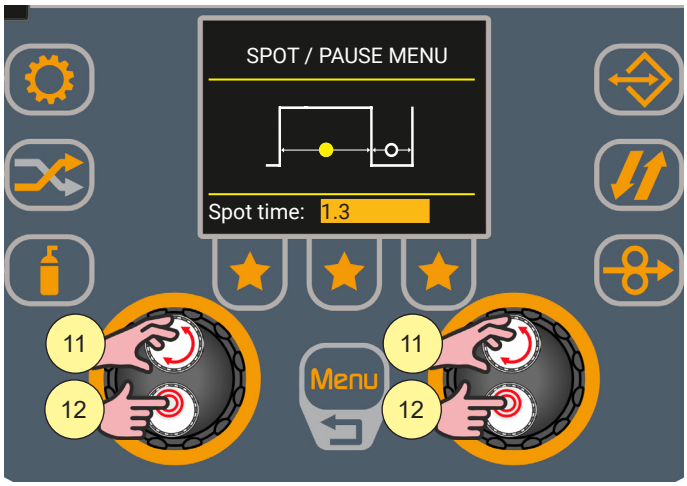
1. Press the [Menu] key to access the menu.
2. Turn the encoder to select the desired item. Select the following path: Welding setup>
3. Press the encoder key to confirm the selection.





4. Turn the encoder to select the desired item. Select the following path: Spot/Pause>
5. Press the encoder key to confirm the selection.
6. Press the encoder key to activate the function selection.
7. Turn the encoder to select the desired item. Select the following path: ON.
   - (OFF, ON)
8. Press the encoder key to confirm the selection.





9. Turn the encoder to select the desired item.
   - (Spot Time, Pause Time)
10. Press the encoder key to confirm the selection and activate the parameter change.
11. Turn the encoder to set the desired value.
12. Press the encoder key to confirm the setting.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

SPOT TIME

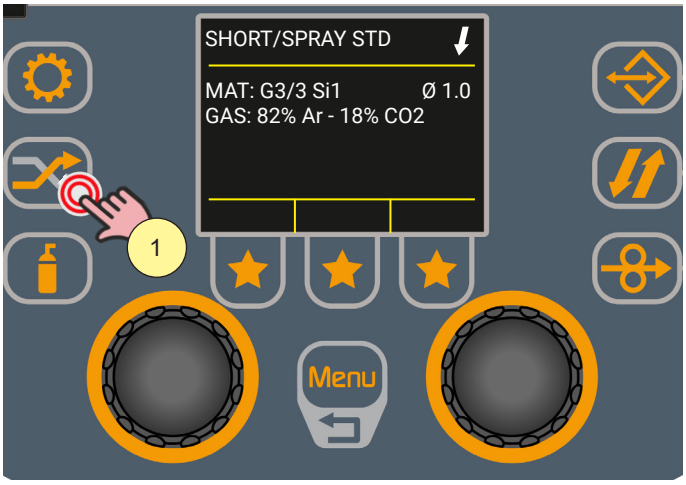
► When the torch trigger is pressed the welding arc persists for the time set in the parameter.
Press the torch trigger again to resume the welding process.
The welding process cannot be interrupted once it has been started.
When the torch trigger is pressed, if the arc does not strike within 10 seconds, 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 (125.0 s)

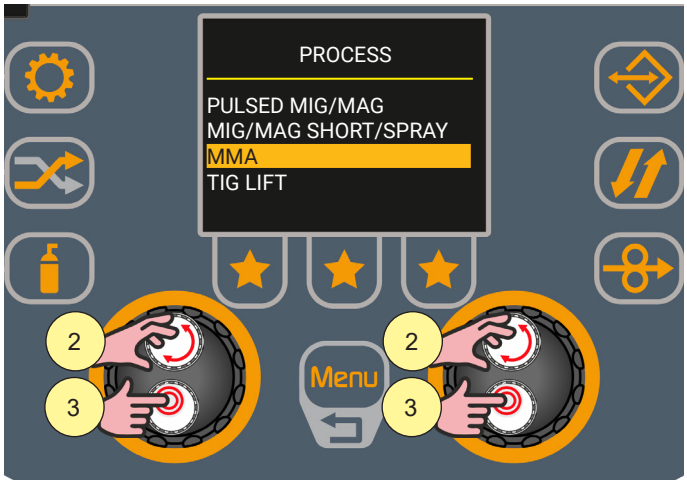
PAUSE TIME

► The parameter sets the pause time after the spot pulse.
► Adjustment range: minimum (0.0 s) - default (0.0 s) - maximum (125.0 s)

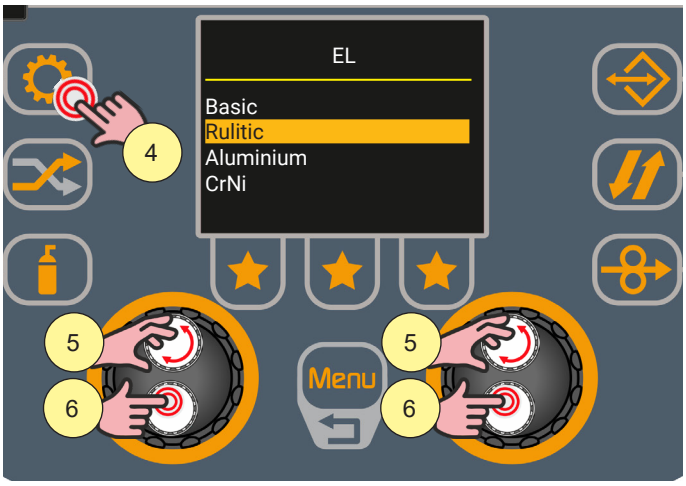
7 MMA WELDING

7.1 MMA PROCESS SETUP





1. Press the [PROCESS] key to access the PROCESS menu.
2. Turn the encoder to select the desired item.
   Select the following path: MMA
3. Press the encoder key to confirm the selection.

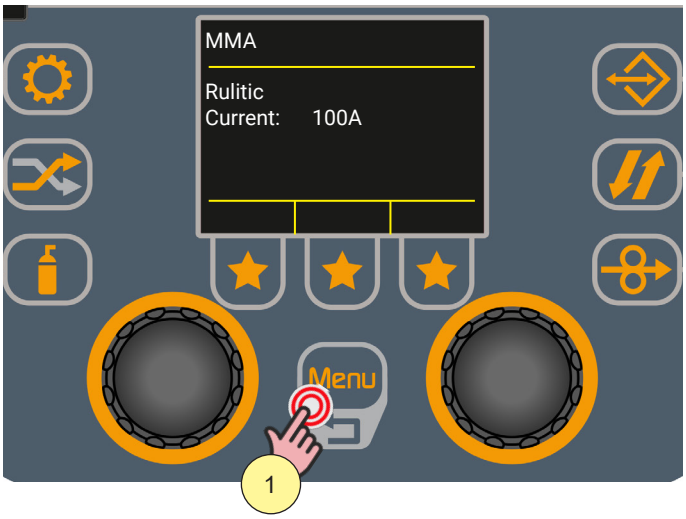


4. Press the [PROGRAM] key
5. Turn the encoder to select the desired item.
   ○ (Basic, Rulitic, Aluminium, CrNi).
6. Press the encoder key to confirm the selection.

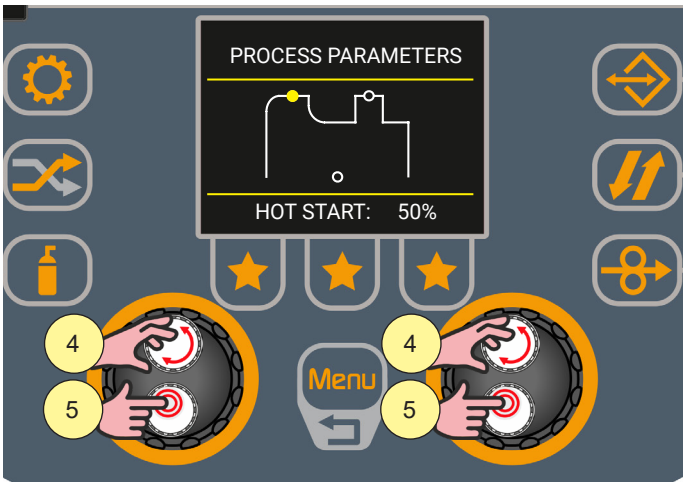
7.2 PROCESS PARAMETERS SETTING

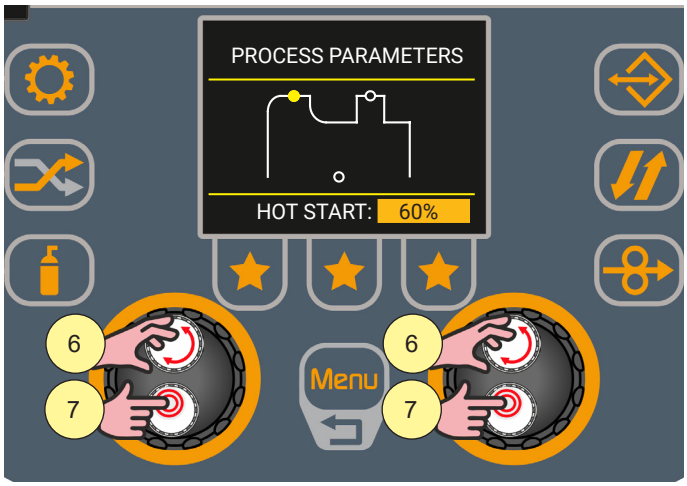
The 

[Menu] button allows access to the menu through which the main characteristics of the weld are set.



1. Press the [Menu] key to access the menu.
2. Turn the encoder to select the desired item.
   Select the following path: Process
3. Press the encoder key to confirm the selection.

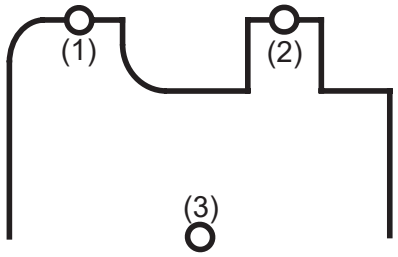




4. Turn the encoder to select the desired item.
   - (HOT START, ARC FORCE, VRD)
5. Press the encoder key to confirm the selection and activate the parameter change.
6. Turn the encoder to set the desired value.
7. Press the encoder key to confirm the setting.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

MMA parameters (parameters menu)



(1) HOT START

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

(2) ARC FORCE

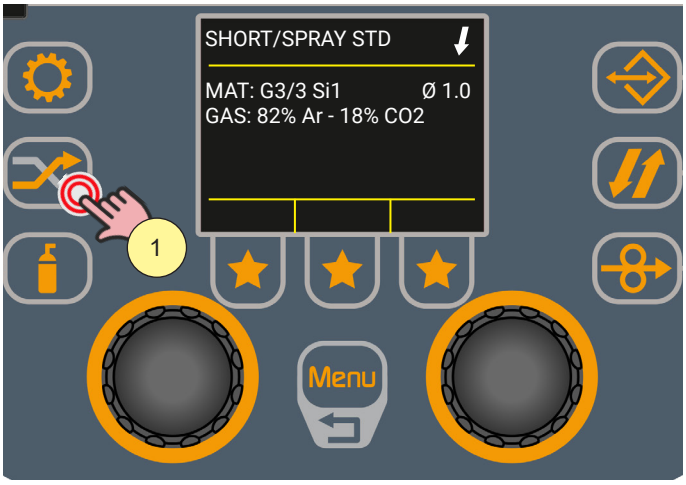
- ► This parameter helps to avoid electrode sticking during welding. It is set as a percentage referring to the WELDING CURRENT value.
- ► Adjustment range: minimum (0 %) - default (40 %) - maximum (200 %)

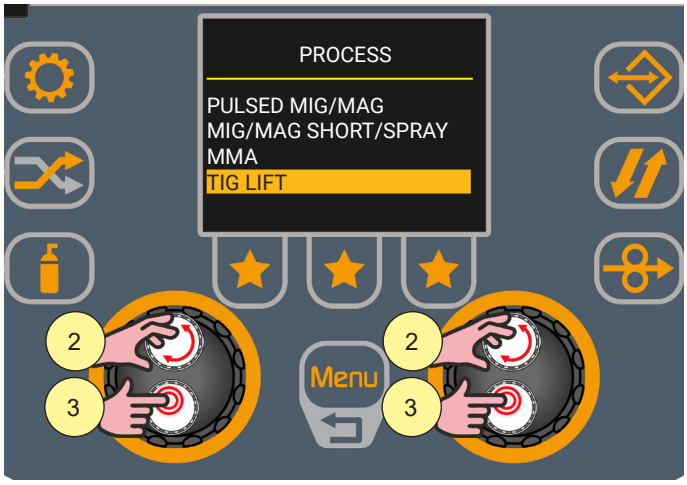
(3) VRD

- ► This parameter activates the VRD (reduced output voltage) function.
  The no-load voltage value (when not welding) between the welding sockets is switched from U0 to Ur (see technical data).
- ► Possible settings: (ON) - (OFF).

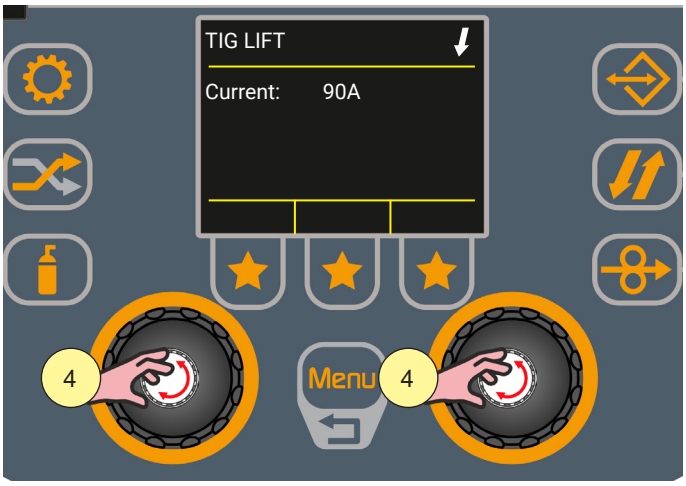
8 TIG LIFT WELDING

8.1 TIG LIFT PROCESS SETTING



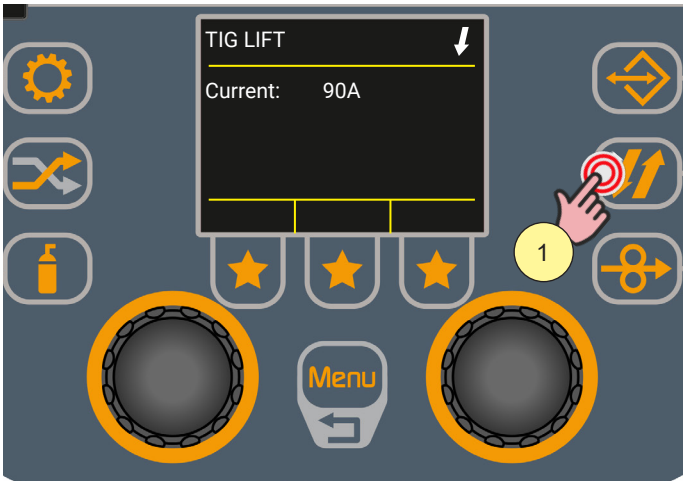


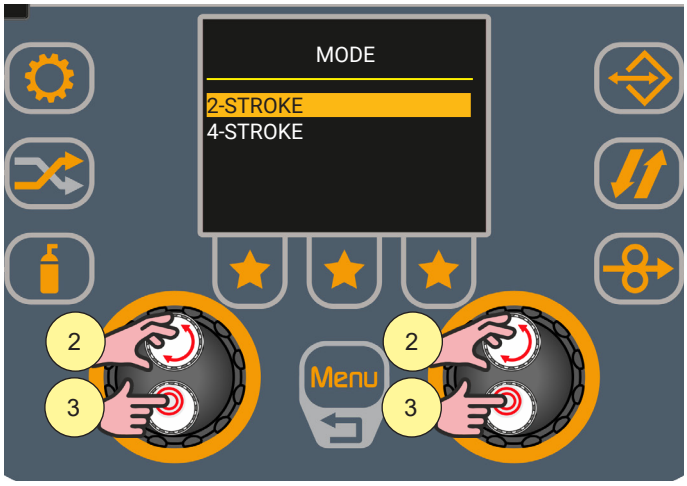
1. Press the [PROCESS] key to access the PROCESS menu.
2. Turn the encoder to select the desired item.
   Select the following path: TIG LIFT.
3. Press the encoder key to confirm the selection.



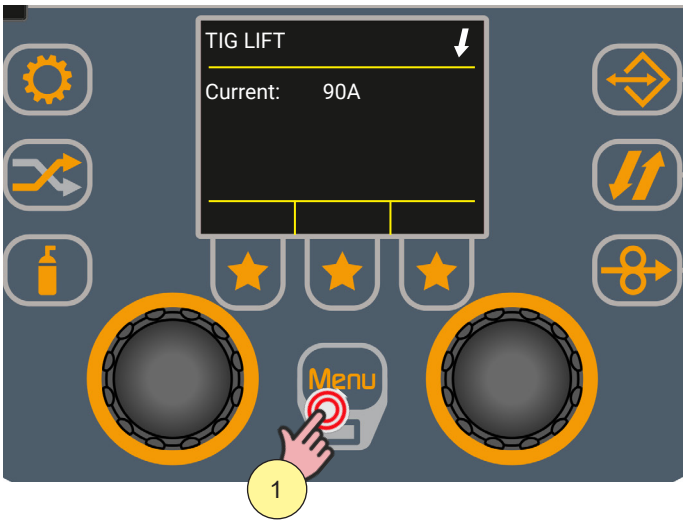
4. Turn the encoder to set the welding current.

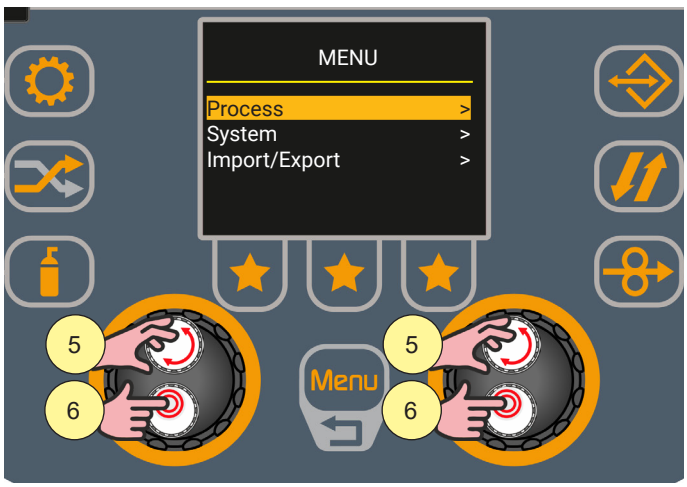
8.2 TIG TORCH TRIGGER MODE SETTING



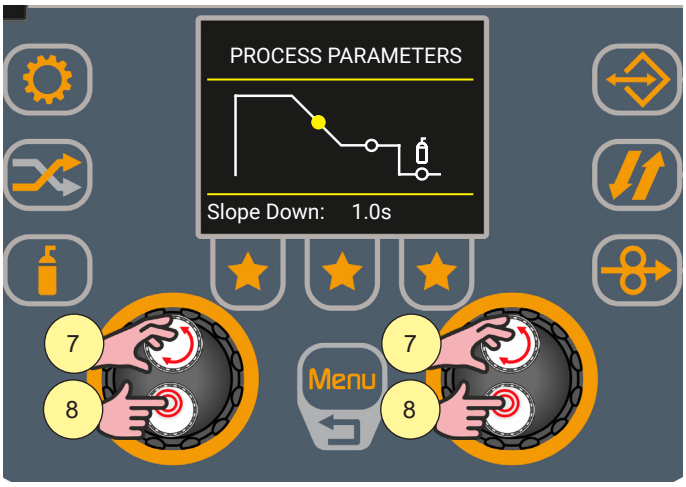


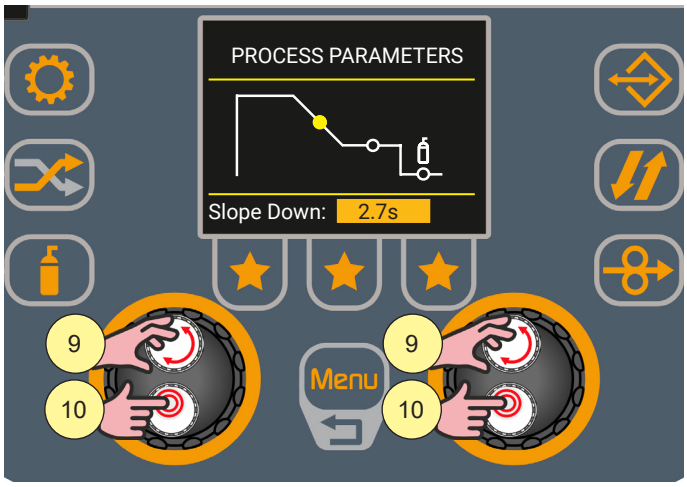
1. Press the [TORCH TRIGGER PROCEDURE] key to access the MODE menu from which you can select the working mode of the torch trigger.
2. Turn the encoder to select the desired item.
   - (2-STROKE, 4-STROKE)
3. Press the encoder key to confirm the selection if you only want to set the torch trigger mode. If you also want to set the process parameters, continue with the action described in point (4).





4. Press the [Menu] key to access the menu.
5. Turn the encoder to select the desired item.
   Select the following path: Process.
6. Press the encoder key to confirm the selection.

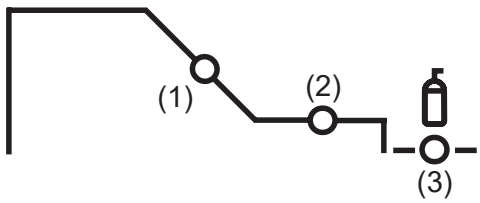




7. Turn the encoder to select the parameter to be modified.
   - (Slope down, Final current, Post Gas)
8. Press the encoder key to confirm the selection and activate the parameter change.
9. Turn the encoder to set the desired value.
10. Press the encoder key to confirm the setting.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

Process parameters with torch trigger in 2-strokes and 4-strokes mode



(1) Slope Down

► The parameter sets the time in which the current is brought from the welding current value to the final current value via 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 filler welding, the parameter makes it possible to achieve a uniform deposit from the start to the end of the welding process, by closing the deposit crater with enough current to deposit a final drop of filler material.
► Adjustment range: minimum (5 A) - default (50 A) - maximum (80 A)

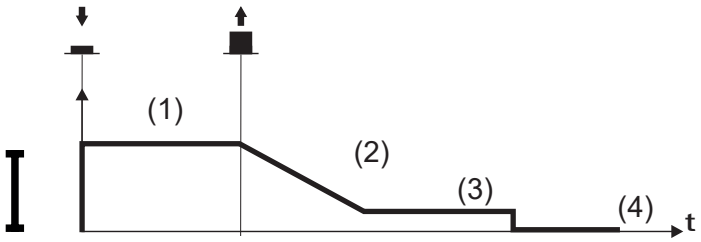
(3) Post Gas

► 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



(1) welding current
(2) slope down
(3) final current
(4) post gas

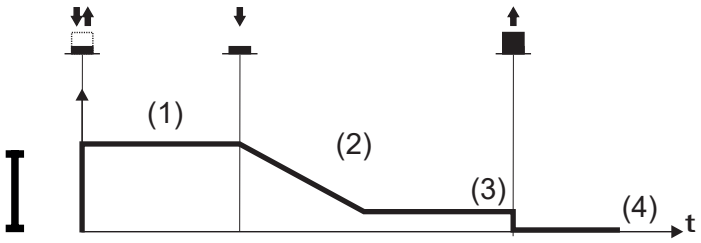
- Touch the workpiece with the torch electrode.
- Press (1T) and keep the torch trigger pressed.
- Slowly raise the torch to trigger the arc.
- The welding current reaches the set value.
- Release (2T) trigger to start the weld completion procedure.
- The current reaches the final current value in a time equal to the descent slope.
- The arc is extinguished.
- The gas flow continues for a time equal to the post gas.

TIG LIFT 4T OPERATION

: press the torch trigger

: release the torch trigger

: press and release the torch trigger

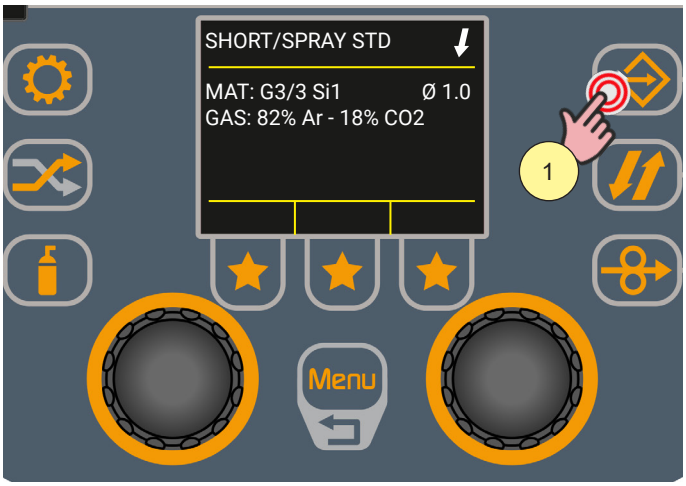


(1) welding current
(2) slope down
(3) final current
(4) post gas

- Touch the workpiece with the torch electrode.
- Press (1T) and release (2T) the torch trigger.
- Slowly raise the torch to trigger the arc.
- The welding current reaches the set value.
- Press (3T) trigger and keep it pressed to start the weld completion procedure.
- The current reaches the final current value in a time equal to the descent slope.
- The electric arc remains on and a current equal to the final current is delivered.
- In these conditions it is possible to close the weld pool (crater filler current).
- Release (4T) the button to stop the arc.
- The gas flow continues for a time equal to the post gas.

9 JOBS MANAGEMENT

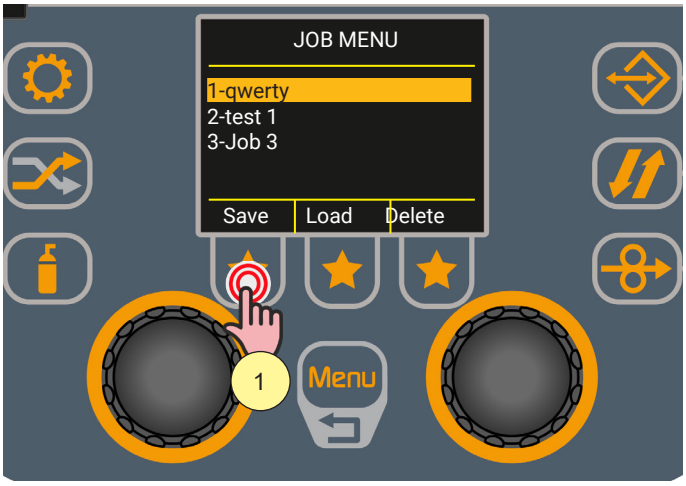
Personalised welding settings, or JOBs, can be saved in memory locations and subsequently uploaded.
The Job is the saving of the image of all the parameters set in the device. By parameters we mean the values of wire speed, welding arc length, inductance/dynamics, slopes, torch trigger mode, process, program used, special functions, etc ...
The settings of the SETUP menu are not saved.
There are 100 JOBs available.

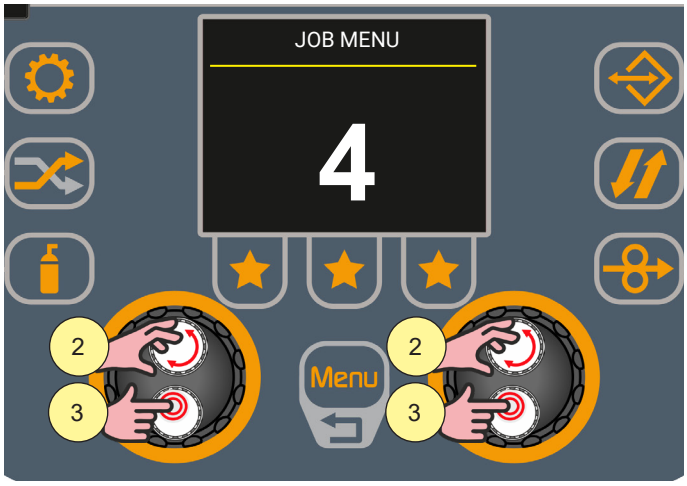


1. Press the [JOB] key to access the JOB MENU from which you can save, load or delete JOBS.

9.1 SAVING A JOB

Access the JOB MENU.

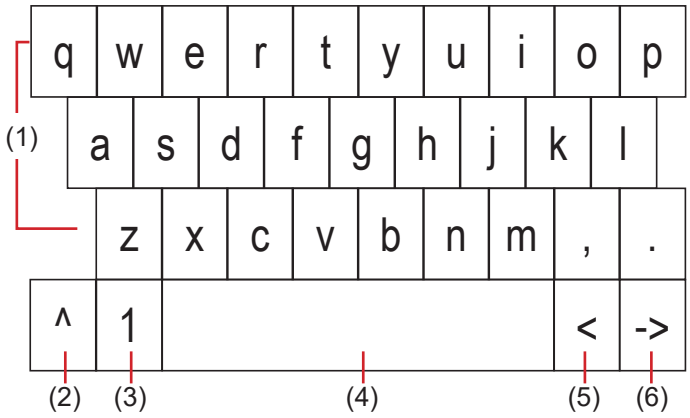


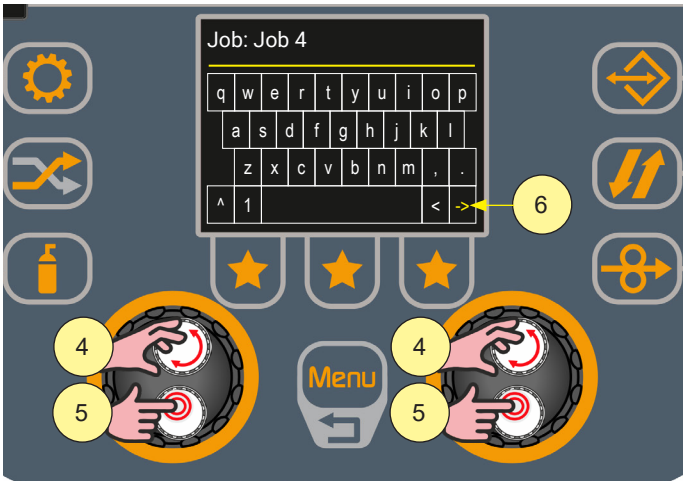


1. Press the [Save] key.
   The screen from which to select the JOB save location appears.
2. Turn the encoder to select the first free position on which to save the JOB.
3. Press the encoder key to confirm the save position of the JOB.
   The keyboard for typing the name appears.

Keyboard functions

(1) Letters
(2) Uppercase letters
(3) Special numbers/characters
(4) Spacebar
(5) Delete text
(6) Save and exit



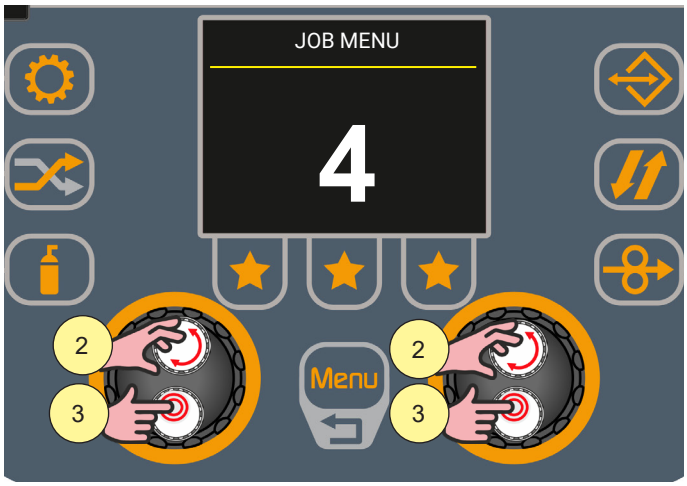


4. Turn the encoder to select the letter on the keyboard.
5. Press the encoder key to confirm the selection.
   (repeat steps 4 and 5 until the JOB name is complete)
6. Turn the encoder to select the [Save and Exit] key on the keyboard, then press the encoder key to store the JOB and return to the "JOB MENU" screen.

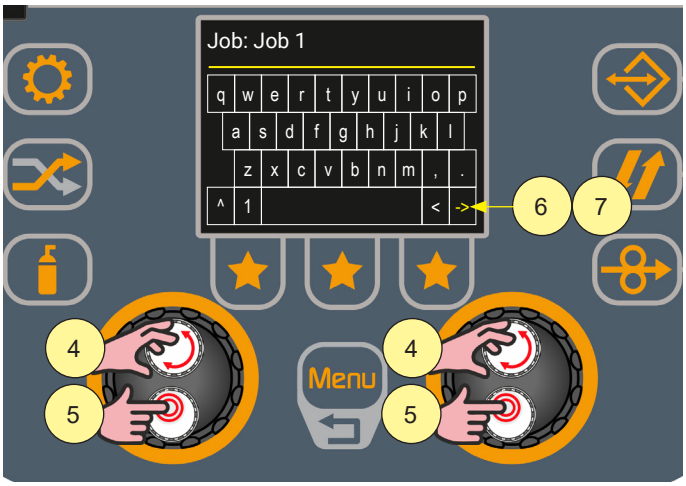
Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

9.2 OVERWRITE A JOB

Access the JOB MENU.



1. Press the [Save] key.
2. Turn the encoder to select the JOB to be replaced.
3. Press the encoder key to confirm the Job number.
   The keyboard for typing the name appears.

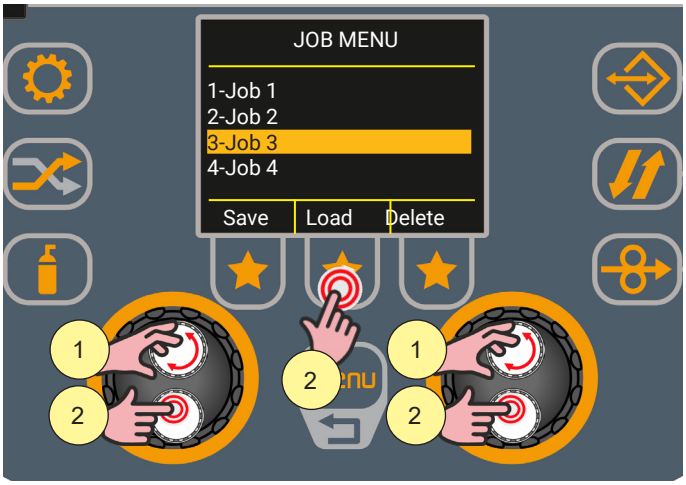


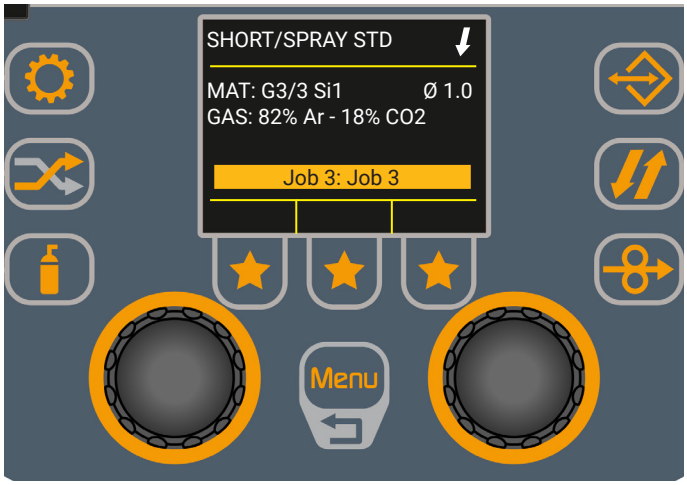
4. Turn the encoder to select the letter on the keyboard.
5. Press the encoder key to confirm the selected letter.
   (repeat steps 4 and 5 until the JOB name is complete)
6. Turn the encoder to select the [Save and Exit] key on the keyboard.
7. Press the encoder key to overwrite the JOB and return to the "JOB MENU" screen.

Press the [Menu] key twice to return to the main screen or once to return to the previous screen.

9.3 LOAD A JOB

Access the JOB MENU.
You can load a JOB if at least one JOB has been saved.

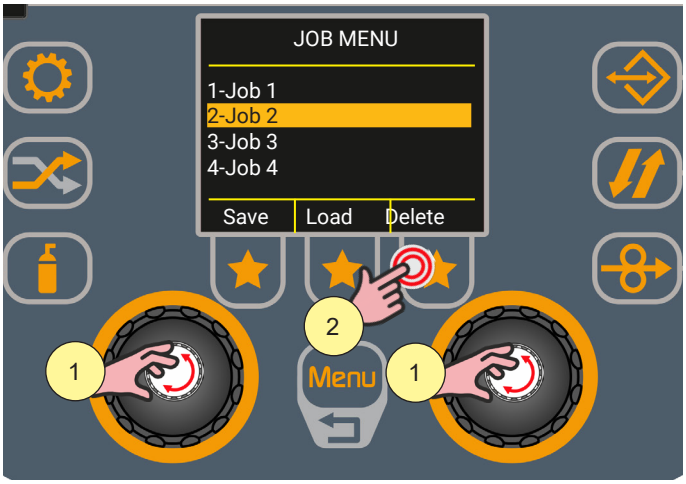


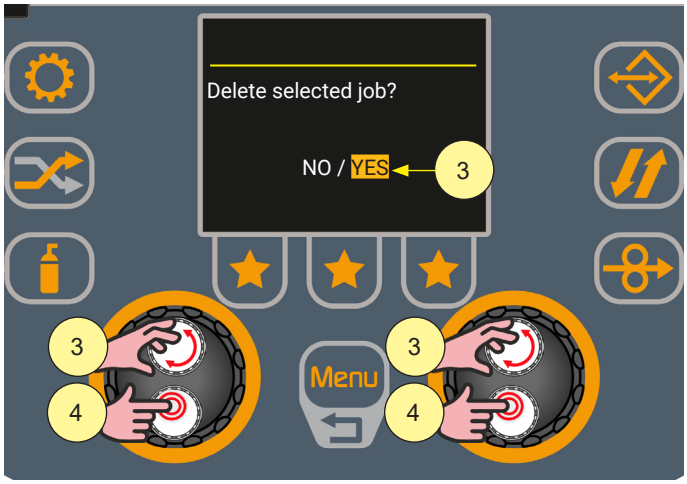


1. Turn the encoder to select the JOB to load.
2. Press the encoder key or the [Load] key.
3. The name of the loaded JOB appears on the main screen.

9.4 DELETING A JOB

Enter the JOB screen, with the list of stored JOBs.

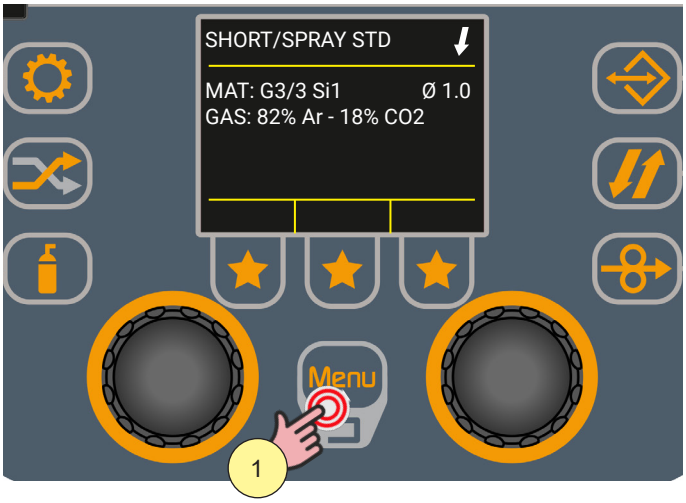


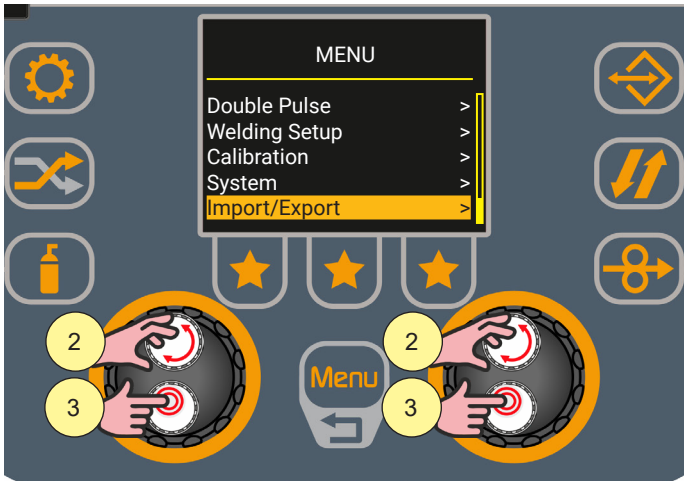


1. Turn the encoder to select the JOB to be deleted.
2. Press the [Delete] key.
3. Turn the encoder to select "YES".
4. Press the encoder key to confirm the deletion.

Selecting "NO" and pressing the encoder key does not delete the JOB and returns to the "JOB MENU" screen.

9.5 Export Jobs





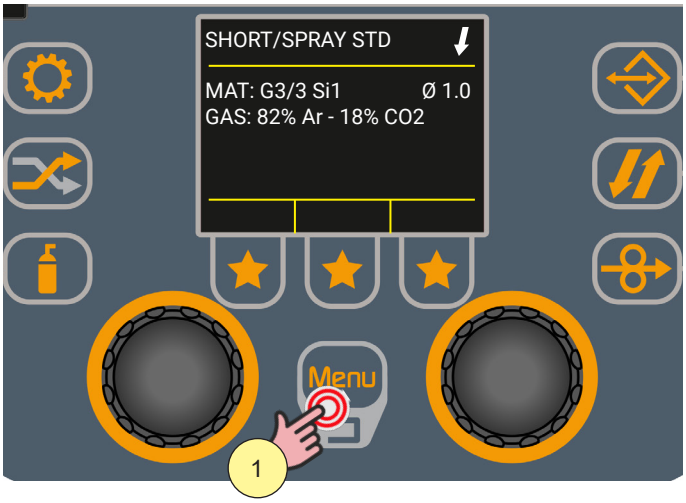
1. Press the [Menu] key.
2. Select the desired setting by turning the encoder.
   Select the following path: Import/Export>
3. Press the encoder key to confirm.

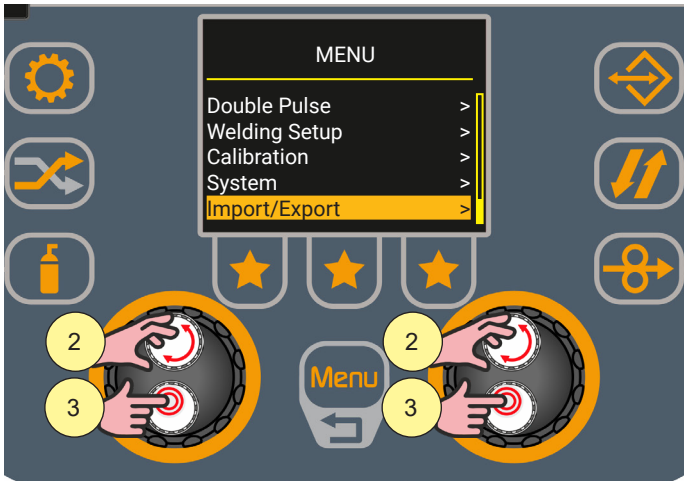
4. Insert a USB pen drive.
5. Select the desired setting by turning the encoder.
   Select the following path: Job Export>
6. Press the encoder key to confirm.
7. Turn the encoder to select "YES".
8. Press the encoder key to export the files to the USB pen drive.
   If the export is successful, the message "Export OK" appears.

ⓘ **Information** If at point "8" the system does not detect the presence of the USB pen drive on the port, the message "A USB pen drive with FAT32 partition must be inserted" appears on the display.

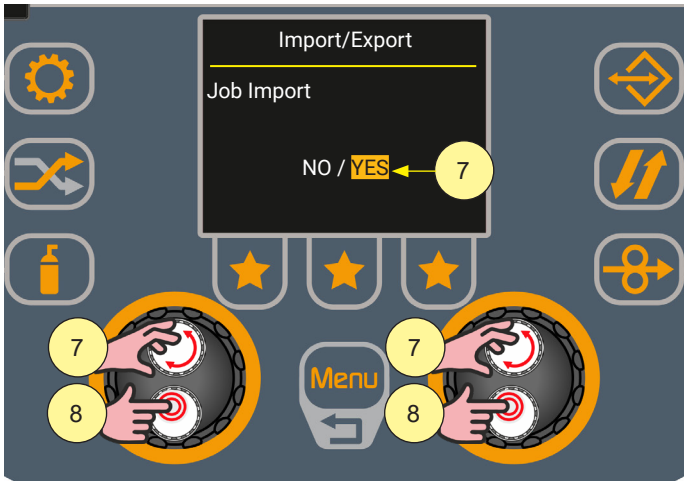
ⓘ **Information** If "NO" is selected at point "7", at the command of point "8" the Jobs are not exported and you return to the previous page.

9.6 IMPORT JOBS





1. Press the [Menu] key.
2. Select the desired setting by turning the encoder.
   Select the following path: Import/Export>
3. Press the encoder key to confirm.



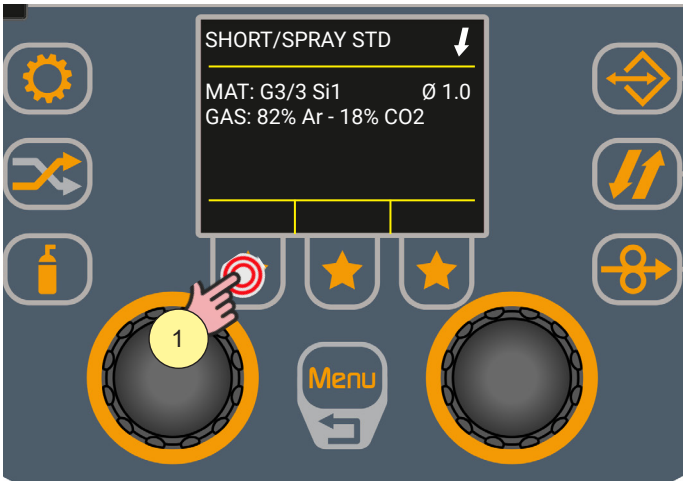
4. Insert a USB pen drive.
5. Select the desired setting by turning the encoder.
   Select the following path: Job Import>
6. Press the encoder key to confirm.
7. Turn the encoder to select "YES".
8. Press the encoder key to import the USB pen drive files.
   If the export is successful, the message "Import OK" appears.

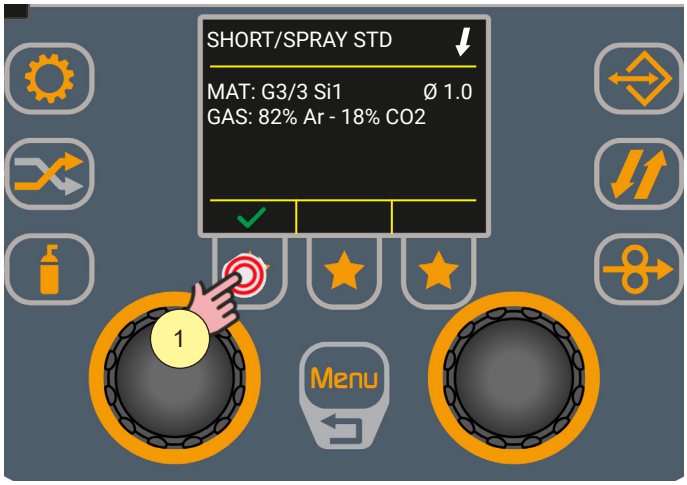
ⓘ **Information** If at point "8" the system does not detect the presence of the USB pen drive on the port, the message "A USB pen drive with FAT32 partition must be inserted" appears on the display.

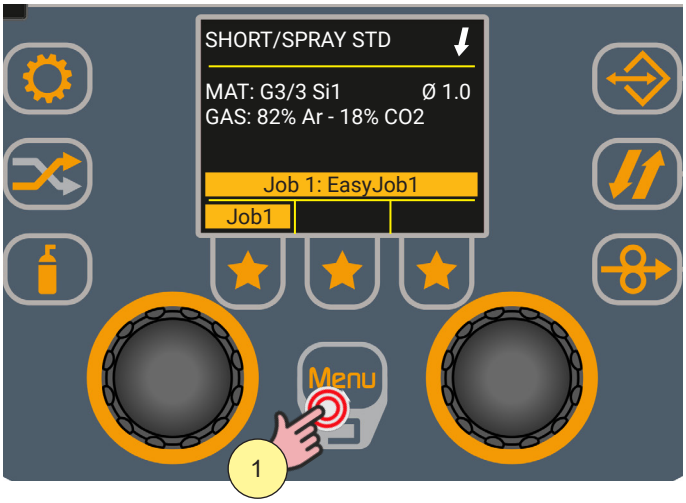
ⓘ **Information** When importing, the Jobs in the generator will be deleted and a new list will be created with the contents of the USB pen drive.

9.7 FAST JOB

The "FastJob" function saves the image of the parameter setting currently in use quickly on a maximum of 3 memory locations of the Jobs (the first 3).
Saved FastJobs will be displayed in the relevant FastJob boxes







1. Press the key  and hold for 3 seconds.
2. In the box located above the key pressed, the storage signal that has occurred appears: ✓
3. On release, the saved Job number appears in the relevant box.

If you press the button again  for 3 seconds, the new FastJob is automatically overwritten on the previously saved one (the following sign will always appear: ✓).

To exit Job mode, simply rotate one of the encoders.

10 RESET

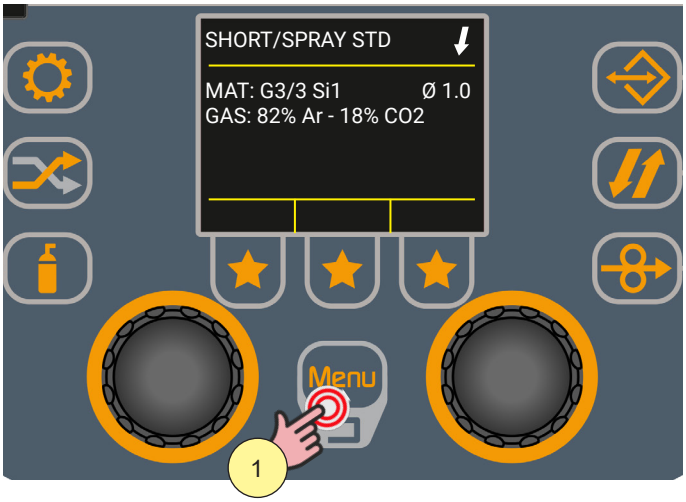
Reset Mode

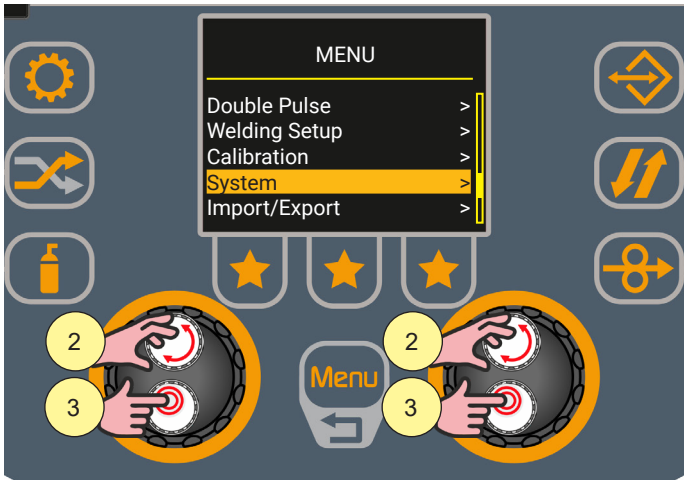
► Reset parameters
The "Reset parameters" procedure resets the parameter values to factory settings, except for the following settings:
- Language.
- saved JOBS.

► Reset parameters and Job
The "Reset parameters and Job" procedure implements the complete reset of values, parameters and memories to factory settings except for the following settings:
- Language.

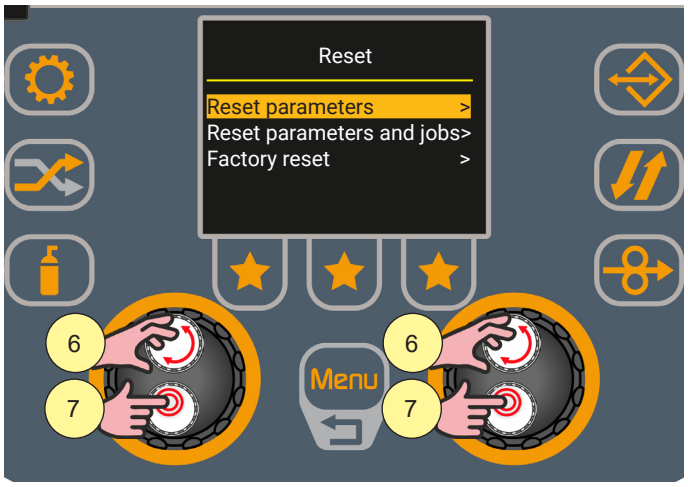
► Factory reset
The "Factory Reset" procedure implements the complete reset of values, parameters and memories and the settings of the Setup menu to those of the factory.

10.1 RESET PARAMETERS

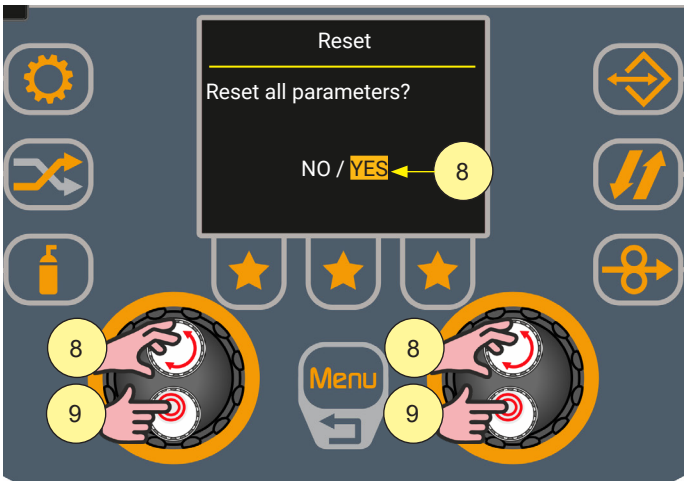




1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.



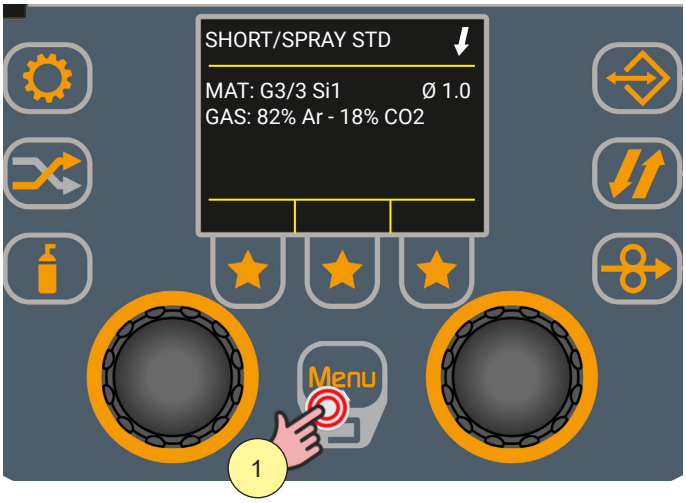
4. Turn the encoder to select the desired setting.
   Select the following path: Reset>
5. Press the encoder key to confirm.
6. Turn the encoder to select the desired setting.
   Select the following path: Reset parameters>
7. Press the encoder key to confirm.

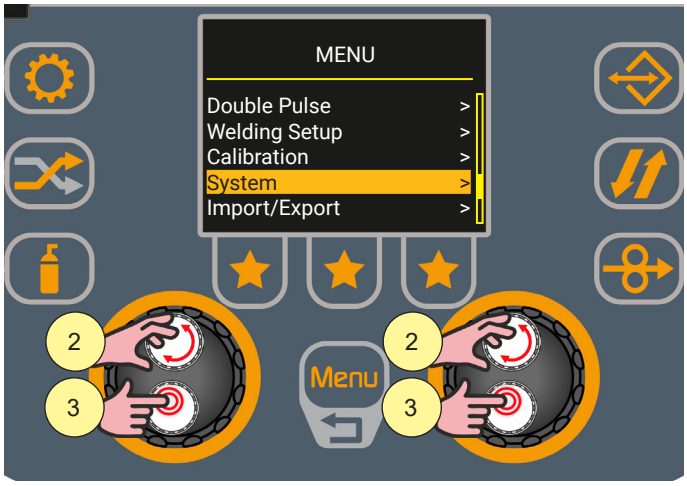


8. Turn the encoder to select "YES".
9. Press the encoder key to confirm the reset of the parameters.

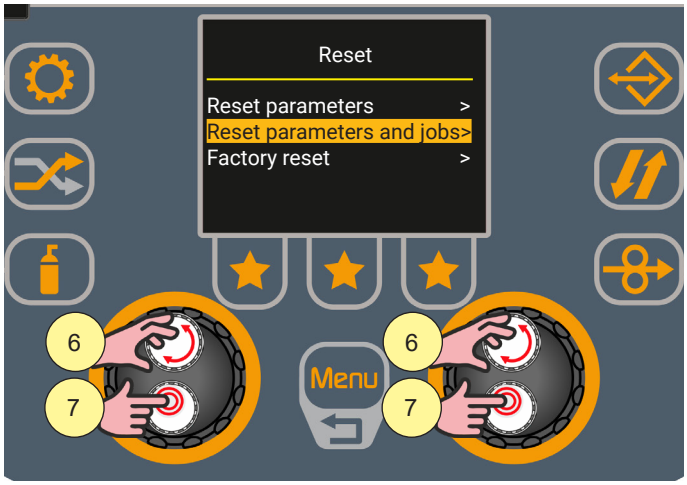
ⓘ **Information** Selecting "NO" and pressing the encoder key returns to the previous page without resetting the parameters.

10.2 Reset parameters and jobs

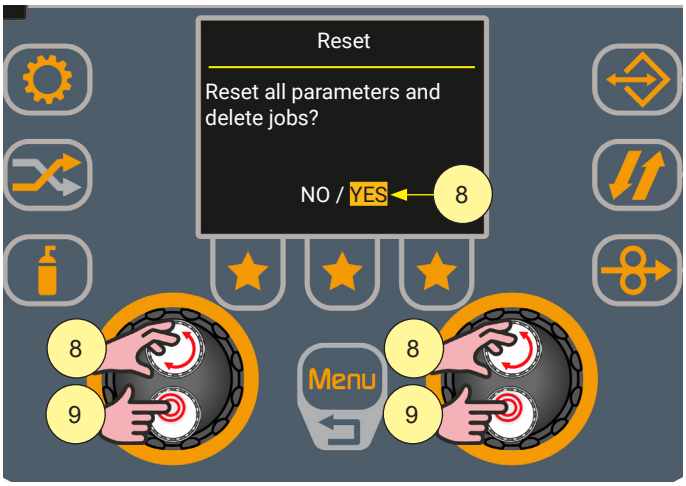




1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.



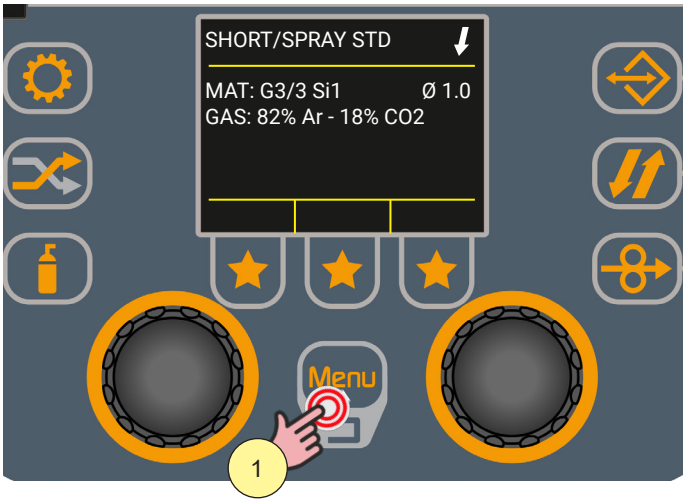
4. Turn the encoder to select the desired setting.
   Select the following path: Reset>
5. Press the encoder key to confirm.
6. Turn the encoder to select the desired setting.
   Select the following path: Reset parameters and jobs>
7. Press the encoder key to confirm.

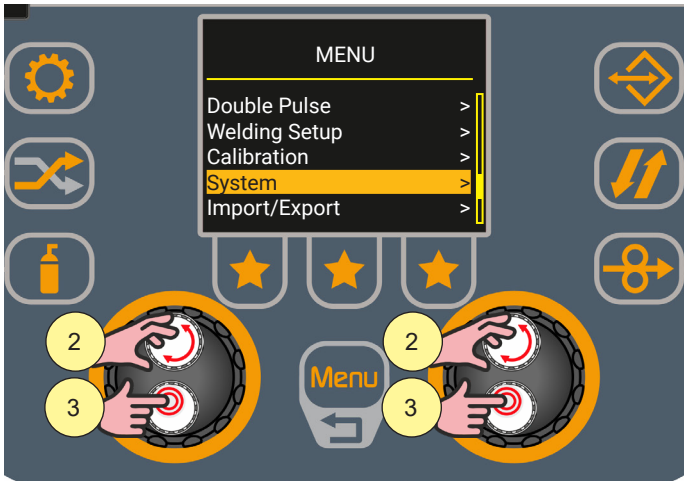


8. Turn the encoder to select "YES".
9. Press the encoder key to confirm the reset of parameters and jobs.

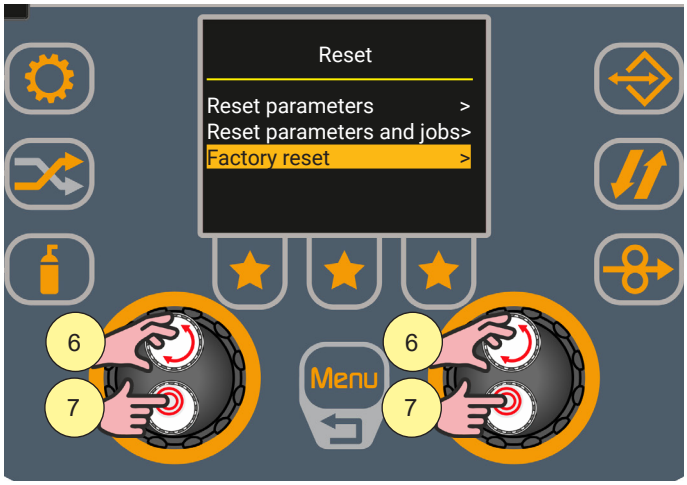
Information Selecting "NO" and pressing the encoder key returns you to the previous page without resetting the parameters and jobs.

10.3 Factory reset

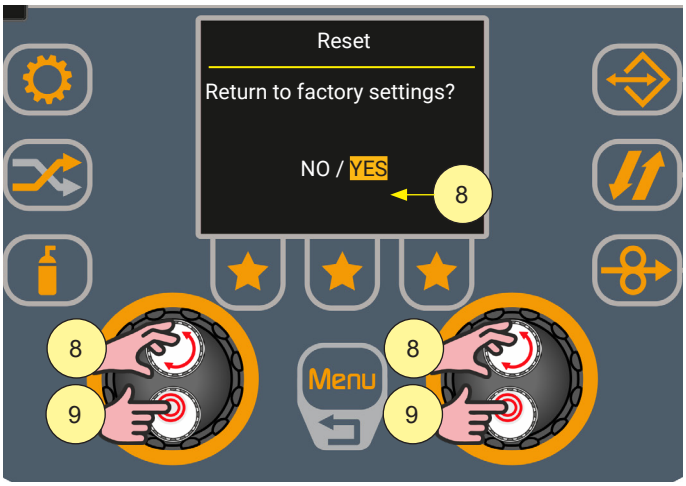




1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.



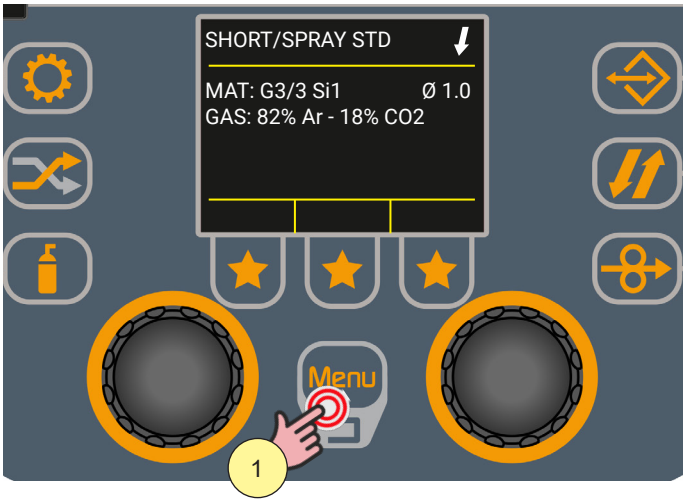
4. Turn the encoder to select the desired setting.
   Select the following path: Reset>
5. Press the encoder key to confirm.
6. Turn the encoder to select the desired setting.
   Select the following path: Factory Reset >
7. Press the encoder key to confirm.

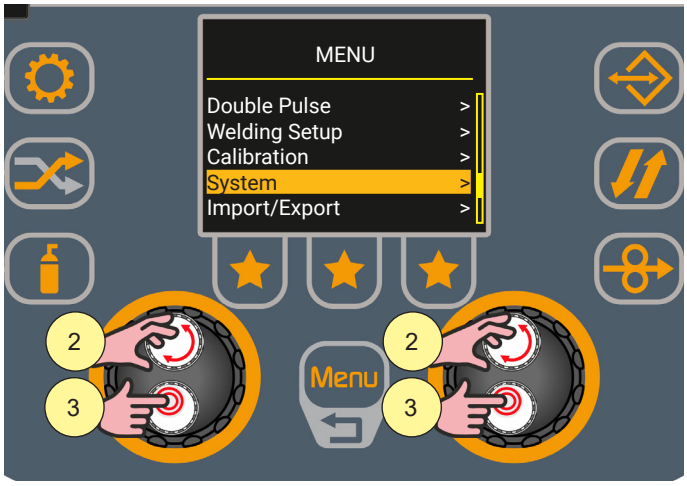


8. Turn the encoder to select "YES".
9. Press the encoder key to confirm the system reset to factory settings.

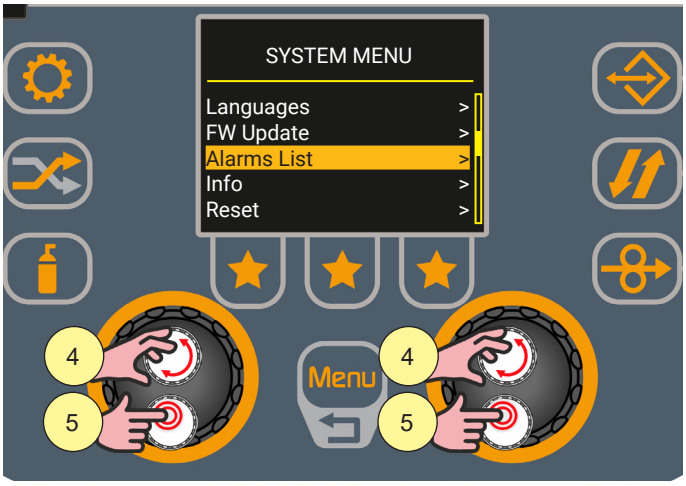
Information Selecting "NO" and pressing the encoder key returns you to the previous page without performing any type of reset.

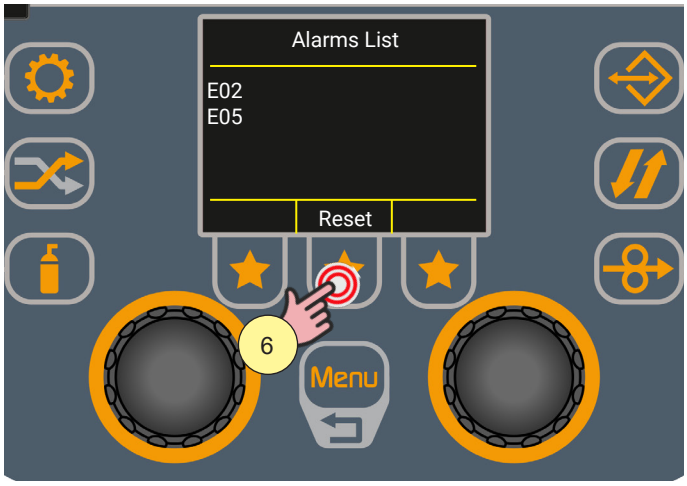
11 ALARM MANAGEMENT





1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.





4. Turn the encoder to select the desired setting.
   Select the following path: Alarms List>
5. Press the encoder key to confirm.
   The list of stored alarms is displayed.
6. Press the "Reset" key if you want to delete the list.

Information When an alarm condition occurs all functions are disabled, except for:
- cooling fan
- cooling unit (if active).

11.1 Alarms List

E01: CALIBRATION ERROR

► It appears if, after calibration, the calibrated value is not within the permitted thresholds.
► Solution:
- Repeat the calibration procedure.
- If the problem persists, check the connections of the ground terminal, torch and possible cable bundle between the power source and the wire feeder.

E02: NTC ALARM DISCONNECTED

► Indicates the information interruption between the NTC and the control system.
► Solution:
- The intervention of qualified technical personnel is required for repairs/maintenance.

E04: VOUT DISCONNECTED ALARM

► Indicates that there is a short circuit between the (+) and (-) welding sockets.
► Solution:
- Check that the welding torch is not resting on the piece to be welded connected to the ground.
- Check that when the generator is switched on there is no short circuit between the sockets (the voltage must be greater than/equal to Ur).
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E05: WELD TORCH TRIGGER PRESSED ALARM

► Indicates that when the generator was switched on, a short circuit was detected on the input of the torch trigger.
► Solution:
When the problem ceases, the power generator will reset automatically.
- Make sure that the torch trigger is not pressed, jammed, or short circuiting.
- Check that the torch and torch connector are intact.

E06: MISSING PROCESS ALARM

► An attempt is being made to call up a welding mode/process that is not available (also via Job loading). This happens when jobs have been imported from another power source.
► Solution:
- Change the welding mode/process.
- Select a different job.
- Delete the incompatible job.

E07: MISSING PROGRAM ALARM

► The synergy/welding program is missing in the receiving unit.
► Solution:
- Load the welding program in the power source
- Select a different job.
- Delete the incompatible job.

E08: UNRECOGNISED JOB PARAMETERS ALARM

► The Job being loaded is not present in the memory and some parameters / display functions are missing in the receiving power source.
► Solution:
- Select a different job.
- Delete the incompatible job.

E09: JOB CURRENT OUT OF RANGE ALARM

► The Job being loaded was saved with a current higher than the maximum current of the receiving unit.
► Solution:
- Select a different job.
- Delete the incompatible job.

E11: JOB WITH MISSING PARAMETER ALARM

► The imported job has parameters that are not present in the receiving machine, i.e. the job was created with a previous firmware version not compatible with a more recent version.
► Solution:
- Update the power source firmware.
- Import the job again.

E26: GROUND CURRENT ALARM

► Current is re-circulated on the ground circuit.
► Solution:
- Make sure that the welding circuit is not connected to the grounding system and that the machine's metal frame is not in contact with the workpiece.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E27: POWER SUPPLY UNDERVOLTAGE ALARM

► Supply voltage low.
► Solution:
- Check that the mains power supply does not fall below the minimum allowed values.

E28: POWER SUPPLY OVERVOLTAGE ALARM

► High supply voltage.
► Solution:
- Check that the mains power supply does not exceed the maximum allowed values.

E29: ALARM PHASE MISSING

► Lack of a phase.
► Solution:
- Check that all three phases come from the mains.
- Check the integrity of the line fuses on the power supply panel.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E30: PRIMARY OVERCURRENT ALARM

► Exceeding the current threshold at the primary.
► Solution:
- The welding currents are at the limit of the maximum threshold: lower the welding parameters.
- Check the stability of the power supply line.
- Check the correct sizing of any power extension cables.
- Check whether the issue only occurs with specific welding processes (MIG/MAG, TIG, MMA).
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E31: INVERTER THERMAL ALARM

► It indicates that the welding power source 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 welding power source will reset automatically.
- Check the correct operation of the fans.
- 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

► It indicates that the welding power source 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 welding power source will reset automatically.
- Check the correct operation of the fans.
- 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: GENERIC THERMAL ALARM

► It indicates that the welding power source 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 welding power source will reset automatically.
- Check the correct operation of the fans.
- 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.

E37: SECONDARY OVERCURRENT ALARM

► The I_{max} threshold has been exceeded (i.e. the maximum current that can be delivered by the power source).
► Solution:
- The welding currents are at the limit of the maximum threshold: lower the welding parameters.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E40: CANBUS COMMUNICATION ALARM

► No communication between the devices connected in the CAN line.
► Solution:
- Check the connection of the cable bundle between the power source and the wire feeder
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E49: DATA LOSS ALARM

► Incorrect data reading from EEPROM memory
► Solution:
- The intervention of qualified technical personnel is required for repairs/maintenance.

E50: COOLING UNIT ALARM

► Indicates a lack of coolant circulation in the torch cooling circuit.
► Solution:
- Check that the connection to the cooling unit is correct.
- Check that the O/I switch is in the "I" position and that it lights up when the pump is running.
- Check that the cooling liquid is present in the cooling unit.
- Check that the pump flows the liquid (presence of external by-pass)
- Check that the cooling circuit is liquid tight, notably the torch hoses, the fuse and the internal connections of the cooling unit.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E60: WF MOTOR CURRENT ALARM

► Excessive current absorbed by the wire feeder motor.
► Solution:
- Check if the motor is mechanically blocked by some object.
- Check that the wire slides properly in the torch liner.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E61: WIRE FEEDER - ENCODER ALARM

► The encoder does not adjust the speed correctly.
► Solution:
- The intervention of qualified technical personnel is required for repairs/maintenance.

E71: MISSING WIRE ALARM

► Wire loading not detected (only for machines with a WIRE END sensor kit).
► Solution:
- Check for the presence of the welding wire; if necessary, reload the system.

E81: ALARM HIGH CURRENT LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

E82: ALARM LOW CURRENT LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

E83: ALARM HIGH VOLTAGE LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions.

E84: ALARM LOW VOLTAGE LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions.

E85: ALARM HIGH WIRE SPEED LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

E86: ALARM LOW WIRE SPEED LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

E87: ALARM HIGH GAS LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu (only for machines equipped with a GAS SENSOR kit).
► Solution:
- Check the gas flow rate in the system connected to the device.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E88: ALARM LOW GAS LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu (only for machines equipped with a GAS SENSOR kit).
► Solution:
- Check the gas flow rate in the system connected to the device.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

W81: WARNING HIGH CURRENT LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

W82: WARNING LOW CURRENT LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

W83: WARNING HIGH VOLTAGE LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions.

W84: WARNING LOW VOLTAGE LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions.

W85: WARNING HIGH WIRE SPEED LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

W86: WARNING LOW WIRE SPEED LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu.
► Solution:
- Check that the guard limit parameter is correct according to the welding parameters set.
- Check that there are no welding problems related to the consumable, gas used, welding position, mass, torch, wire drive, special active functions (K-Deep).

W87: WARNING HIGH GAS LIMIT EXCEEDED

► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu (only for machines equipped with a GAS SENSOR kit).
► Solution:
- Check the gas flow rate in the system connected to the device.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

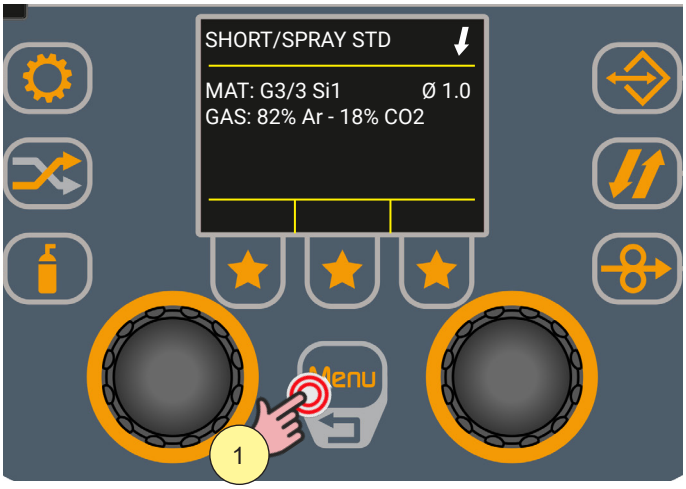
W88: WARNING LOW GAS LIMIT EXCEEDED

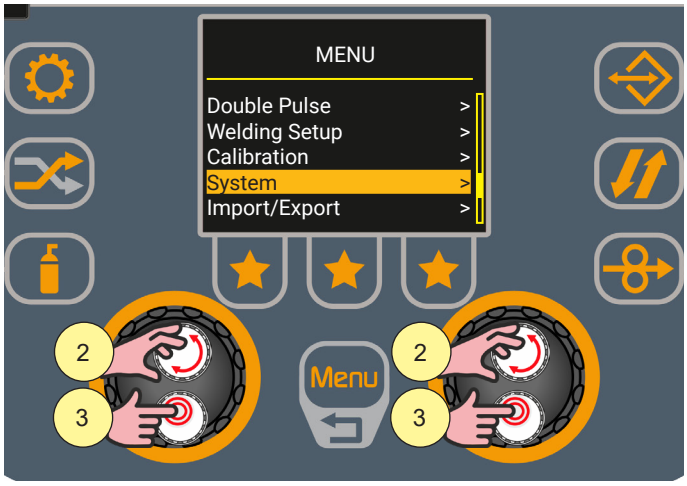
► Alarm generated only if the specific option has been activated in the “GUARD LIMITS” menu (only for machines equipped with a GAS SENSOR kit).
► Solution:
- Check the gas flow rate in the system connected to the device.
- If the problem persists, qualified technical personnel are required for repair/maintenance.

E99: GENERAL ALARM

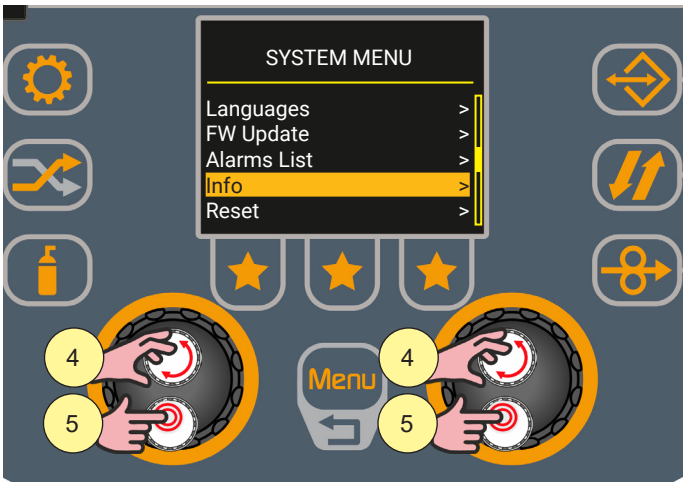
► Indicates the non-recognition of the generator.
► Solution:
- Check the integrity of the connections between generator and remotes (wire feed trolleys, remotes, other devices).
- If the problem persists, qualified technical personnel are required for repair/maintenance.

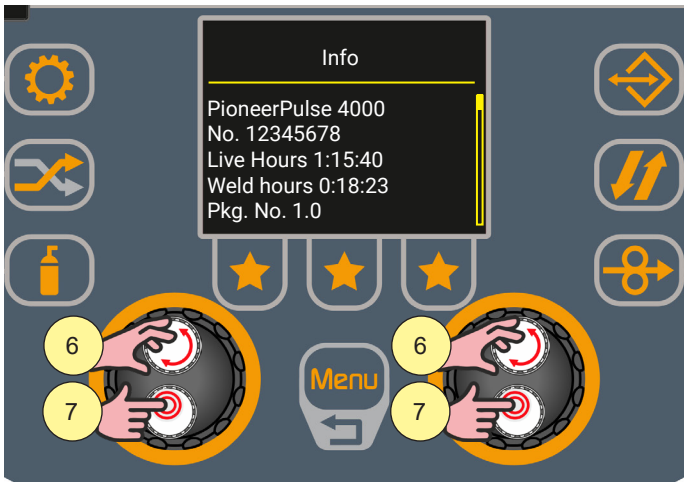
12 INFO SYSTEM





1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.





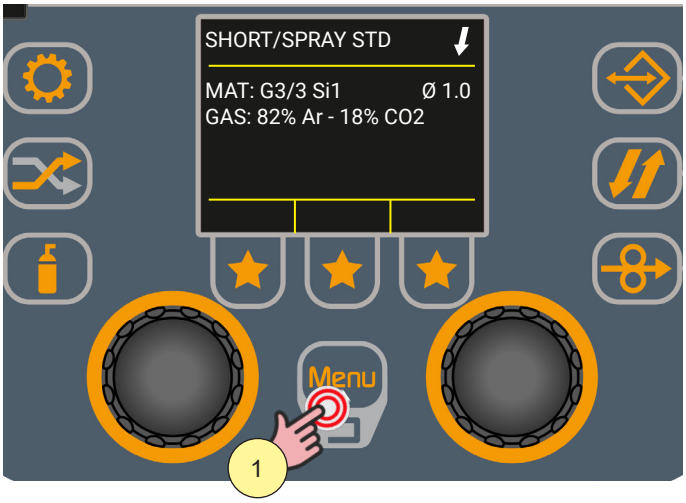
4. Turn the encoder to select the desired setting.
   Select the following path: Info>
5. Press the encoder key to confirm.
   A screen is displayed on which the following information is displayed:
   - Generator model;
   - Generator serial number;
   - Number of hours of machine on;
   - Number of weld hours;
   - Pkg

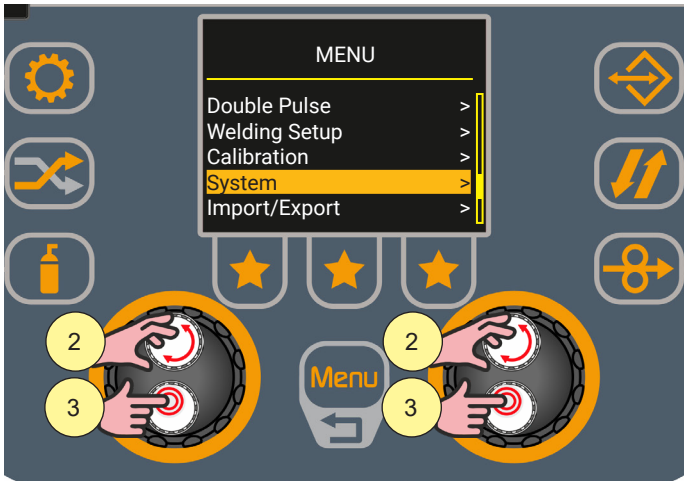
Information After 5 seconds the system loads the list of cards with microcontroller and the respective firmware version:
   - Display;
   - Boost;
   - Inverter;
   - WF.

6. Turn the encoder to scroll through the list of information.
7. Press the encoder key to exit the "INFO" screen and return to the previous screen.

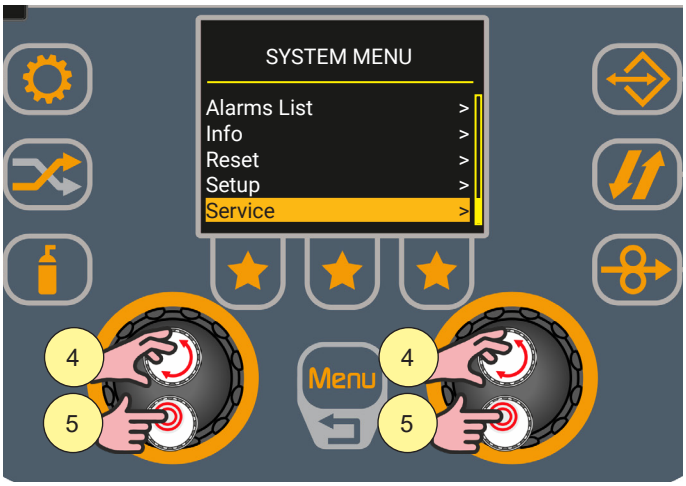
13 SERVICE

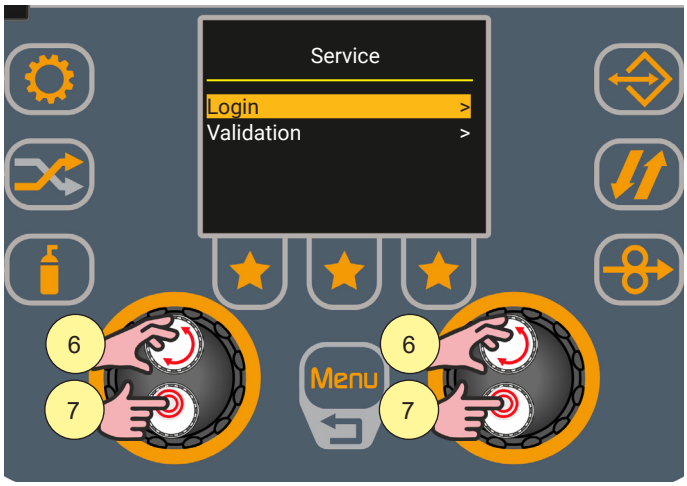
The service menu is used to activate additional functions; the password is not provided to the end user as the activation of these functions is reserved for qualified technical personnel authorised by the manufacturer for maintenance and troubleshooting of the equipment.
Below is the procedure to be followed to access the SERVICE menu.



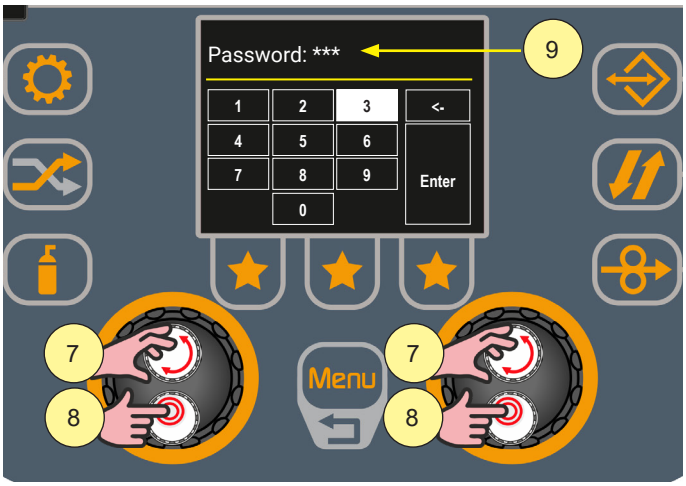


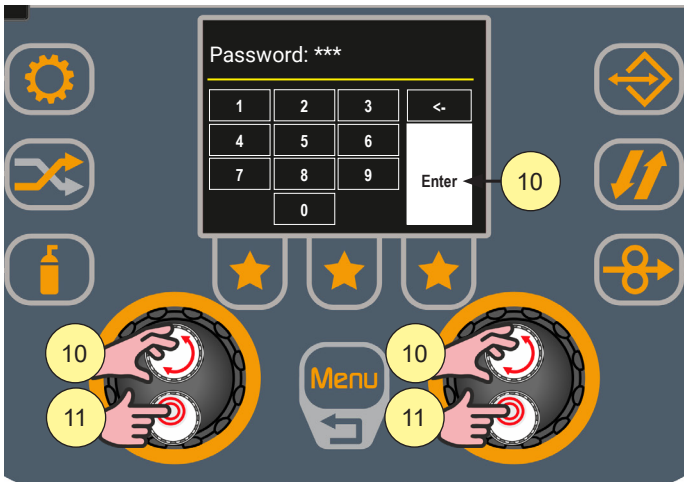
1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.





4. Turn the encoder to select the desired setting.
   Select the following path: Service>
5. Press the encoder key to confirm.
6. Turn the encoder to select the desired setting.
   Select the following path: Login>
7. Press the encoder key to confirm.





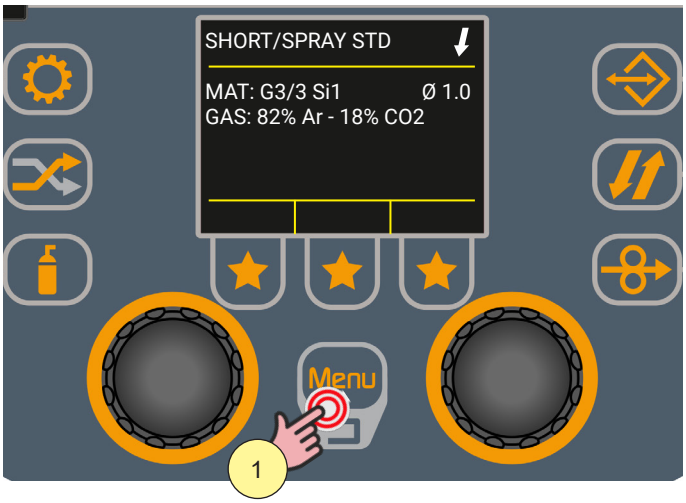
To access the service menu, enter the three-digit password.

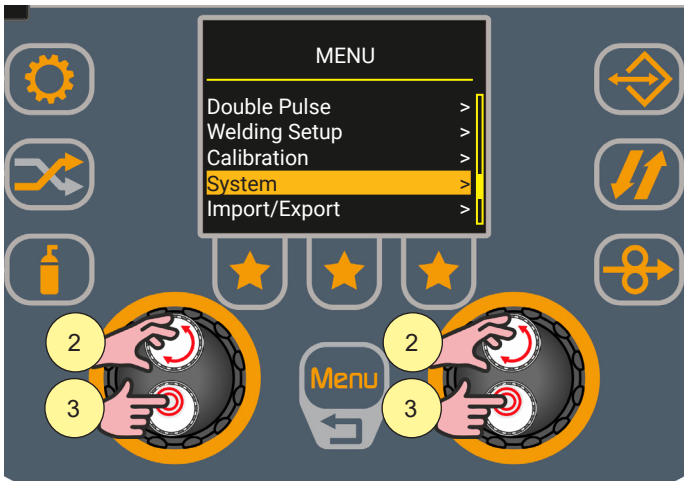
Information The password to access the Service menu is provided only to authorised technical personnel (dealers or qualified maintenance personnel authorised by the manufacturer).

8. Turn the encoder to select the number on the keyboard.
9. Press the encoder key to confirm the selection.
10. Repeat operations "7" and "8" to enter the three-digit password.
11. Turn the encoder to select the [Enter] key on the keyboard.
12. Press the encoder key to confirm the password entered and access the Service menu.

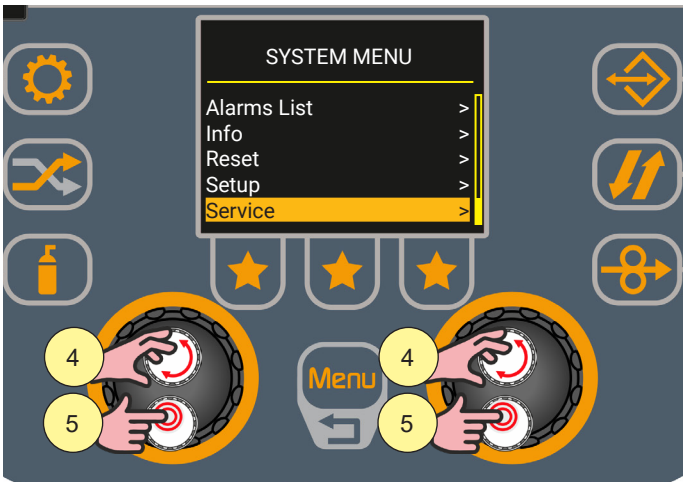
14 VALIDATION

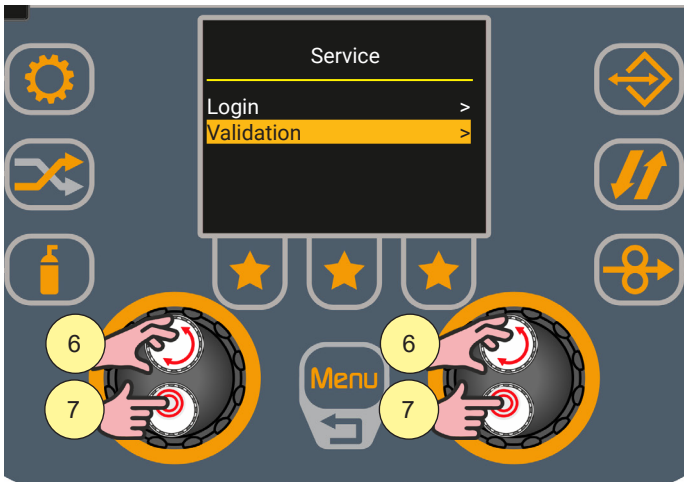
This section is used to carry out verification tests according to current regulations. Please refer to the dedicated manual for operating procedures.
Below is the procedure to be followed to access the VALIDATION menu.





1. Press the [Menu] key.
2. Turn the encoder to select the desired setting.
   Select the following path: System>
3. Press the encoder key to confirm.

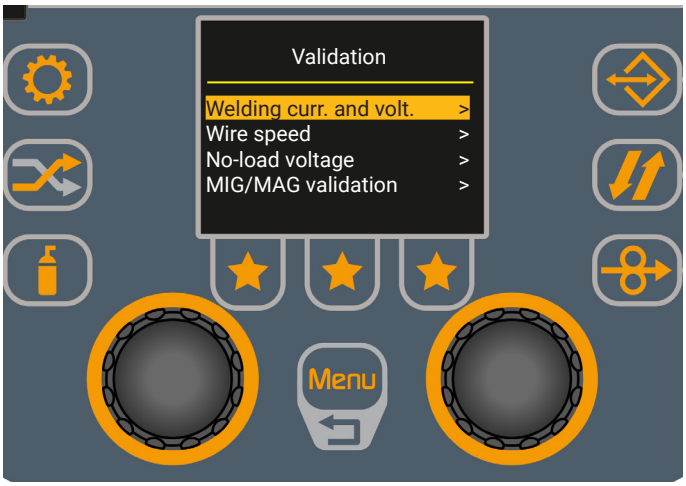




4. Turn the encoder to select the desired setting.
   Select the following path: Service>
5. Press the encoder key to confirm.
6. Turn the encoder to select the desired setting.
   Select the following path: Validation>
7. Press the encoder key to confirm.

The following options are available:

- Welding current and voltage
- Wire speed
- No-load voltage
- MIG/MAG validation



Information See the specific manual for the validation operating procedures.

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)
	Eco Design of energy-related products
Construction standards	EN 60974-1; EN 60974-5; EN 60974-10 Class A
Conformity markings	Equipment compliant with European directives in force
	Equipment suitable in an environment with increased hazard of electric shock
	Equipment compliant with WEEE directive
	Equipment compliant with RoHS directive

15.1 Pioneer 3200 dms - Pioneer Pulse 3200 dms

Supply voltage	3x400V~ ±15% / 50-60Hz			
Network protection	20 A Delayed			
Zmax	This equipment complies with IEC 61000-3-12, provided that the maximum permitted system impedance is less than or equal to 103 mΩ at the interface point between the power supply of the utility and the public system. It is the responsibility of the installer or user of the equipment to make sure, consulting with the distribution network operator if necessary, that the equipment is only connected to a power supply with a maximum permitted system impedance of less than or equal to 103 mΩ.			
Dimensions (D x L x H)	722 x 293 x 466 mm			
Weight	29.2 kg			
Insulation class	H			
Protection rating	IP23S			
Cooling	AF: Forced air cooling (with fan)			
Maximum gas pressure	0.5 MPa (5 bar)			
Welding mode		MMA	TIG	MIG/MAG
Static characteristic		Falling characteristic	Falling characteristic	Flat characteristic
Current and voltage regulation range		10 A - 20.4V 320 A - 32.8V	5 A - 10.2V 320 A - 22.8V	10 A - 14.5V 320 A - 30V
Welding current / Working voltage	40% (40°C)	-	-	-
	60% (40°C)	320 A - 32.8V	320 A - 22.8V	320 A - 30.0V
	100% (40°C)	260 A - 30.4V	260 A - 20.4V	260 A - 27.0V
Maximum power absorbed	40% (40°C)	-	-	-
	60% (40°C)	12.9 kVA - 12.2 kW	9.4 kVA - 8.8 kW	12.0 kVA - 11.2 kW
	100% (40°C)	9.8 kVA - 9.2 kW	7.0 kVA - 6.4 kW	8.7 kVA - 8.2 kW
Maximum current absorbed	40% (40°C)	-	-	-
	60% (40°C)	18.7 A	13.7 A	17.3 A
	100% (40°C)	14.2 A	10.2 A	12.6 A
Actual current absorbed	40% (40°C)	-	-	-
	60% (40°C)	14.5 A	10.6 A	13.4 A
	100% (40°C)	14.2 A	10.2 A	12.6 A
Open voltage (U0)	66 V			
Reduced open voltage (Ur)	6.6 V			
Energy source efficiency	Efficiency 85%			
	Energy consumption under no-load conditions 24 W			
Critical raw materials	According to the information provided by our suppliers, this product does not contain critical raw materials in quantities greater than 1 g per component.			

15.2 Pioneer 4000 dms - Pioneer Pulse 4000 dms

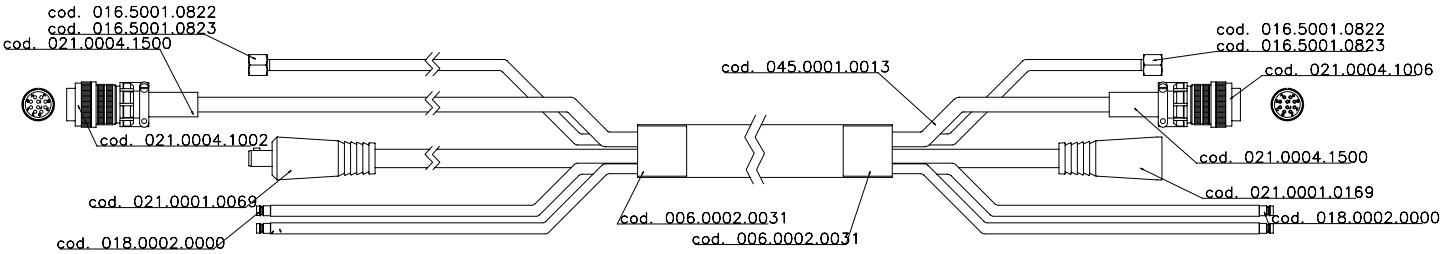
Supply voltage	3x400V~ ±15% / 50-60Hz			
Network protection	32 A Delayed			
Zmax	This equipment complies with IEC 61000-3-12, provided that the maximum permitted system impedance is less than or equal to 28 mΩ at the interface point between the power supply of the utility and the public system. It is the responsibility of the installer or user of the equipment to make sure, consulting with the distribution network operator if necessary, that the equipment is only connected to a power supply with a maximum permitted system impedance of less than or equal to 28 mΩ.			
Dimensions (D x L x H)	722 x 293 x 466 mm			
Weight	29.5 kg			
Insulation class	H			
Protection rating	IP23S			
Cooling	AF: Forced air cooling (with fan)			
Maximum gas pressure	0.5 MPa (5 bar)			
Welding mode		MMA	TIG	MIG/MAG
Static characteristic		Falling characteristic	Falling characteristic	Flat characteristic
Current and voltage regulation range		10 A - 20.4V 400 A - 36.0V	5 A - 10.2V 400 A - 26.0V	10 A - 14.5V 400 A - 34.0V
Welding current / Working voltage	40% (40°C)	-	-	-
	60% (40°C)	-	-	-
	100% (40°C)	400 A - 36.0V	400 A - 26.0V	400 A - 34.0V
Maximum power absorbed	40% (40°C)	-	-	-
	60% (40°C)	-	-	-
	100% (40°C)	17.3 kVA - 16.5 kW	12.9 kVA - 12.4 kW	16.5 kVA - 15.7 kW
Maximum current absorbed	40% (40°C)	-	-	-
	60% (40°C)	-	-	-
	100% (40°C)	25.0 A	18.6 A	23.9 A
Actual current absorbed	40% (40°C)	-	-	-
	60% (40°C)	-	-	-
	100% (40°C)	25.0 A	18.6 A	23.9 A
Open voltage (U0)	66 V			
Reduced open voltage (Ur)	6.6 V			
Energy source efficiency	Efficiency 86%			
	Energy consumption under no-load conditions 24 W			
Critical raw materials	According to the information provided by our suppliers, this product does not contain critical raw materials in quantities greater than 1 g per component.			

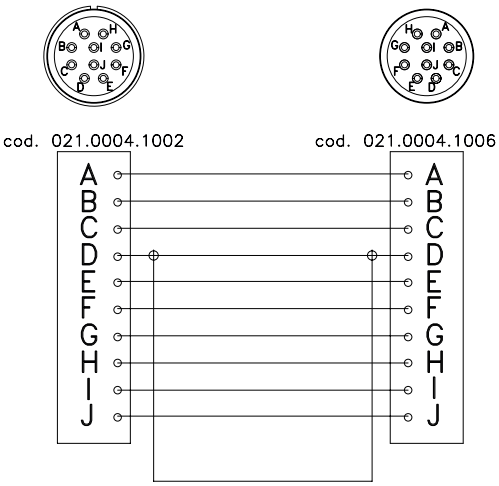
15.3 Pioneer 5000 dms - Pioneer Pulse 5000 dms

Supply voltage	3x400V~ ±15% / 50-60Hz			
Network protection	32 A Delayed			
Zmax	This equipment complies with IEC 61000-3-12, provided that the maximum permitted system impedance is less than or equal to 26 mΩ at the interface point between the power supply of the utility and the public system. It is the responsibility of the installer or user of the equipment to make sure, consulting with the distribution network operator if necessary, that the equipment is only connected to a power supply with a maximum permitted system impedance of less than or equal to 26 mΩ.			
Dimensions (D x L x H)	722 x 293 x 466 mm			
Weight	29.5 kg			
Insulation class	H			
Protection rating	IP23S			
Cooling	AF: Forced air cooling (with fan)			
Maximum gas pressure	0.5 MPa (5 bar)			
Welding mode		MMA	TIG	MIG/MAG
Static characteristic		Falling characteristic	Falling characteristic	Flat characteristic
Current and voltage regulation range		10 A - 20.4V 500 A - 40.0V	5 A - 10.2V 500 A - 30.0V	10 A - 14.5V 500 A - 39.0V
Welding current / Working voltage	40% (40°C)	500 A - 40.0 V	500 A - 30.0 V	500 A - 39.0 V
	60% (40°C)	450 A - 38.0 V	450 A - 28.0 V	450 A - 36.5 V
	100% (40°C)	400 A - 36.0 V	400 A - 26.0 V	400 A - 34.0 V
Maximum power absorbed	40% (40°C)	24.5 kVA - 23.1 kW	18.8 kVA - 17.8 kW	23.8 kVA - 22.6 kW
	60% (40°C)	20.7 kVA - 19.7 kW	15.7 kVA - 15.0 kW	20.0 kVA - 19.0 kW
	100% (40°C)	17.3 kVA - 16.5 kW	12.9 kVA - 12.4 kW	16.5 kVA - 15.7 kW
Maximum current absorbed	40% (40°C)	35.4 A	27.2 A	34.4 A
	60% (40°C)	29.9 A	22.7 A	28.9 A
	100% (40°C)	25.0 A	18.6 A	23.9 A
Actual current absorbed	40% (40°C)	22.4 A	17.2 A	21.8 A
	60% (40°C)	23.2 A	17.6 A	22.4 A
	100% (40°C)	25.0 A	18.6 A	23.9 A
Open voltage (U0)	66 V			
Reduced open voltage (Ur)	6.6 V			
Energy source efficiency	Efficiency 86%			
	Energy consumption under no-load conditions 24 W			
Critical raw materials	According to the information provided by our suppliers, this product does not contain critical raw materials in quantities greater than 1 g per component.			

16 WIRING DIAGRAMS

16.1 CABLE BUNDLE: GENERATOR - WIRE FEEDER





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