Orbital welding controller OWC plus

Instruction manual

Contents

1. General information

This instruction manual describes the features, functions, operational process and safety-related specifications of the Orbital welding controller OWC plus.

Manufacturer:
Orbital Services Australia
P.O Box 196, West Burleigh 4219

Email: sales@orbitalservices.com.au
Website: ortibal-services.com.au

2. Safety guidelines

The device may only be operated by trained personnel.
Unauthorized persons shall not be allowed to open the controller. If the controller is opened by an authorized personnel (manufacturer, service and system partners), the primary cable shall be removed and voltage-free condition verified. The installation condition of the power supply is characterized by a corresponding security symbol.

3. Application

The Orbital welding controller (with Power Source T Series / Lorch Company) is widely used to perform orbital welding. This technology is applied throughout such industries, as pipeline and mechanical engineering industry, UHP media supply systems for semiconductor industry, photovoltaic industry, food industry, airline and space industry, chemical industry, as well as general engineering industry.
A new price structure and compatibility with T-Series Power Source make this technology useful for handrail manufacturers and heating engineering.

Some special features and Highlights of the OWC plus:

a. Compatibility with tachometer controlled welding heads from other manufacturers (AMI, Orbimatic, ESAB, Dimetrics, Magnatech) as well as encoder controlled units (Cajon-Swagelok, Orbitec)
b. Multi-range power source (100 VAC to 240 VAC)
c. Integrated, freely-programmable buzzer (signals and error messages, button beep)
d. Date, time, counter
e. During the welding the wire velocity and power can be changed and saved by means of 2-level-remote control RC plus
f. All the tests (gas, water, test procedure) can be carried out through 2-level-remote control RC plus
g. Dokumentation option
h. Printer interface / RS 232-Interface / Bluetooth
i. Can-Bus-Interface for oxygen indicator PRO2 plus (digital data in second pulse)
j. Integrated, digital flow sensor with documentation to monitor the welding gas (freely-programmable)
k. Infinitely variable display colors (blue-white or black-white)

3. Description of functions

The Orbital welding controller is connected to the inverter power source T – Series (Lorch Company) through a digital cable (CanBus – LorchNet). This connection ensures precision orbital welding with a high quality standard industrial welding machine. This unit is inferior in non-compact orbital welding machines.
This connection provides following advantages for the user:

1. The investment in the welding machine offers an opportunity to upgrade it to „orbital“ (rent, purchase)
2. The logistic advantage in case of damage: magnetic valve defect (an inexpensive unit) leads to total loss of the orbital welding machine (replacement of the power source)

The power source is a "manual power source," and should be regarded as such. The operator can use it as usual for everyday welding.

The Orbital welding controller (Master) has two motor control cards (rotation for tachometer and encoder controlled welding heads) and one wire card for a cold wire feeder (open-frame welding heads, turn table system, tube-to-tubesheet welding heads).

All data can be digitally exchanged through the LorchNet-interface. The controller commands the power source digitally (clock rate 32 ms). These commands are being executed and sent back to the controller. Advantages for the user:

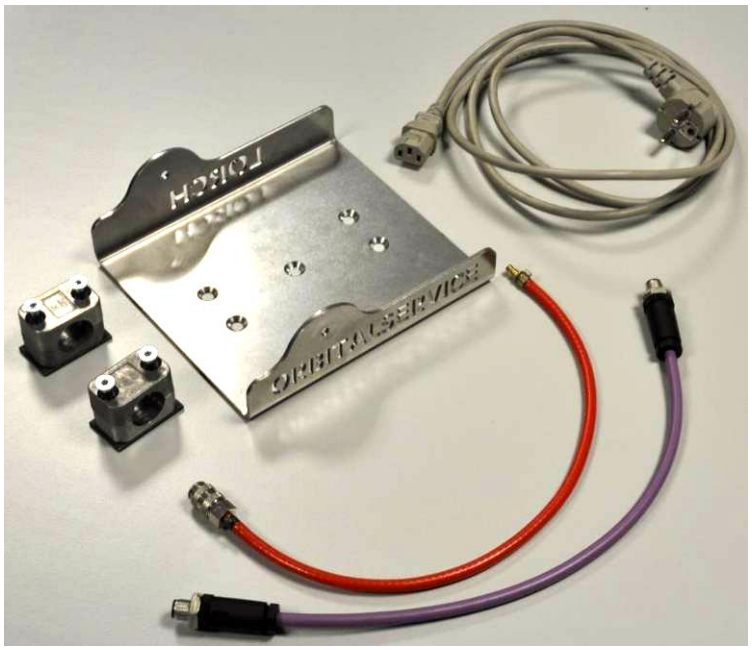
1. Any losses or irregularities (e.g. power), typical for many competitors commanding analog data, are excluded. This data transfer can be usually affected, e.g. through frequent „hissing“ of the analog voltage.
2. The controller can be connected to both components (T-Series power source). A variety of voltages are available: 180 A, 220 A, 250 A and 300 A (every one with DC and AC/DC) → <u>all of them can perform orbital welding!</u>

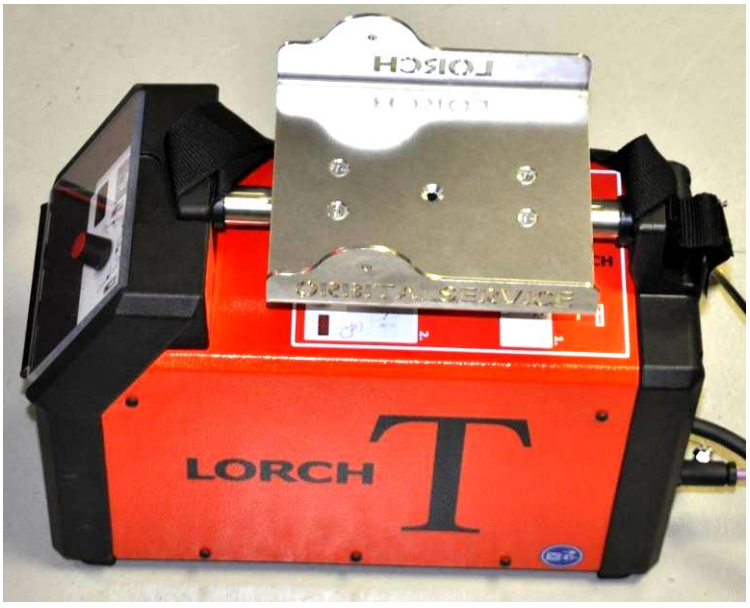
The controller selects welding programs according to the entered parameters of the pipe and welding tool. They can be stored, freely changed, copied, transferred and cancelled.

A unique feature of the controller is the simple operator guidance through easy-to-understand apt drawings and symbols familiar to welders and operators from all over the world.

3. Scope of delivery OWC plus (original equipment-Standard)

The scope of delivery for the controller includes: mounting sheet with holder and screws for the power source handle, a 230 V power cord, gas hose with quick-connect and a LorchNet cable between power source and controller. The power source capacity and its type can be specified by the customer in the order.





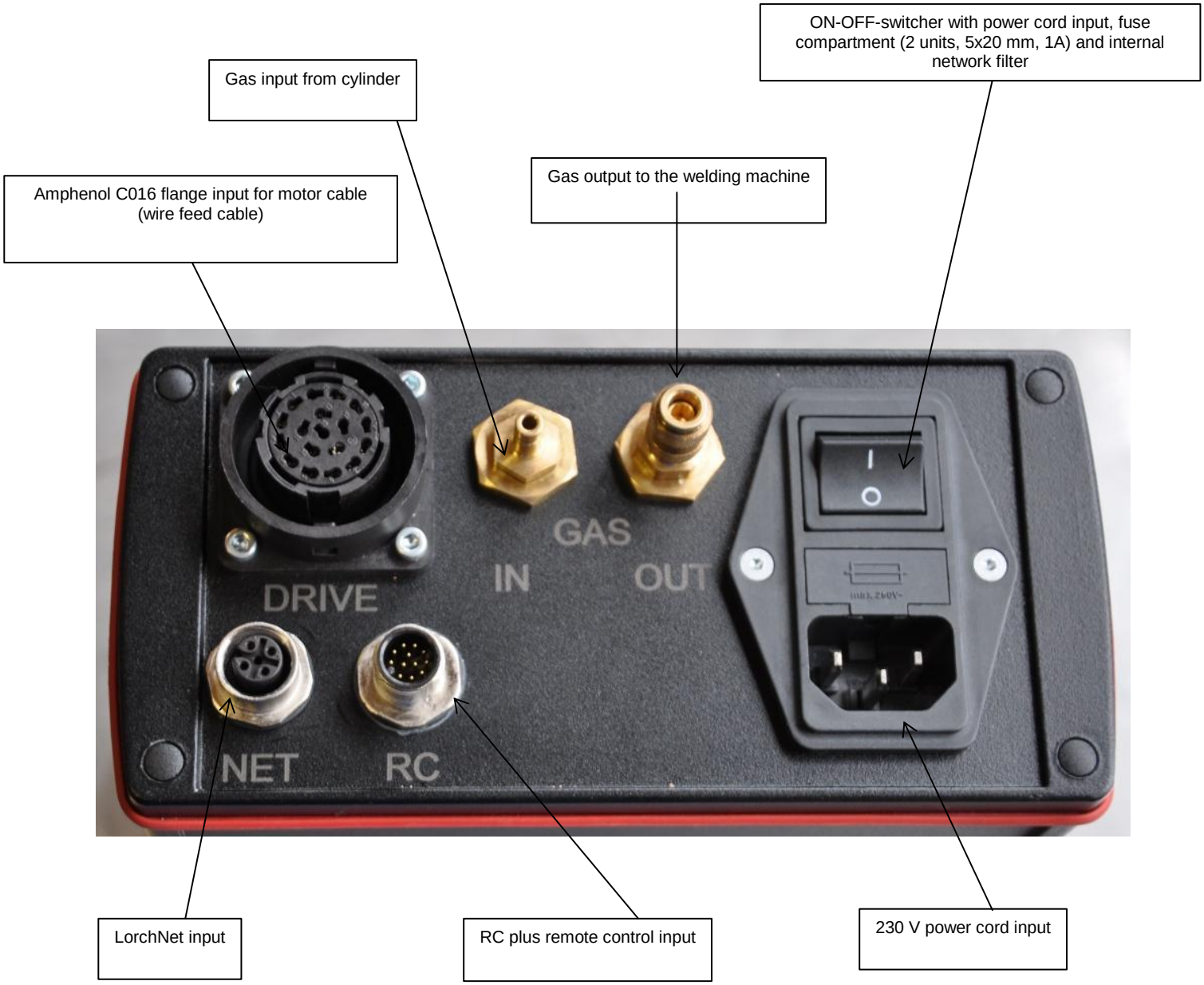
Mounted stainless steel sheet on the T 180 handle.

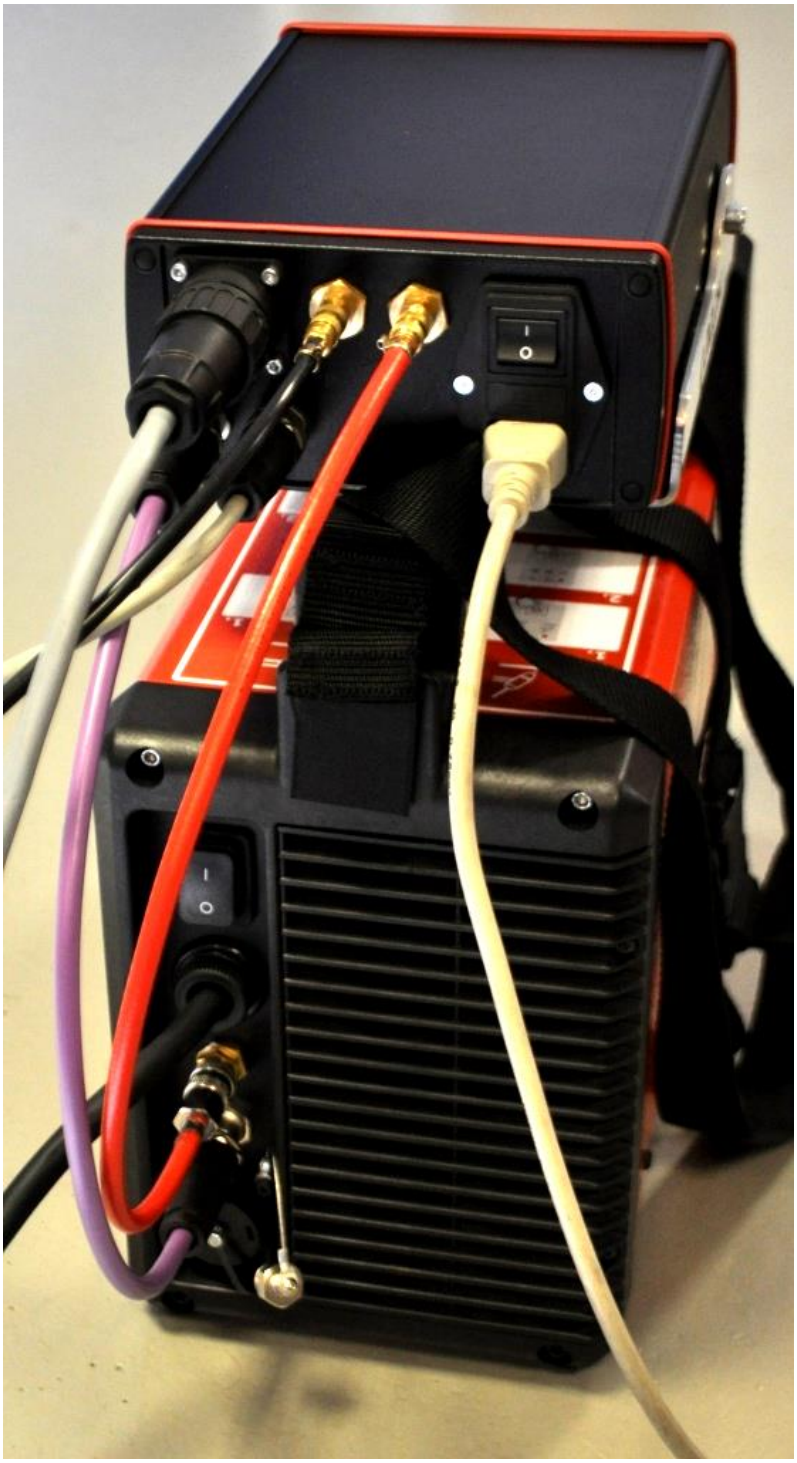
4. Views of the controller

6. 1. Right side

The controller is mounted on a steel sheet and screwed with 2 M6 hex socket screws.

6. 2. Back side


ON-OFF-switcher with power cord input, fuse compartment (2 units, 5x20 mm, 1A) and internal network filter
Gas input from cylinder
Amphenol C016 flange input for motor cable (wire feed cable)
Gas output to the welding machine
GAS
IN
OUT
DRIVE
NET
RC
LorchNet input
RC plus remote control input
230 V power cord input



Pink LorchNet cable and red gas connection hose with quick-connector between two units are easily recognizable.
When the operator releases two gas connectors, the unit can be carried comfortably on a belt over a shoulder.

7. „Orbital setting software“ in the power source

The T-Series power source has a firmware that allows to weld orbital. These settings can support data transfer between the items and provide operation, monitoring, control and documentation even with a pulse time of 50 ms.
The units of the Orbitalservice GmbH are supplied with the following settings:
1. C1 (OFF)
2. C2 (ON-gas cooled torch / welding head, OFF-water cooled)
3. C3 (ON-orbital welding, OFF-manual welding, there is no need to activate manual welding)

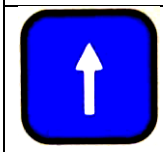
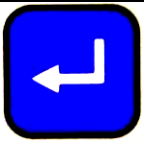
To alter settings in this menu, please comply with the following instructions:

1. Switch on the unit by pressing the indicated button (see picture on the left).
2. Set the potentiometer (red button in the middle of display) in the ON or OFF position.
3. Proceed forward with the right arrow button on the display (see picture in the middle). The parameters can be changed with the red potentiometer.
4. Switch off the unit.

After the re-start of the power source all alterations are already saved and activated.

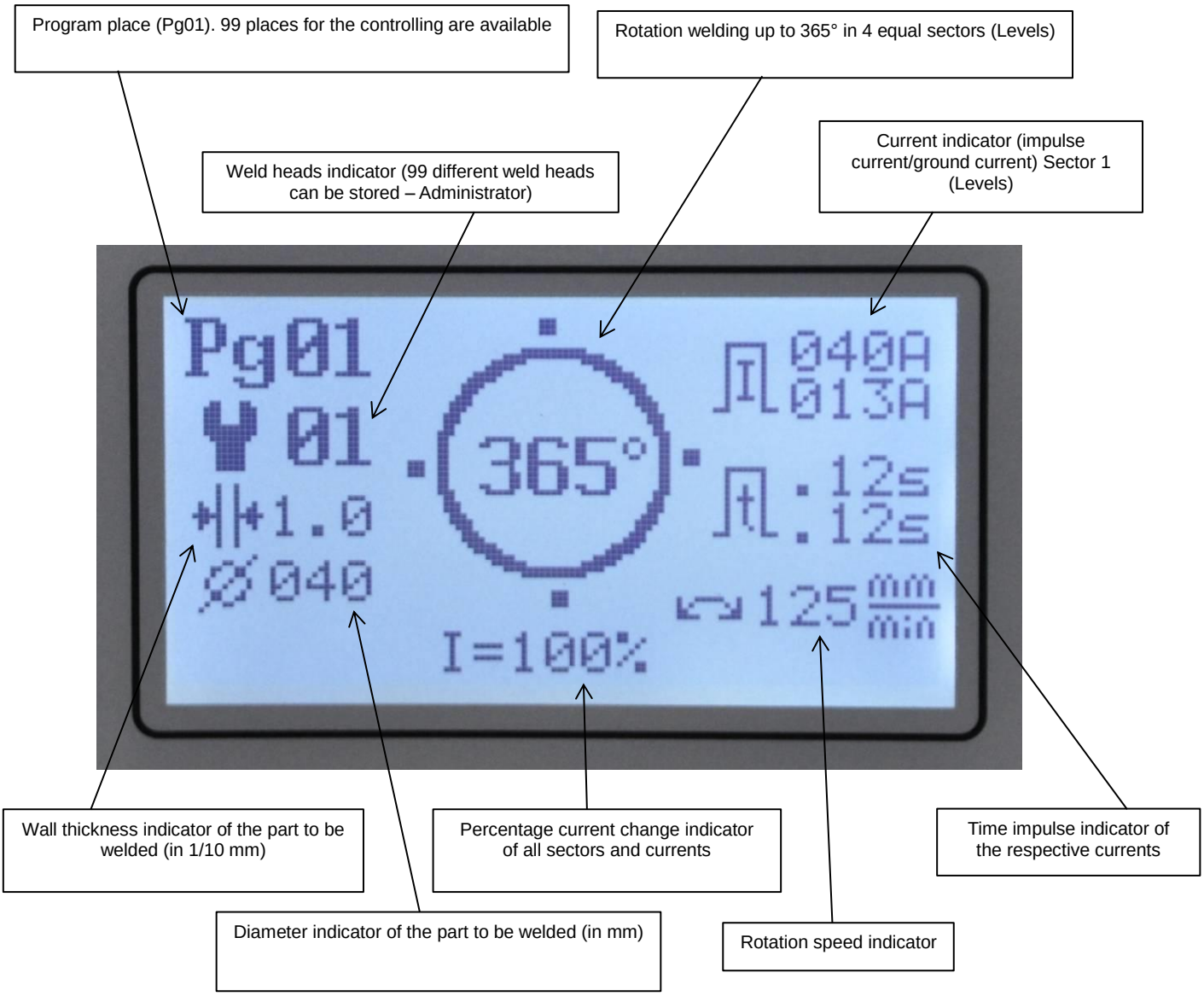
8. Operation

8. 1. Display buttons and their functions

	„P-button“ is a program button. This button can be used to enter into various submenus. The button has different functions in different menus.
	„Up arrow button“ is used to proceed through the menus. The operator can navigate between the program settings and view already performed welding programs. In addition to the programming processes the button can be used to move the welding head, - direction of rotation to the right.
	„Left arrow button“ is used to proceed through the menus. The operator can navigate between the program settings and view already performed welding programs. In addition to the programming processes the button can be used to move the welding head, - direction of rotation to the left.
	„Enter-button“ is used to confirm the setting or to enter into various menus.
	„Start-button“ is used to start the welding from the controller (without remote control).
	„Stop-button“ is used to stop welding from the controller (without remote control).

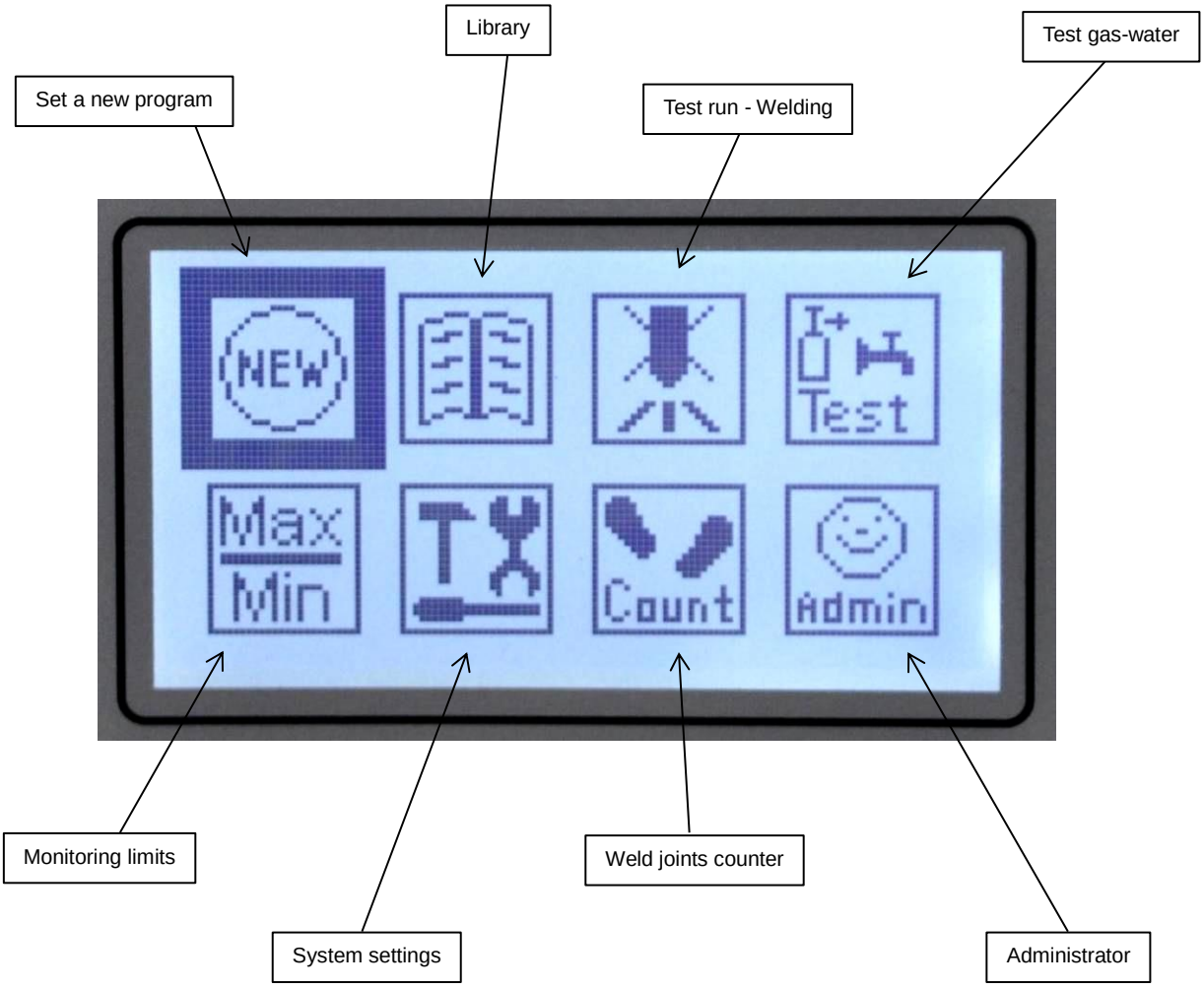
8. 2. Welding display (main display)

The welding process can be started only when this display is shown. This display has a variety of stored information.



8. 3. „P-button“, its functions and displays

The „P-button“ is used to enter into different menu displays. These menus are always easy-to-understand. There is no need to translate it into different languages. The symbol with a thick, black frame can be activated by pressing the button and the programming level will be displayed. By pressing and buttons the operator can navigate through the menus to the right or left.



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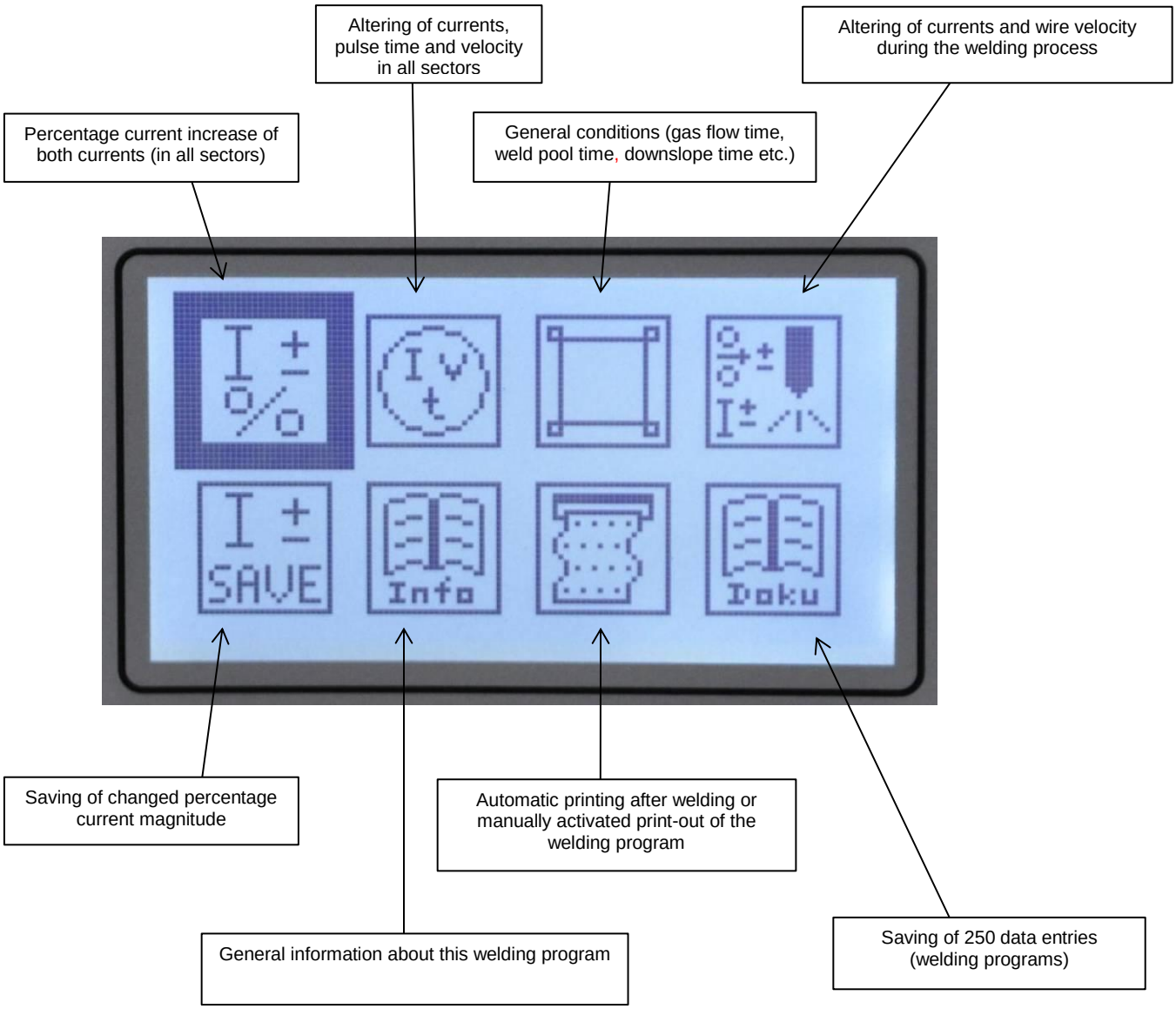


9. Welding programming

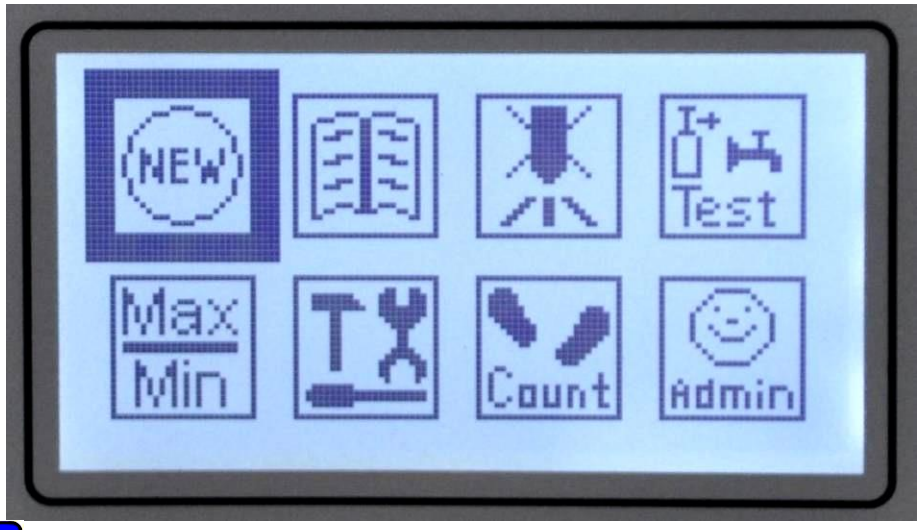
9.1. Help function (automatic programming)

The controller can provide first welding programs even for not very well versed users. For this purpose the software of the controller has some yearly proved basic calculations suggested by other manufacturers.

Source display:

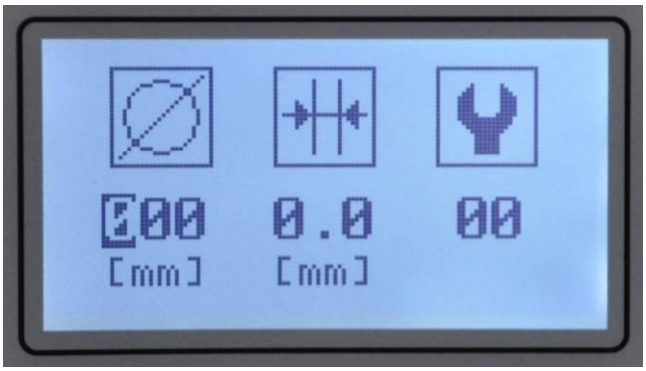
We would like to see a demonstration program from the DIN 11850 Level 2 (typical pipe used by pharmaceutical and food industry), Ø 53 mm x 1,5 mm, with open frame weld heads OWH-114 (Ø 20 mm to Ø 114,3 mm)

Press P button



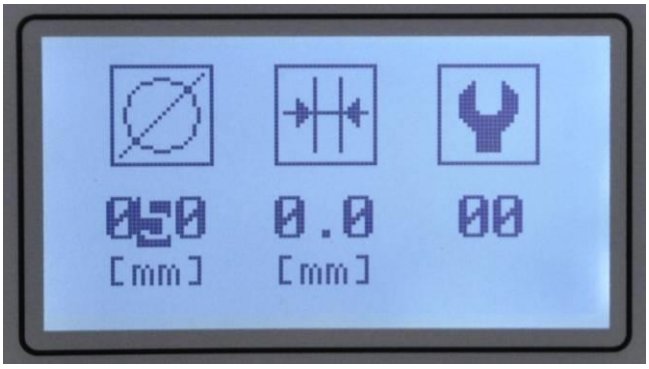
Press ↵

Press 

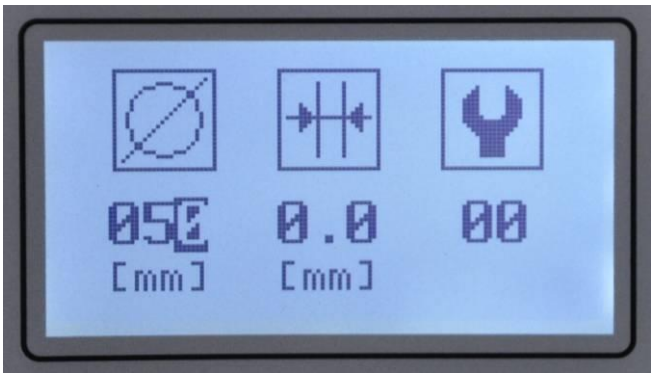


100-interval. Press 

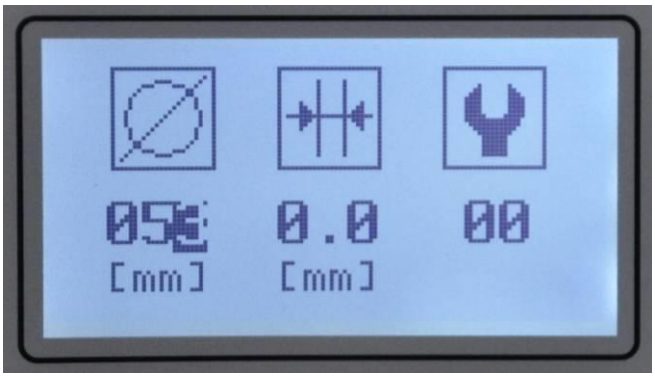
10-interval. Press 5 times 



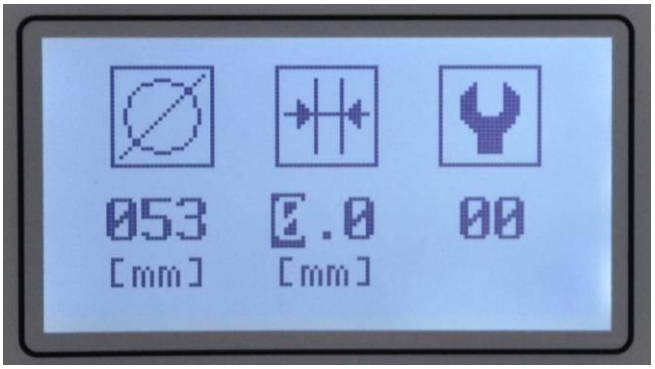
Press 



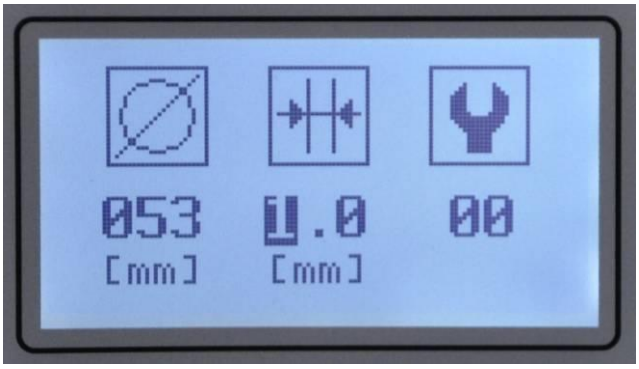
Press  3 times



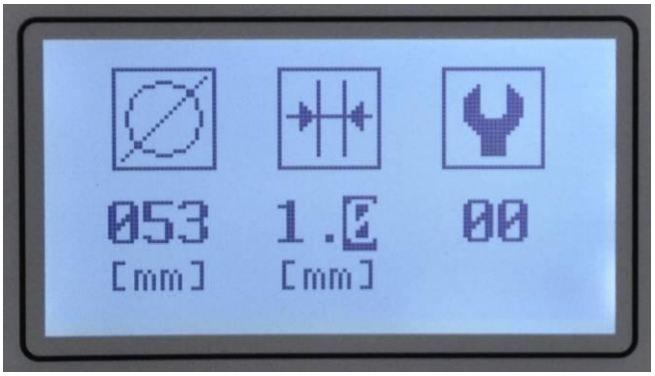
Press 



Press ↑



Press ↵



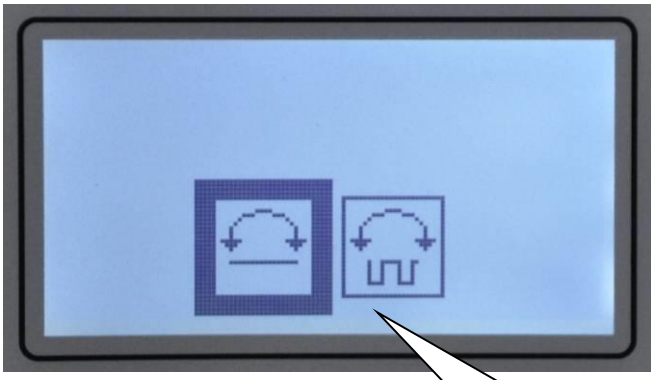
Press ↑ 5 times

Press ↵

The first weld head is OWH-76.

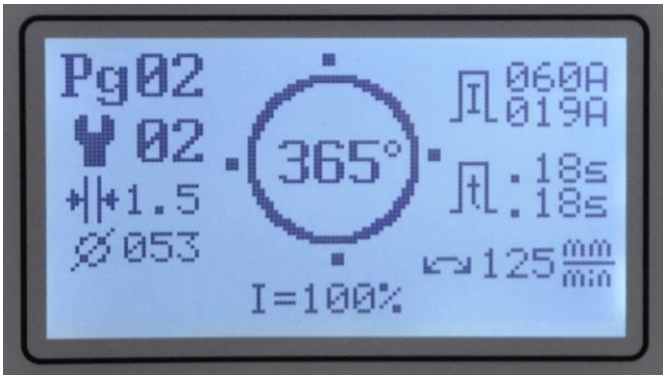
Press ↑

Press ↵



Continuous or stepped rotational velocity (stepped burner)

Press ↵

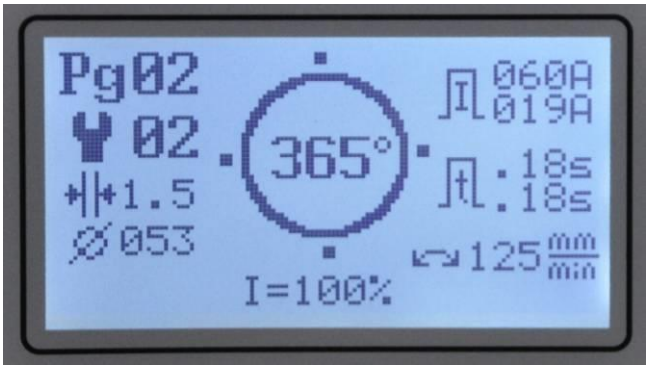


The welding program is ready!

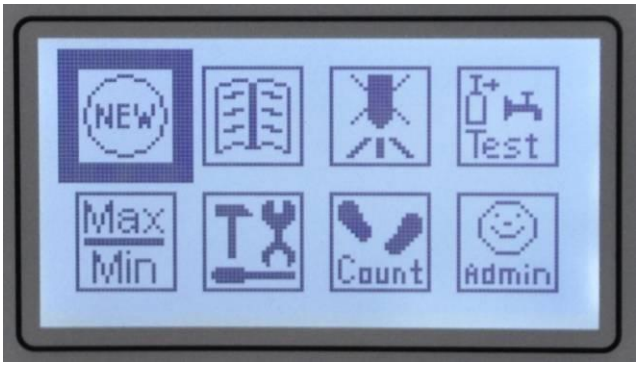
There is a logic in the program:
If the wall thickness is < 2,5 mm, the program suggests a cont. rotational velocity, and for heavy wall thickness – pulse rotational velocity (stepped mode, stepped burner)

9. 2. Test run (welding without arc)

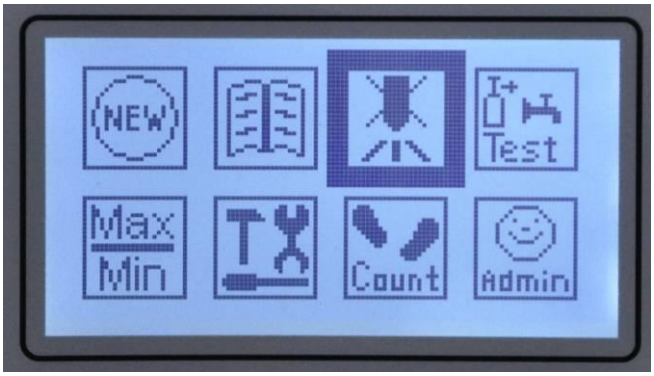
After the automatic programming the test run is suggested (welding without arc) to check all functions, e.g. correct rotation direction, cords and cables connection etc.



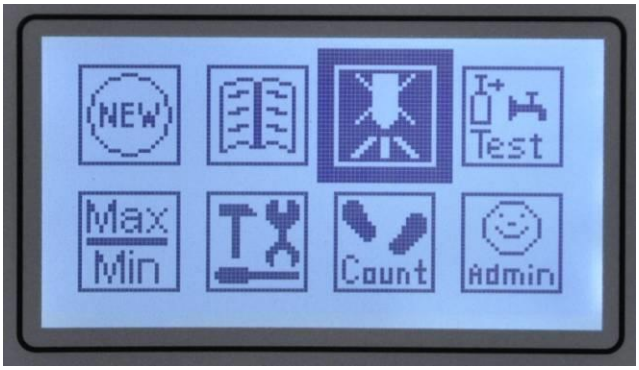
Press P



Press ↑ twice

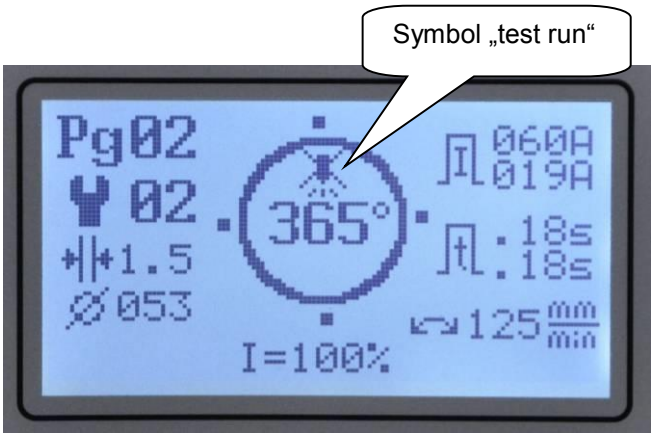


Press 



Symbol „test run“ is activated (highlighted in black).

Press 



Press 

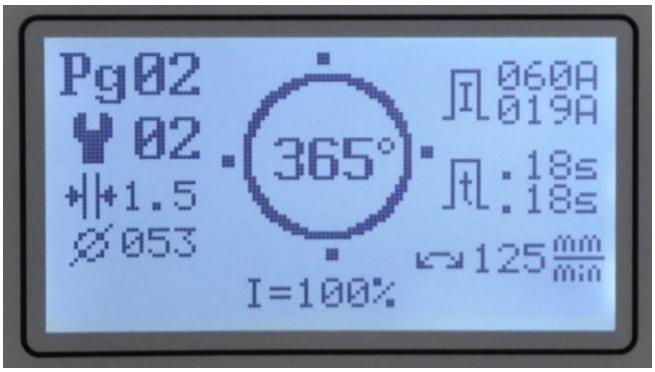
A good visual control of the rotation (circular path with rotation degree and actually measured velocity down to the right)

Note:

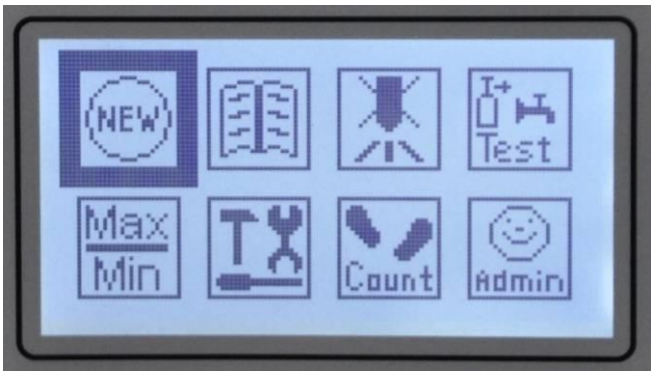
During the test run the gas pre-flow and after-flow time as well as weld pool time are not used. It saves time and gas.

9. 3. Gas flow set-up and check

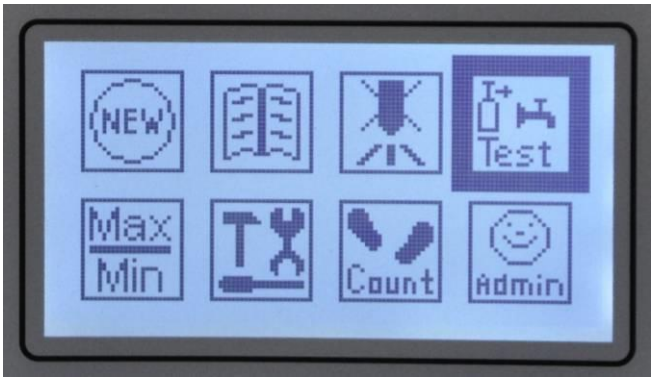
The gas flow shall be checked before the welding process is started.
The controller is supplemented with a magnetically inductive gas flow sensor to prevent welding without gas as it can lead to defective welded joints and weld heads, especially in closed construction.



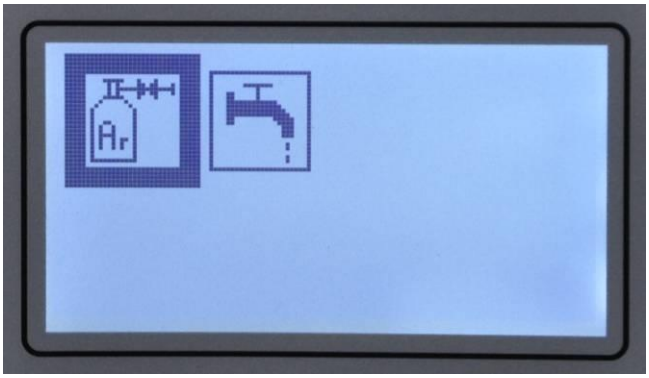
Press P



Press ↑ 4 times



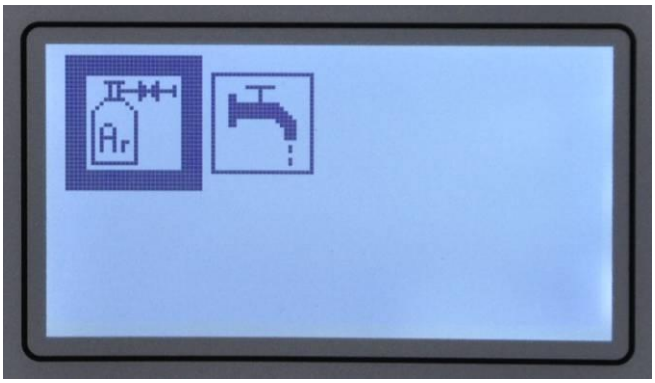
Press ↵



Press ↵

The measured gas flow will be display in l/min. Now the operator can alter the settings.

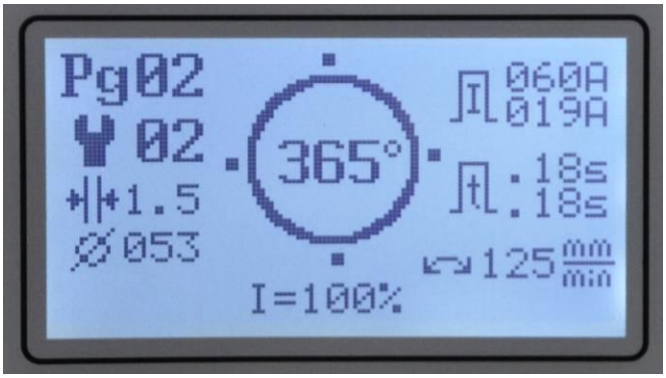
Press ↵



Press P to return to the welding display,

The test for the water-cooled unit can be carried out in the same way.

9. 4. Welding process

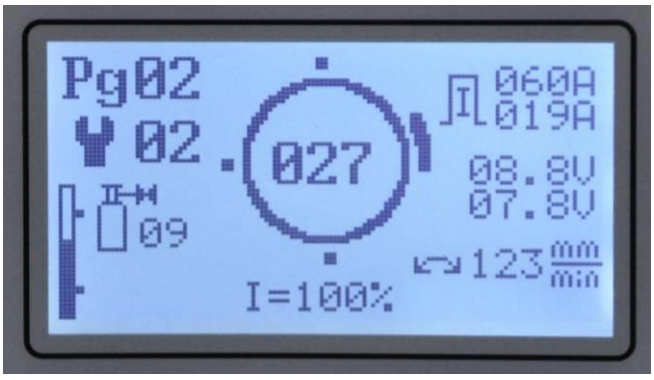


Press Start

Gas pre-flow time

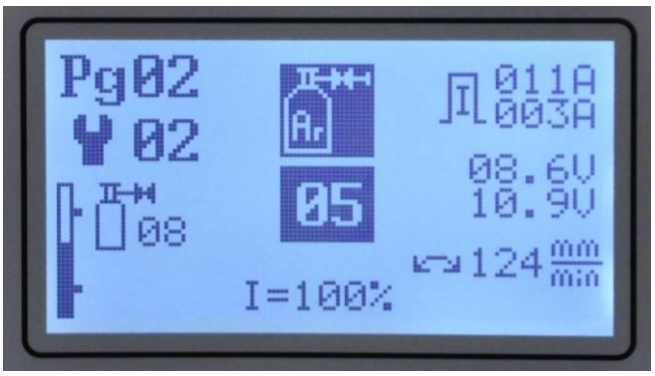
Spark procedure
This symbol can be seen only for a short time (the quantity is not displayed to provide time for a photo)

Weld pool time

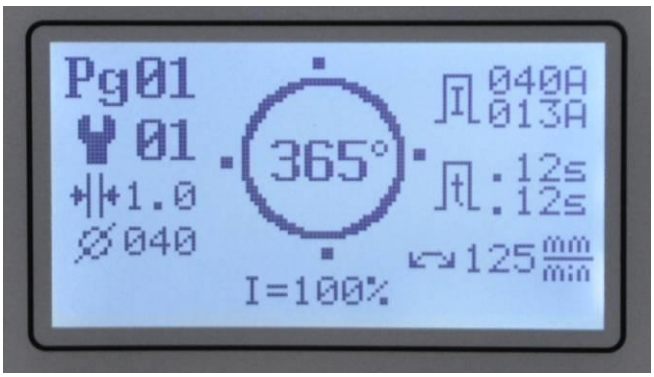


Welding process with all measured actual parameters

Downslope time



Gas after-flow time

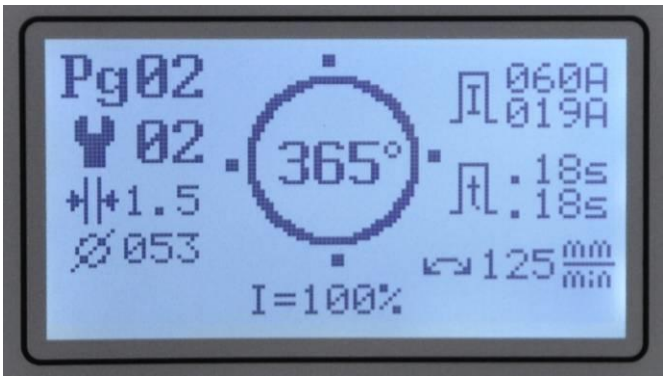


The welding is over → Stand-by display

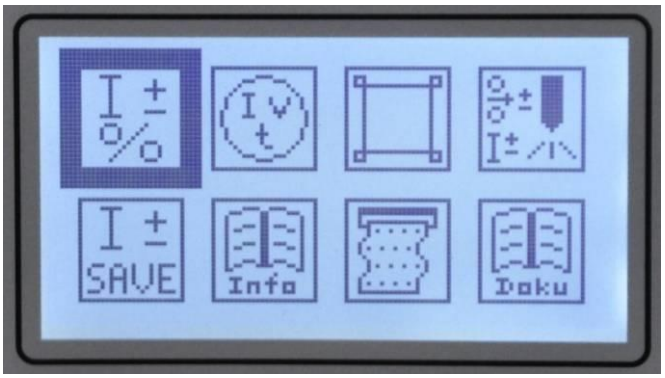
10. Parameter alteration after the welding

10. 1. Percentage alteration of the power parameter

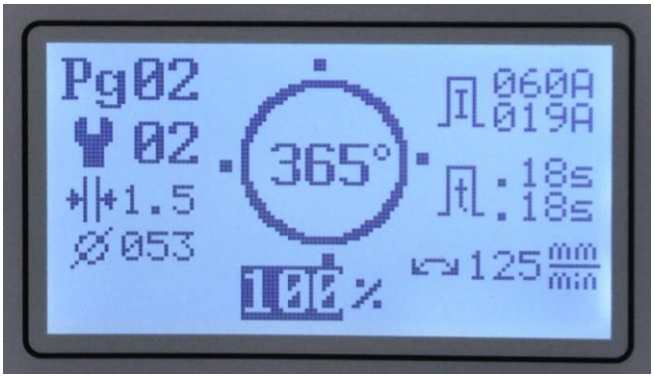
The percentage alteration of the power parameter is the most common option. The operator detects the insufficient root formation after the welding. In this case more heat will be required. The operator can use the function „Percentage increase of current magnitude“ and set up a 20% increase of the whole program.



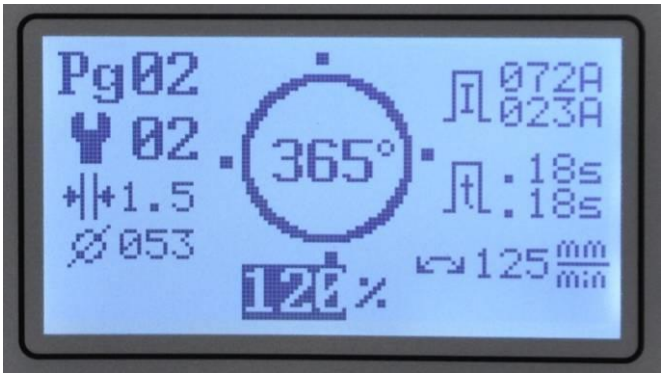
Press ↵



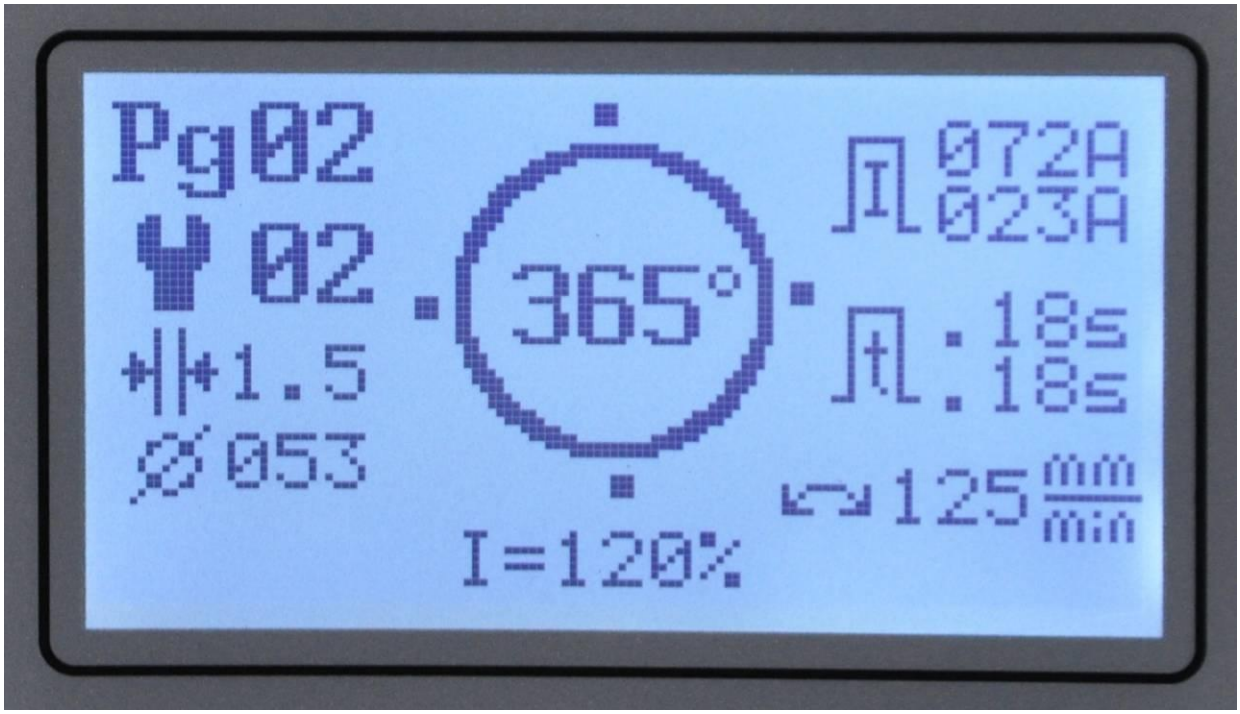
Press ↵



Hold the button ↑ pressed until 120% appears



Press P



All parameters of the current (in all 4 sectors) increase by 20%.

10. 2. Parameter alteration (current, pulse time, velocity)

This symbol shows the following international abbreviations:

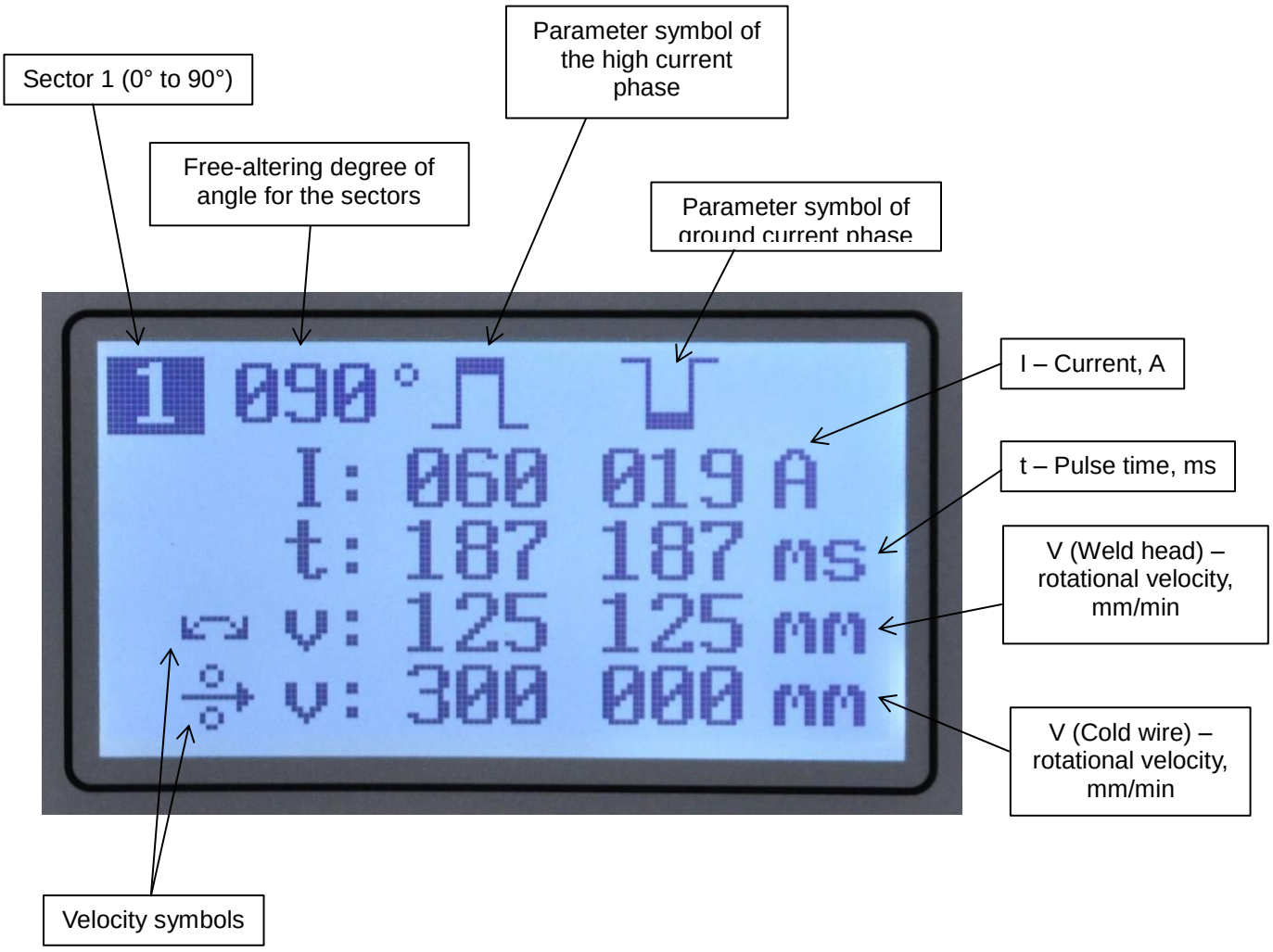
I Current
V Velocity
t Time

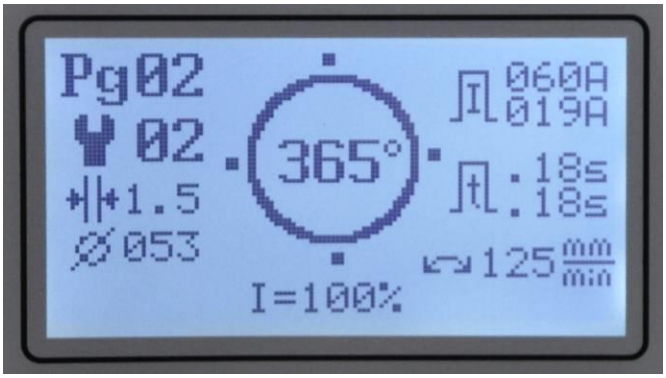
It is possible to enter manually into the program suggested and calculated by the controller, overwrite and alter it. Some things have been simplified to support the operator.

Task:

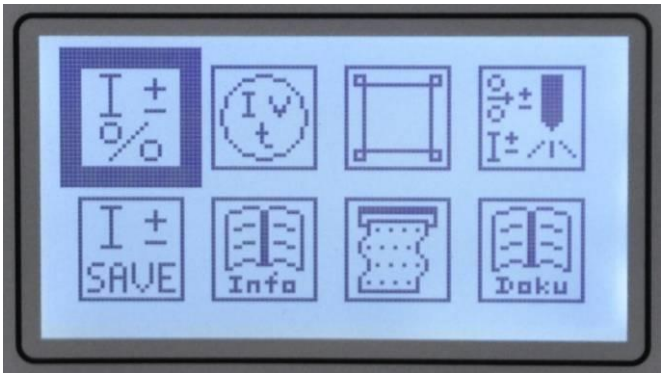
The operator is going to increase the pulse time by 100 in sector 4 and to reduce the high current by 4 A. This procedure will be explained in detail.
The controller has suggested a program in 4 sectors. The pipe is precisely quartered (except the 5° overlap in sector 4).

Explanatory notes of the parameter and symbols at the picture (Sector 1 / 0° to 90°)

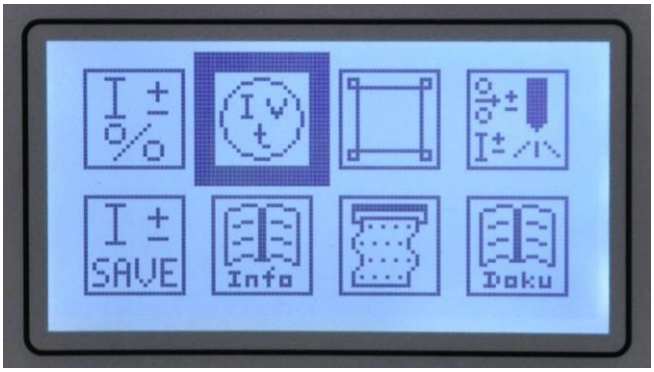




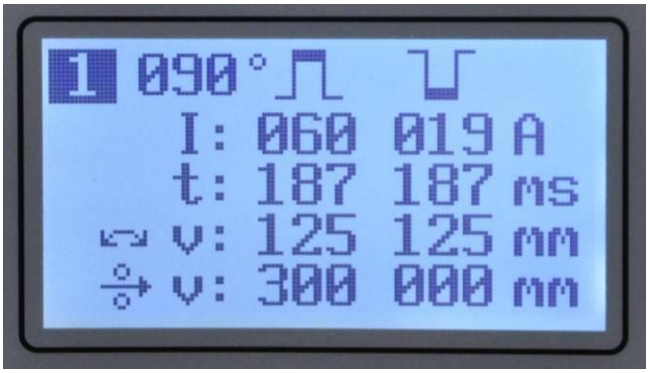
Press ↵



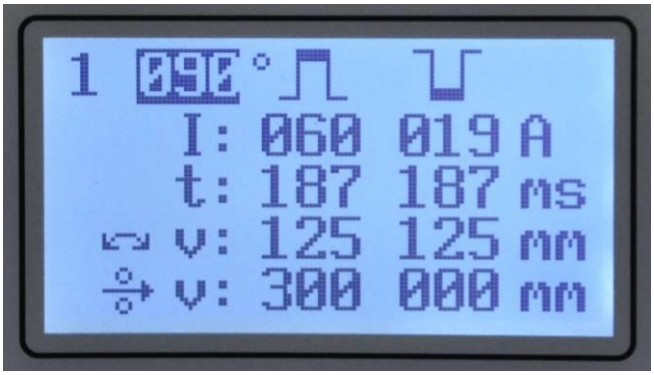
Press ↑



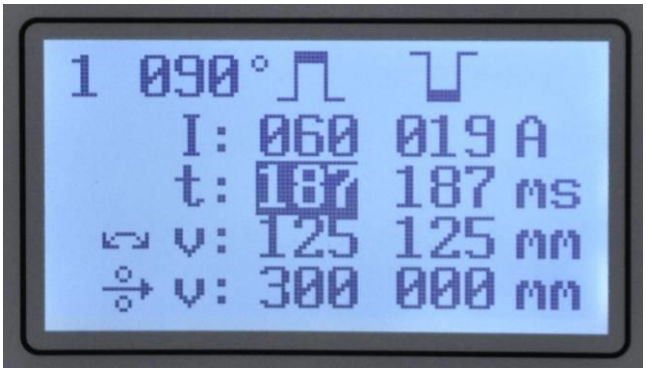
Press ↵



Press ↵



Press ↑

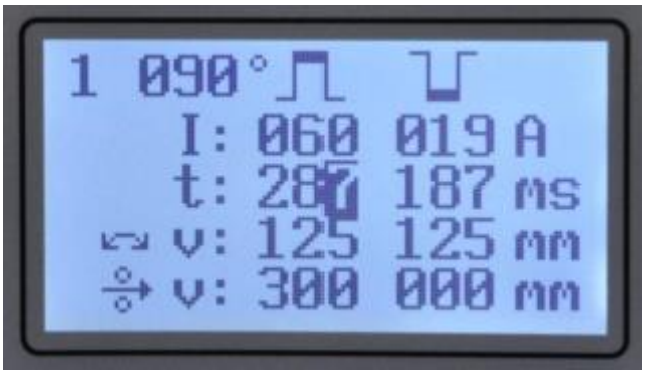


Press ↵

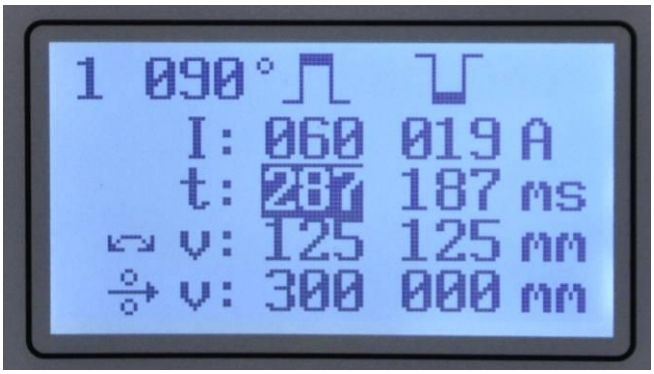
Press ↑

Press ↵

Press ↵



Press ↵



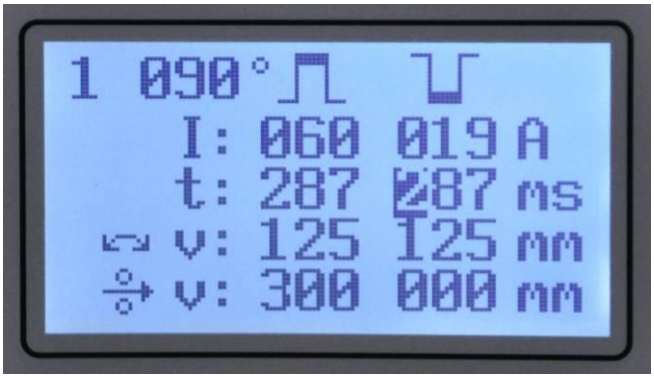
Press ↑

Press ↵

Note:

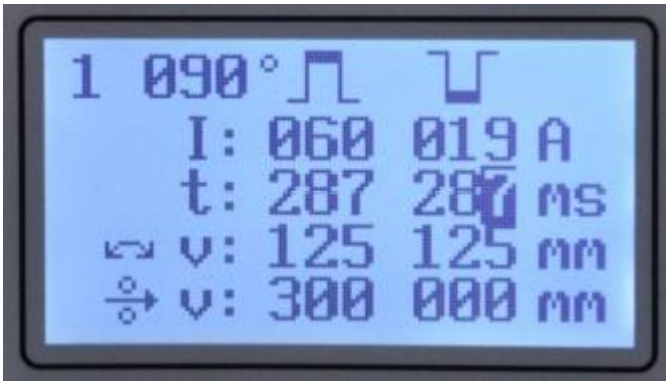
The ↑ button can be used to navigate forward only after the total magnitude is highlighted in black.

Press ↑

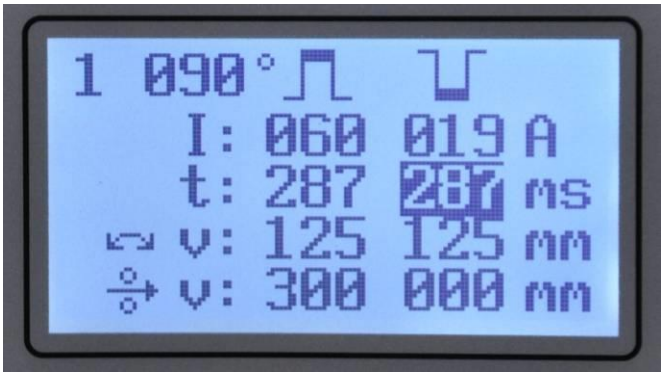


Press ↵

Press ↵



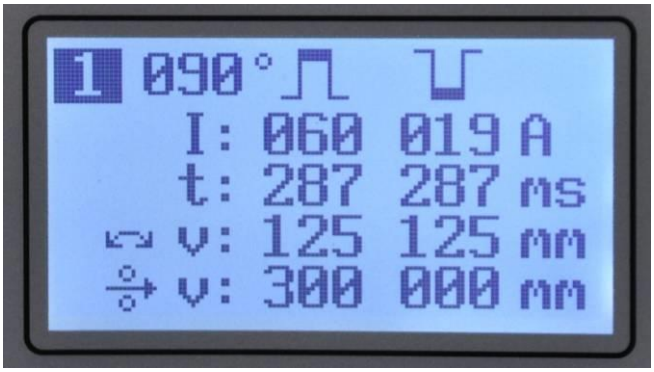
Press ↵



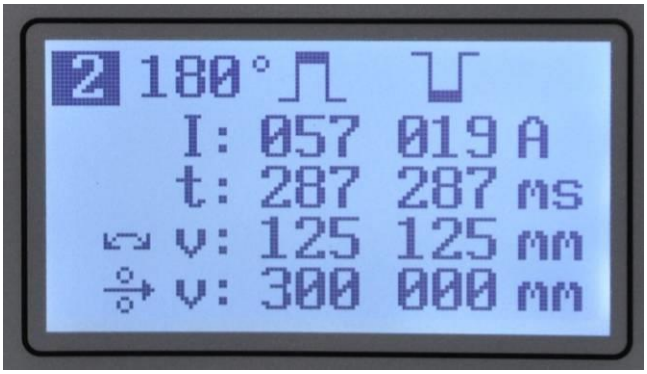
Press P

Note:

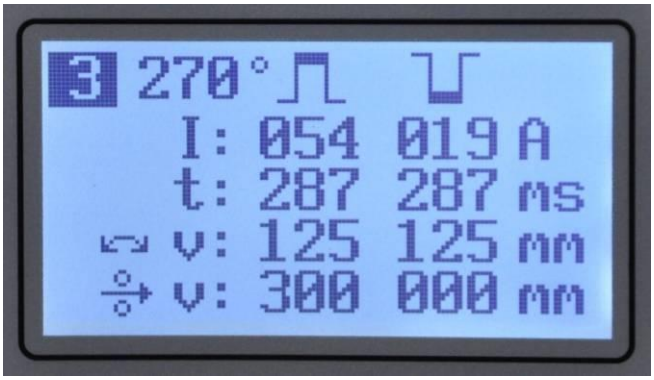
The pulse times have been increased by 100 ms and we enter the sector 4 to reduce the high current by 4 A!



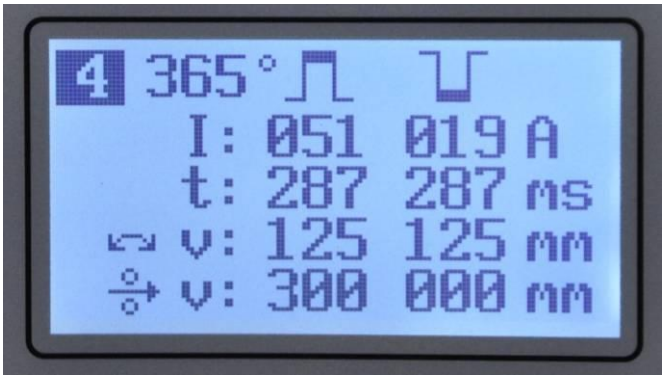
Press ↑



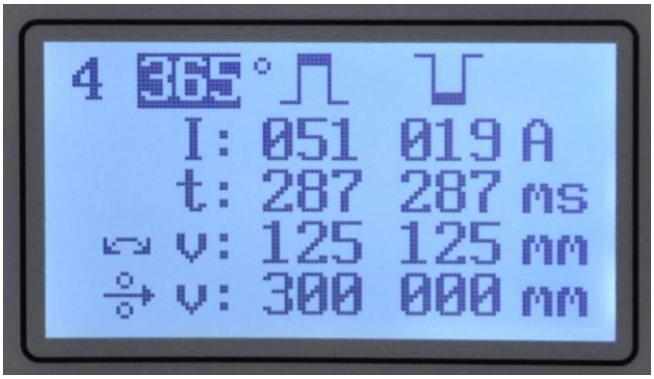
Press ↑



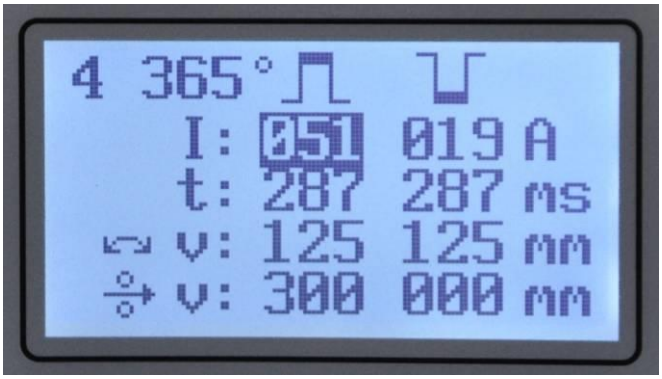
Press ↑



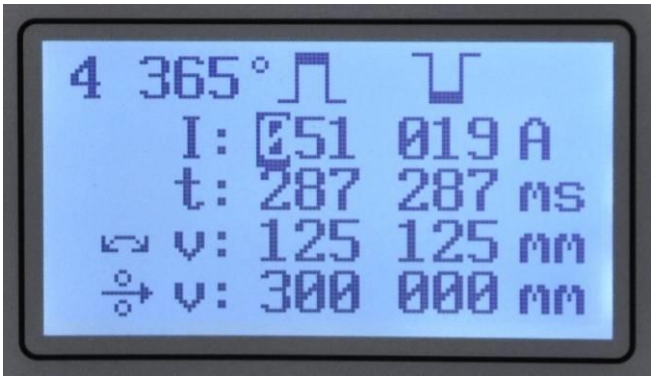
Press ↵



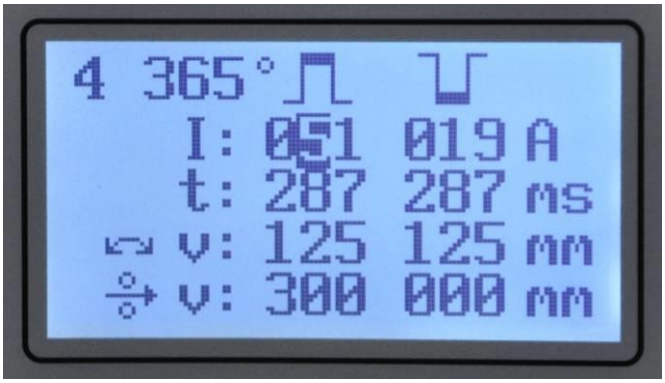
Press ↑



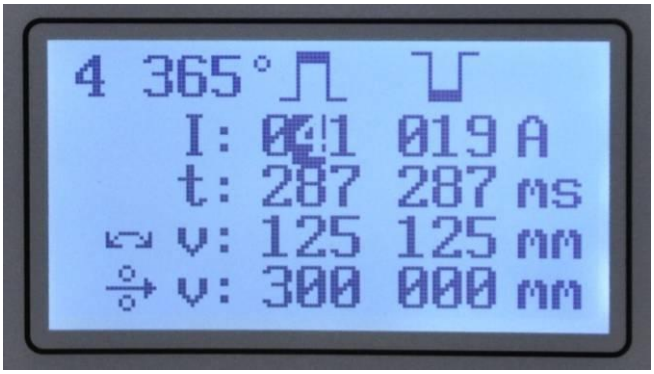
Press ↵



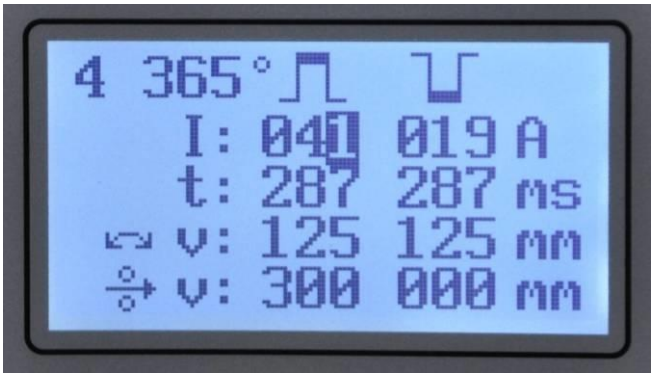
Press ↵



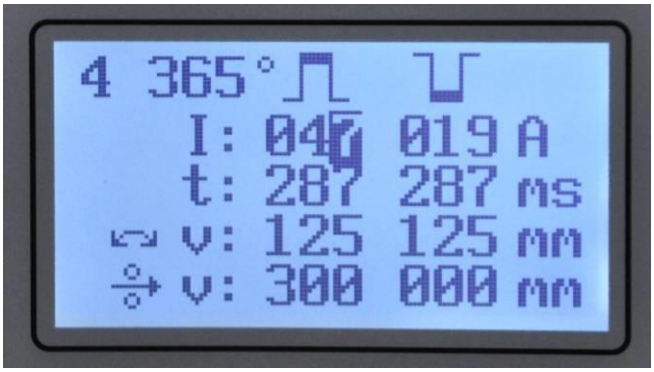
Press ←



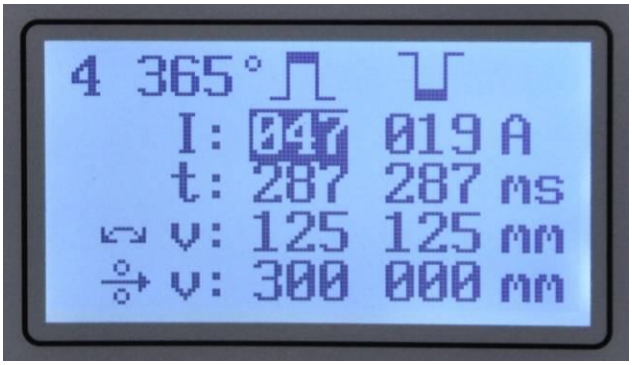
Press ↵



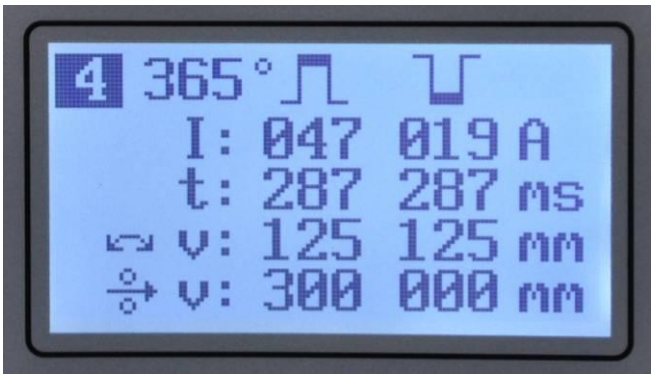
Hold the button ← or ↑ pressed until 7 appears



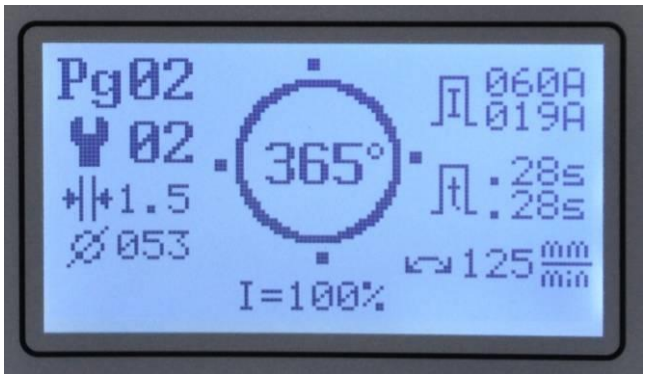
Press ↵



Press P



Press P

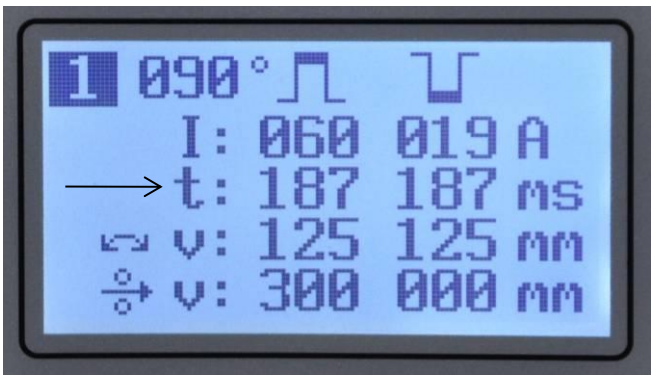


All alterations are made.

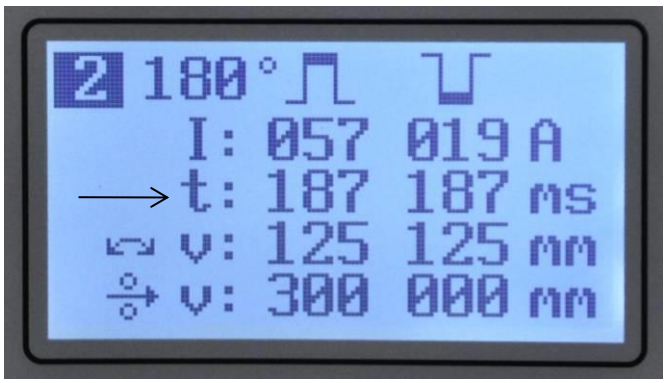
Have you noticed it?

The controller has an intelligent operator guidance system.

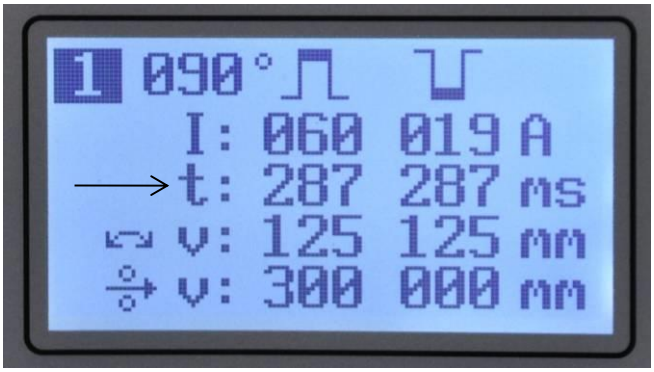
If you want to enter into separate sectors to alter specific parameters, you will get a program support providing orbital welder-newcomers with time-saving operation and protection from programming errors.
The alteration of pulse time and velocity in sector 1 assures equal alterations of the parameters in other sectors. This operation provides uniform and synchronous weld.
In additon to the current parameters, further instrumets are available to deliver and reject the target heat level.



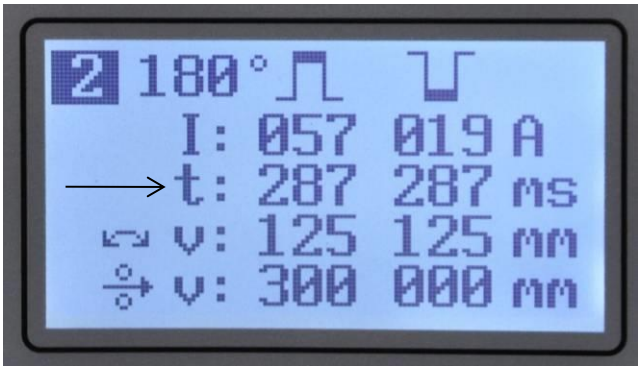
Sector 1 before alteration (pulse times)



Sector 2 before alteration (pulse times)

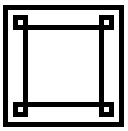


Sector 1 after alteration (pulse time)



Sector 2 after alteration (pulse time)

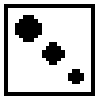
10. 3. Frame parameters



The frame parameters are parameters required for the whole welding process. You can see it visually at the picture on the right. These parameters are given for a welding only once.
The frame parameters include the following symbols:


Gas pre-flow time (3.000 sec – 50.000 sec)


Weld pool time (1.000 sec – 50.000 sec)

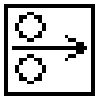

Downslope time (1.000 sec – 50.000 sec)


Gas after-flow time (1.000 sec – 50.000 sec)

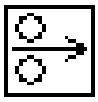

Pulsed current, unpulsed current (black – pulsed/ standard)


Rotation direction of the welding unit (left-right)


Pulsed rotation of the welding unit (stepped mode, stepped burner)

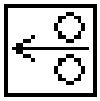

Cold wire addition (black – cold wire activated)

After the activation of the cold wire the following adjustable parameters will be displayed:

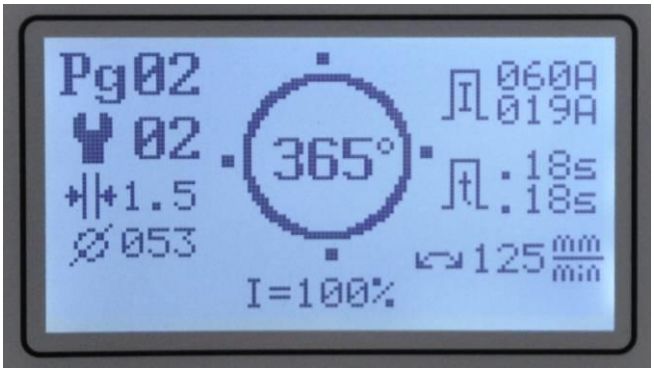


Activate the cold wire with  button

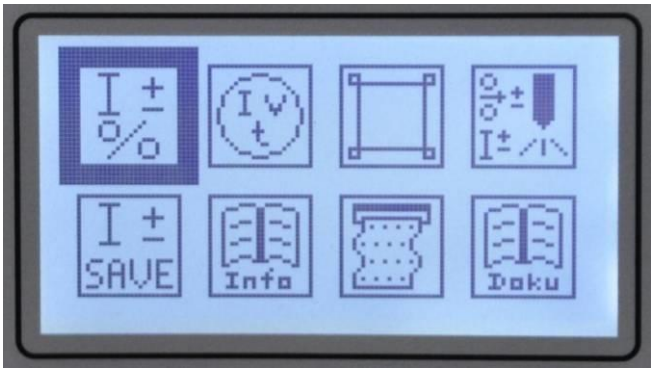
Wire delay (1.000 sec – 50.000 sec)



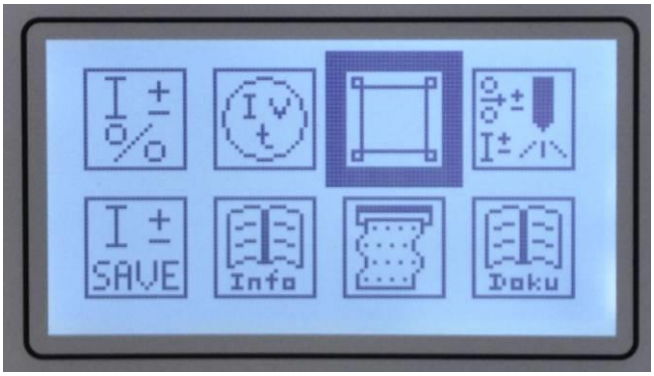
Wire return (1.000 sec – 50.000 sec)



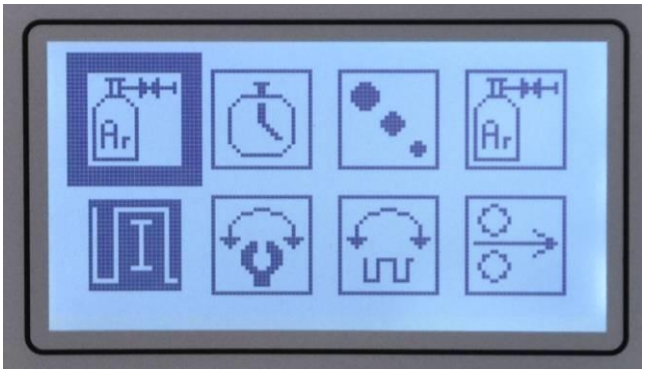
Press 



2 x press 

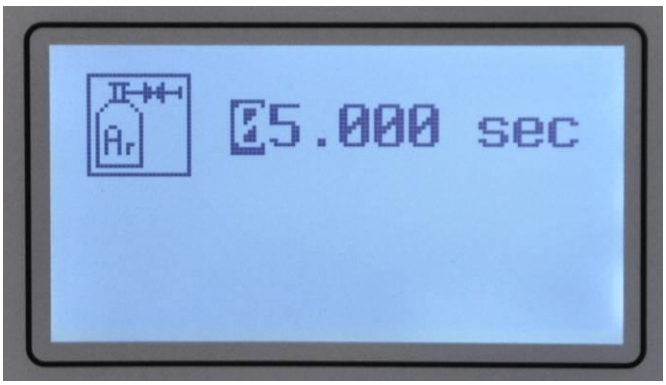


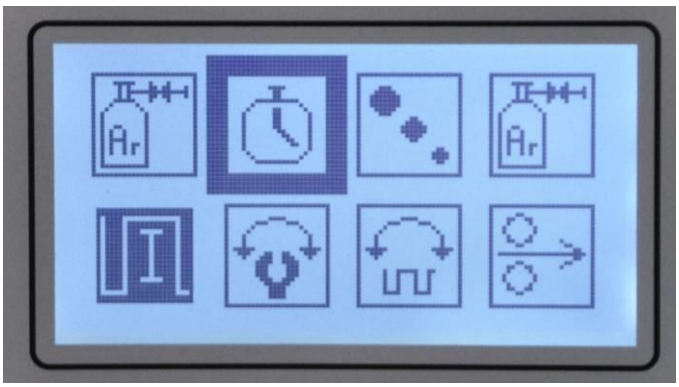
Press 



Press 

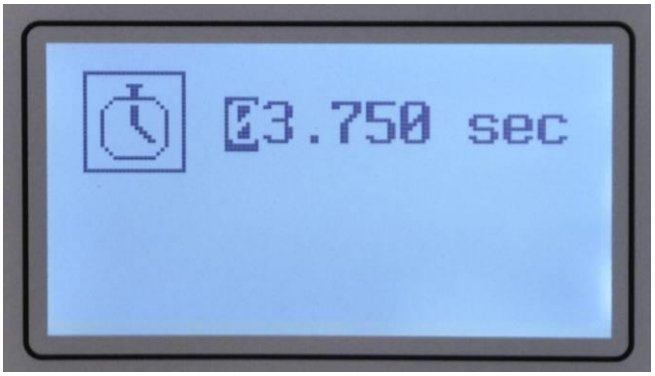
The alteration of individual parameters can be made in the same order. Press the ↵ button to enter into the submenu, - set of parameters. Here you can navigate forward with the ↵ button. The parameters can be changed with ← or ↑. You can set a 1000-range with the ↵ button. Repress the button ↵ again to confirm saving and leave this menu. You can get back any time by pressing P.

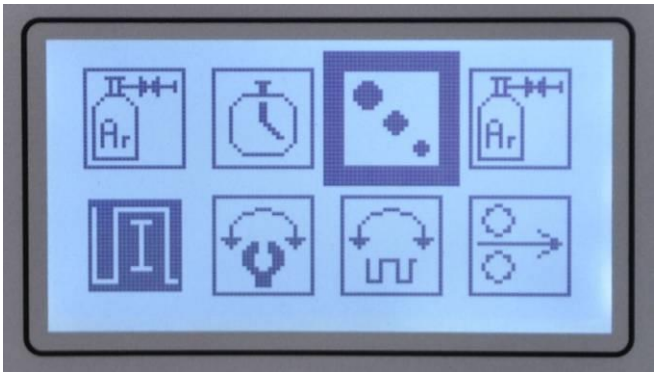




Alteration of gas pre-flow time

Press ↵

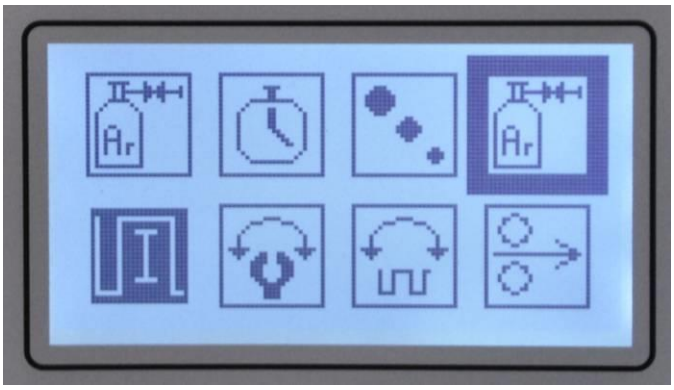




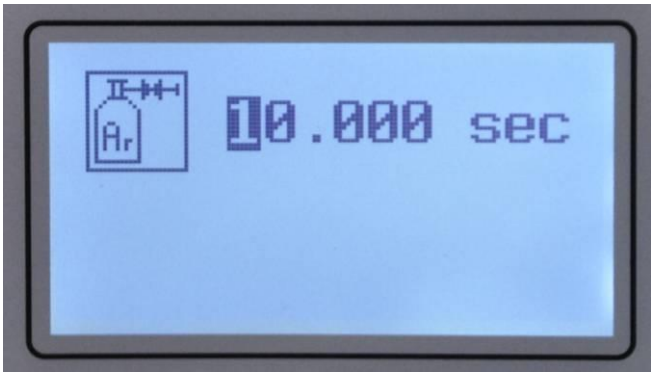
Alteration of weld pool time

Press ↵

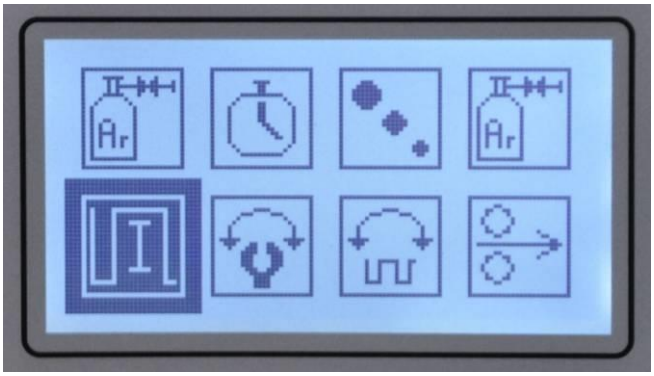
Alteration of downslope



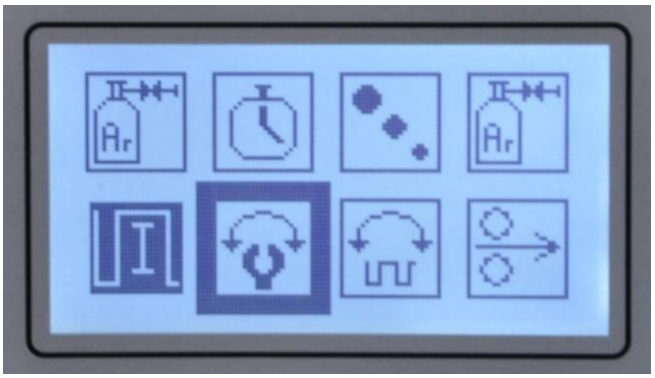
Press ↵



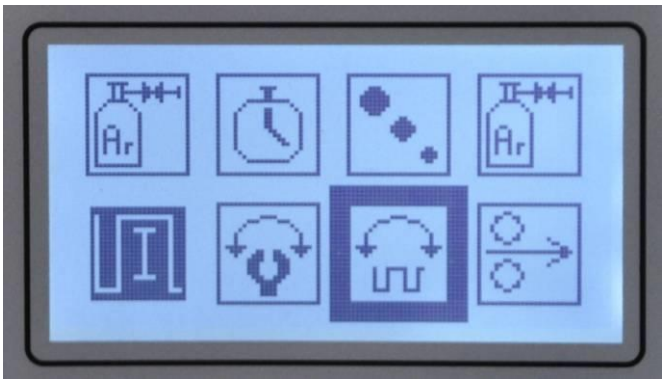
Alteration of gas after-flow time



Activation of pulsed current. (Standard). It can be changed by ↵

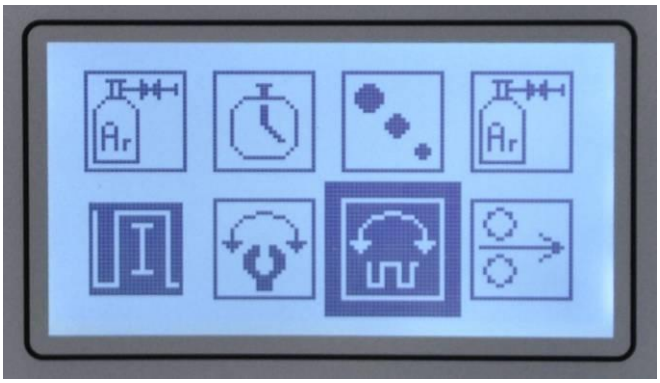


Rotation of the welding unit. It can be changed by ↵

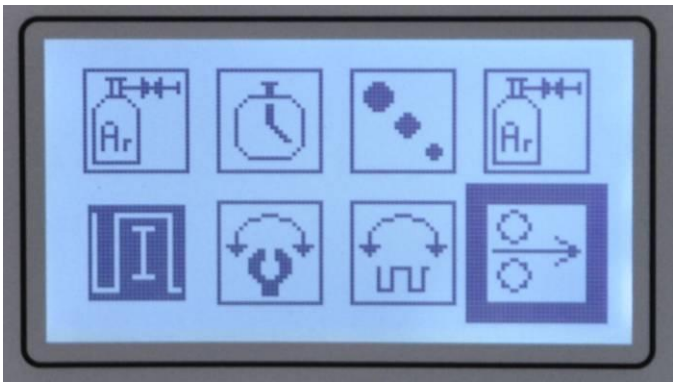


Continuous or pulsed rotation of the welding unit.

It can be changed by ↵
(The automatic program settings suggest a stepped mode operation for wall thickness of > 2,5 mm)



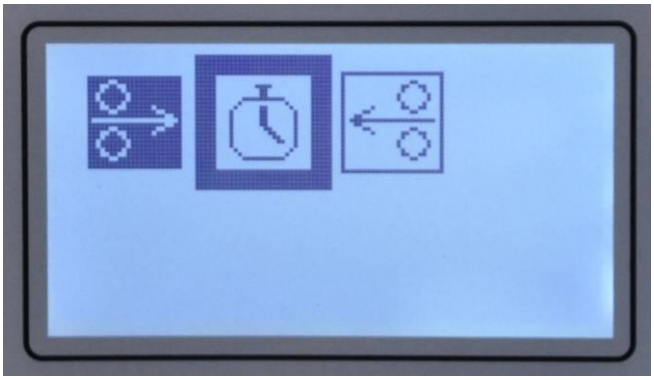
Stepped-mode is activated



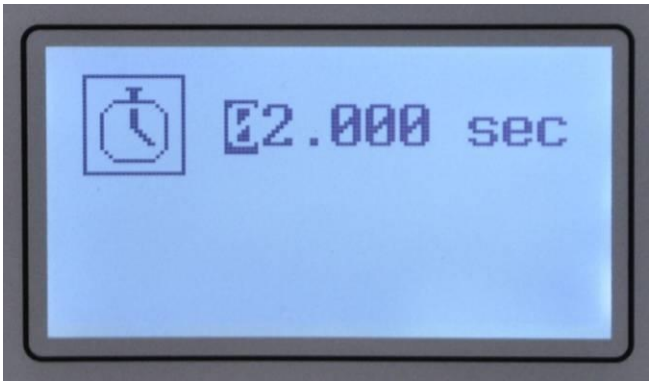
Press 

Press 

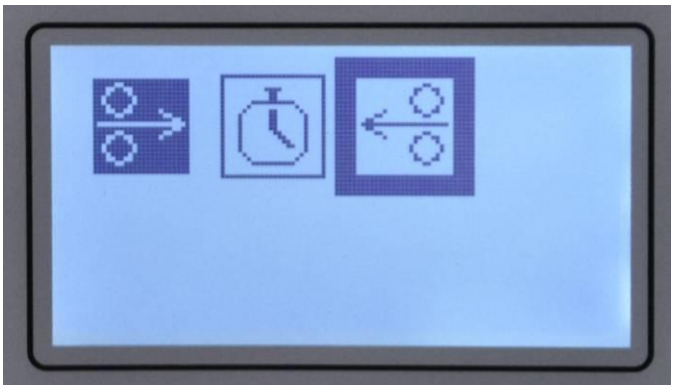
Additional wire is activated



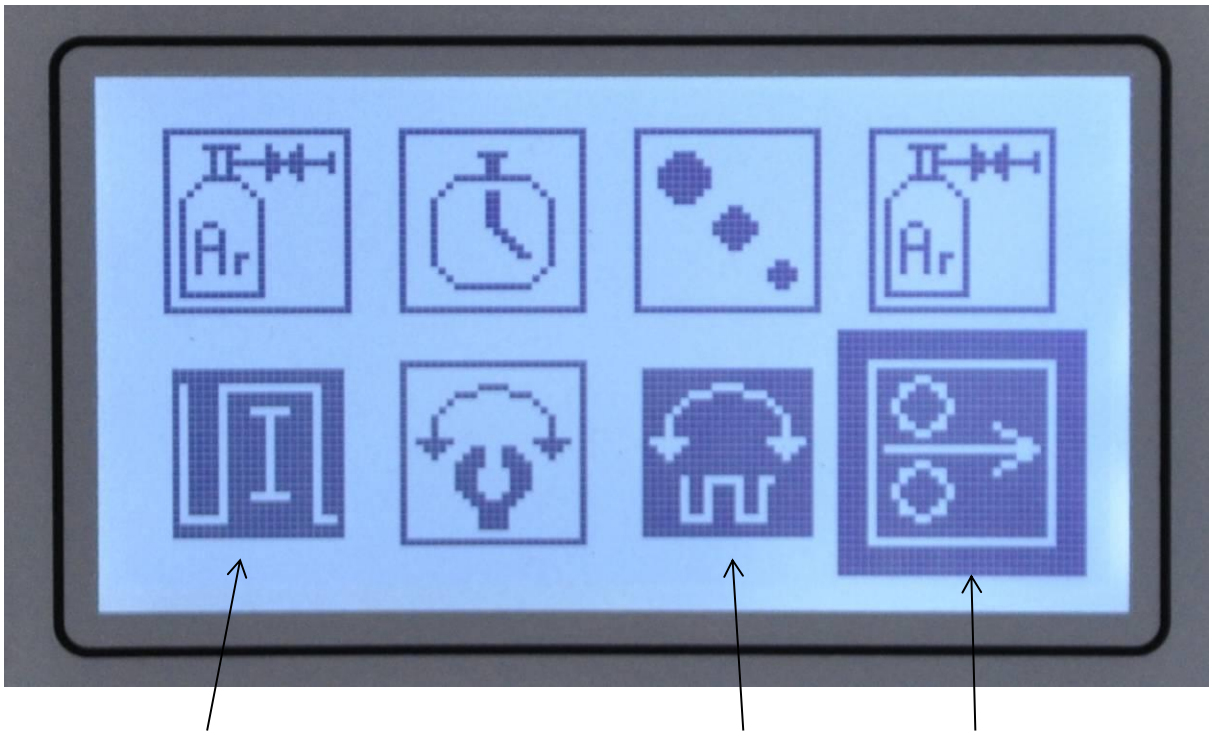
Press 



Wire delay during the weld pool time (Hold-up time) of the weld head before rotation starts.



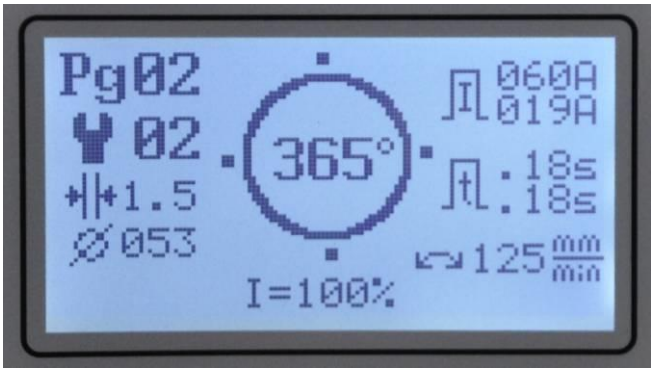
Press 



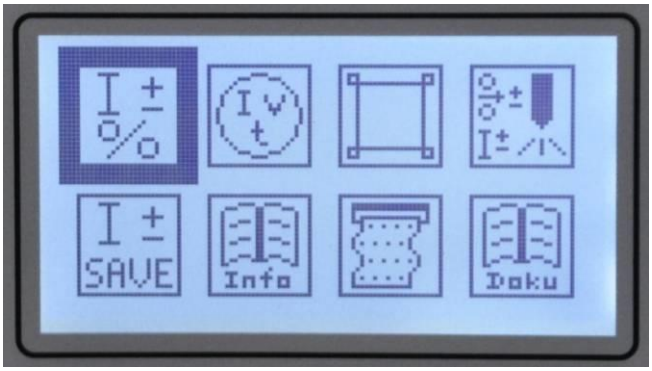
This frame parameter menu has the following settings: activated pulsed current (standard), pulsed rotation (stepped-mode, stepped burner) and additional filler material.

11. Parameter increase / decrease during the welding procedure

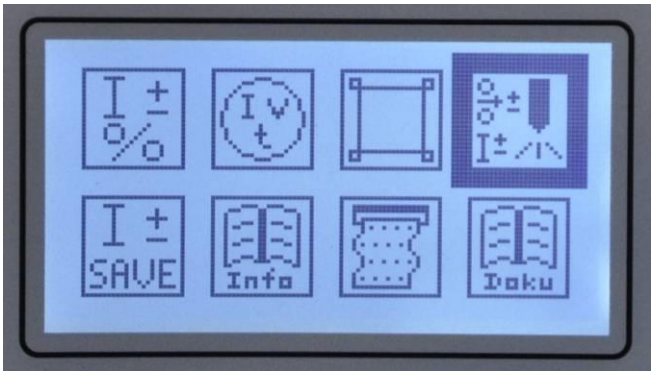
During the welding the percentage wire velocity and power can be changed and saved by means of 2-level remote control RC plus (for further information please see chapter Remote Control – RC plus).



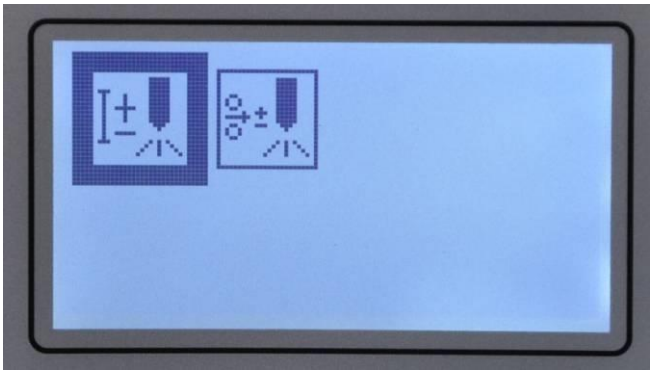
Press



Press 3 times



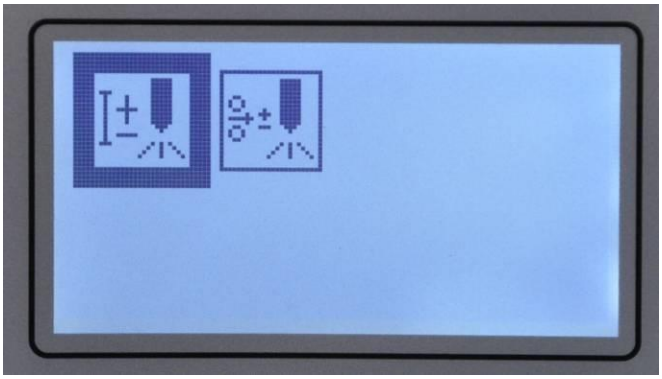
Press



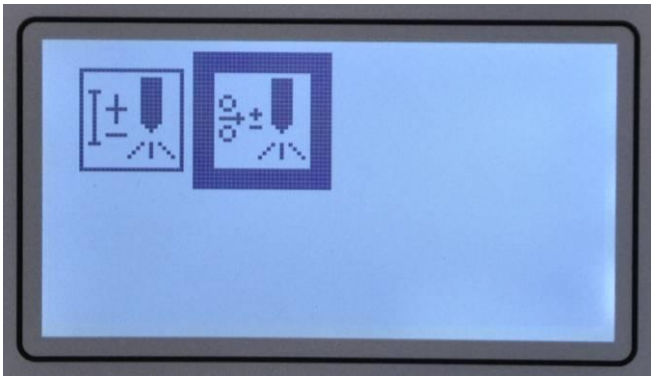
Press

Alter

by pressing or then



Press then

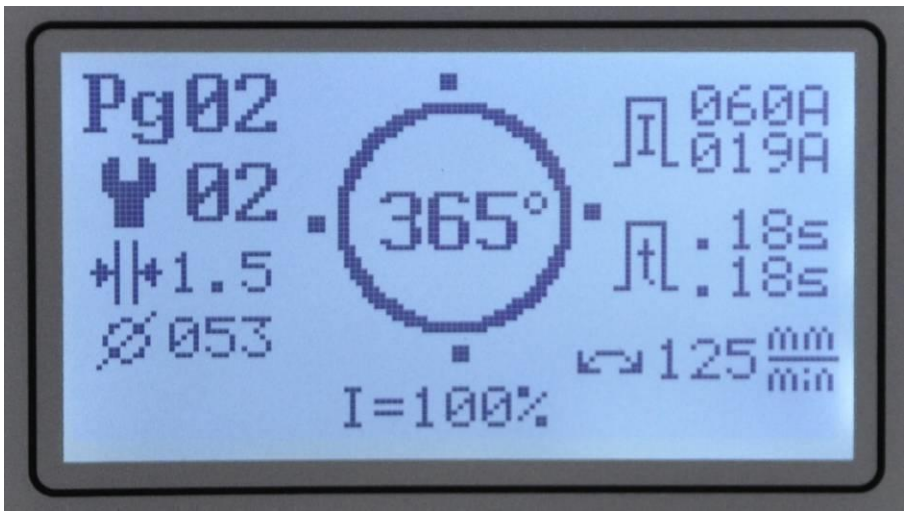


Press 

Alter

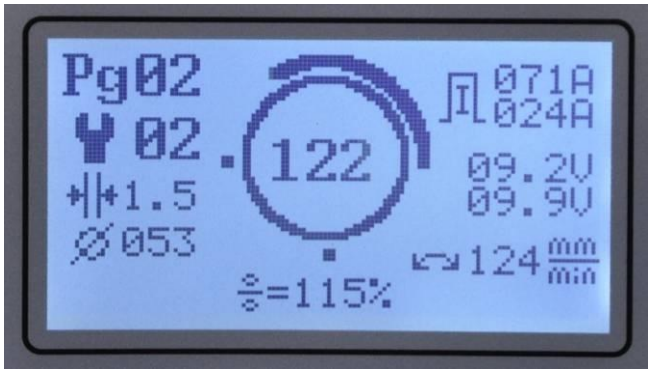
by pressing  or  then 

Press the  button to return into the main menu.



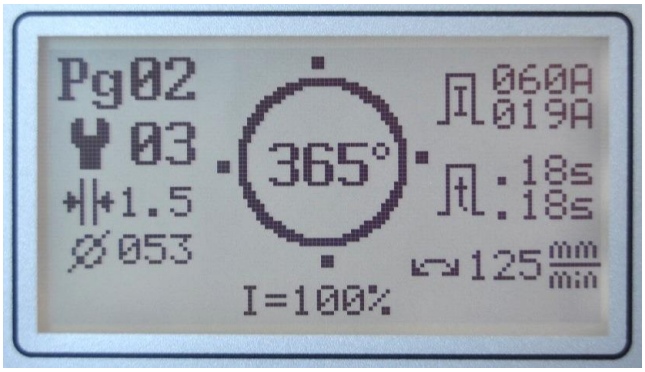
Alteration during the welding:

The current magnitude in all sectors has increased by 25%.

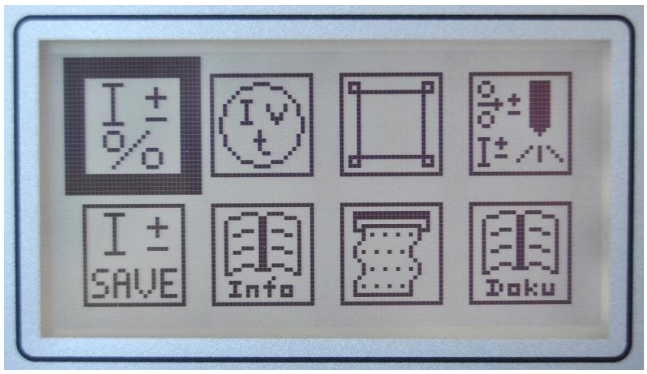


The wire parameters in all sectors have increased by 15%.

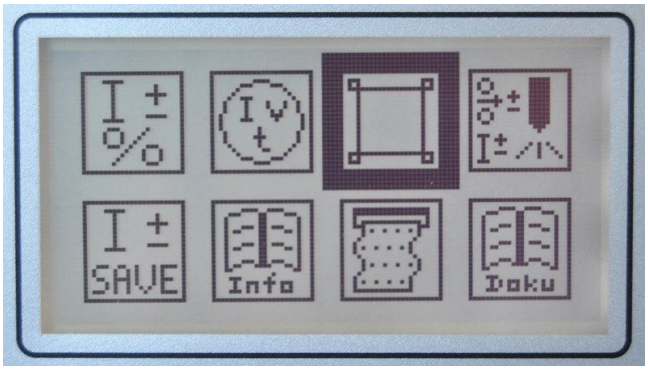
10.3.1 AVC (Arc Voltage Control)



Press

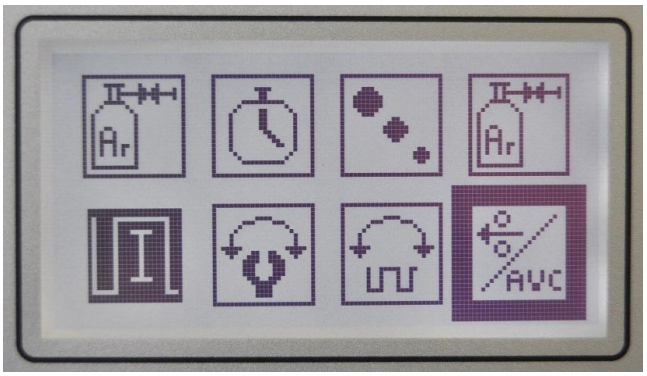


Press 2 x



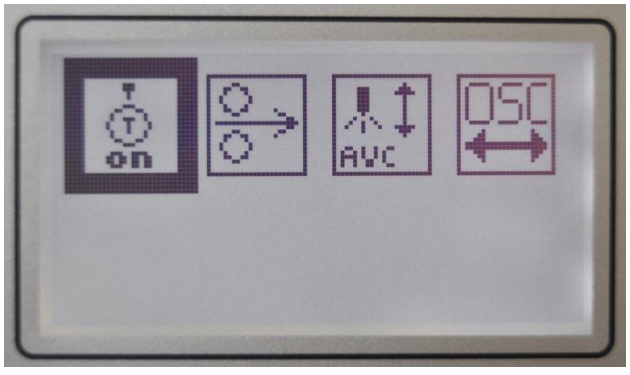
Press

Press 7x or 1x

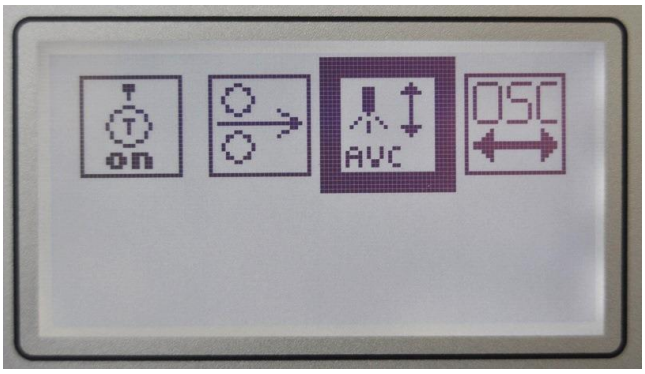


Opens a additional menu with more frame parameters (tack, additional cold wire, AVC, OSC)

Press

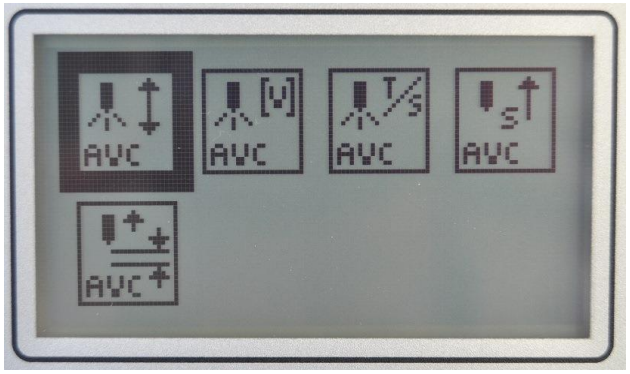


Press 2x

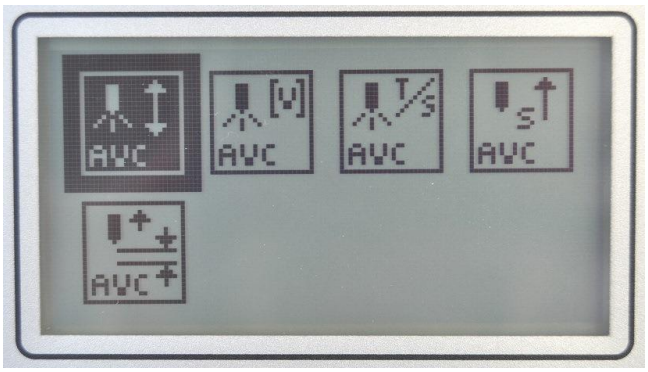


AVC (arc voltage control)

Press 

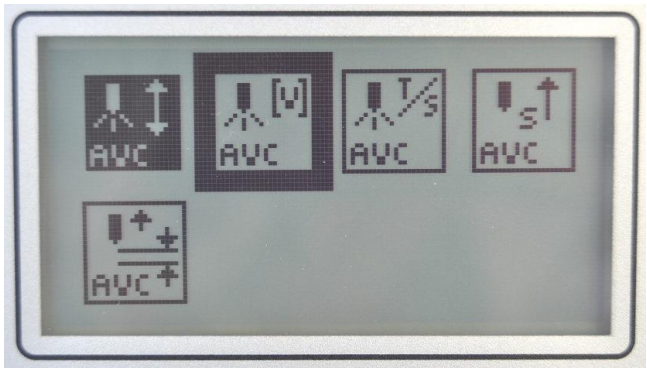


Press 

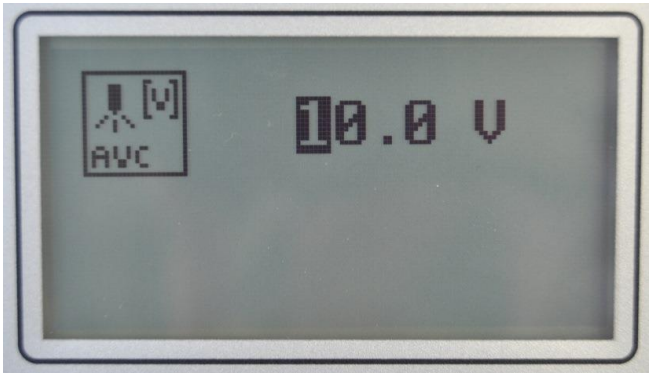


AVC (arc voltage control) enabled

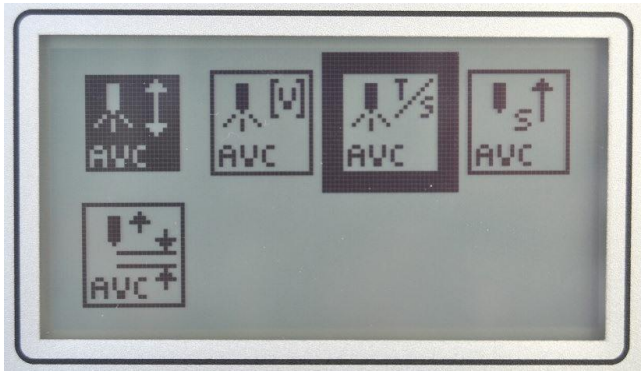
Can be changed with  and 



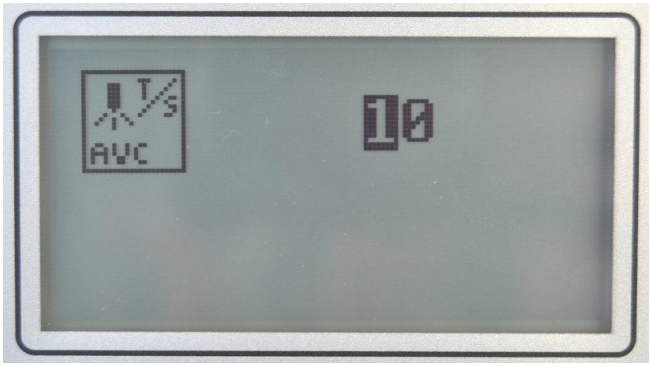
Press 



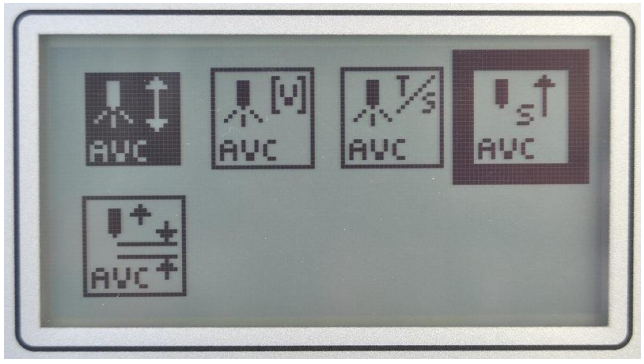
Changes the distance of the AVC welding electrode (equal to the arc voltage in volt)



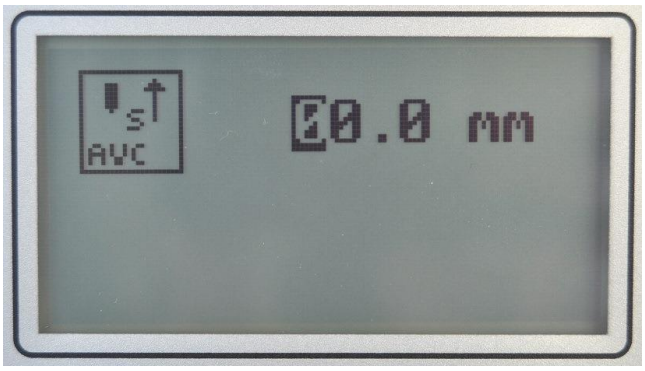
Press 



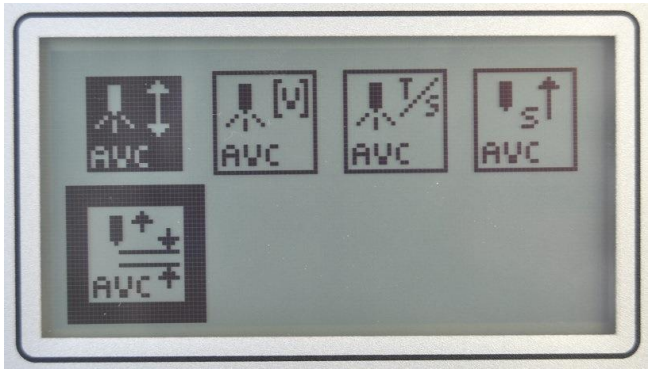
Regulating sensitivity (time interval/traversing distance): First digit corresponds to time interval, second digit corresponds to traversing ditance (stroke) per time interval



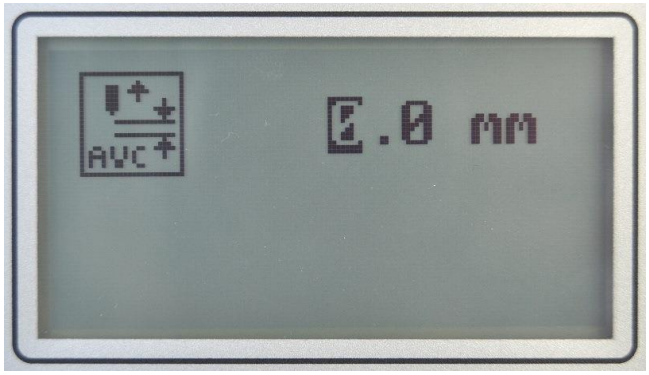
Press 



AVC retreat in mm/second: During the lowering time from less than 30A the weldinghead will be controlled retreaded in mm/second.
If the chosen value is 0, the weldinghead will rest in the same position during the lowering time.

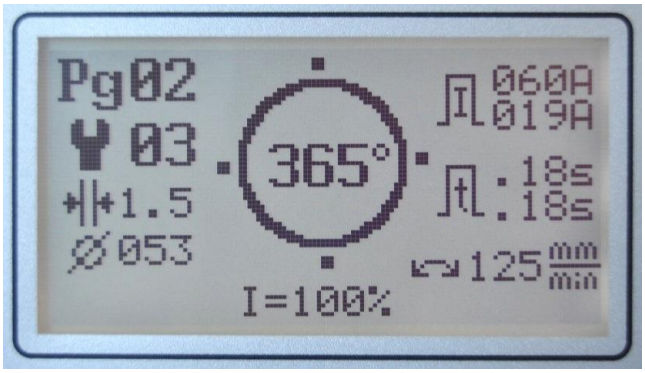


Press 

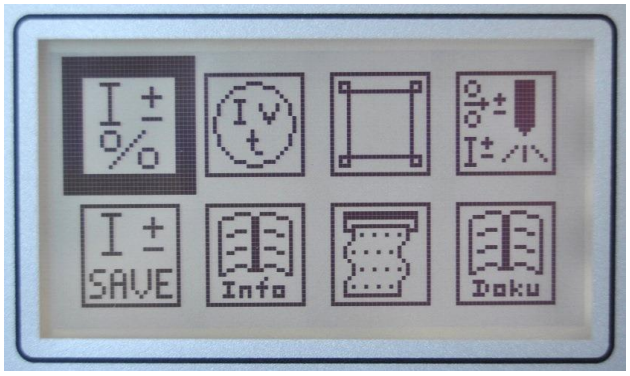


AVC height distance: Value equates to the distance of the electrode to the workpiece. This height will be automatically approached before welding. The electrode will touch the workpiece (teaching). If value is 0, Ttaching will be disabled.

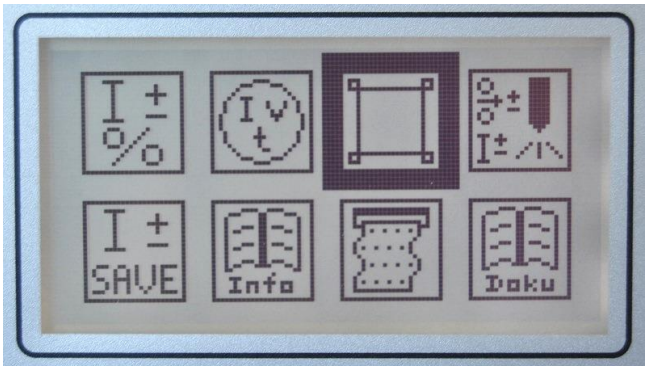
10.3.2 OSC (Oscillation)



Press

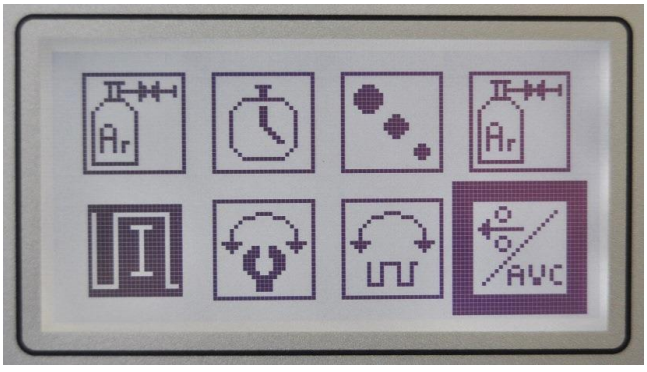


Press 2x

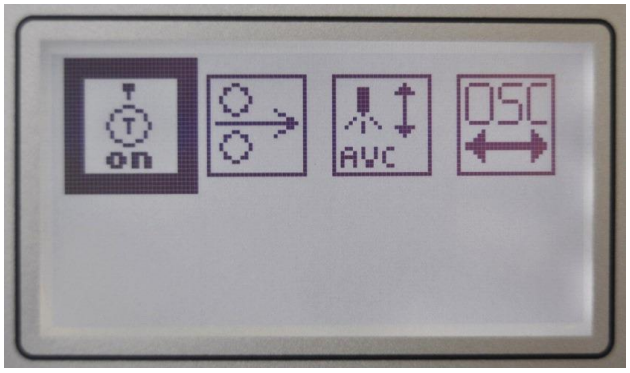


Press

Press 7x or press 1x

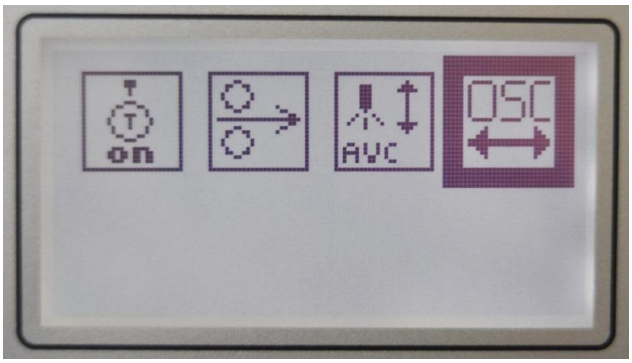


Opens a additional menu with more frame parameters (tack, additional cold wire, AVC, OSC)



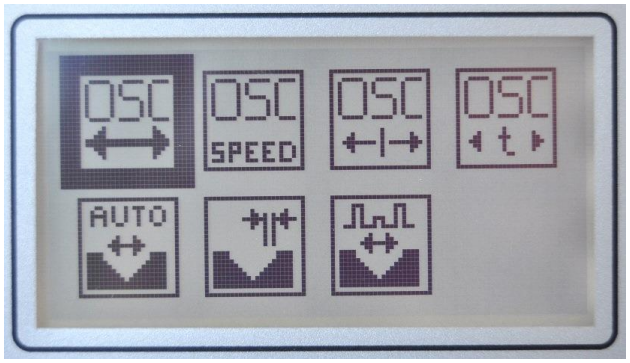
Press 3x

Press 

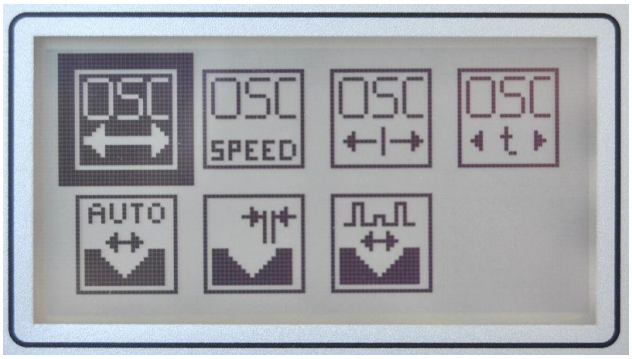


OSC (oscillation)

Press 

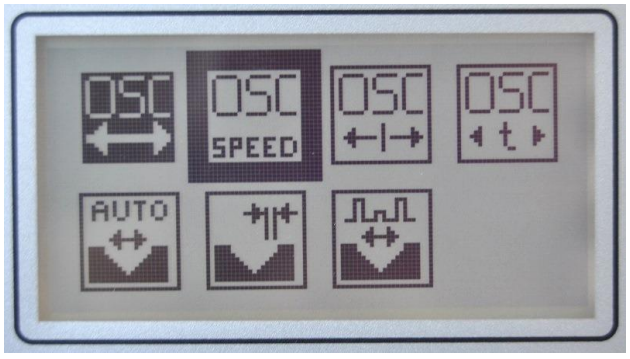


Press 



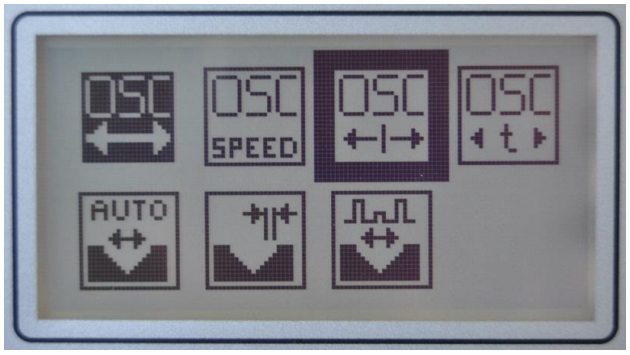
OSC (oscillation) enabled

Can be changed wiith  and 

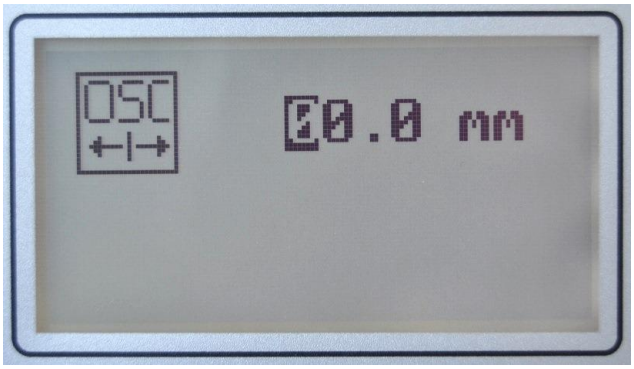


Press 

OSC oscillation speed: The higher the value, the faster the torch is oscillating.

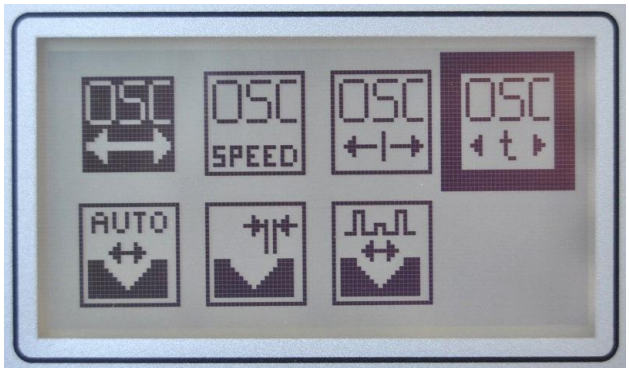


Press 

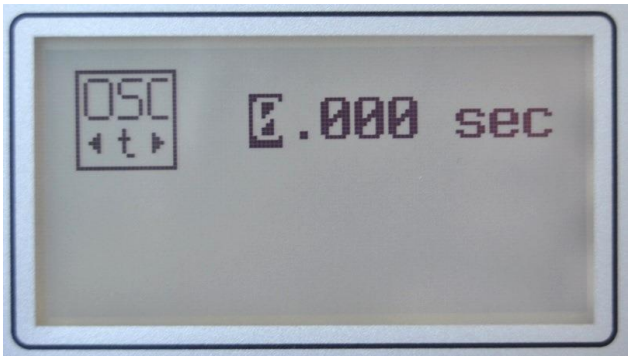


OSC pendulum distance *(espacially for the inal pass)***:** Entered value is the distance from the weld centre to the left or right side. Value will be reset to 0 if 

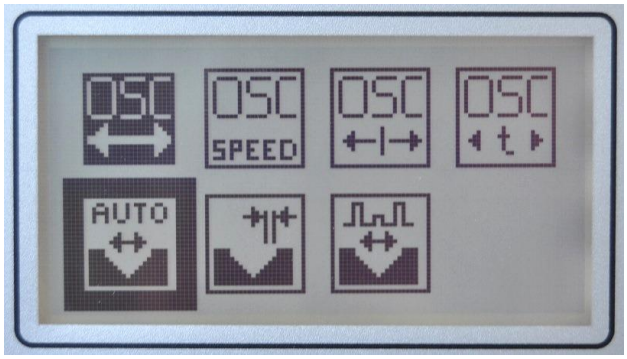
is enabled.



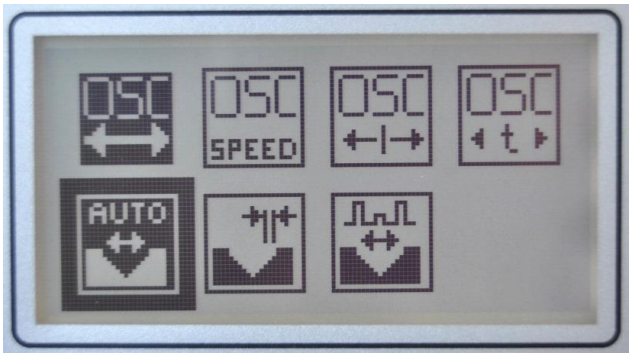
Press ↵



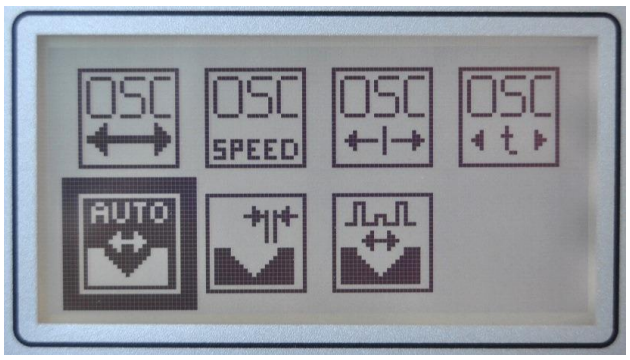
Flank time: Value corresponds to the flank time in seconds at the end of every pendulum distance.



Press ↵



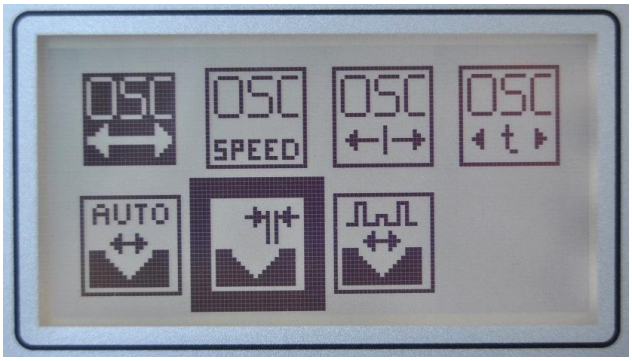
Automatic teaching (especially for middle pass): Automatic approaching weld centre depending on the OSC margin distance. For this function it is absolutely necessary to set a value for the OSC edge distance



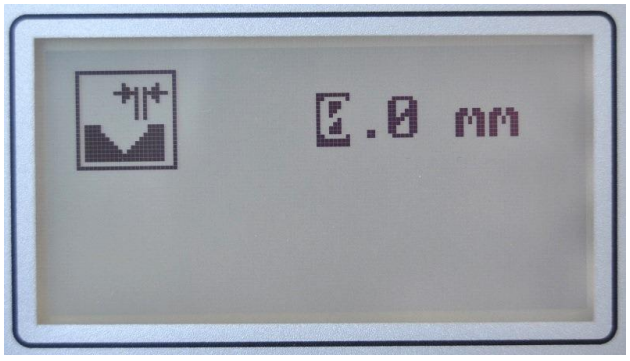
OSC automatic teaching enabled (especially for root pass): The weld centre will be automatically approached without the dependence on the OSC edge distance.

Here for the 

symbol is disabled!



Press 



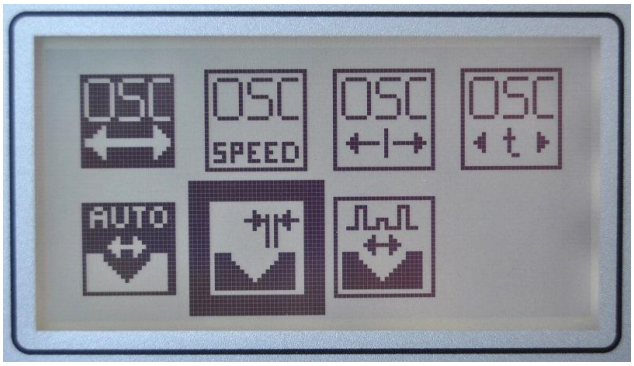
OSC edge distance: Value corresponds to the distance to the teached flank in depending on

the automatic OSC teaching function 

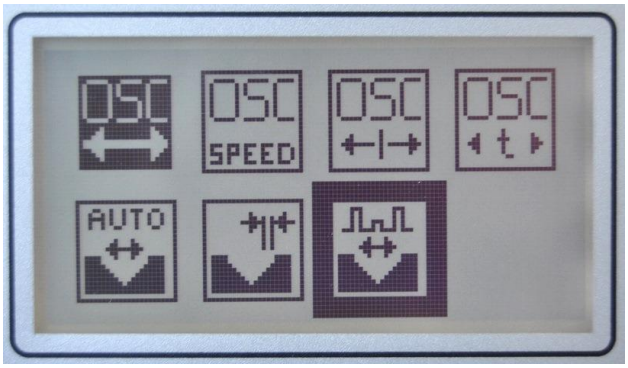
(shown in the next picture)

Enable Symbol with 

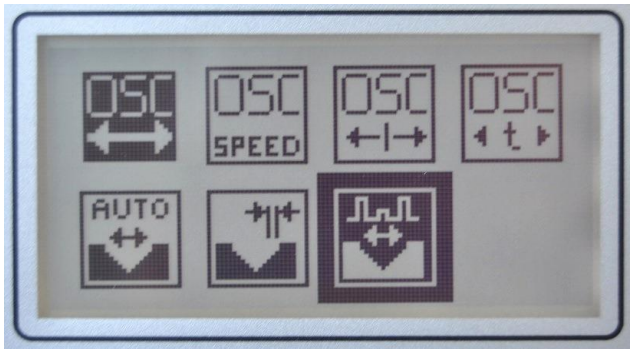
If symbol is not enabled, the entered value of the OSC edge distance will be ignored during the welding processt!



Absolutely necessary for OSC edge distance: 

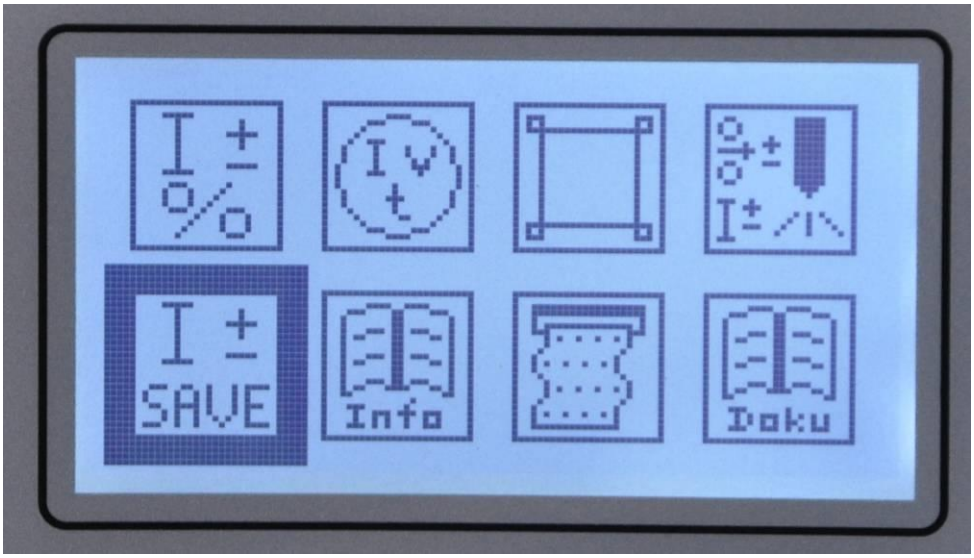


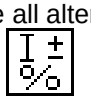
Press 



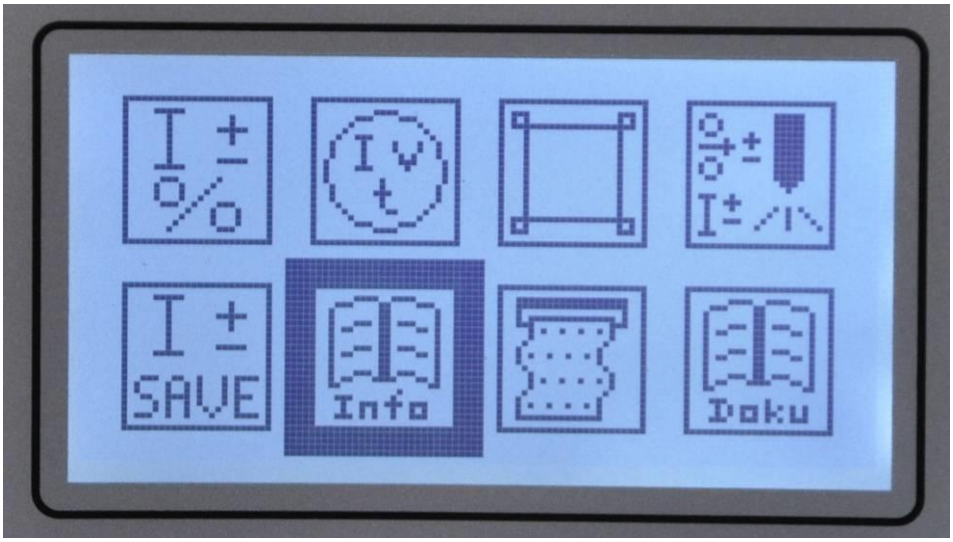
OSC syncronisation: Flanks will be welded with high current and high current time, if function enabled. The distance until next flank (with OSC pendulum speed) will be welded with basic current. In this case the in advanced entered values will be ignored in the OSC flank time at welding.

12. Saving and percentage alteration of the welding program



You can save all alterations by pressing  . The same is applicable to the parameters changed by 

13. Welding program information

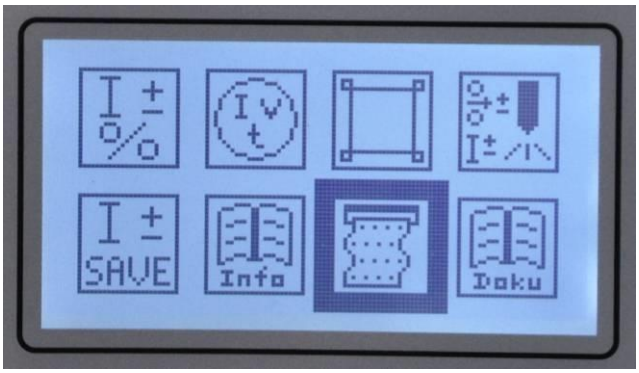


The operator can give a name to a program or procedure and it will appear in print.

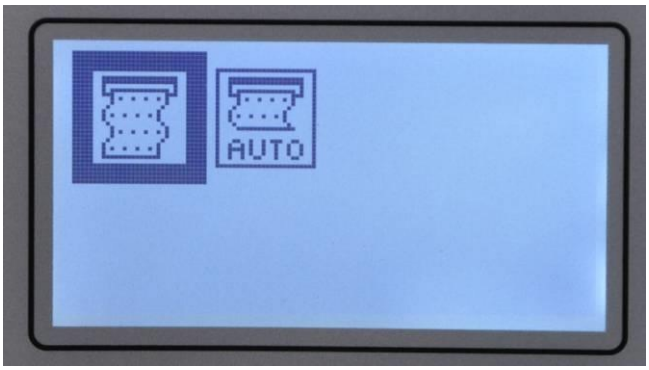
A variety of numbers, letters and symbols are available in this menu.

Please use the buttons and to enter the required parameter and to navigate forward.

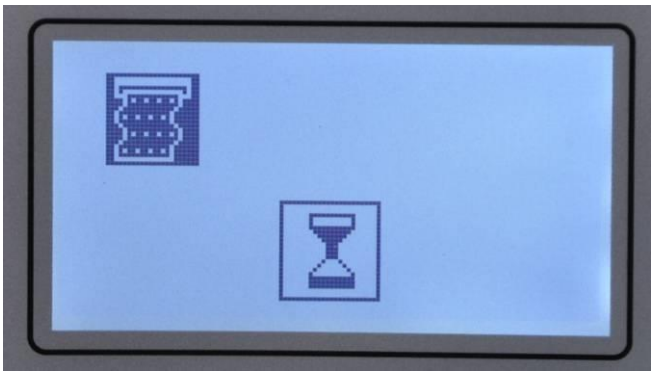
14. Printing



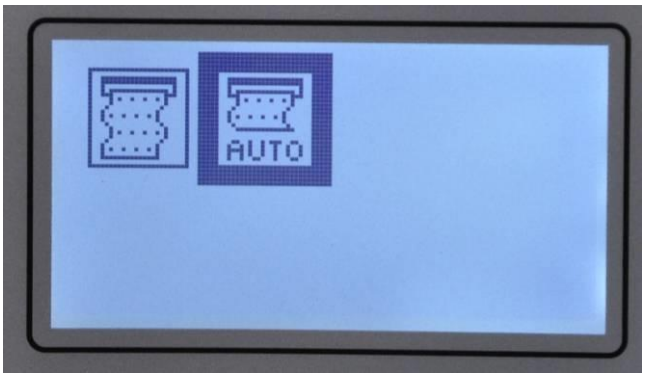
Press



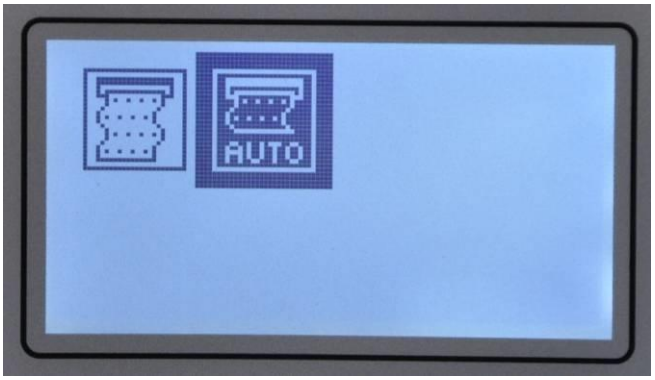
Press



The last welding program with target and actual parameters will be printed



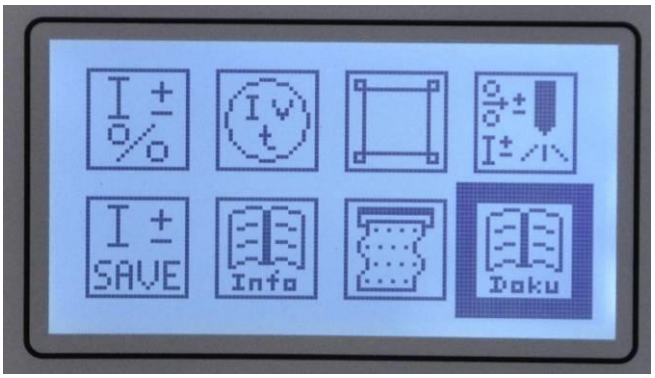
Press 



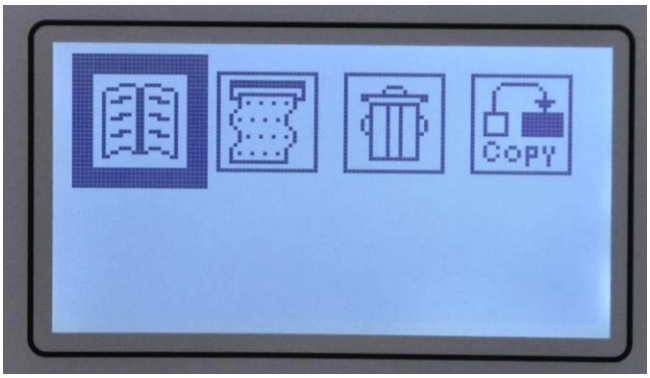
The target and actual parameters will be printed automatically after the welding.

15. Documentation

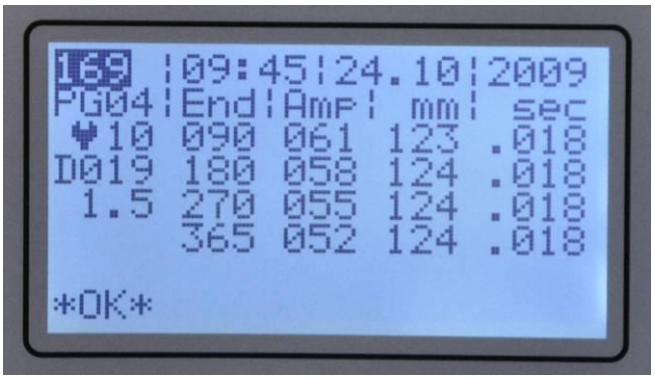
The controller is designed to store up to 250 welding parameter sets with relevant information. These data sets can be displayed, activated, printed, saved (PC- documentation) or deleted.



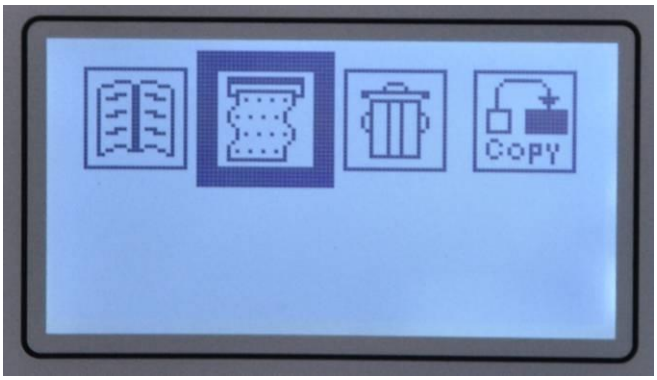
Press 



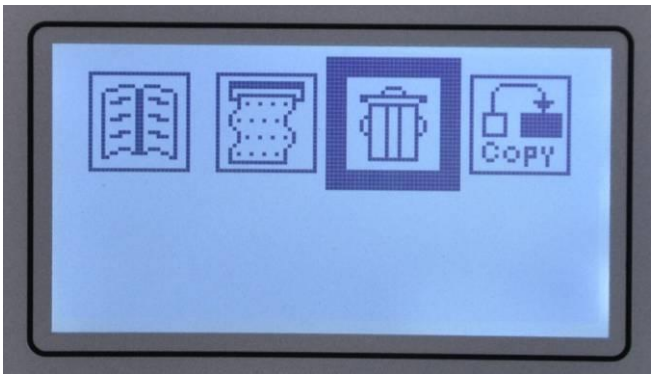
Press 



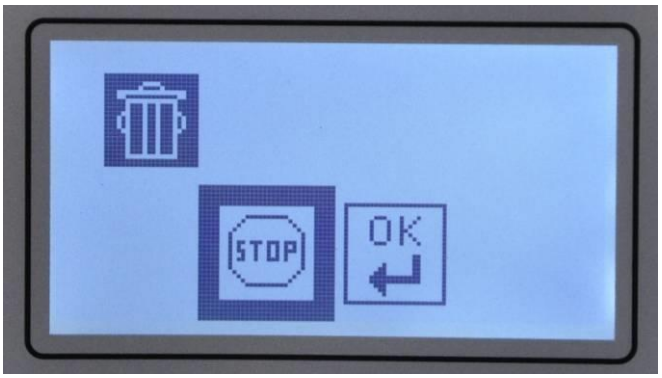
The „169“ dataset display



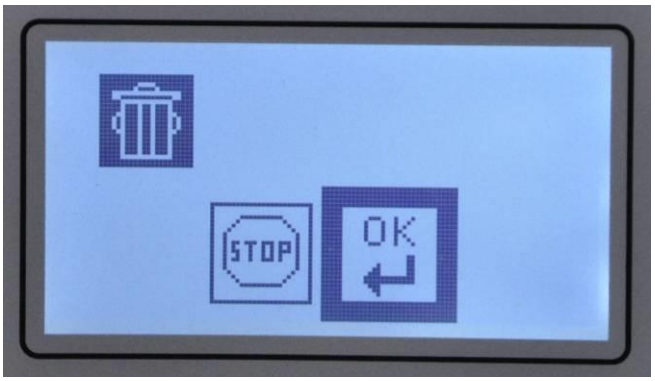
Press  . The required dataset and its parameters (incl. target / actual values) will be printed.



Press

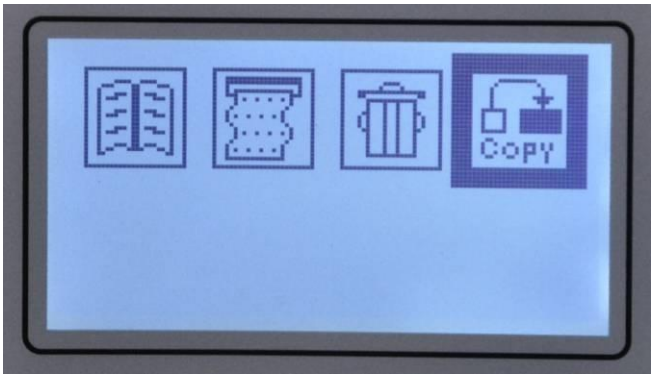


Are you going to delete all documentation in the controller? If **NO,** press If **Yes**, press



Press

Delete process



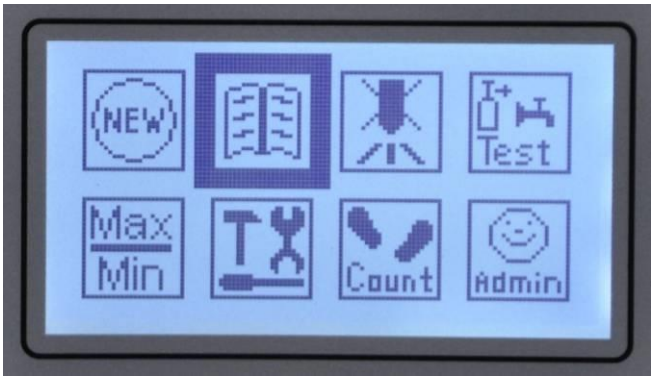
Press to copy data to the external memory medium (RS 232-Dongle-Orbitalservice GmbH)

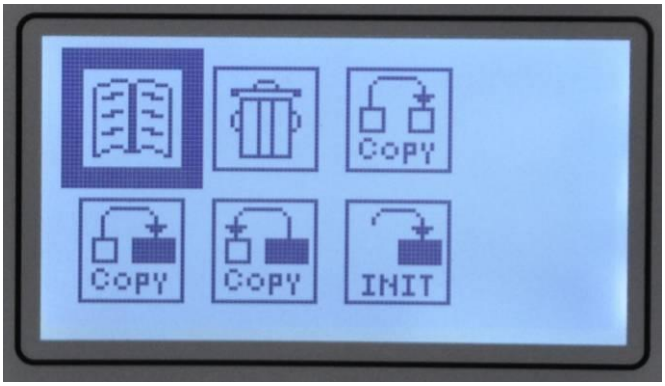
16. Other functions of „P-Button“

Thus, you have got the most important information regarding the welding procedure (assignment, alteration, printing and saving of the welding programs) and we would like to acquaint you with some additional functions of the P-button.

16. 1. Programming of a new welding (see chapter 9)

16. 2. Library

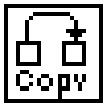


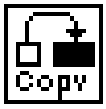


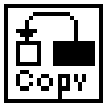
Press 

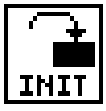
 Library (99 program places)

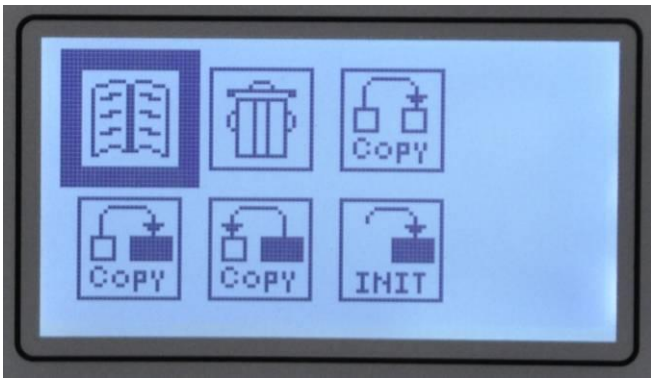
 Delete a program

 Internal copy of the programs

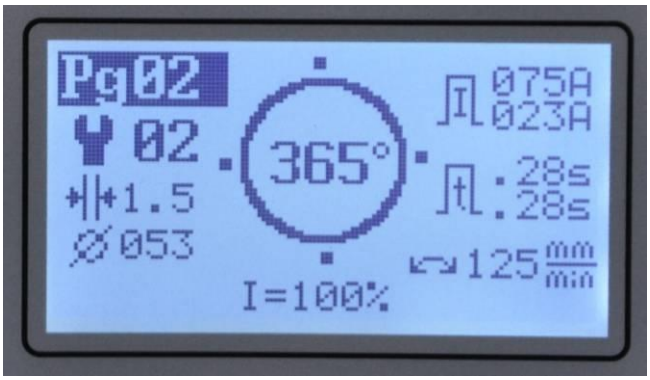
 Program copy into the external memory medium

 Program copy from the external memory medium

 Memory formatting



Press

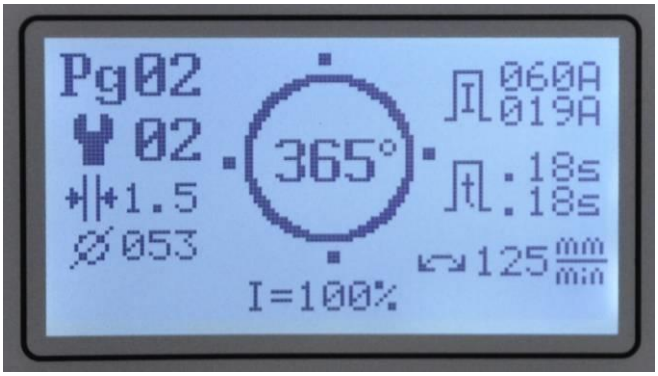


If this is the required program, please press

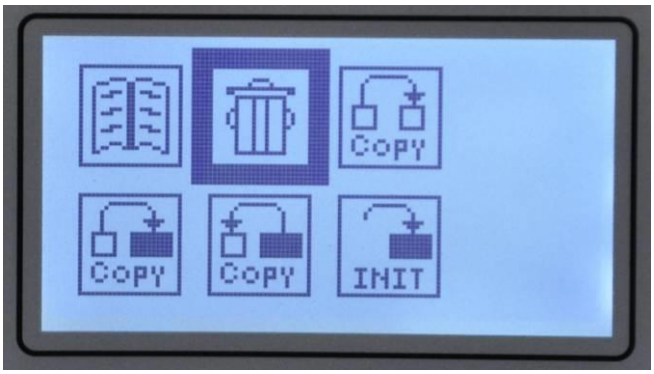
Define the welding unit used for operation and press

If the welding unit is not suitable for this application, this warning message with a signal tone will be displayed. Press the Stop-button to acknowledge the message and choose the right welding unit.

Press



16. 3. Delete a program

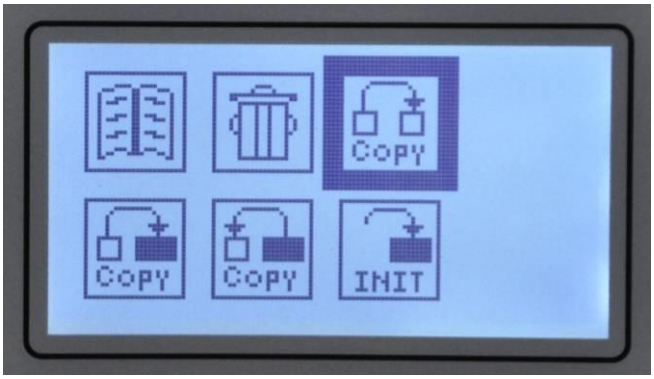


Press 

If **NO**, press  , if **YES**, press 

Press 

16. 4. Internal program copy



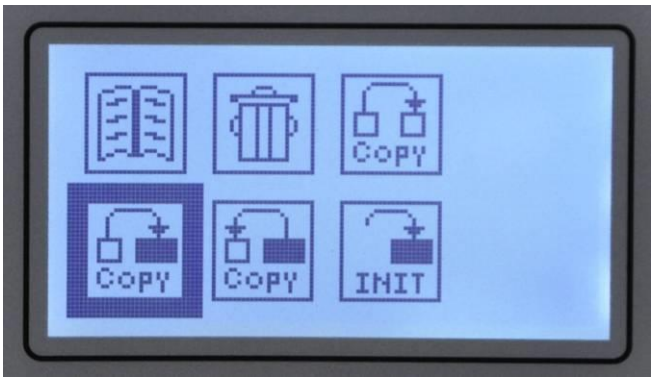
Press 

Enter the number, and press 

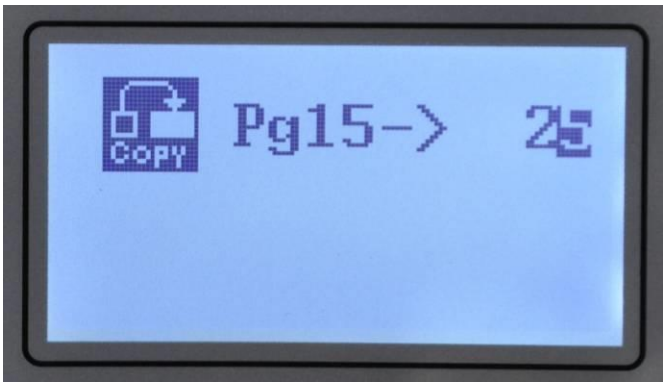
Press

Press

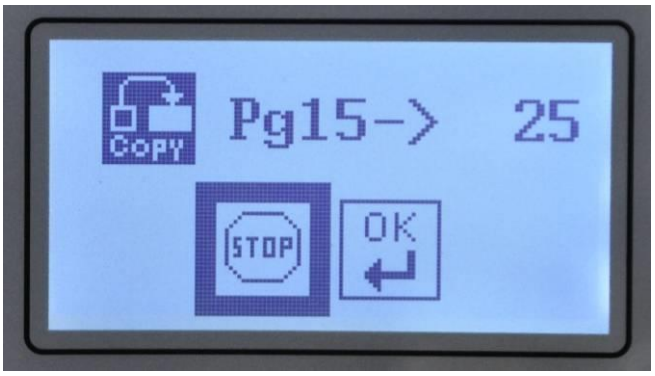
16. 5. External program copy



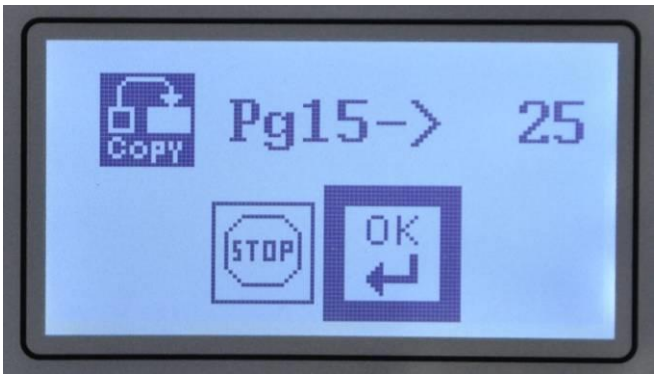
Press



Enter the number, and press



Press

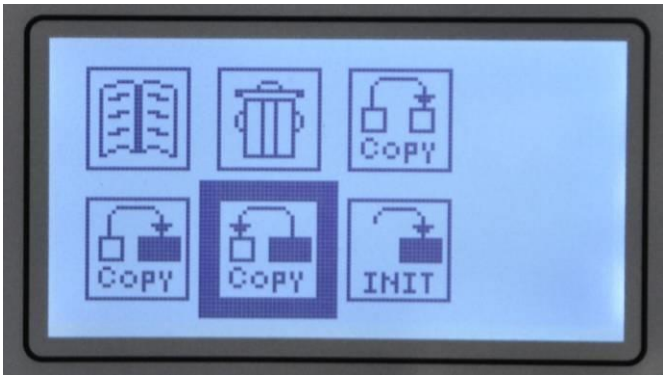


Enter the number, and press

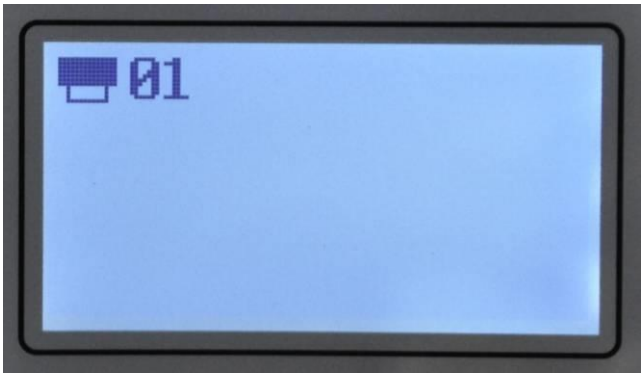
Press

Press

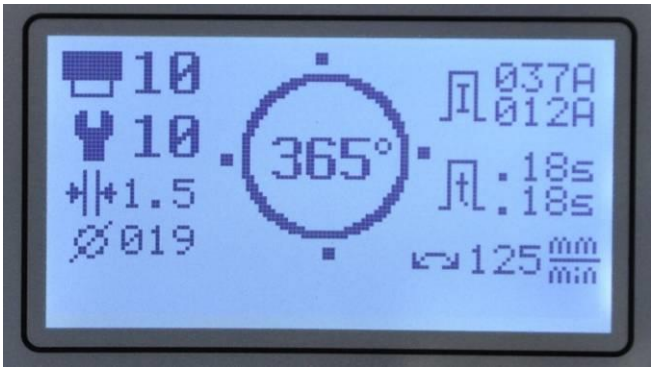
16. 6. Program copy from the external memory medium (memory capacity: 99 places)



Press



Enter the number, and press

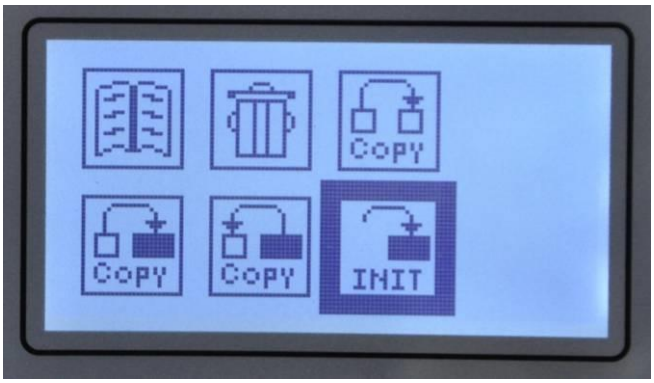


Press

Enter a weld head, and press

This warning message will appear if the controller finds the internal description for this program. Press STOP to return, and OK to rewrite.

16. 7. Memory formatting



Plug the memory into the RS 232 interface and press 

A formatted memory can be applied for various functions. You can use it to store welding parameter data, as well as copy and save your welding programs.

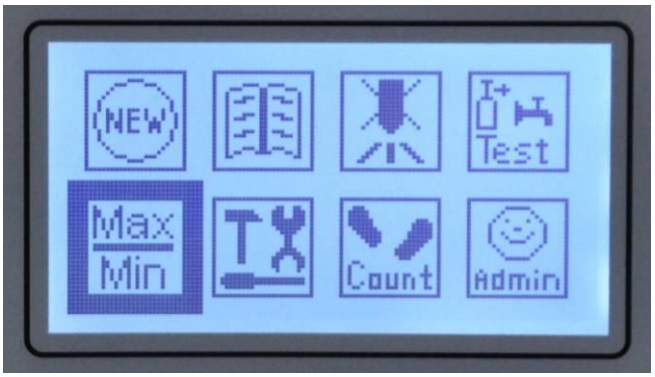
Note:

To store welding programs for the PC documentation purposes is not the same as to copy programs into or from the controller memory. These two procedures have different adresses. If you are going to use a memory, you have to format it every time before starting a new procedure!

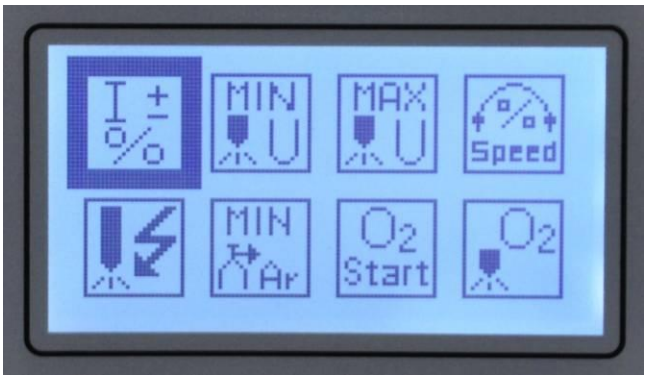
17. Test run – Welding (see chapter 9.2.)

18. Gas and water test (see chapter 9.3.)

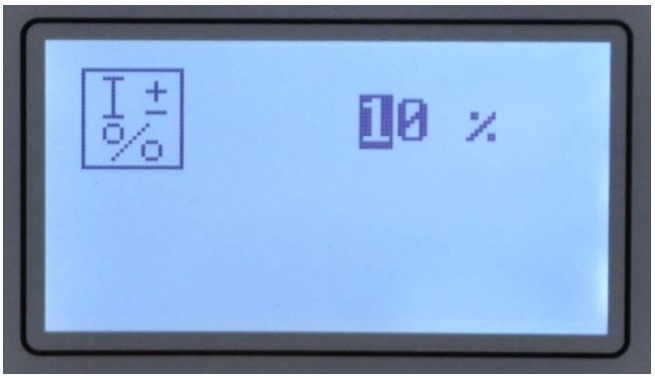
19. MAX/MIN – Monitoring limits



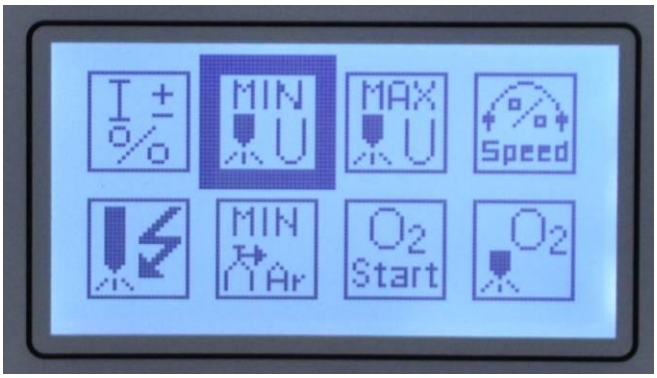
Press ↵



Press ↵

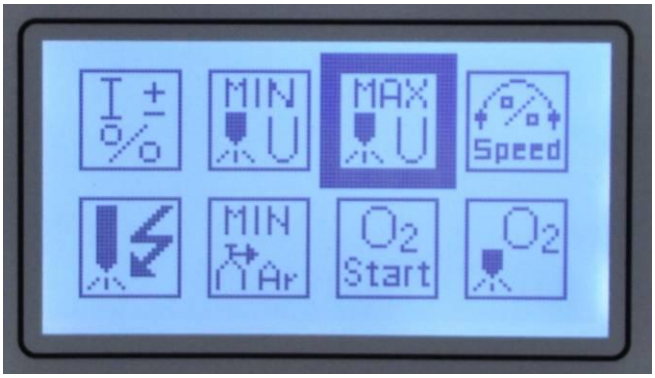


Percentage current monitoring



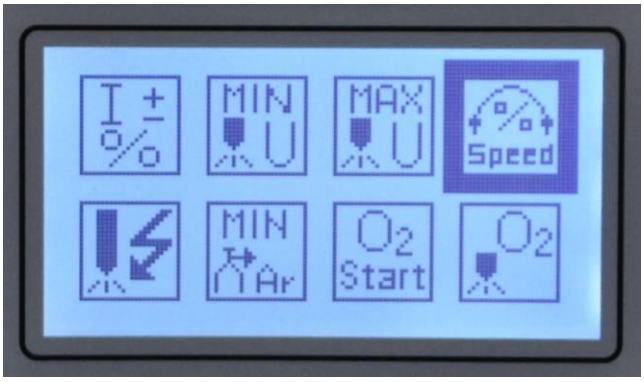
Press ↵

Min. arc voltage

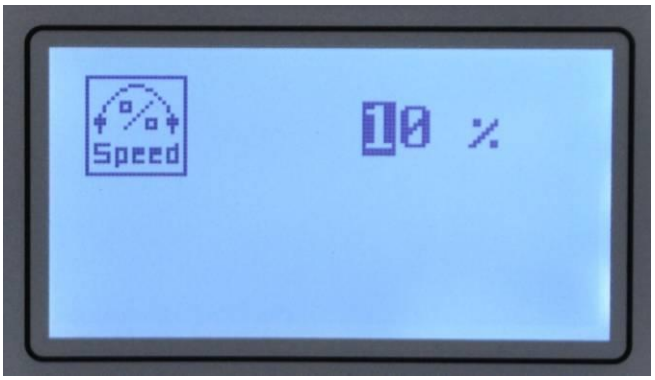


Press ↵

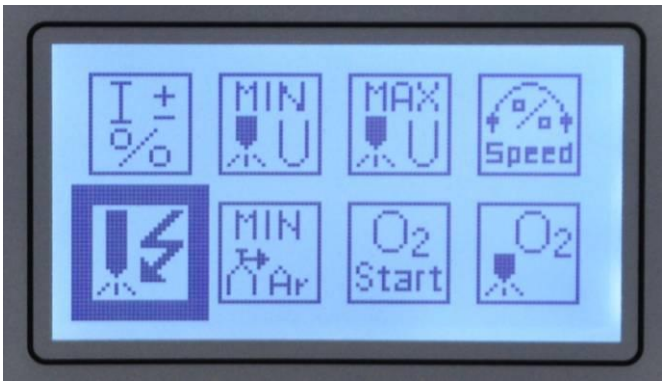
Max. arc voltage



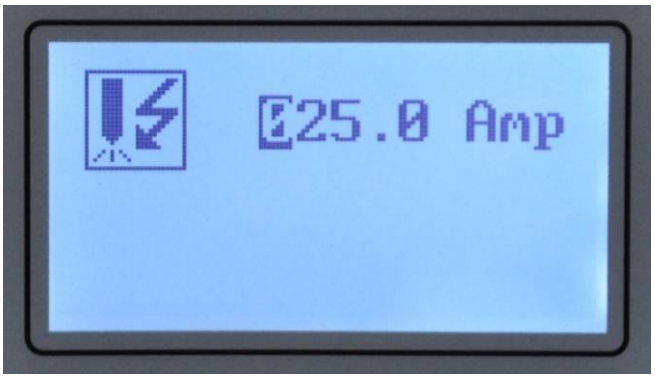
Press ↵



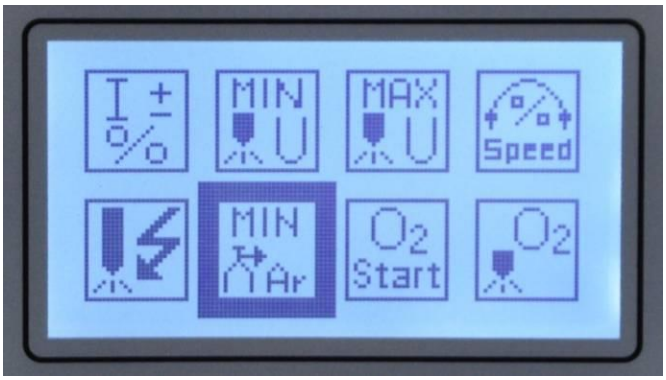
Percentage velocity monitoring (for Stepped-mode 50%)



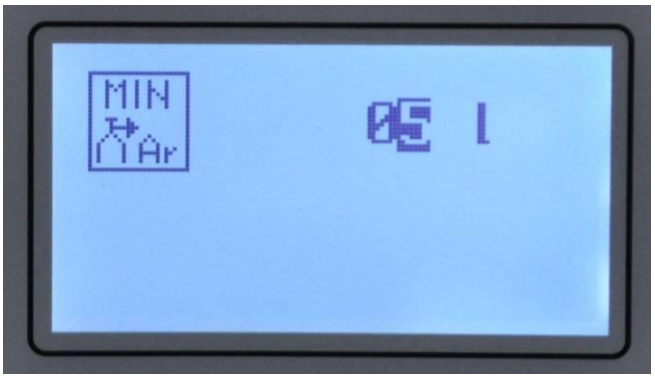
Press ↵



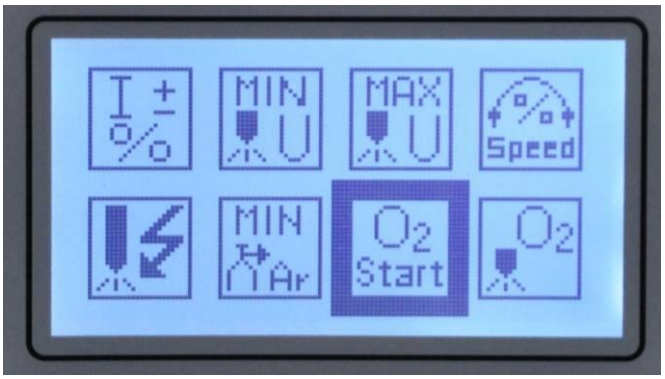
Freely adjustable spark current (Recommendation: 25 A)



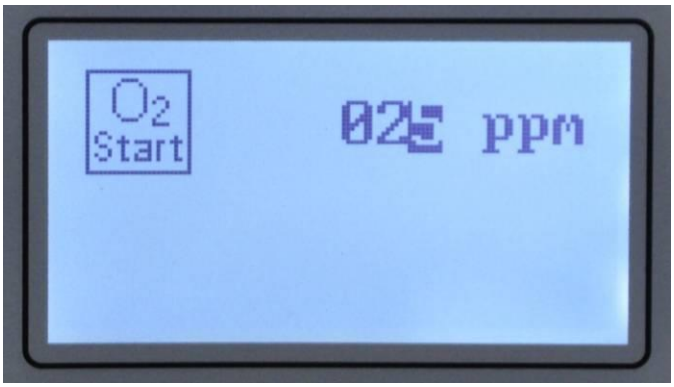
Press ↵



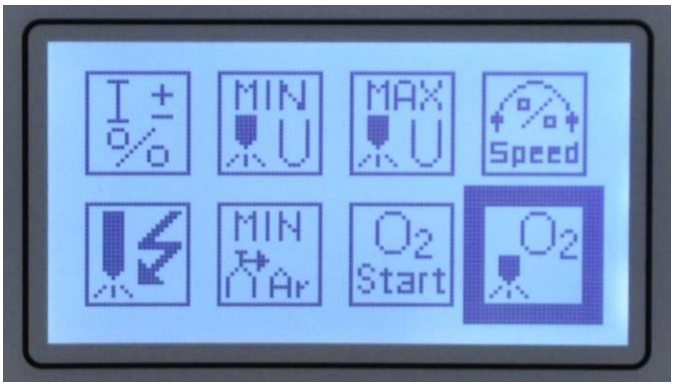
Gas flow monitoring



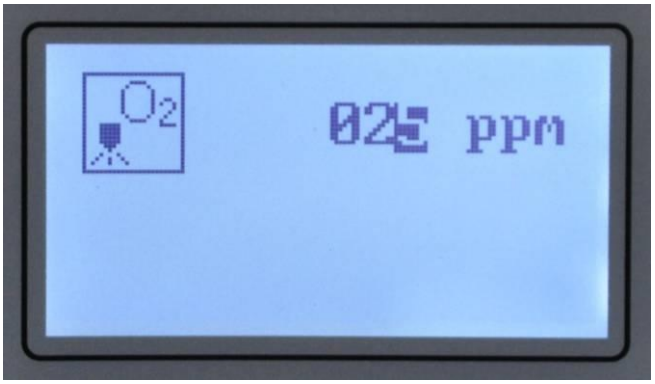
Press 



Rest oxygen content before welding

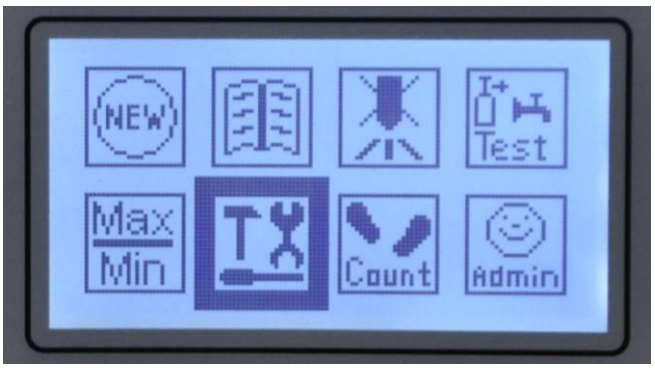


Press 



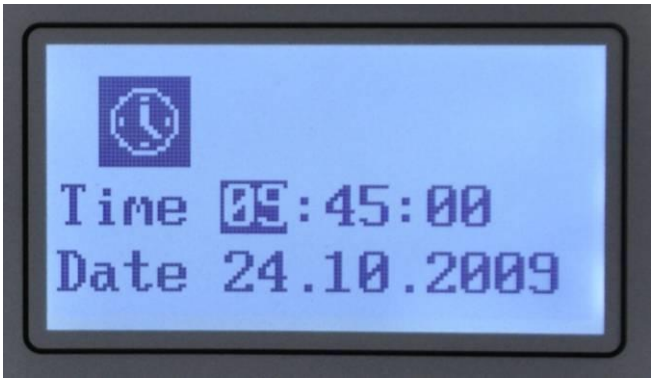
Rest oxygen content during the welding

20. System settings

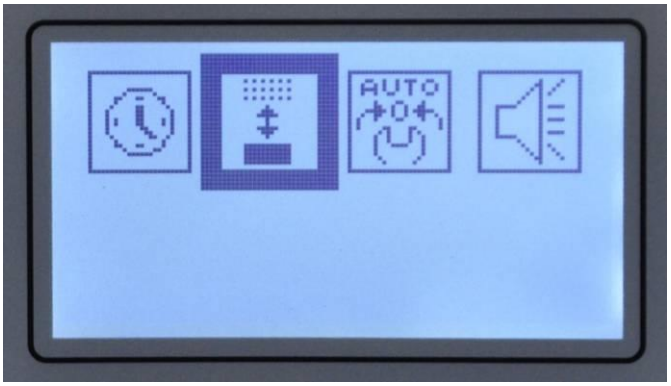


Press 

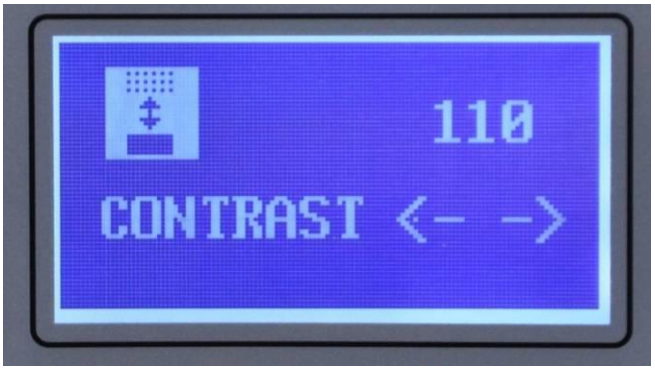
Press 



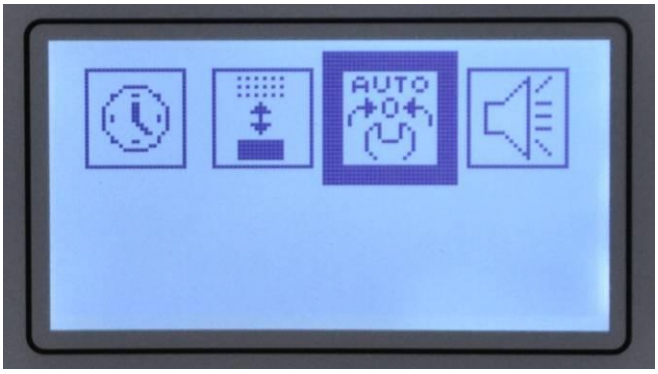
Date and time set-up option



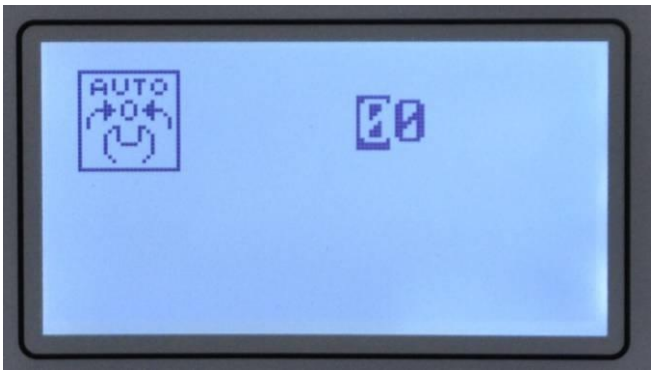
Press 



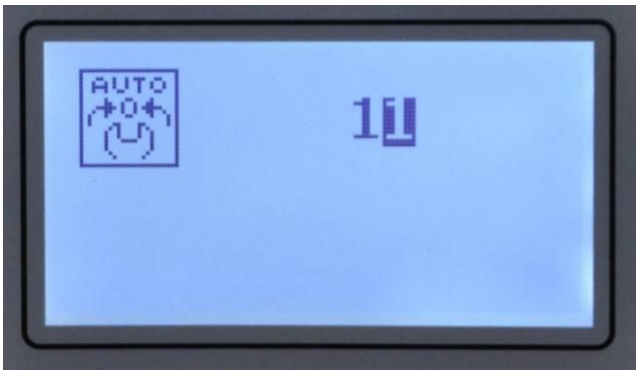
Stepless contrast control



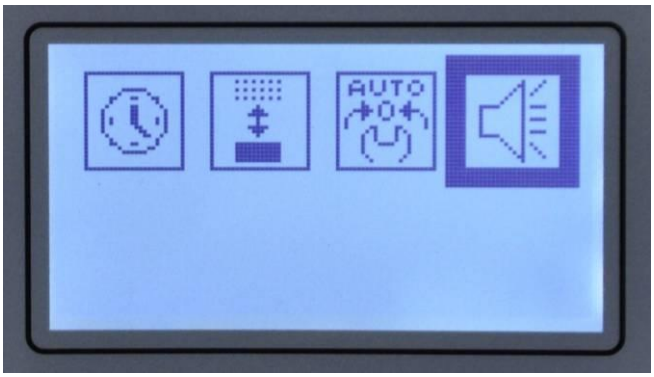
Press 



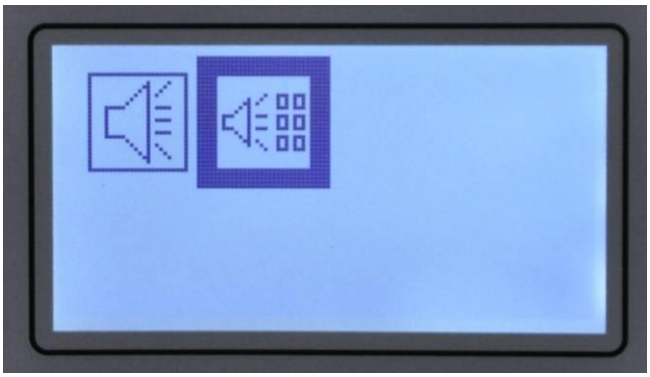
Automatic coil and uncoil of the tube packet (open-frame weld heads) 00 – no coil and uncoil



11 – Coil and uncoil is activated



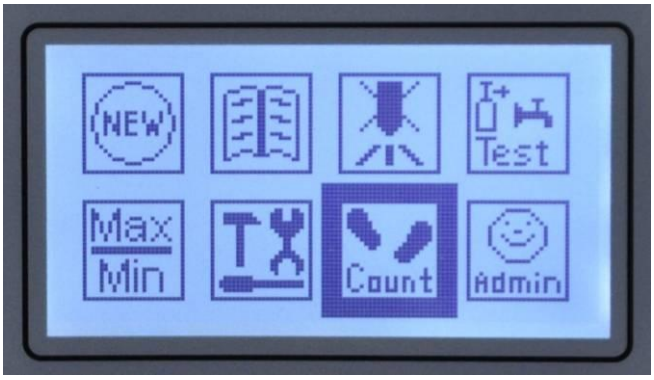
Press 
Signal tone



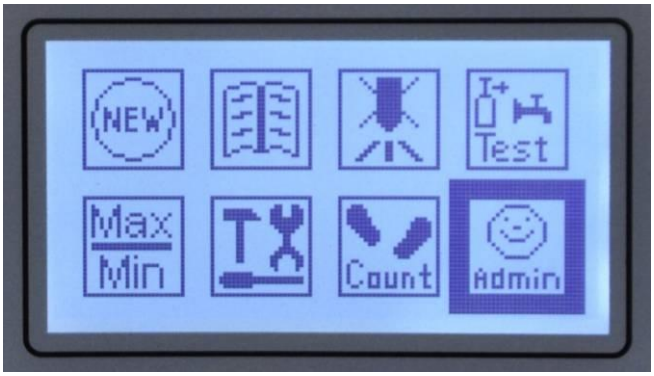
White signal tones (button click and buzzer are deactivated)

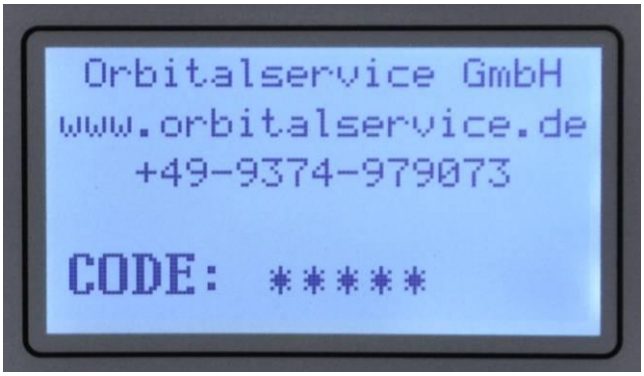
Black signal tones (button click and buzzer are activated)

21. Counter



22. Administrator





Press 

This information area is reserved for the manufacturer and service partners. Here you can find all welding units, update your software and language files and localize errors using various integrated diagnostics and monitoring programs.

23. Multifunctional remote control RC plus

The remote control RC plus is a manageable unit with a silicon holster to protect it from any damage. The plastic foil keyboard has a robust polycarbonate case to ensure proper grip even through hard welding gloves.

Yellow LED, indicates activated Shift-button)

1. Level: Start and Stop the

el: Stop
el (with Shift): Test run

el: rotate to the right
el (with Shift): raise the current during the welding

1. Level: rotate to the left
2. Level (with Shift): to redu

1. Level: forward wire feed
2. Level (with Shift): to raise wire feed during the

Out of welding process with Shift: gas test

1. Level: backward wire fee
2. Level (with Shift): to redu

Out of welding process with

Shift-button (LED yellow flash light)

24. Technical data

Mechanic:

Dimentions (LxWXH)	240 mm x 170 mm x 90 mm
Weight	2,2 kg
Degree of protection at 20 °C	IP 40

General data (electrical engineering)

Voltage	100 – 240 V, 47 – 63 Hz
Power input	60 Watt
Fuse	
Key board	6 buttons (short-stroke keys)
Display	graphic display (128 x 64 Pixel) Colors: black - white or blue - white