

Orbital Welding Power Supply CompactOne

Operation Manual



Table of contents

Table of contents.....	2
1. General Instructions	4
2. Safety Instructions.....	5
3. The Home Screen	6
4. Creating a new welding program	8
5. Changing the welding parameters	14
5.1 Changing the main parameters	14
5.1.1 Changing the current by percentage.....	14
5.1.2 Changing the current manually	17
5.1.3 Changing the pulse times	19
5.1.4 Changing the motor rotation speed	21
5.1.5 Changing the wire speed	23
5.1.6 Changing the number of grades by sector	24
5.2 Changing the frame parameters	26
5.2.1 Changing the pre-purge time	26
5.2.2 Changing the puddle building time	29
5.2.3 Changing the down slope time.....	32
5.2.4 Changing the post-purge time.....	35
5.2.5 Changing the rewind/return to home	38
5.3 Changing wire parameters	44
5.3.1 Wire activation/deactivation.....	44
5.3.2 Changing wire delay	48
5.3.3 Changing wire retraction.....	52
5.3.4 Changing early wire stop	56
5.3.5 Changing wire speed by percentage	60
5.4 Changing AVC (Arc Voltage Control)	64
5.4.1 AVC activation/deactivation.....	64
5.4.2 Changing AVC electrode gap	67
5.4.3 Changing AVC sensitivity	71
5.4.4 Changing AVC retraction	75
5.4.5 Changing AVC vertical gap.....	79

5.5	Changing OSC (Oscillation)	83
5.5.1	OSC activation/deactivation	83
5.5.2	Changing OSC oscillation speed.....	87
5.5.3	Changing OSC travel distance.....	91
5.5.4	Changing OSC border dwell time.....	95
5.5.5	Changing OSC border distance	99
5.5.6	OSC automatic teaching activation/deactivation.....	104
5.5.7	OSC Synchronization activation/deactivation	111
5.6	Changing tack weld.....	115
5.6.1	Tack weld activation/deactivation	115
5.6.2	Changing the number of tack welds.....	118
5.6.3	Changing the amperage of the tack welds	122
5.6.4	Changing the tacking time.....	126
5.6.5	Changing the post-purge time.....	130
6.	Documentation.....	135
6.1	Call up / set Documentation.....	135
6.2	Report view	136
6.3	View / set Comments	136
6.3.1	Edit Comments	137
6.3.2	Set / reset templates and logo	138
6.4	View / edit documentation list.....	139
6.4.1	Sort / search the documentation list.....	140
6.4.2	Filter / search the documentation list.....	141
6.4.3	Copy documentation list	142
6.4.4	Print documentation list.....	143
6.5	Documentation list editing functions.....	144
6.6	Documentation counter	145
6.6.1	Internal counter.....	145
6.6.2	Freely adjustable counter.....	146
7.	Service/Customer Support	147

1. General Instructions

This manual will guide you through all steps of the programming of the CompactOne.

The machine has a touch panel. All menu buttons can be controlled with the tip of your fingers.

The machine software includes "online help".

If you press a menu button and hold it down for 2 seconds, a chapter appears in the online help menu with a description of the button you pressed.

Manufacturer of the CompactOne:

ORBITALSERVICE GmbH
Kreuzdelle 13
63872 Heimbuchenthal
Germany

Tel.: +49-(0)6092 822 94-0

Fax: +49-(0)6092 822 94-09








E-Mail: info@orbitalservice.de

Internet: www.orbitalservice.de

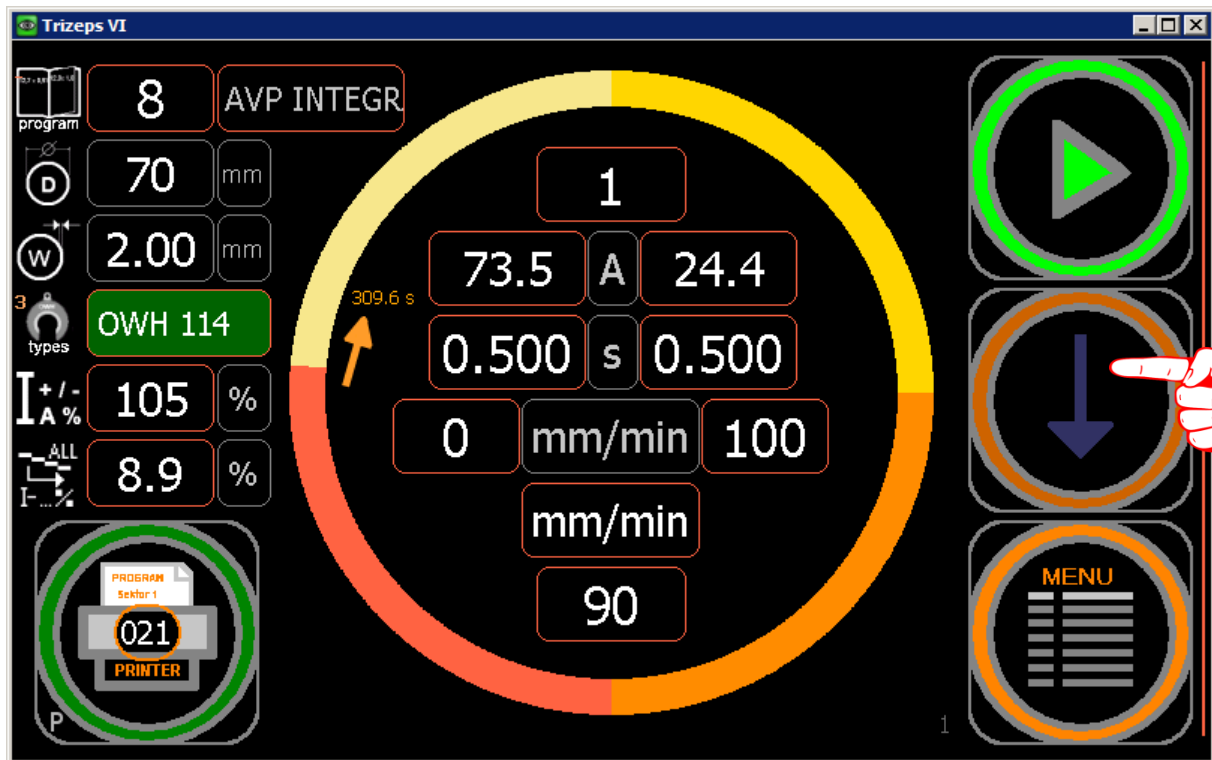
Internet: www.orbitalservice-group.com

2. Safety Instructions

Arc welding may harm you and others. For this reason, when working with arc welding, you shall always observe the existing Safety and Accident Prevention guidelines.

	Warning of dangerous electrical current <ul style="list-style-type: none"> ➤ Install and ground welding equipment in accordance to local standards. ➤ Do not touch live parts or electrodes with bare hands or wet protective equipment. ➤ The workplace must be safe.
	Warning of fire hazard <ul style="list-style-type: none"> ➤ Welding beads can ignite a fire. ➤ Do not store any flammable objects in the workplace. ➤ Also any soiling is often flammable. ➤ Before welding, remove all combustible cleaning materials.
	Warning of optical radiation <ul style="list-style-type: none"> ➤ Protect eyes and body parts. Use suitable protective helmet with filter insert and wear protective clothing. ➤ Adjacent personnel must be protected by protective curtains or walls.
	Warning of harmful smoke and gases <ul style="list-style-type: none"> ➤ Face must be turned away from the welding smoke. ➤ If necessary, exhaust systems should be used.
	Warning of explosion risk with hydrogen containing gases <ul style="list-style-type: none"> ➤ When using forming gases or gases with hydrogen content, utmost caution must be observed. These gases are flammable. ➤ Please observe the instructions of the relevant safety data sheets. ➤ Before switching on the system, make sure that no solvents are in the atmosphere, e.g. in painting plants.
	Warning of high temperature <ul style="list-style-type: none"> ➤ During welding, some weld head parts may get hot (e.g.: side walls)
	General information! <ul style="list-style-type: none"> ➤ Observe the safety regulations for welding works in tight areas as well in closed containers.

3. The Home Screen



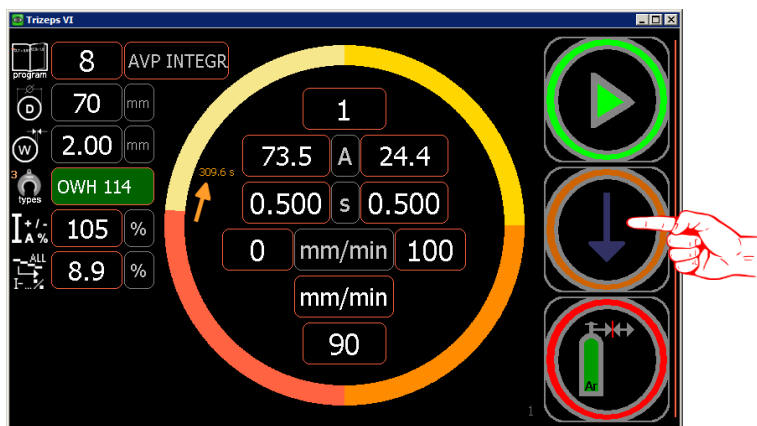
The Home Screen appears after switching on the unit

The same shows the last programmed or executed welding program.

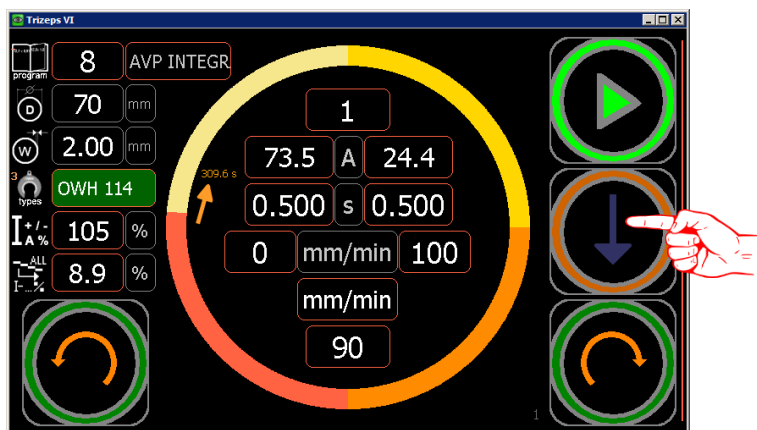
With the right middle button "arrow" you can move between the different menu panels:



Home screen Menu field 1:

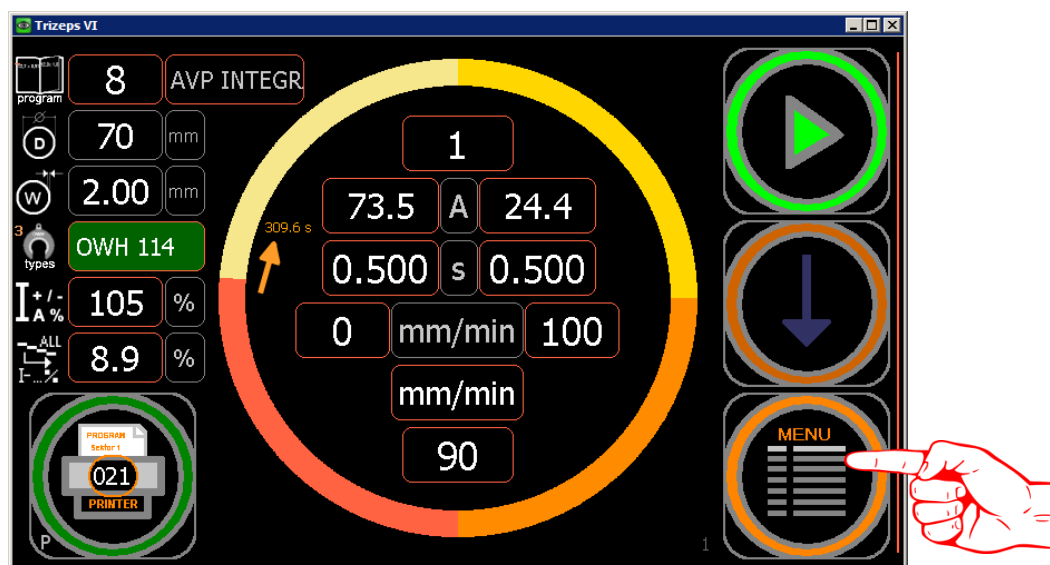


Home screen Menu field 2:

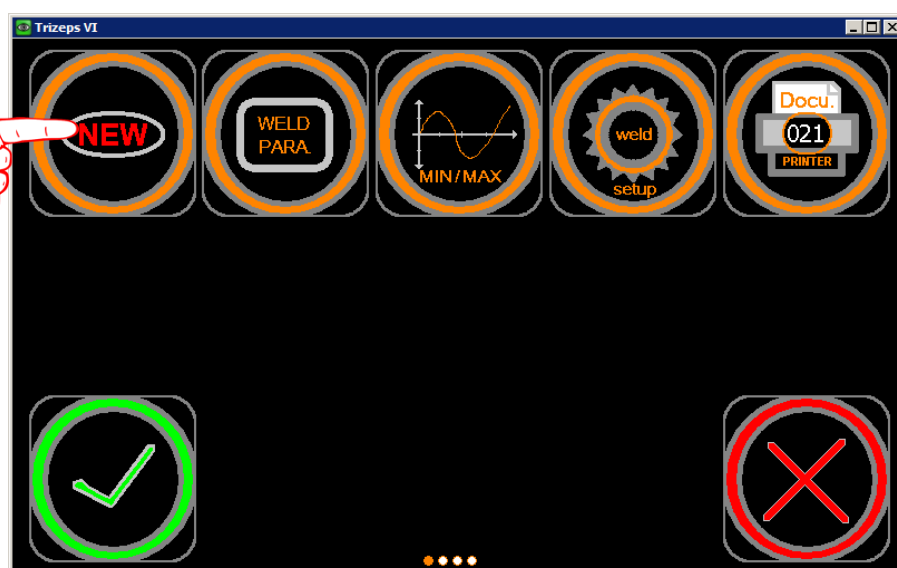


Home screen Menu field 3:

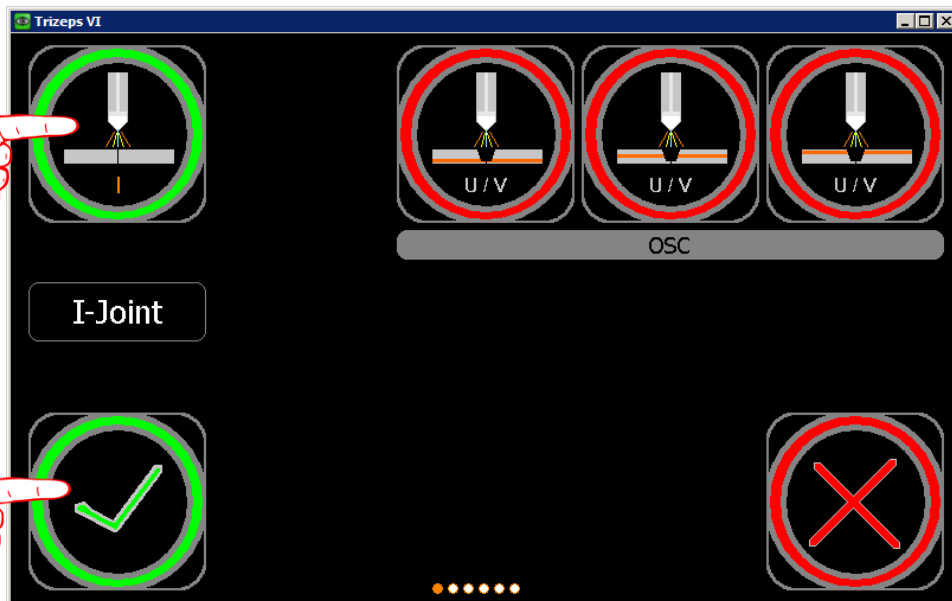
4. Creating a new welding program



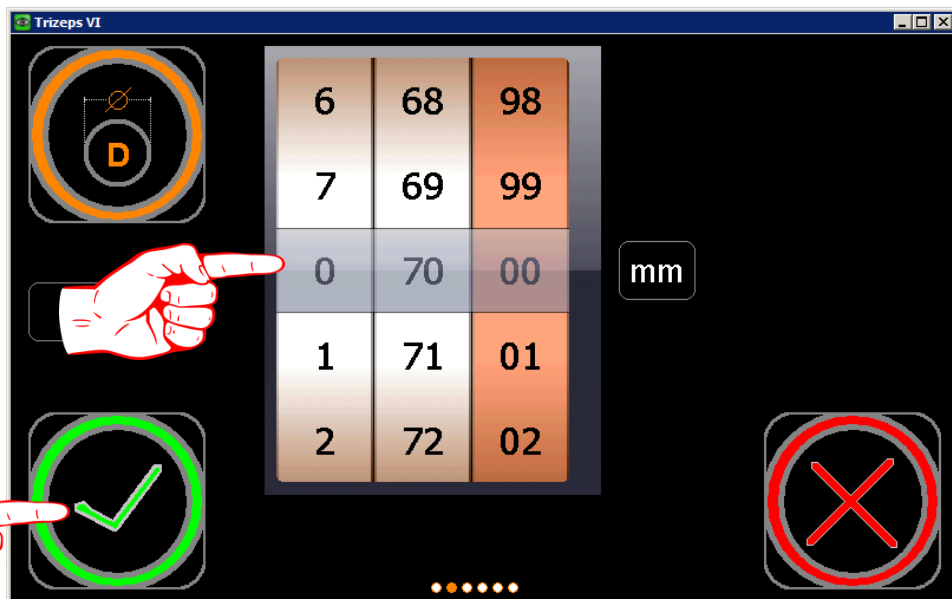
On the Home Screen, push the "Menu" button



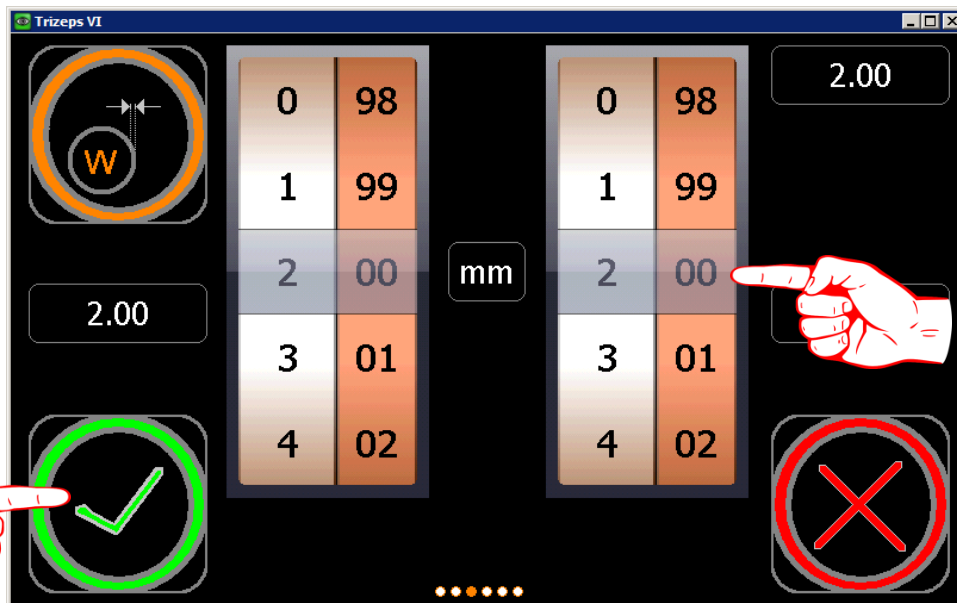
Press Button "NEW"



Confirm with the "green check"



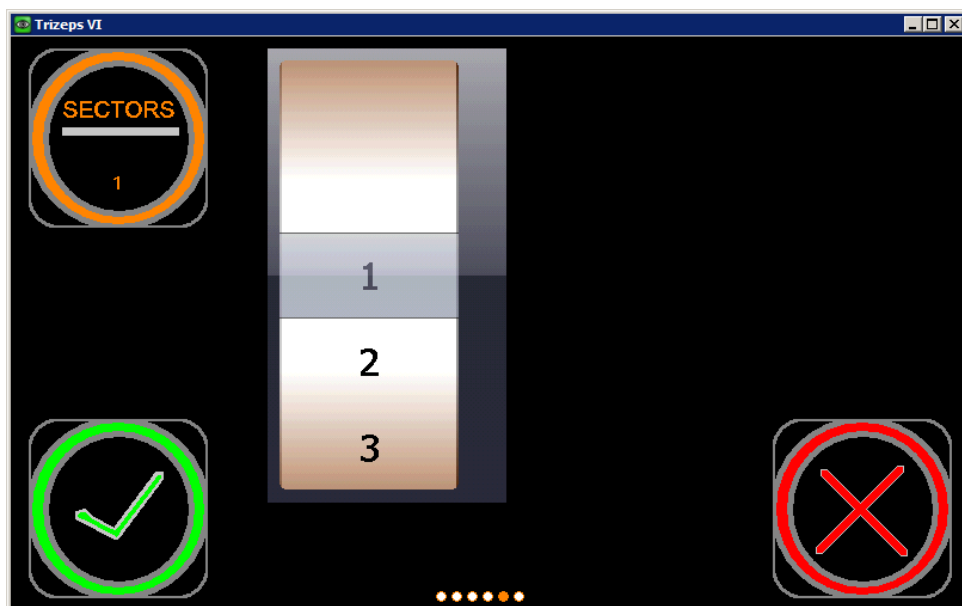
Set outside diameter of tube with the scrolling wheels, then press the "green check"



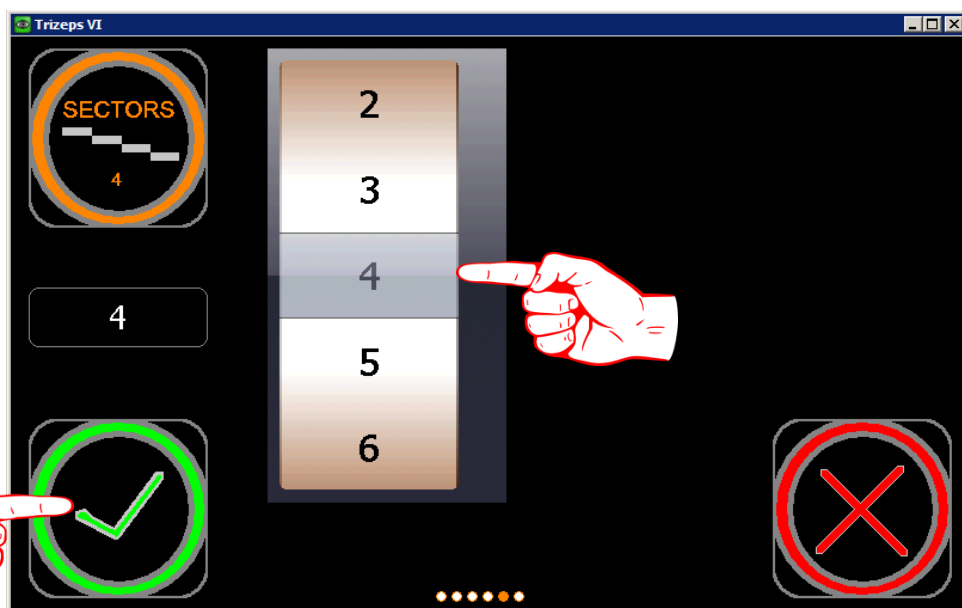
Set wall thickness with the scrolling wheels. Setting wall thickness of work piece 1 duplicates itself automatically to wall thickness of work piece 2, if no different wall thickness is entered. In this case, the basis for calculating the weld current is the mean value of the two wall thicknesses. Continue with the "green check"



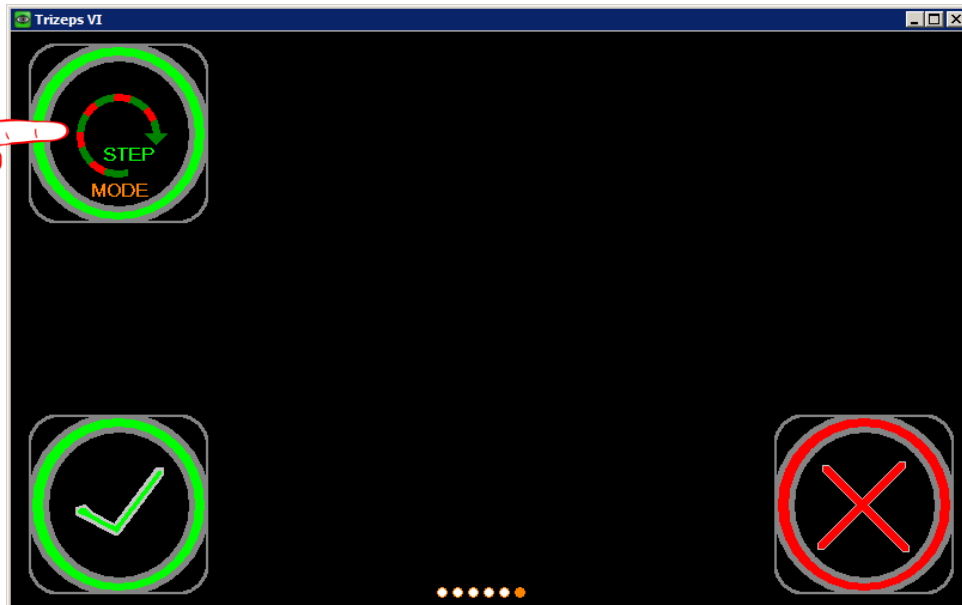
Selection of the weld head with the scrolling wheels. Information of the parameters of the weld head appear on the upper right corner. If the weld head selected cannot cover the desired tube diameter, "Error Dmax" shows up in the parameters, the parameter field turns **red** and the weld head cannot be selected. Gas or water cooling is separately selectable. Continue with the "green check".



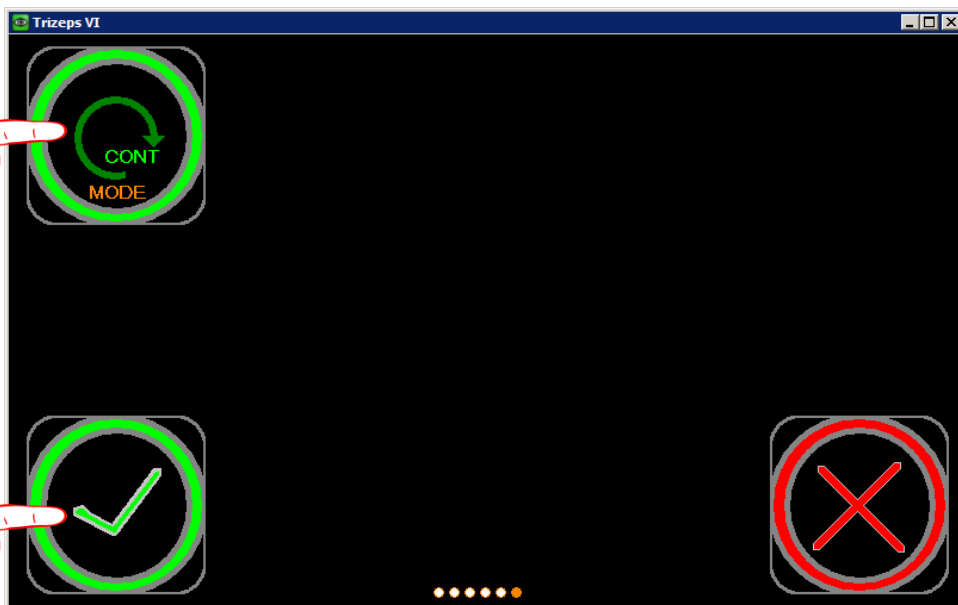
Submenu opened



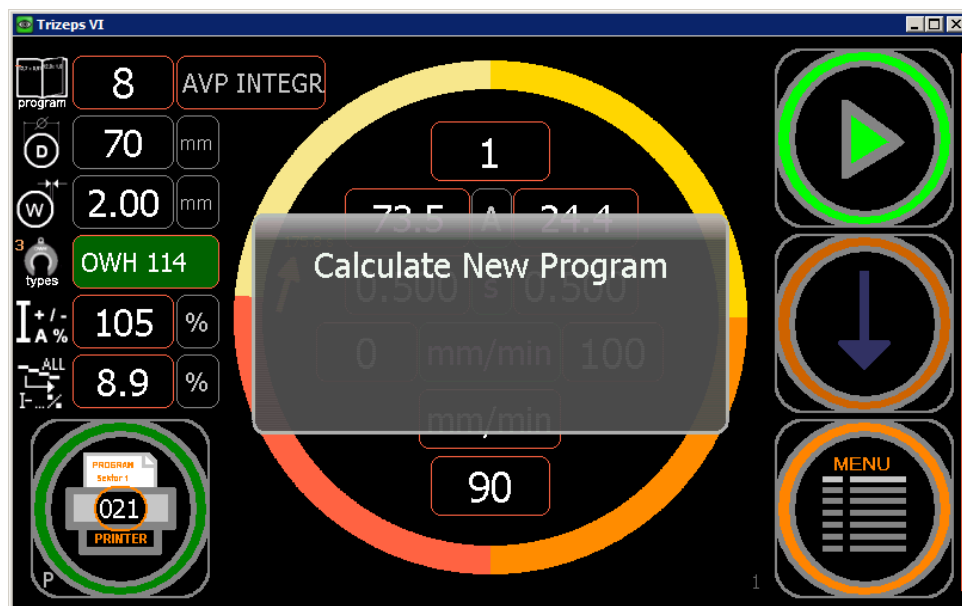
Choose the number of sectors with the scrolling wheel. 4 sectors are recommend, confirm with the "green check".



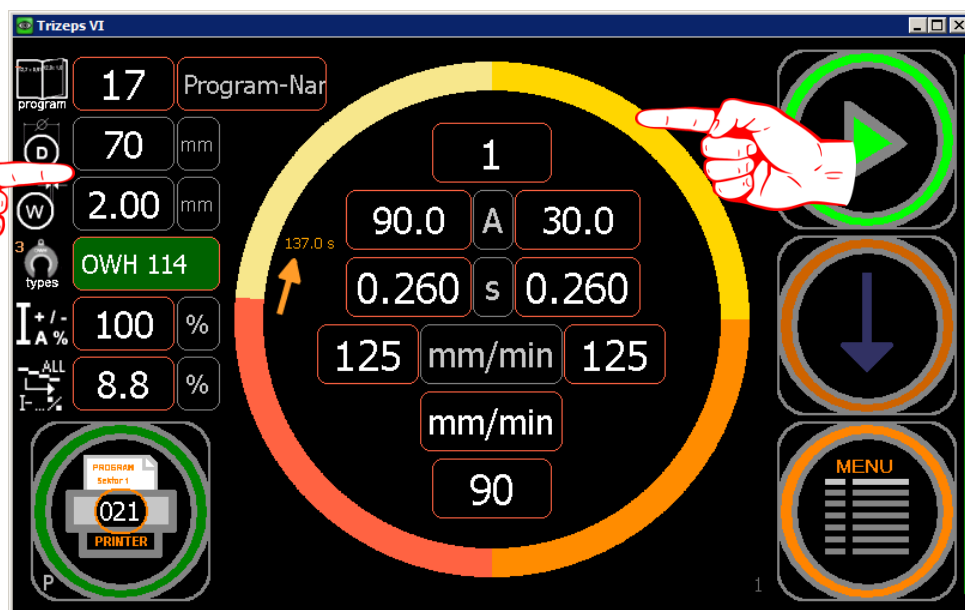
We recommend continuous travel mode (CONT Mode) for smaller diameters (< 2.5 mm). For larger wall thicknesses (> 2.5 mm) we recommend the step mode (STEP Mode). Step mode means the weld head turns only during the basic current phase – it remains still during the high current phase.



Pressing the STEP Mode button changes the rotating mode to CONT Mode (pressing again changes back to STEP Mode), confirm with the "green check".



The welding program is calculated.



Final welding program for outside diameter 70mm, wall thickness 2mm, weld head model OWH114, continuous rotation, 4 sectors (additionally depicted by circle divided in 4-color)

5. Changing the welding parameters

To a large extent (more than 90%) the calculations are usable in practice. Especially with stainless steels, the main application area of the orbital welding technique, the simple operator guidance as well as the practice suitable calculations find very large popularity.

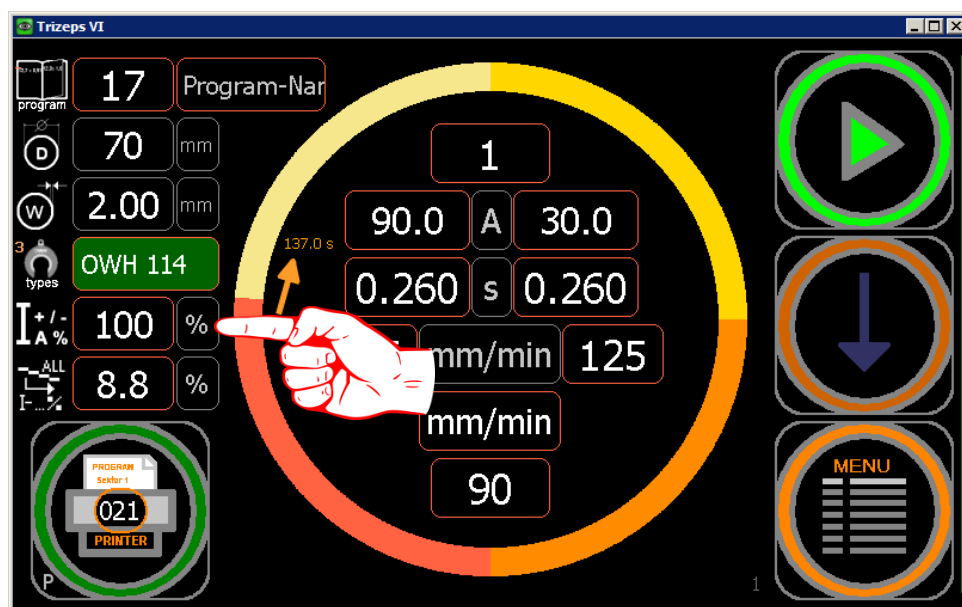
Nevertheless, it will never be avoidable to change main parameters such as currents or frame parameters such as puddle building and purging times.

Hereinafter you will find a detailed explanation and examples.

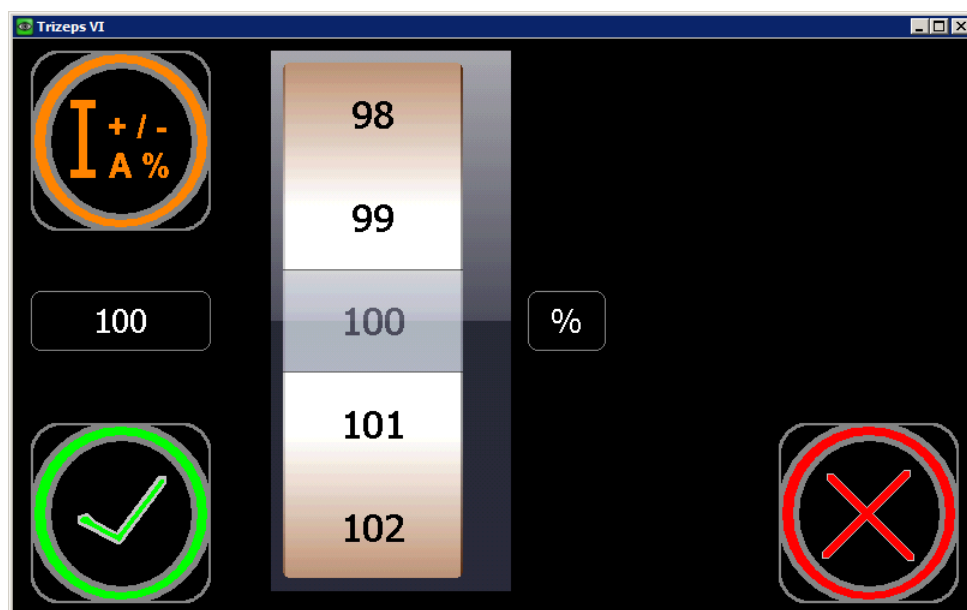
5.1 Changing the main parameters

These changes are made directly in the home screen.

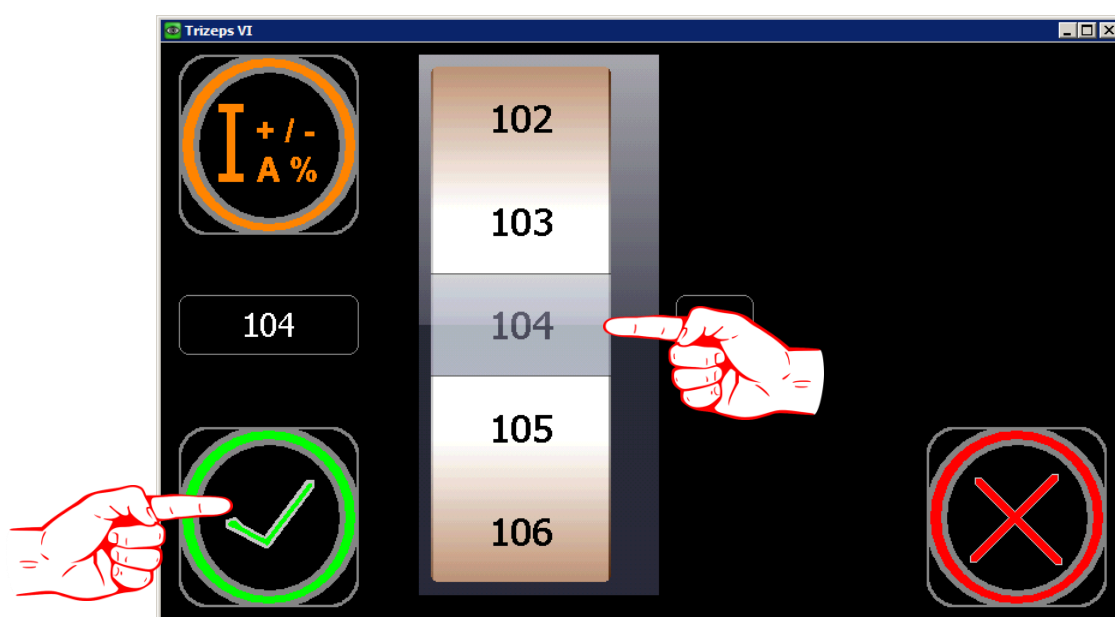
5.1.1 Changing the current by percentage



After a new program has been created, the percentage of the current is always displayed as 100%. Briefly press the number 100 to open the submenu.

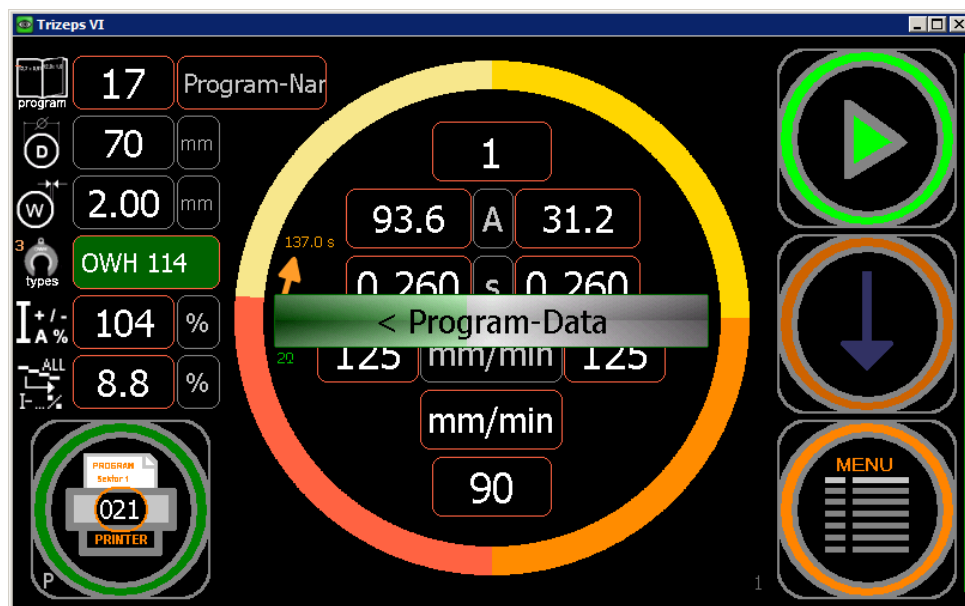


Opened submenu, initial value 100%

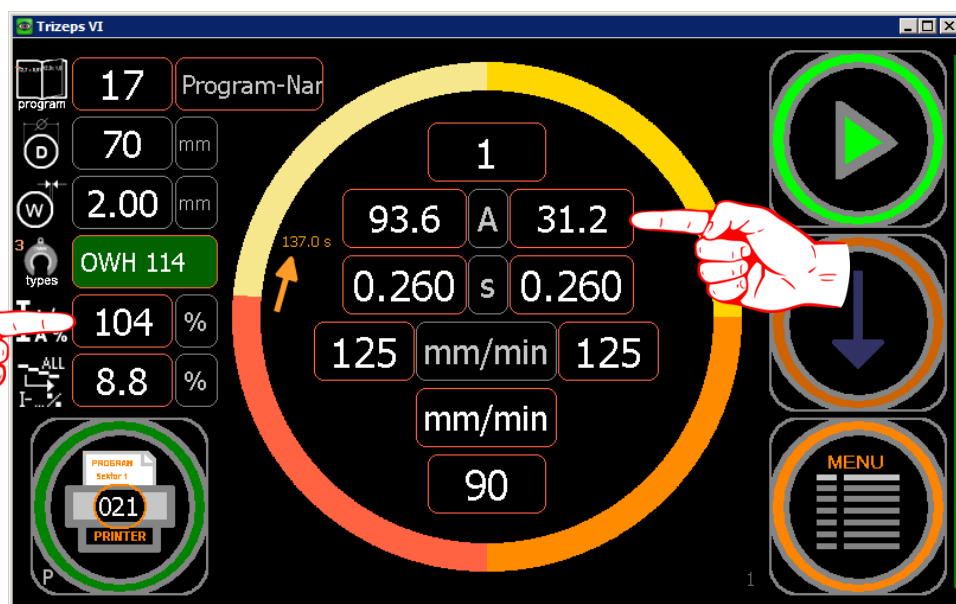


Select the percent power with the scrolling wheels. Change of basic and high current to 104% in all sectors.

Confirm with "green check"

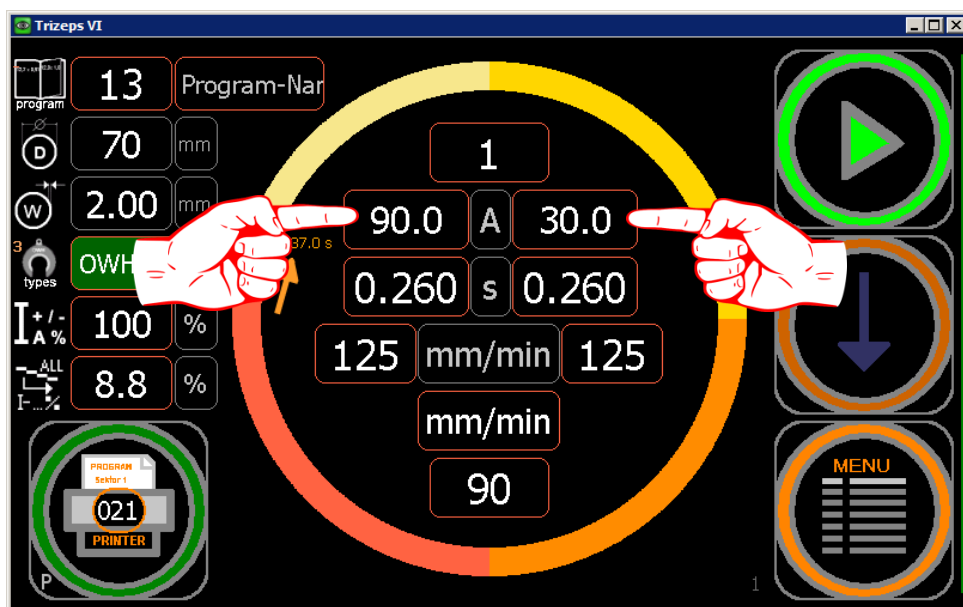


The system accepts the change.

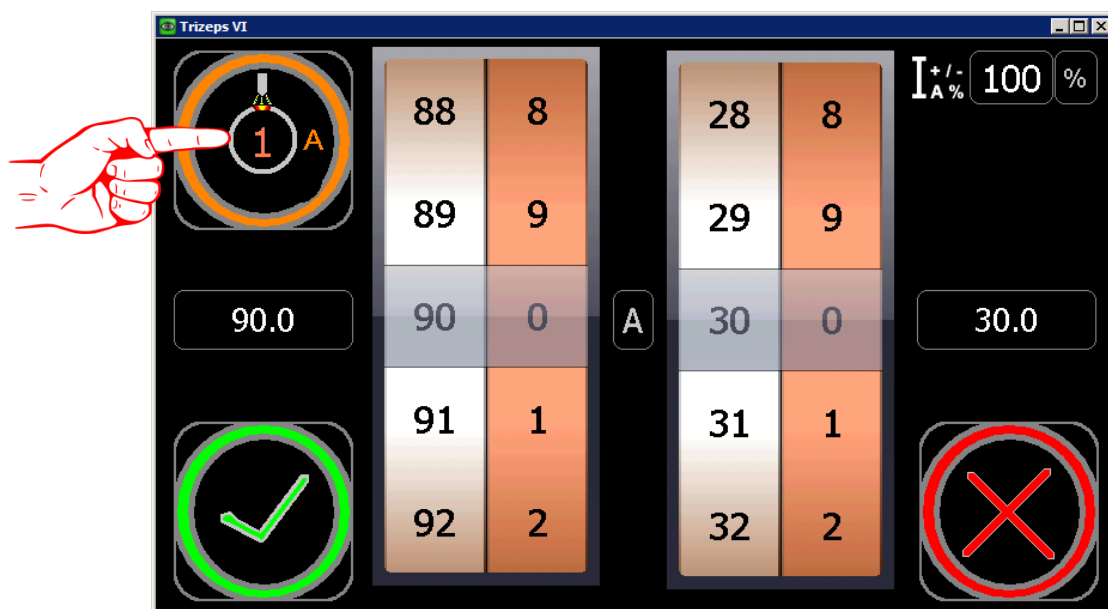


Now we have the increased values in the high and basic current in all sectors, in addition updated percentage figure is shown.

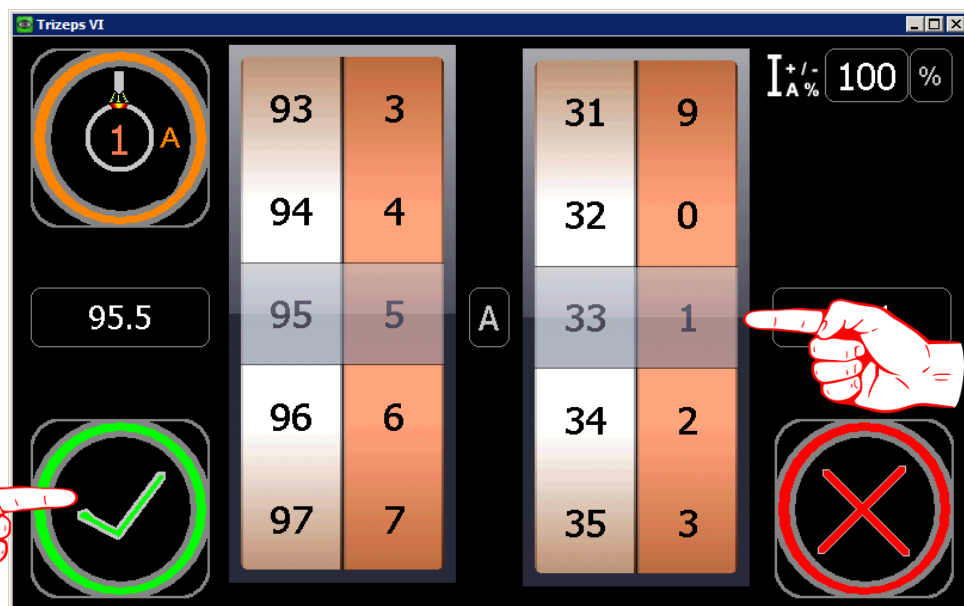
5.1.2 Changing the current manually



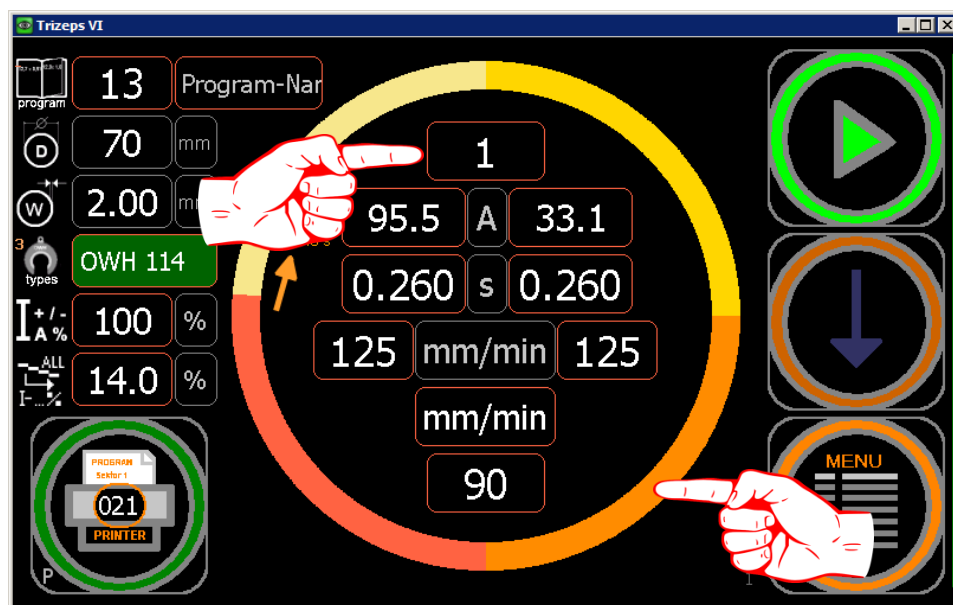
High and basic current values are freely adjustable for each sector. Pressing briefly on the Ampere value opens the submenu.



opened submenu, we are in sector 1

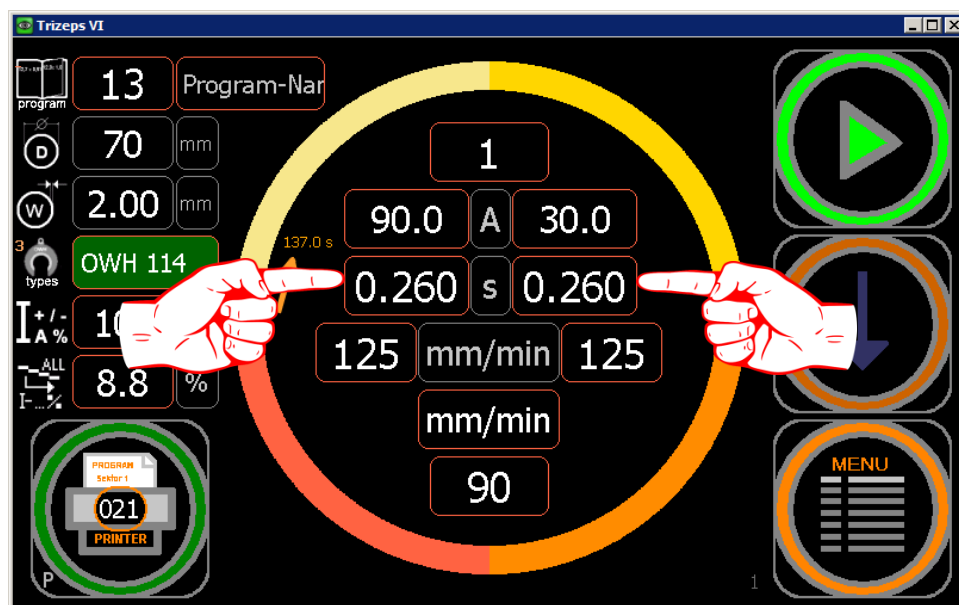


Set the high and base current values with the scrolling wheels.
 Confirm with the "green check"

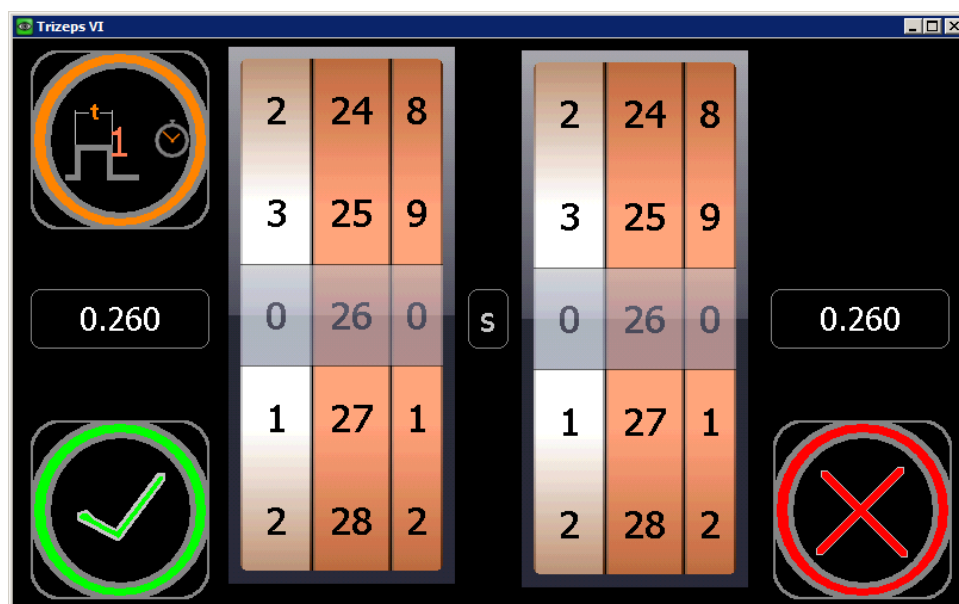


Values have now been adopted for sector 1. Change to the next sector by pressing on a colored circle segment or on the button "sector number"

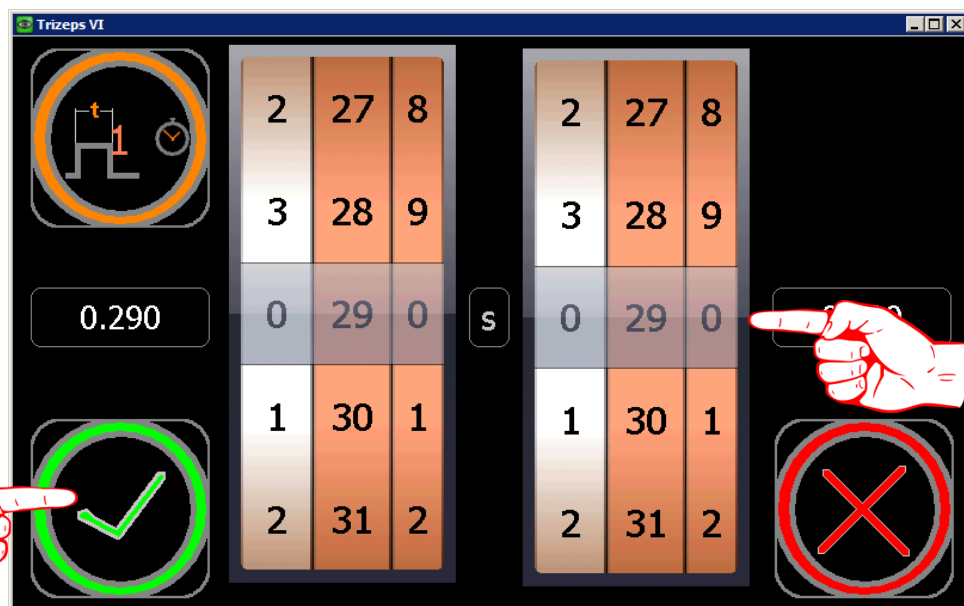
5.1.3 Changing the pulse times



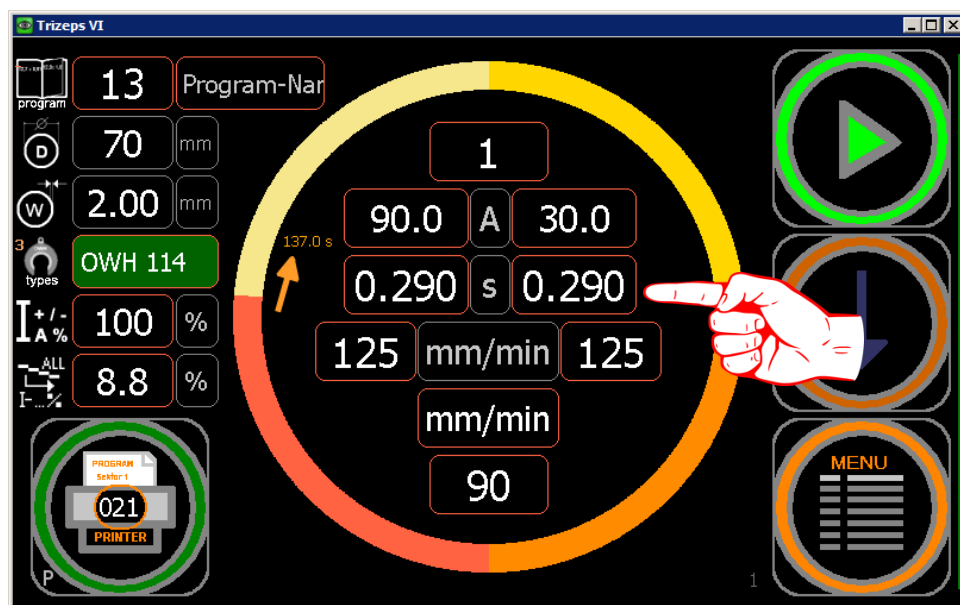
The pulse times for high and basic current are freely adjustable in each sector.
 Usually, they are the same in all sectors.
 Briefly press the Seconds value to open the submenu.



opened submenu

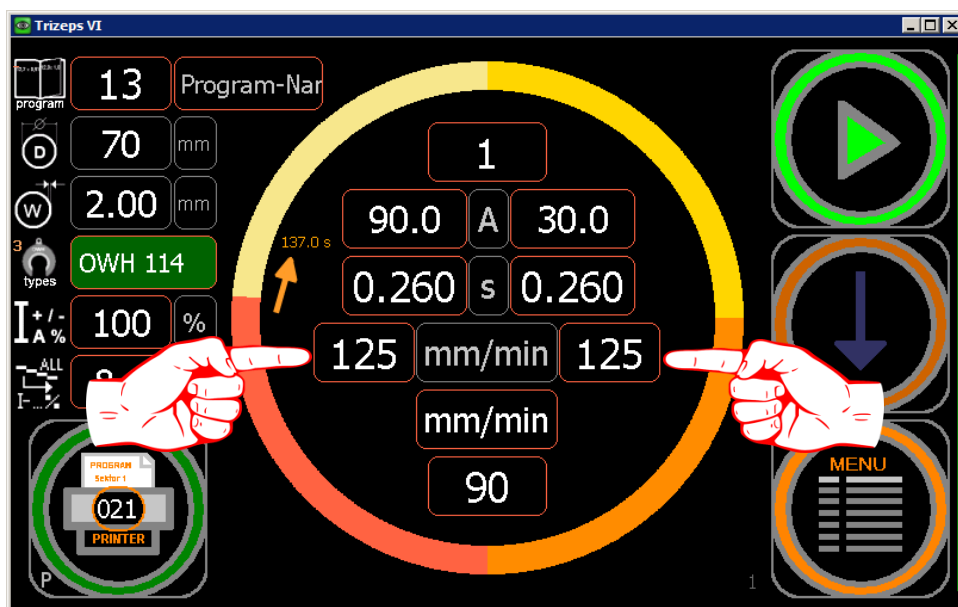


Setting of the pulsing times with the scrolling wheels. Setting of the pulse time in high current is automatically duplicated for the basic current, unless a different basic current time is entered. Confirm with the "green check".



Values have now been adopted for all sectors

5.1.4 Changing the motor rotation speed



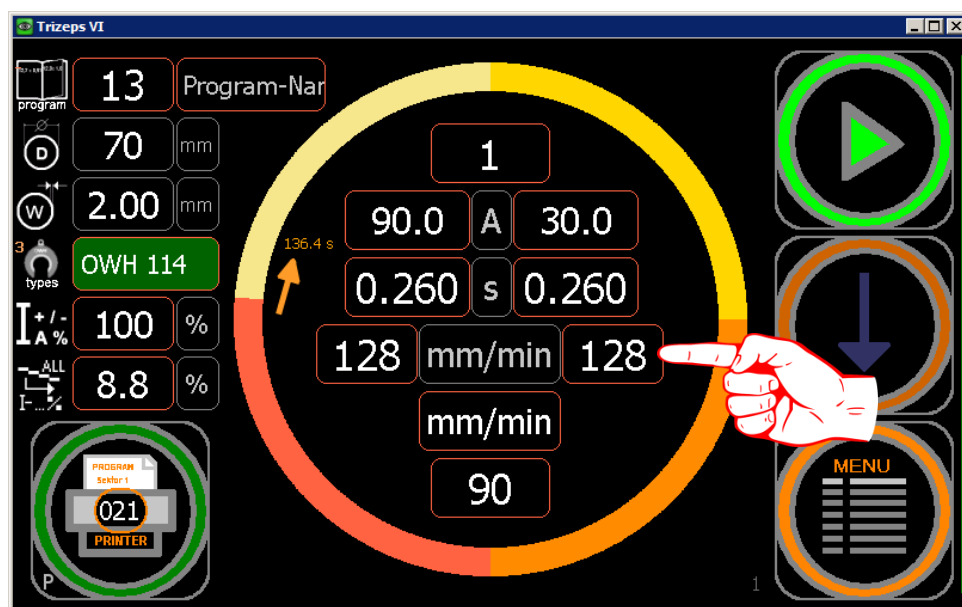
The rotation speed of the motor is freely adjustable in each sector. Usually it is the same in all sectors. Press the numeric value briefly to open the submenu.



opened submenu

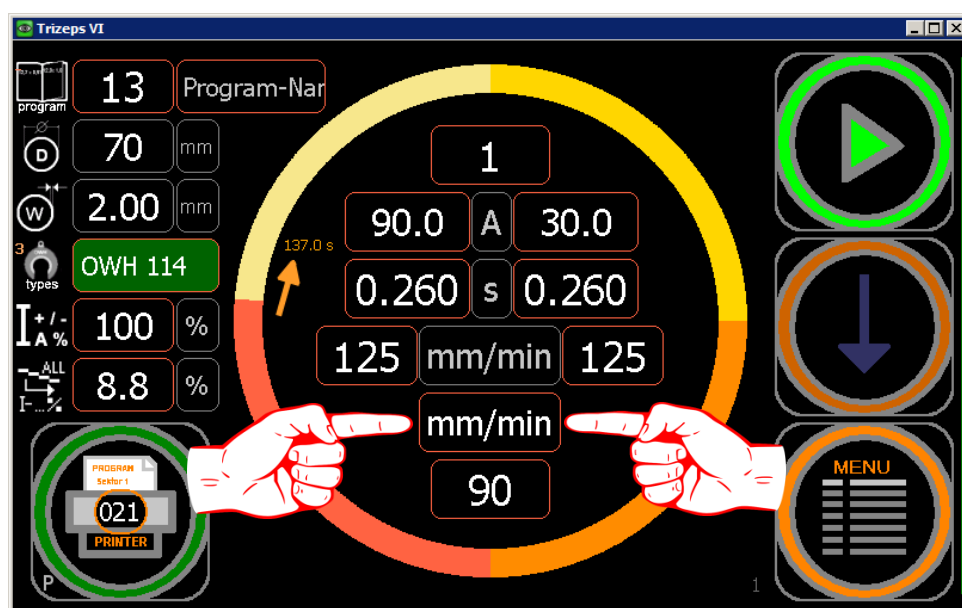


Set the motor speed with the scrolling wheels. Set speed of rotation in high current is automatically duplicated to speed in the basic current if continuous mode (CONT Mode) has been previously selected (see section 4 Creating a new welding program). If step mode (STEP Mode) has been preselected, both values can be set separately. Confirm with the "green check"



Values have now been adopted for all sectors.

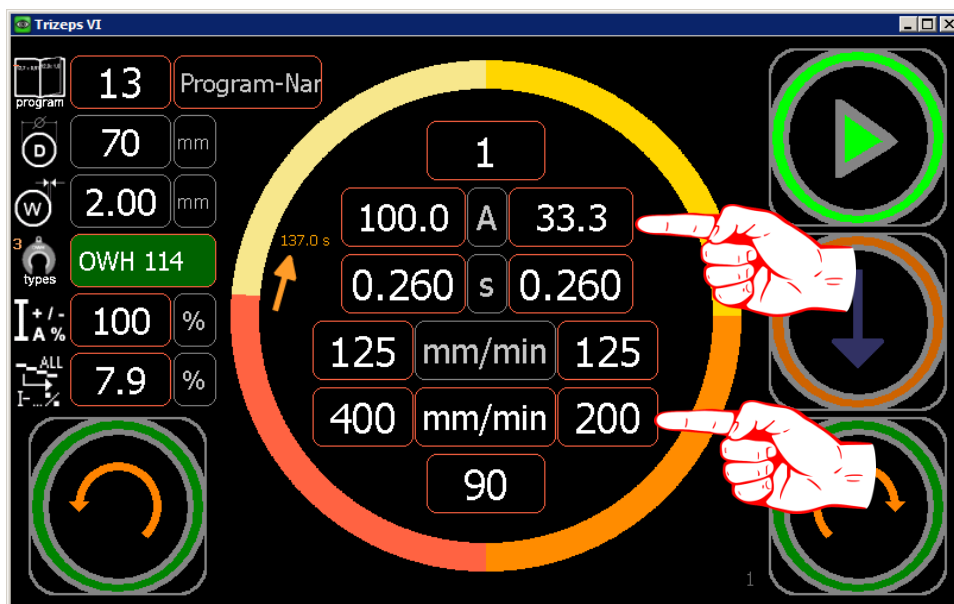
5.1.5 Changing the wire speed



Wire speed is freely adjustable for each sector (only with open weld head models, with closed weld head models this symbol is blocked). By shortly pressing the "mm / min" icon, the program will automatically increase the current levels in all sectors and shows the wire values.

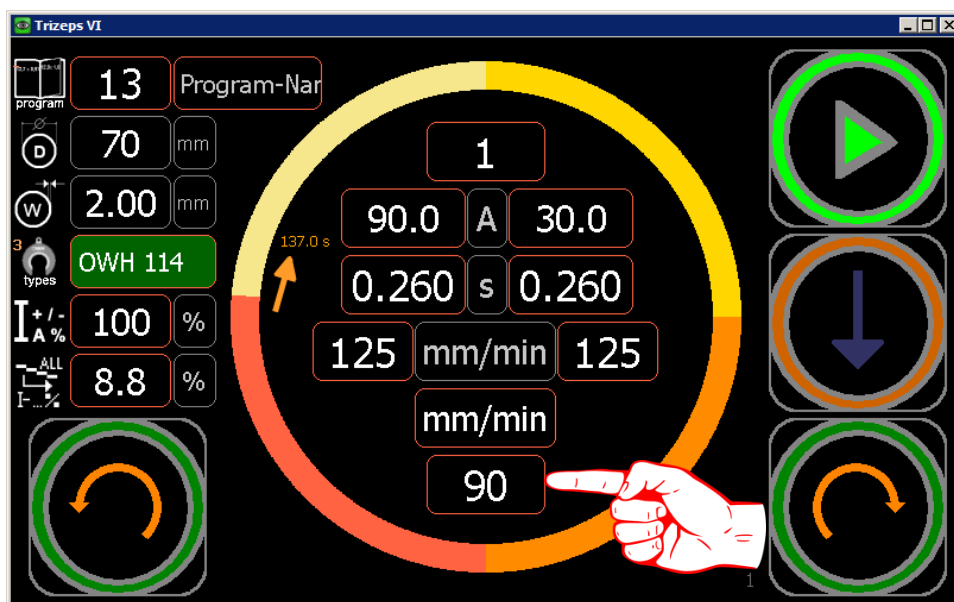


Program takes the wire into consideration by increasing the current.

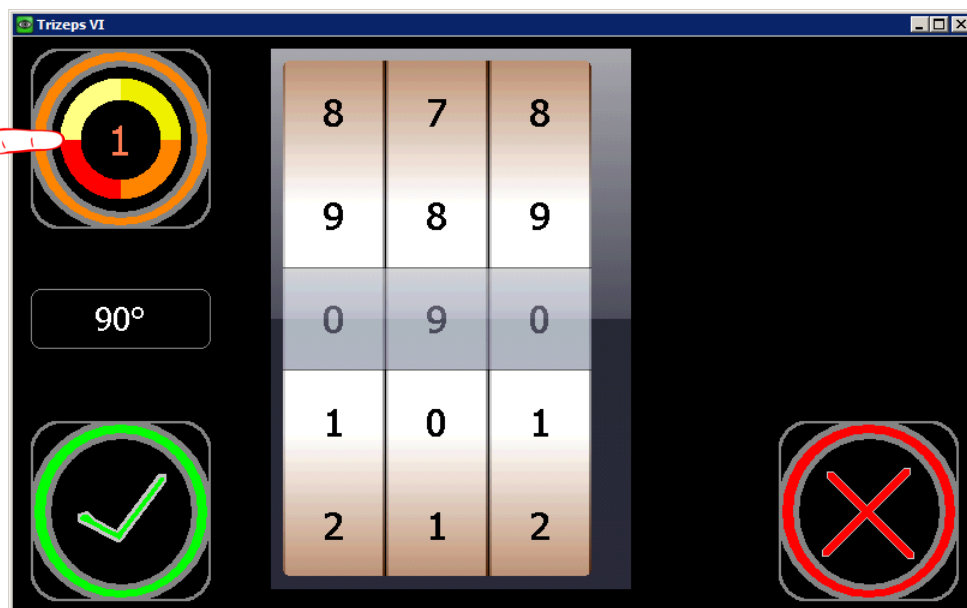


Values for high and base currents were increased in all sectors, wire values are displayed

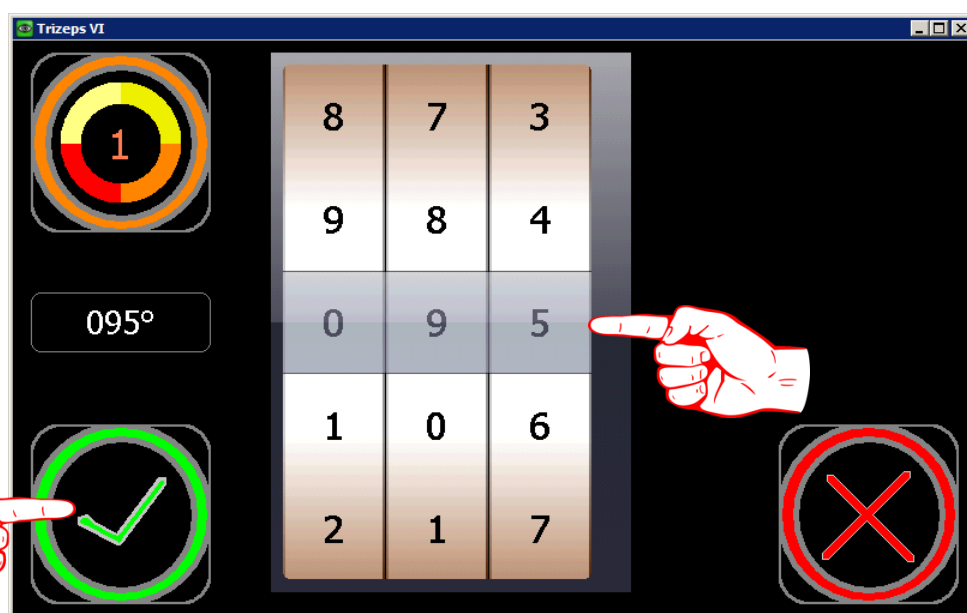
5.1.6 Changing the number of grades by sector



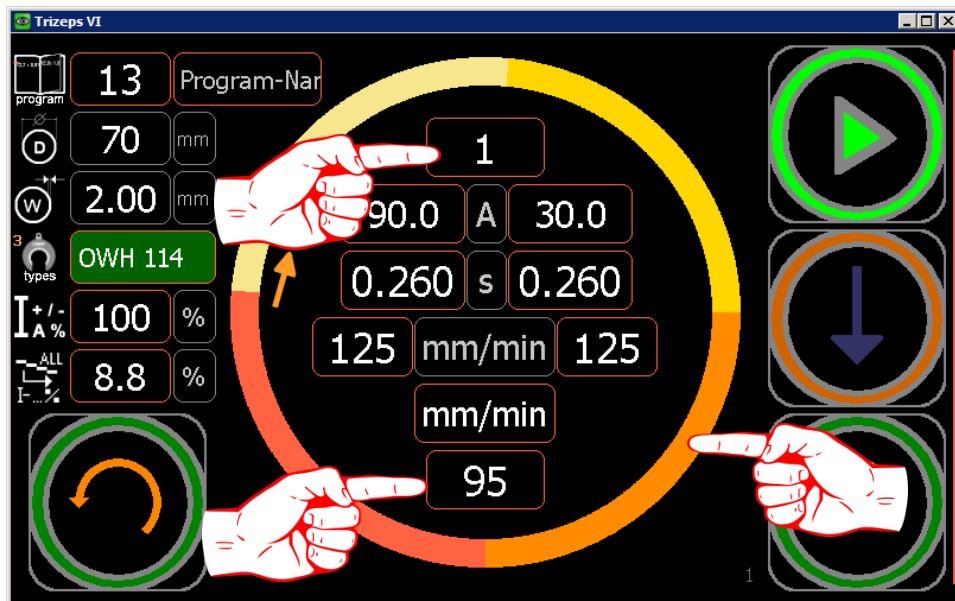
Angular degrees are freely adjustable in each sector. They set the transition from one sector to the other. Press briefly to open the submenu.



opened submenu, we are in sector 1



Set the angle with the scrolling wheels. Confirm with the "green check"



Value has been accepted for sector 1. After reaching the 95° welding position, the program changes into the second sector. Change to the next sector by pressing the colored circle segment or on the button "sector number".

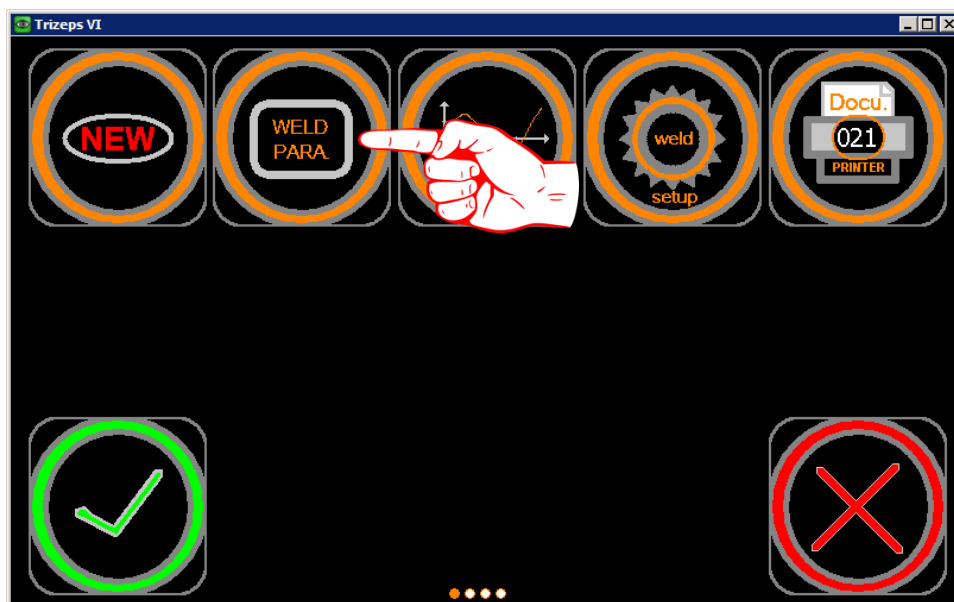
5.2 Changing the frame parameters

These changes are only made in the submenu.

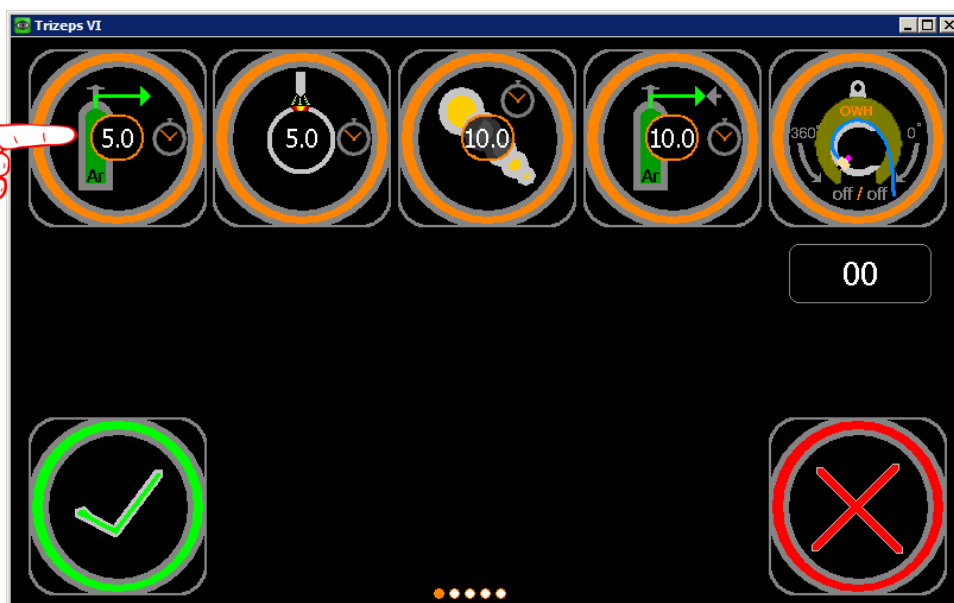
5.2.1 Changing the pre-purge time



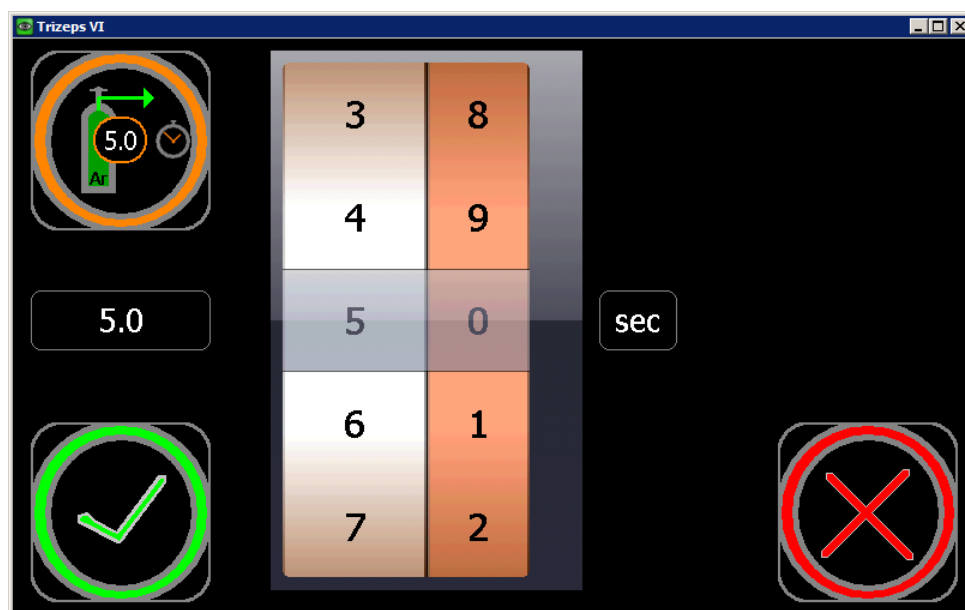
Home screen, press button "MENU"



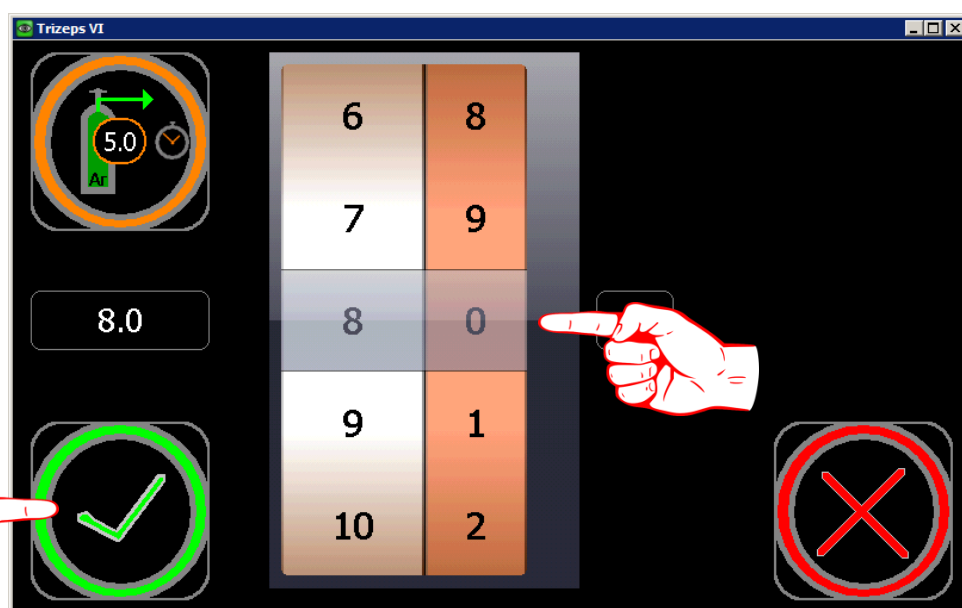
Pressing button "WELD PARA" opens menu field 1 (frame parameters)



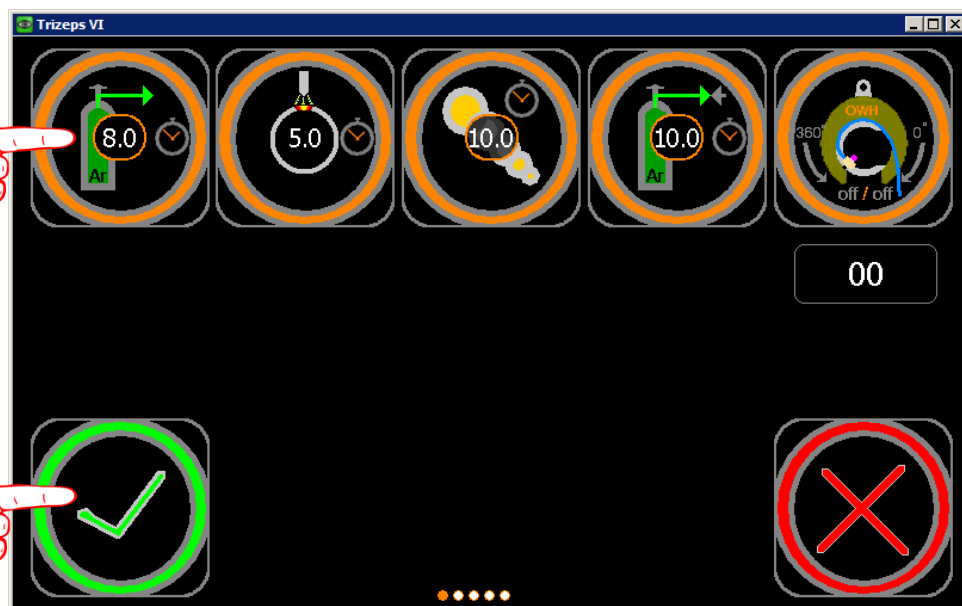
Button Gas pre-flow in seconds. Program suggestion here: before welding process starts, 5 seconds flow of inert gas. Pressing this button opens the submenu.



opened submenu, here program suggestion 5 seconds



Set the gas pre-flow time in seconds with the scrolling wheels.
 Confirm with "green check".

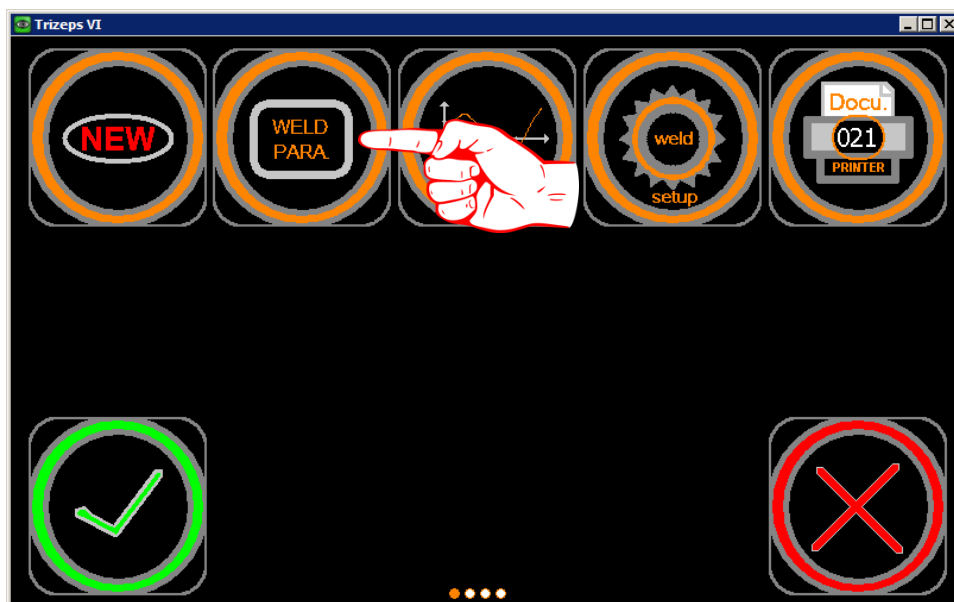


Value is displayed. Confirm with the "green check".

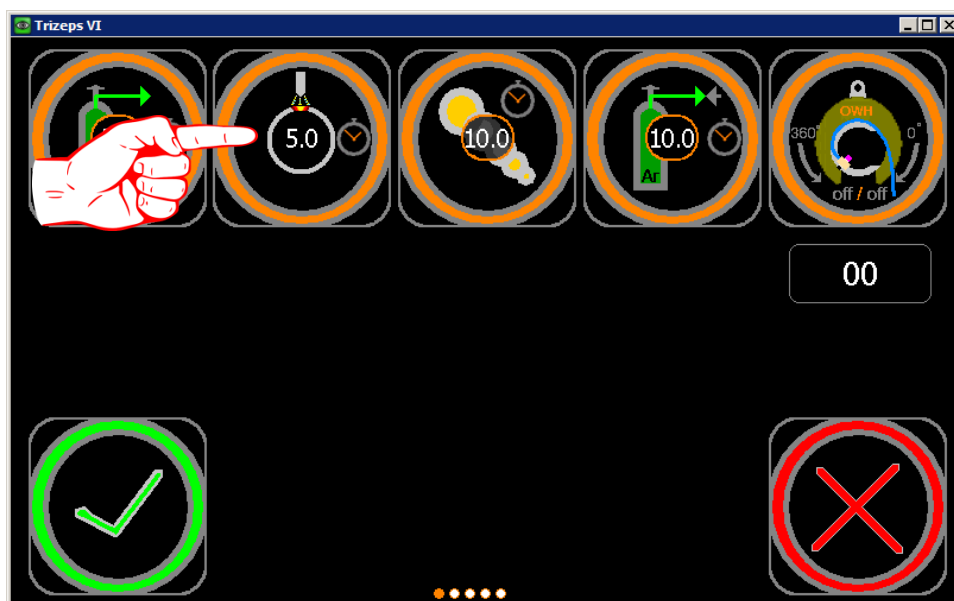
5.2.2 Changing the puddle building time



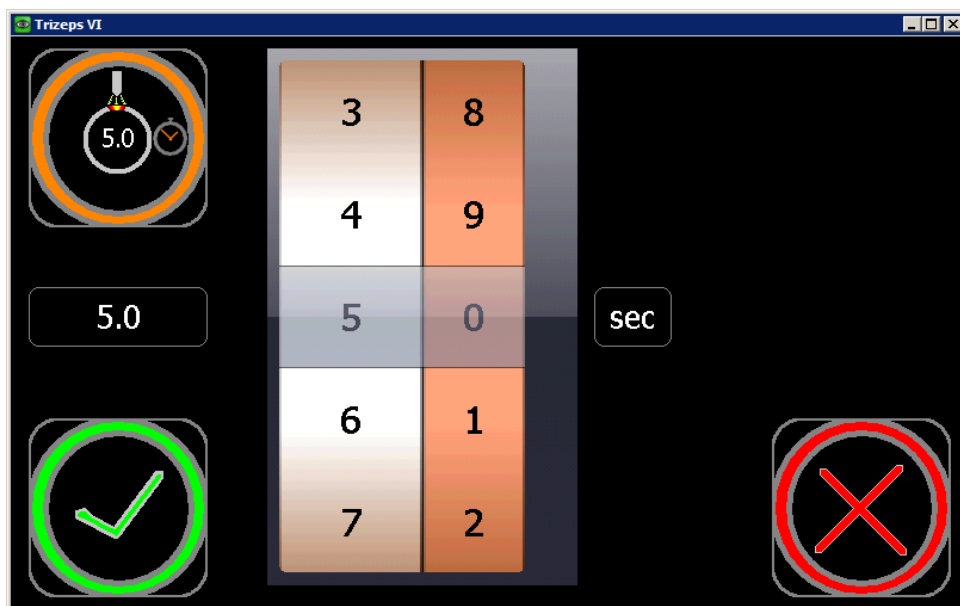
Home screen, press button "MENU"



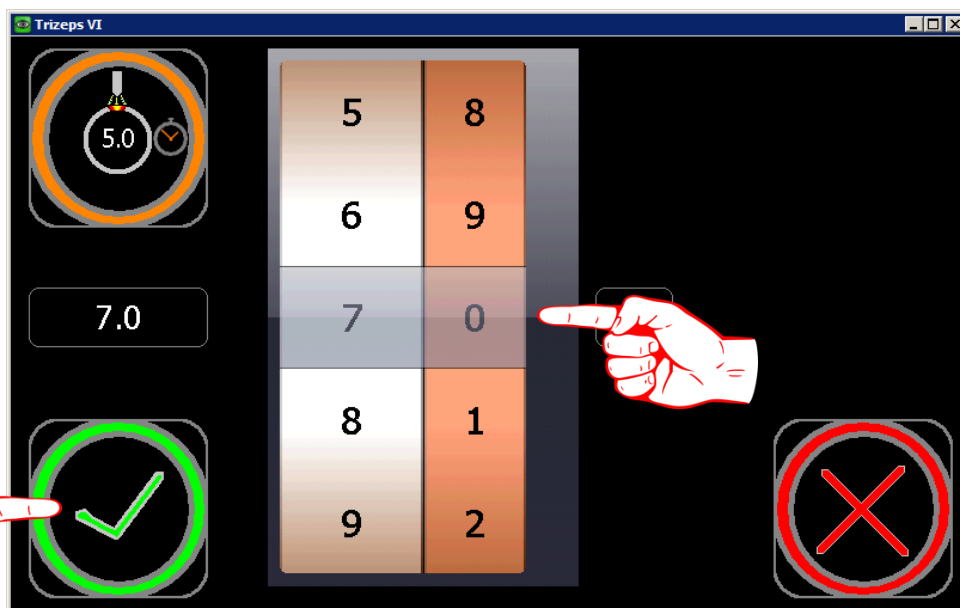
Pressing button "WELD PARA" opens menu field 1 (frame parameters)



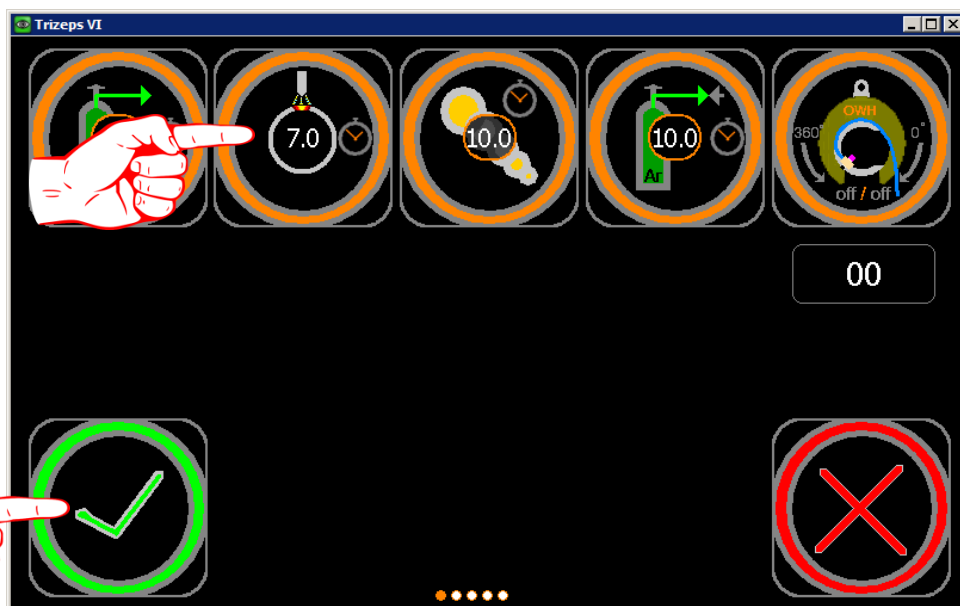
Button Puddle Building Time in seconds. Program suggestion here 5 seconds dwell time of the arc to form the weld puddle at the beginning of the welding process. Pressing this button opens the submenu.



opened submenu, here program suggestion 5 seconds

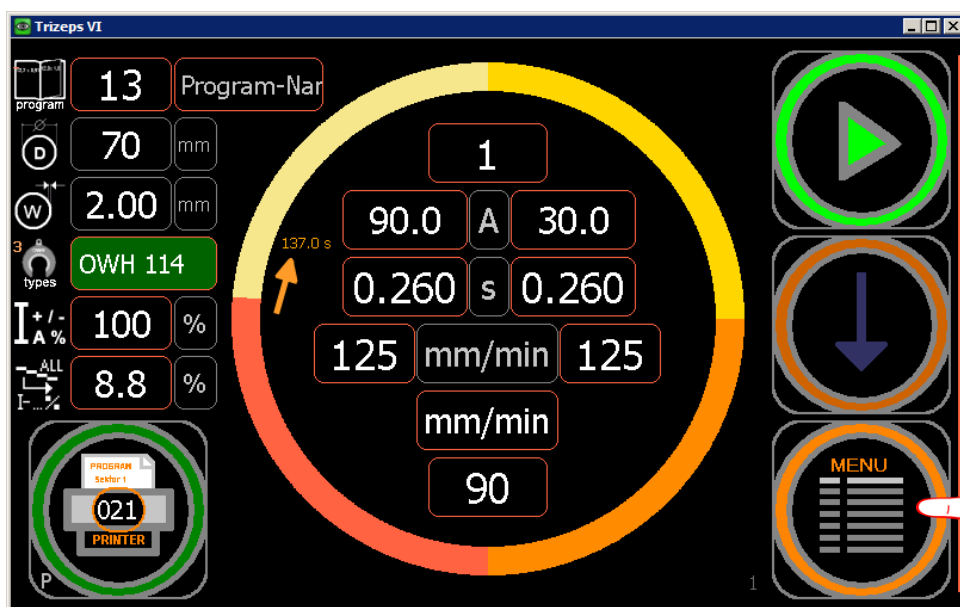


Set the puddle building time in seconds with the scrolling wheels.
Confirm with the "green check"

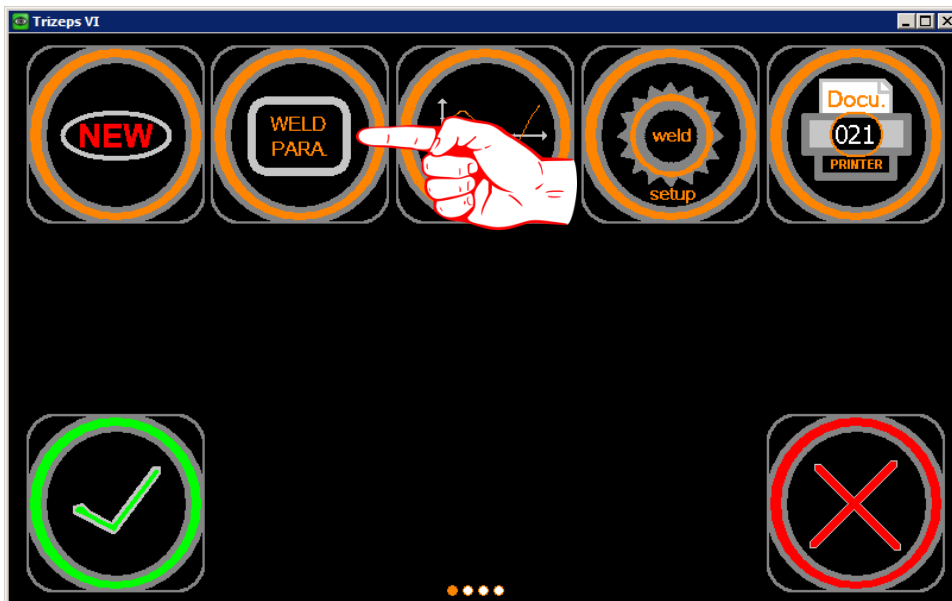


Value is displayed. Confirm with the "green check".

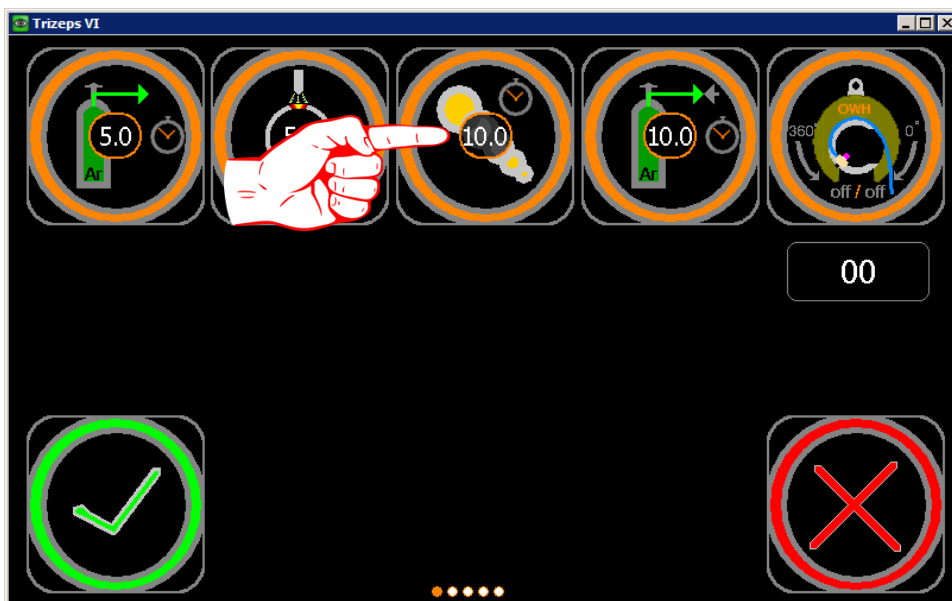
5.2.3 Changing the down slope time



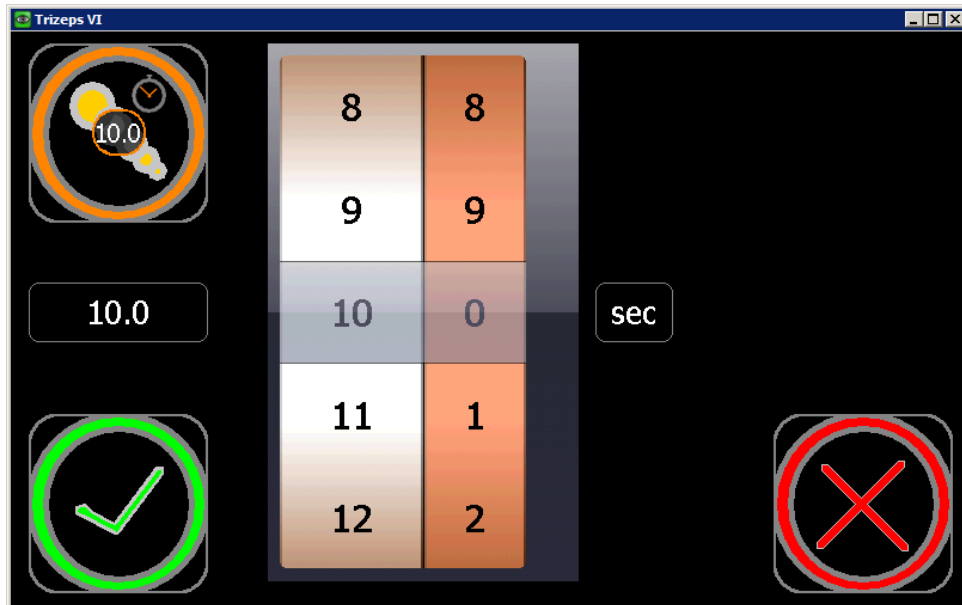
Home screen, press button "MENU"



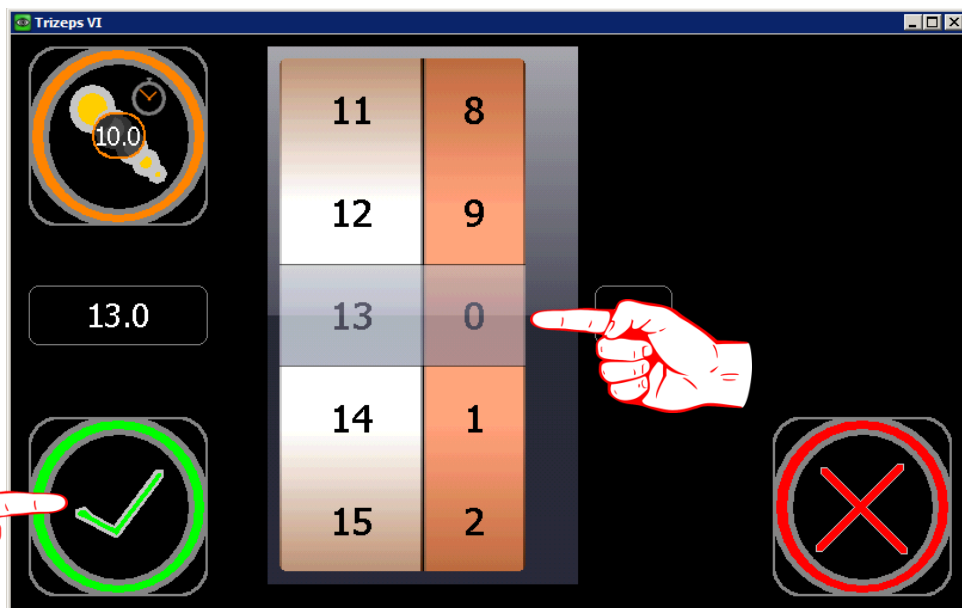
Pressing button "WELD PARA" opens menu field 1 (frame parameters)



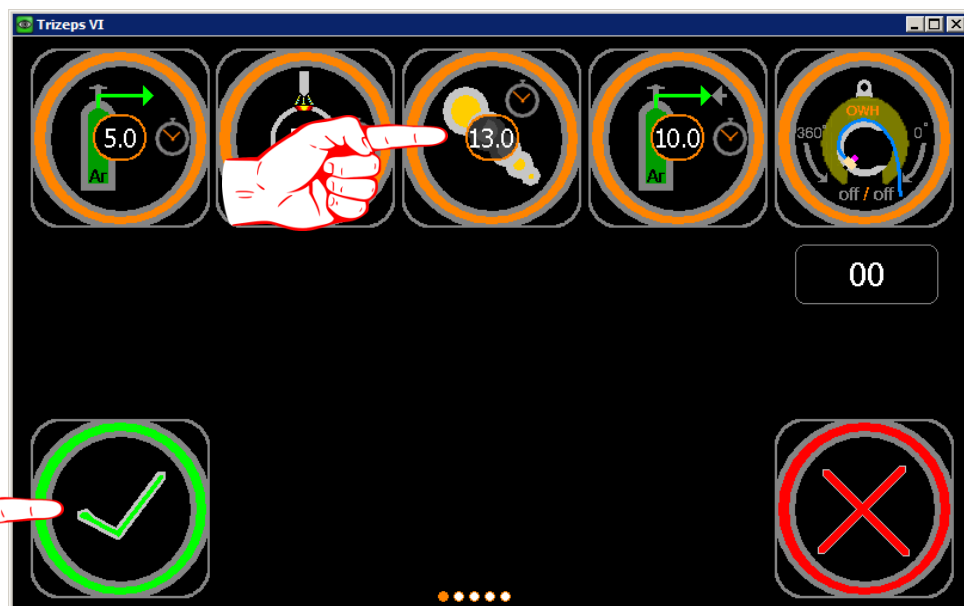
Button down slope time in seconds. Program suggestion here: 10 seconds current reduction at the end of the weld. Pressing the button will open the submenu.



opened submenu, here program suggestion 10 seconds

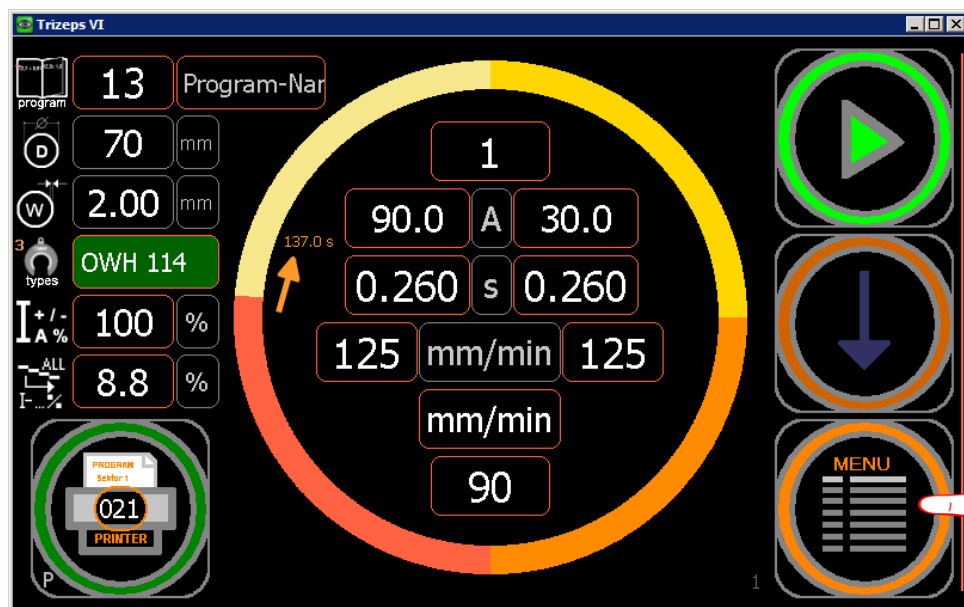


Set the down slope time in seconds with the scrolling wheels.
 Confirm with "green check"

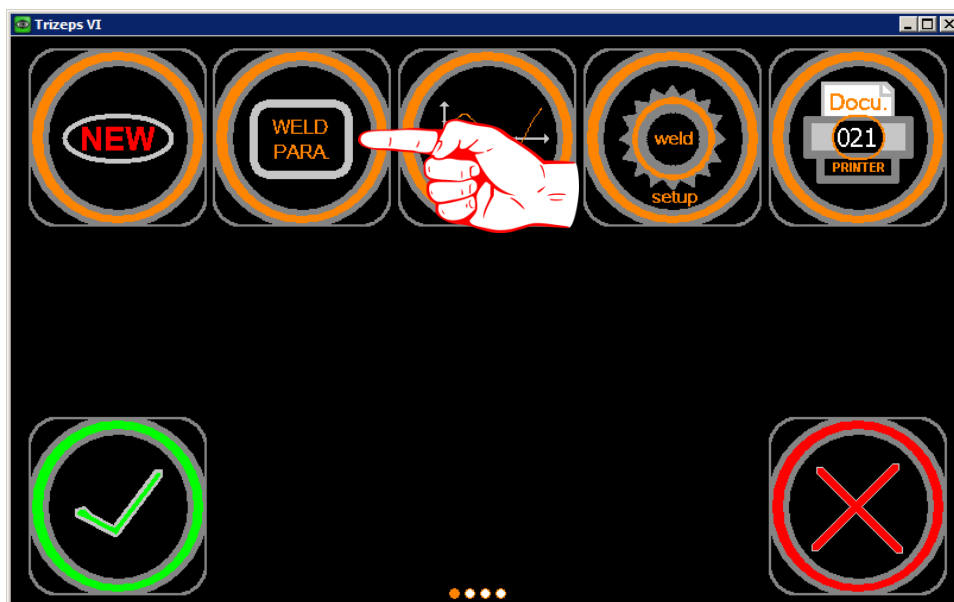


Value is displayed. Confirm with the "green check".

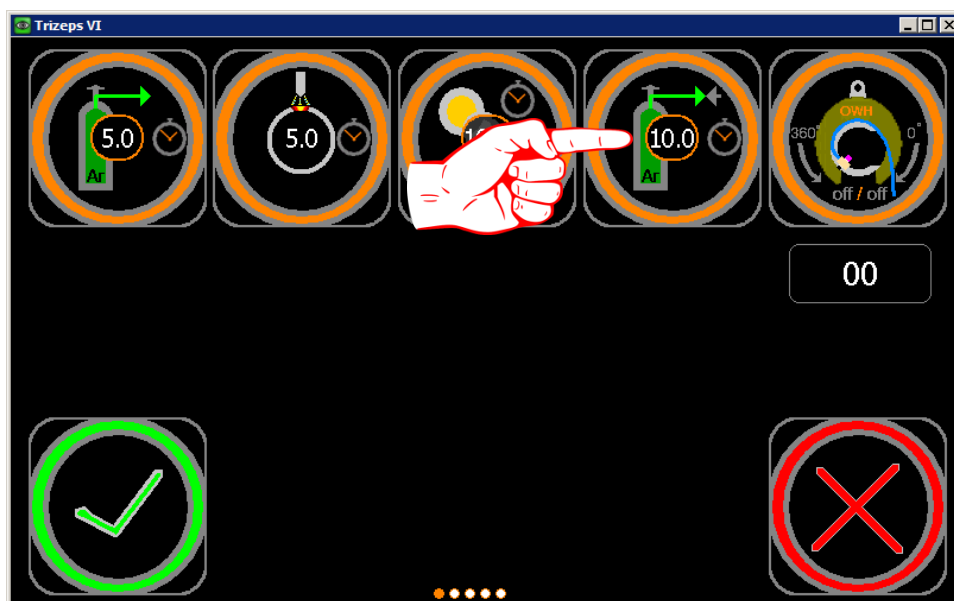
5.2.4 Changing the post-purge time



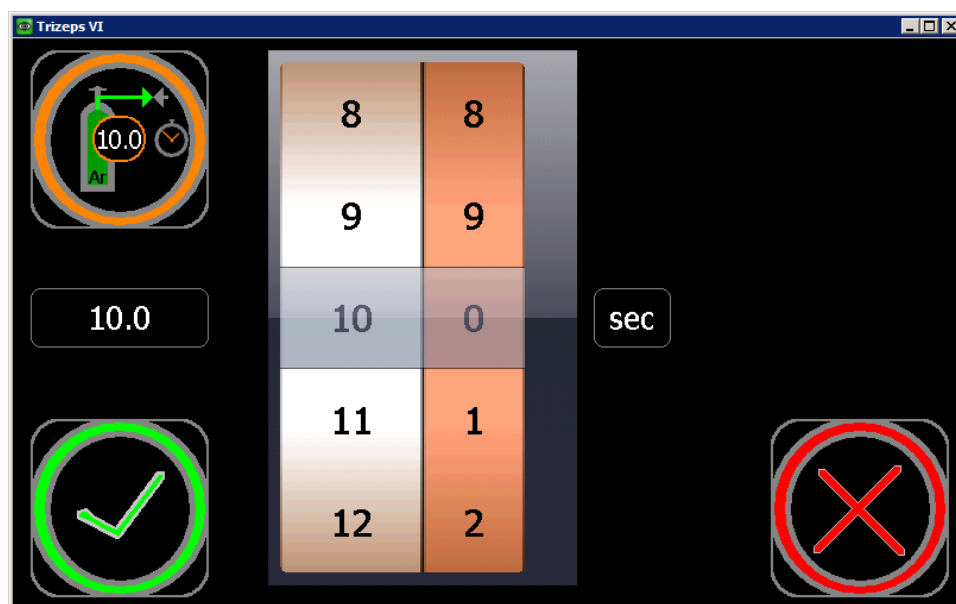
Home screen, press button "MENU"



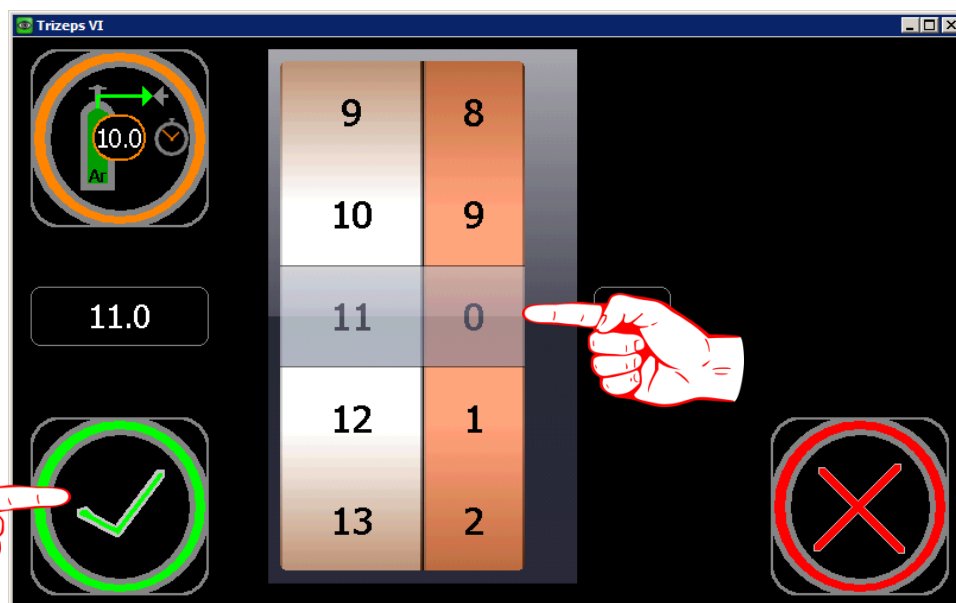
Pressing button "WELD PARA" opens menu field 1 (frame parameters)



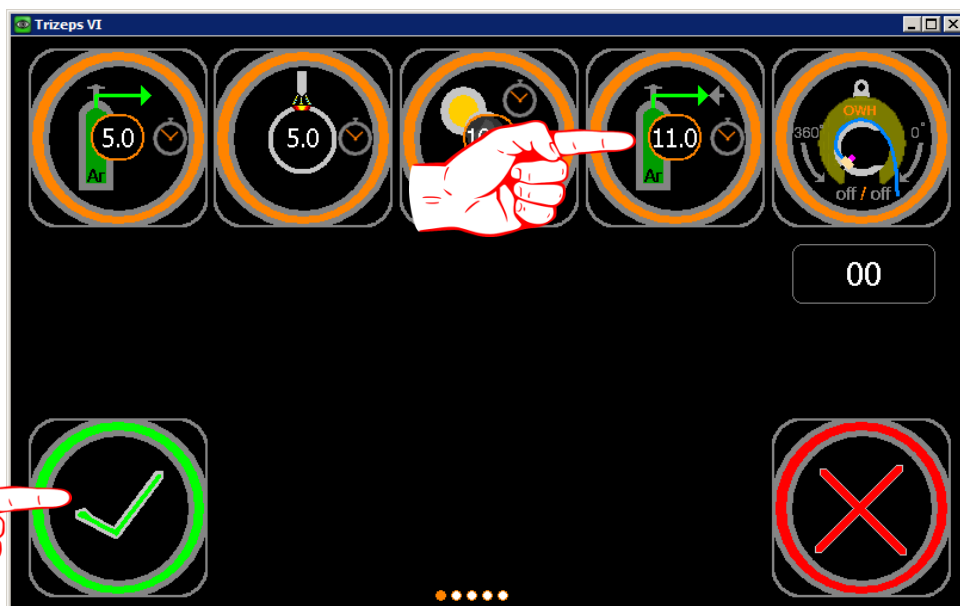
Button Post-Purge Time in seconds. Program proposal here: after the end of the welding process, the protective gas flows for 10 seconds. Pressing the button will open the submenu.



opened submenu, here program suggestion 10 seconds



Set the gas post-purge time in seconds with the scrolling wheels.
 Confirm with the "green check"



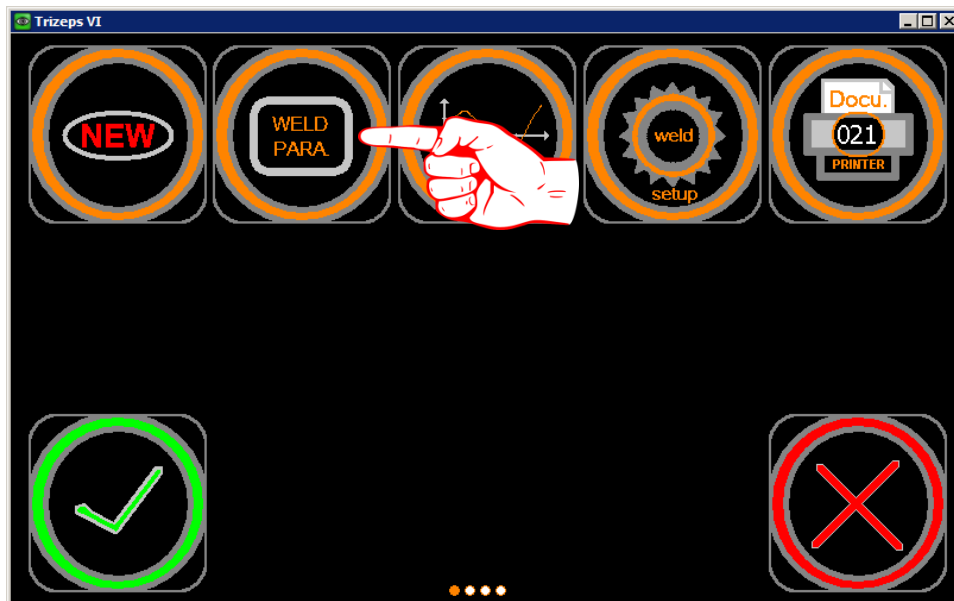
Value is displayed. Confirm with the "green check".

5.2.5 Changing the rewind/return to home

5.2.5.1 Open weld head models



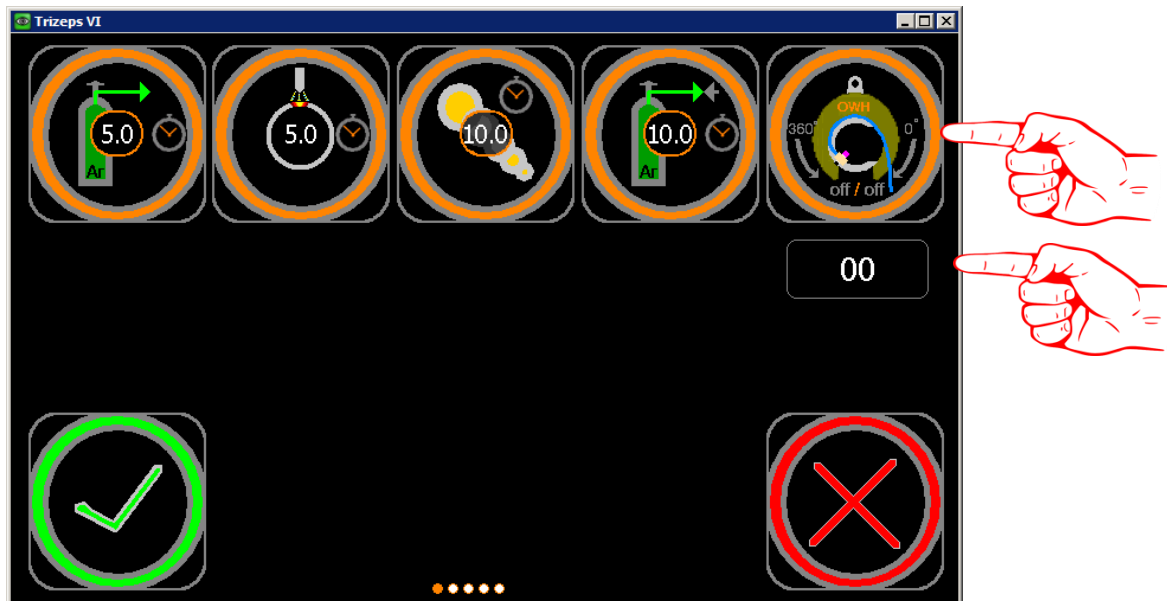
Home screen, press button "MENU"



Pressing button "WELD PARA" opens menu field 1 (frame parameters)



Button rewind / return with open weld heads. Four individually selectable functions are accessible with this button (see pictures 1-4 below). Pressing the button changes the symbol along with the two - digit number below the button. Confirm the desired function with the "green check".



Picture 1

00: all functions deactivated, pushing the button changes to picture 2



Picture 2

10: before starting the welding process, the hose pack is wound up 360°, pressing the button changes to picture 3.



Picture 3

01: after the end of the welding process, the weld head rotates back to the Home position, pushing the button changes to picture 4.



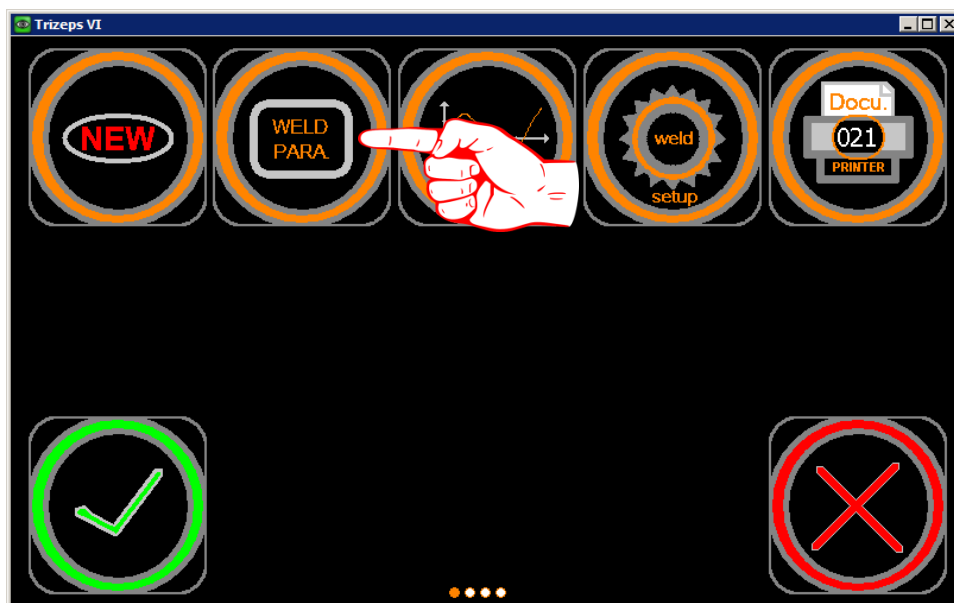
Picture 4

11: Before starting the welding process, the hose pack is wound up 360° and returns to the Home position after the end of the weld, pressing the button changes back to picture 1.

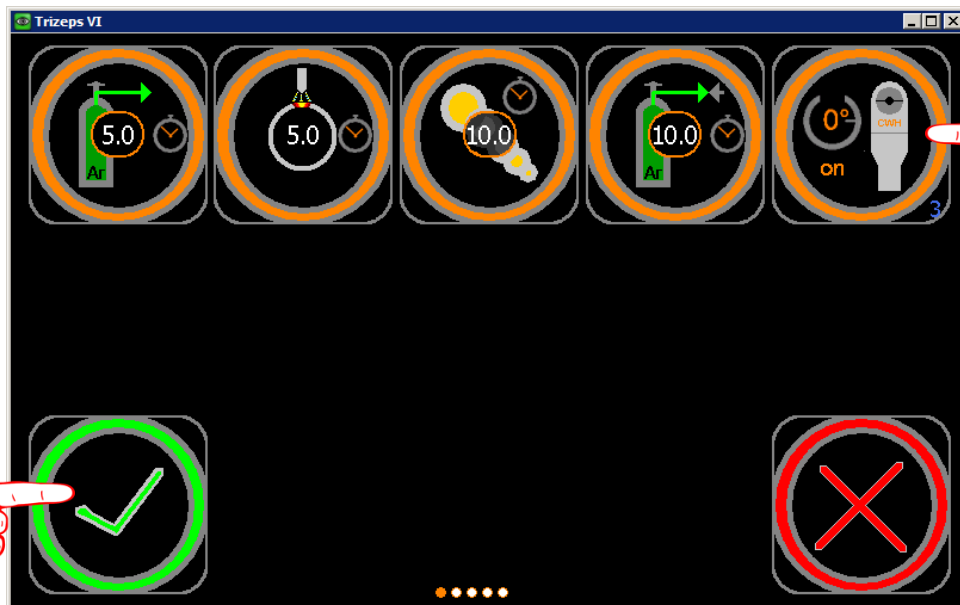
5.2.5.2 Closed weld head models



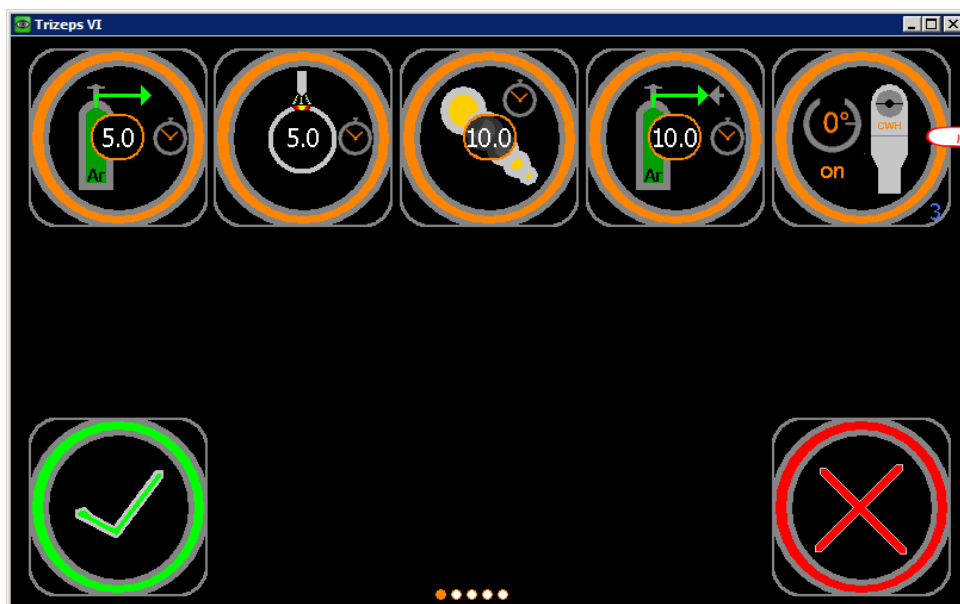
Home screen, press button "MENU"



Pressing the button "WELD PARA" opens menu field 1 (frame parameters)



Button rewind / return with closed weld heads. Two individually selectable functions are accessible with this button (see pictures 1 and 2 below). Pressing the button changes the symbol between the two functions. Confirm the desired function with "green check".



Picture 1

on: before starting the welding process, the weld head turns to the Home position at 0°.



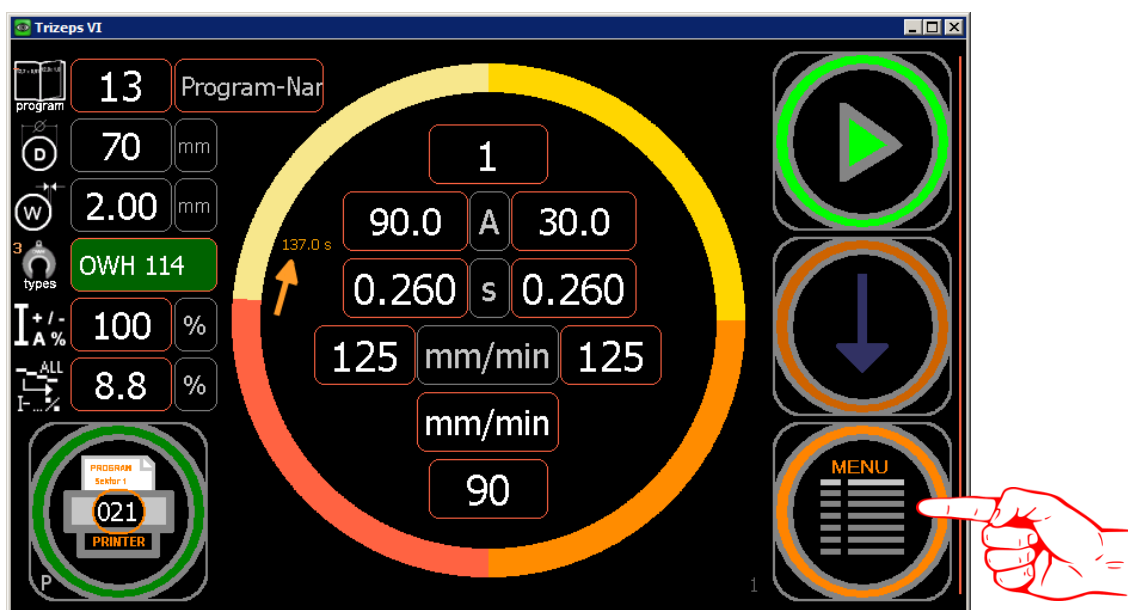
Picture 2

off: function disabled, weld head begins to weld at the position it had been manually positioned before.

5.3 Changing wire parameters

These changes are made in menu field 2.

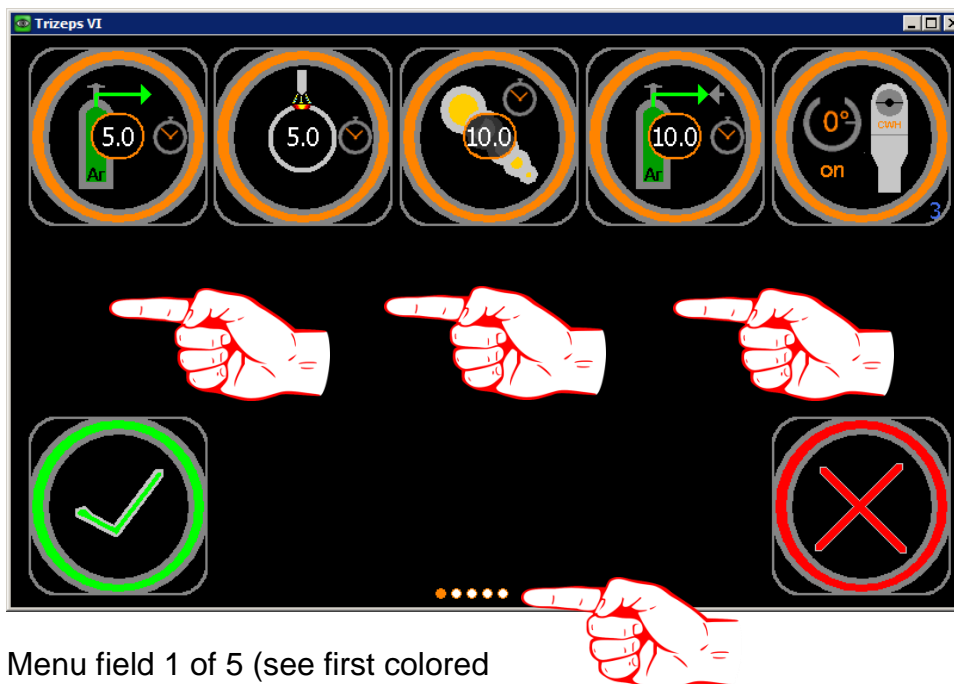
5.3.1 Wire activation/deactivation



Home screen, press button "MENU"



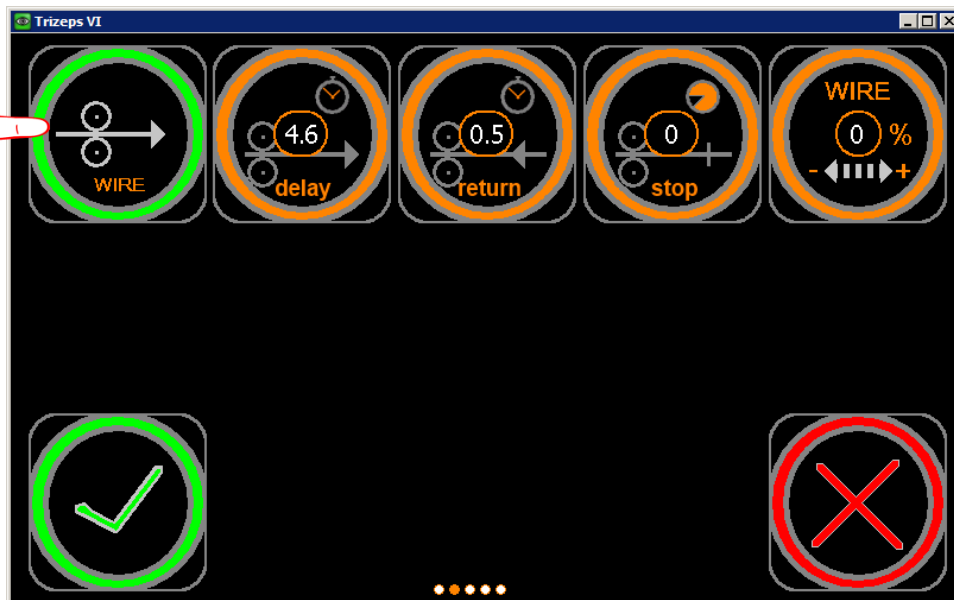
Pressing the button "WELD PARA" opens menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot out of the 5 displayed), by "whipping" the menu field once to the, menu field 2 (Wire) becomes visible.

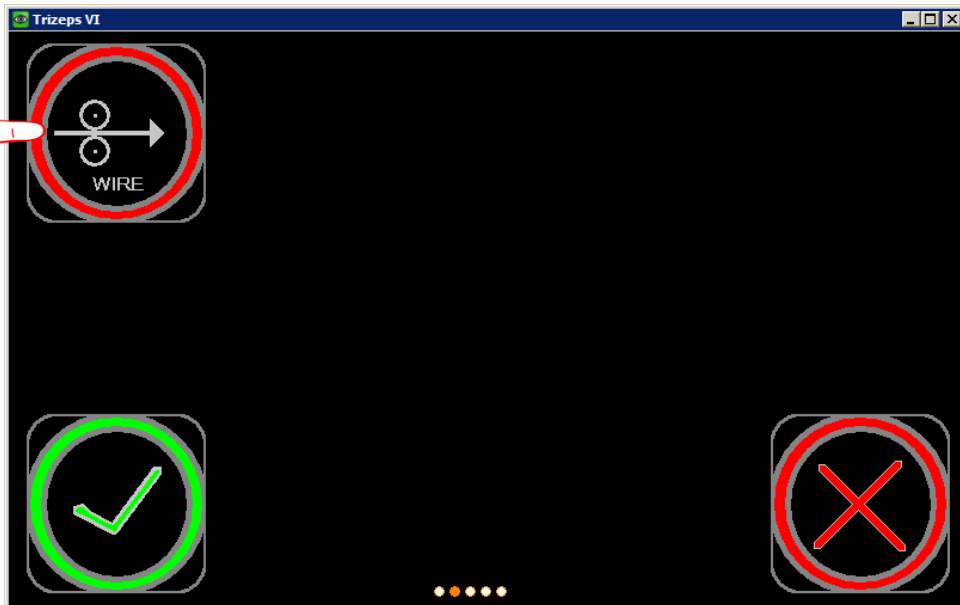


Menu field 2 (Wire), see second colored dot, out of the 5 displayed. Two individually selectable functions are accessible with this button (see pictures 1 and 2 below). Pressing the button "WIRE" changes the symbol between both functions. Confirm the desired function with the "green check".



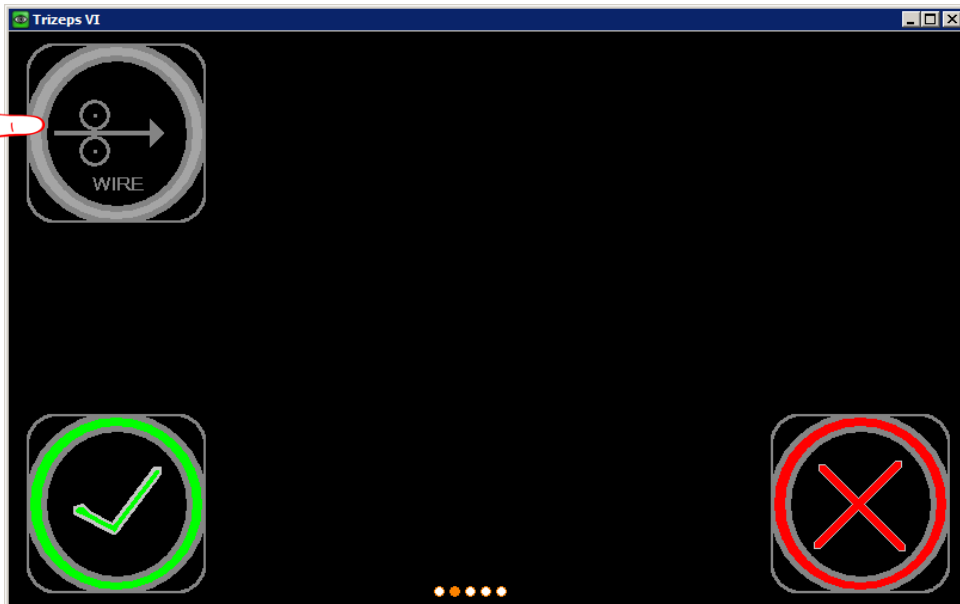
Picture 1

Wire activated (green button), simultaneously opens four additional buttons (orange) for further adjustment possibilities.



Picture 2

Wire deactivated (red button), all subsequent buttons are now hidden



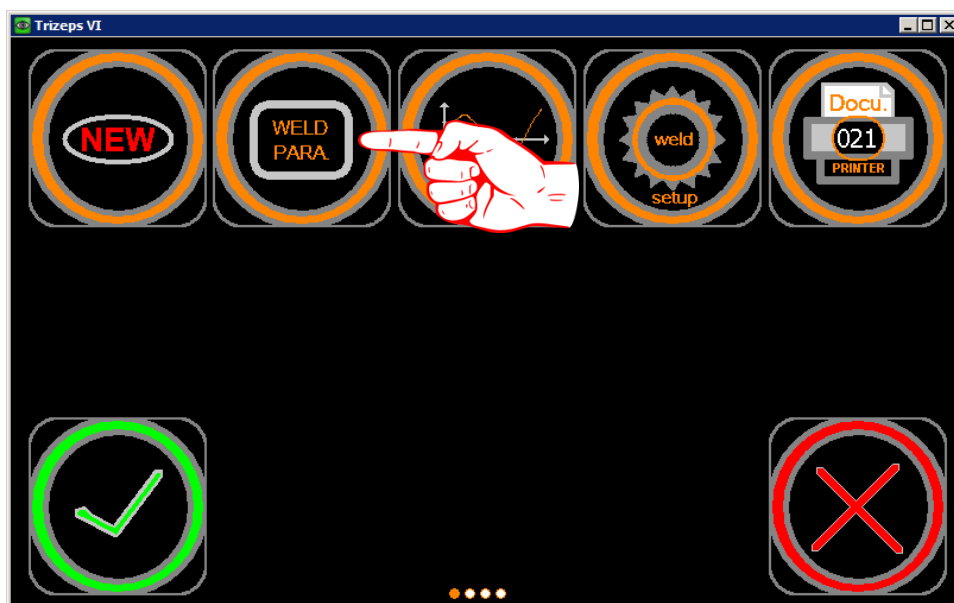
Picture 3

Wire without function (gray button), automatically deactivated with all closed weld heads

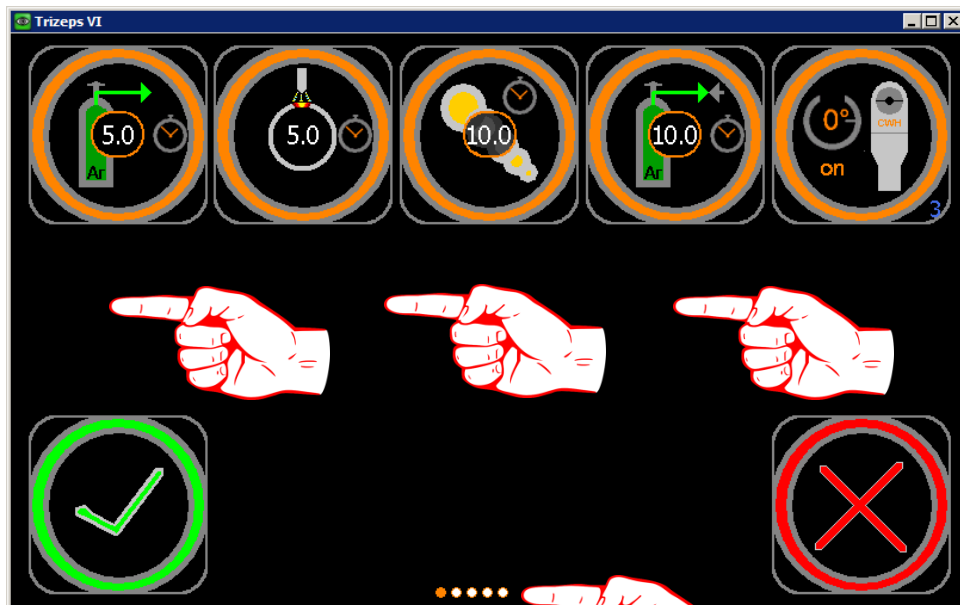
5.3.2 Changing wire delay



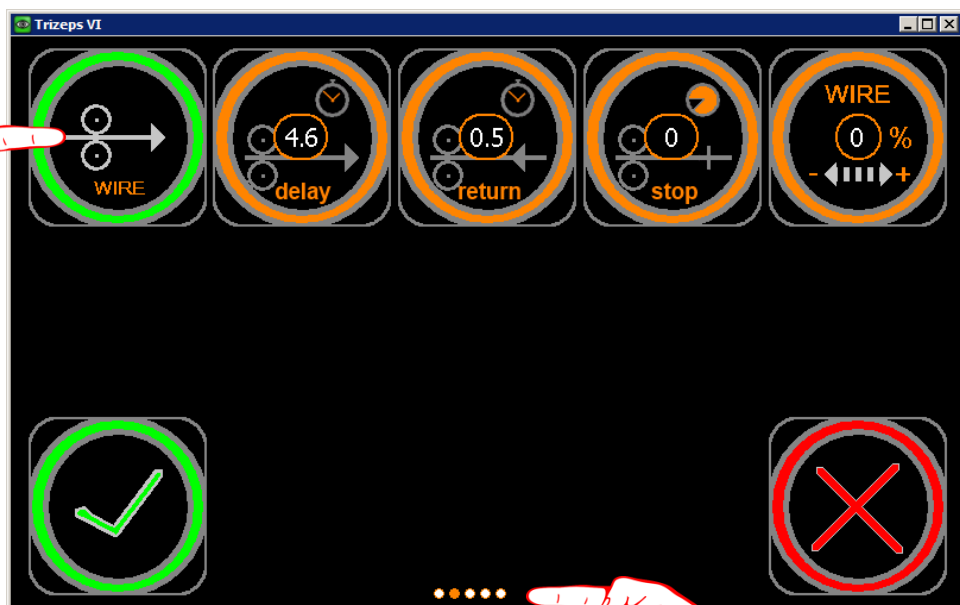
Home screen, press button "MENU"



Pressing the button "WELD PARA" opens menu field 1 (frame parameters)

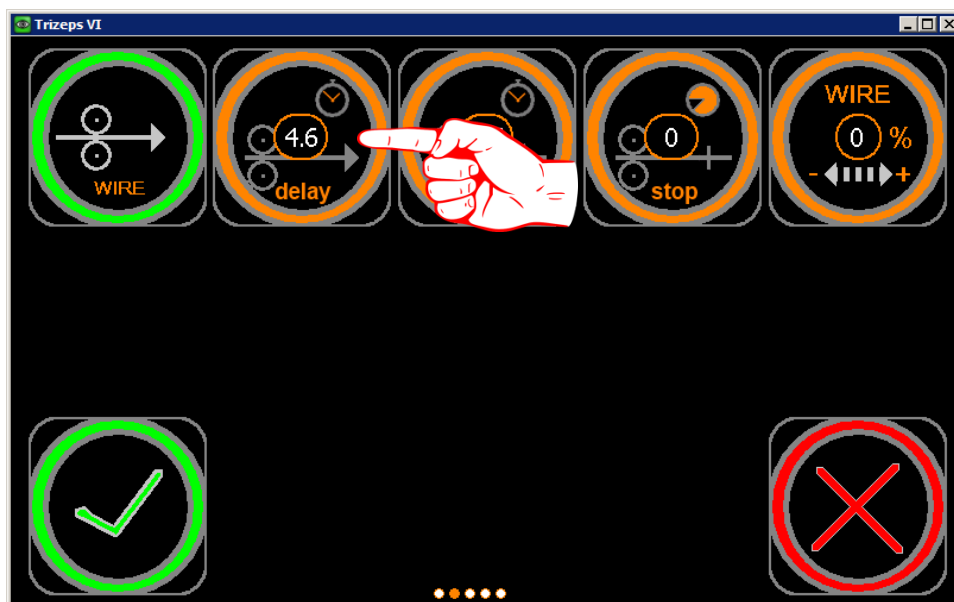


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by "whipping" the menu field once to the, menu field 2 (Wire) becomes visible.

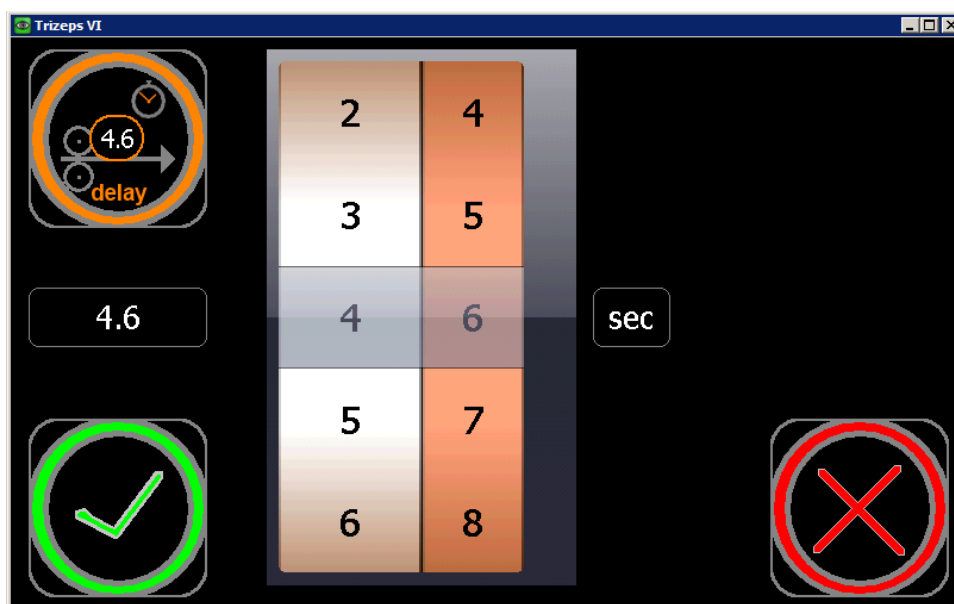


Menu field 2 (Wire), see second colored dot, out of the 5 displayed.

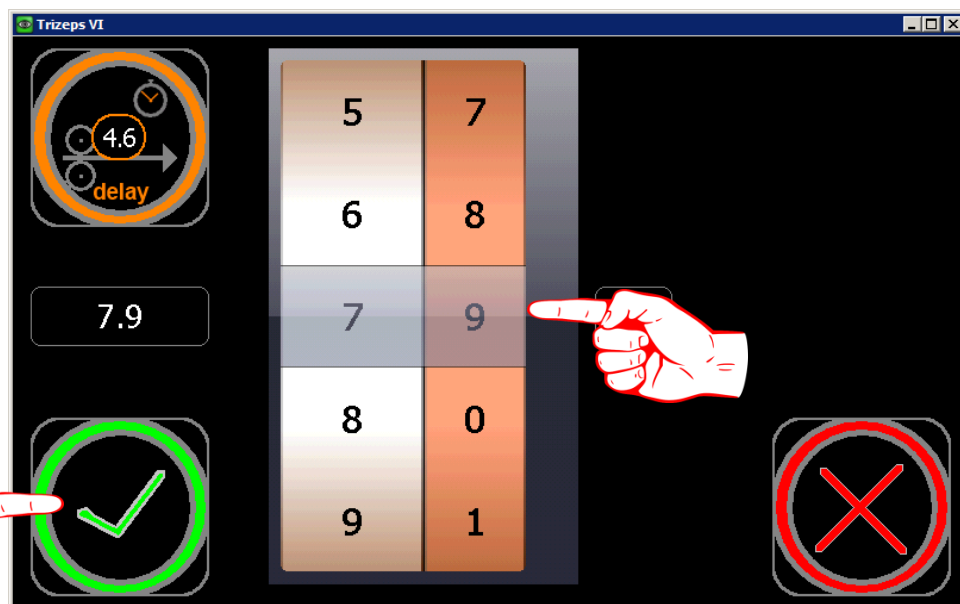
Activate wire! (See section 5.3.1 Wire activation/deactivation)



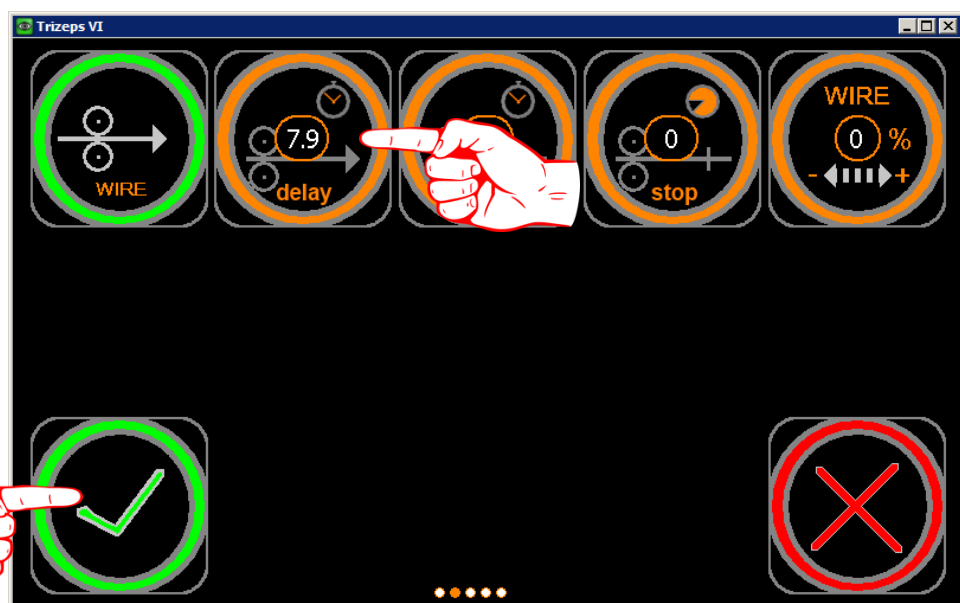
Button Wire Delay in seconds (time delay of wire addition). Program suggestion here: wire is fed into the puddle only after 4.6 seconds. Pressing the "delay" button opens the submenu.



opened submenu, here program suggestion 4.6 seconds



Set the wire delay in seconds with scrolling wheels. Confirm with the "green check".

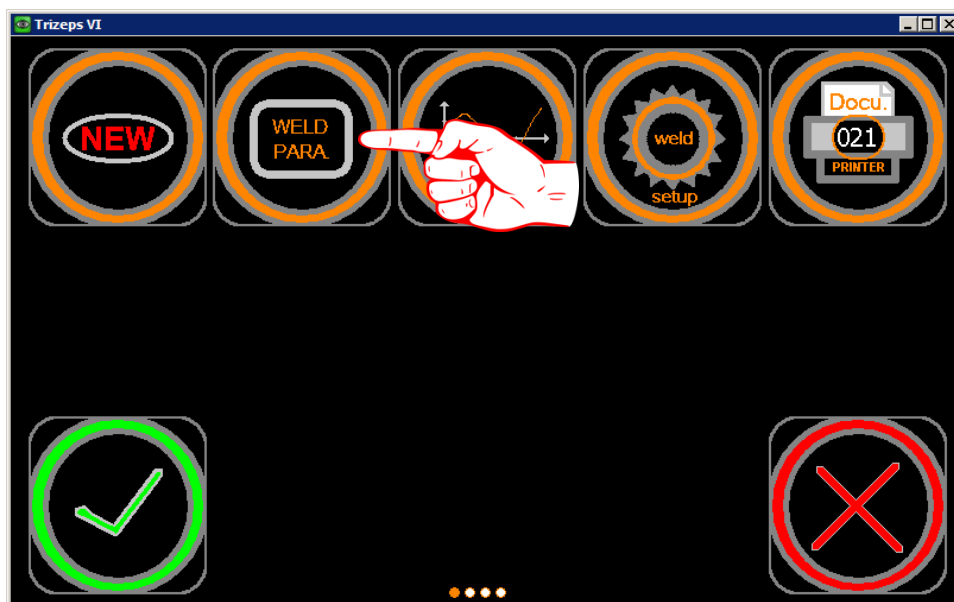


Value is displayed. Confirm with the "green check".

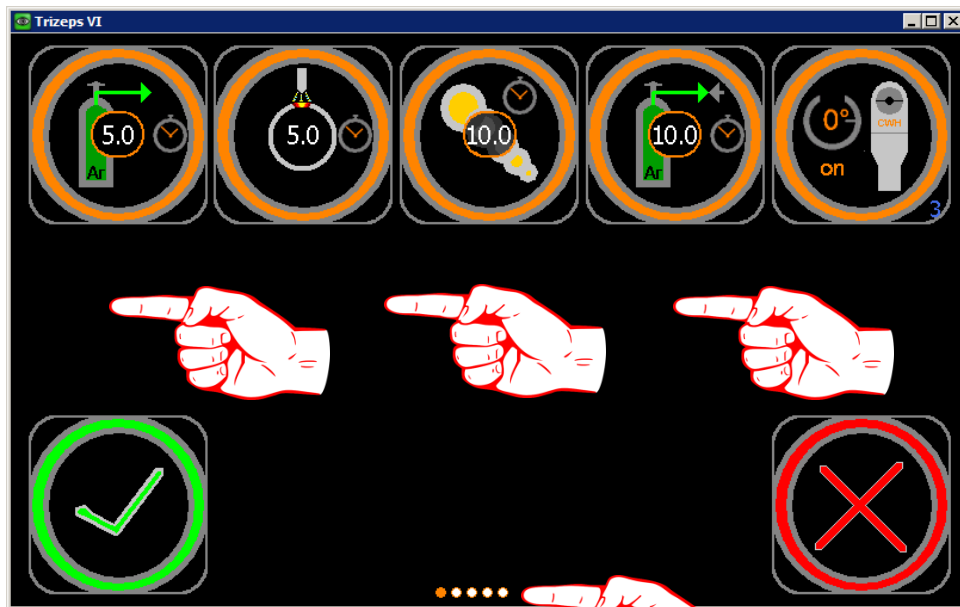
5.3.3 Changing wire retraction



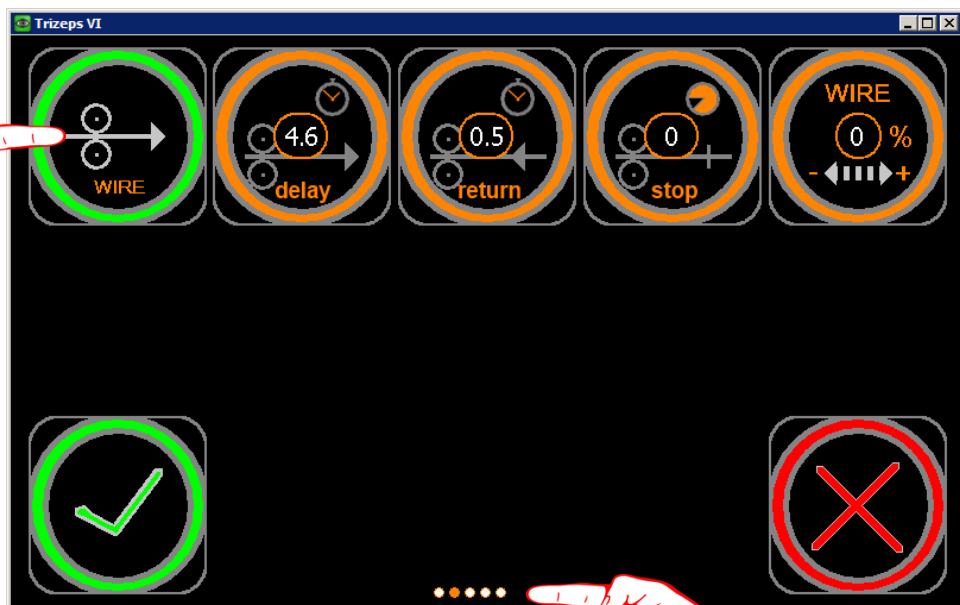
Home screen, press button "MENU"



Pushing button "WELD PARA" opens menu field 1 (frame parameters)

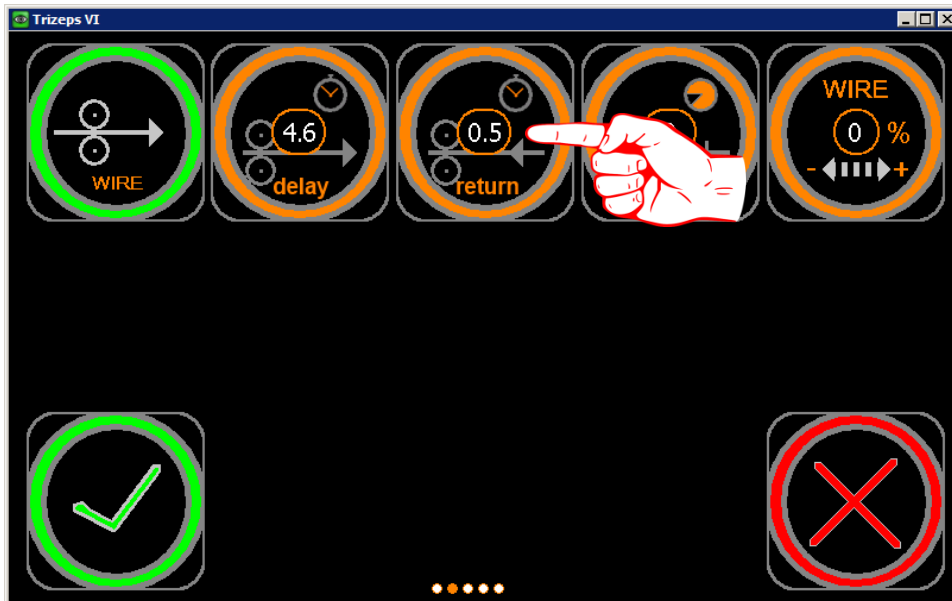


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by "whipping" the menu field once to the, menu field 2 (Wire) becomes visible.

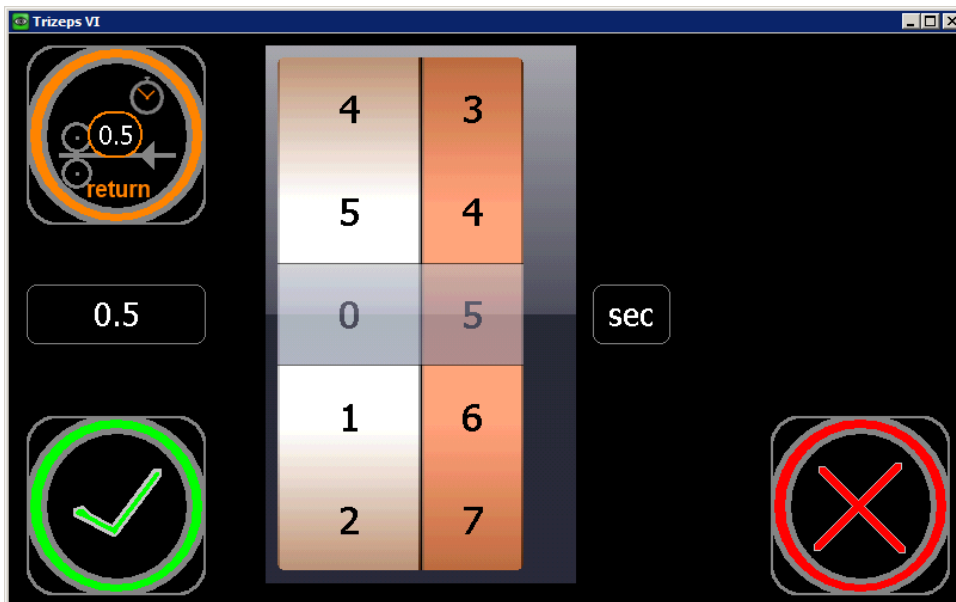


Menu field 2 (Wire), see second colored dot, out of the 5 displayed.

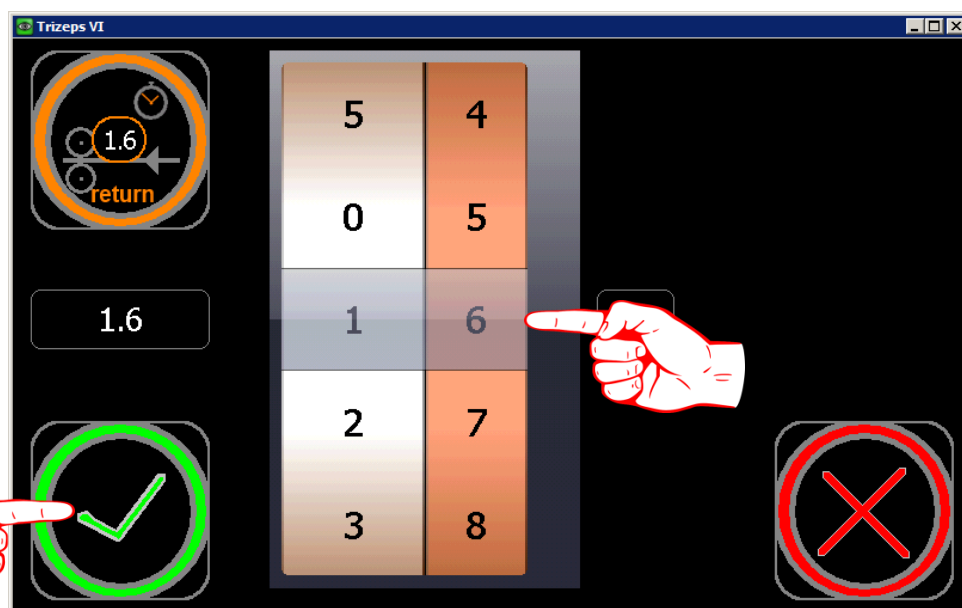
Activate wire! (See section 5.3.1 Wire activation/deactivation)



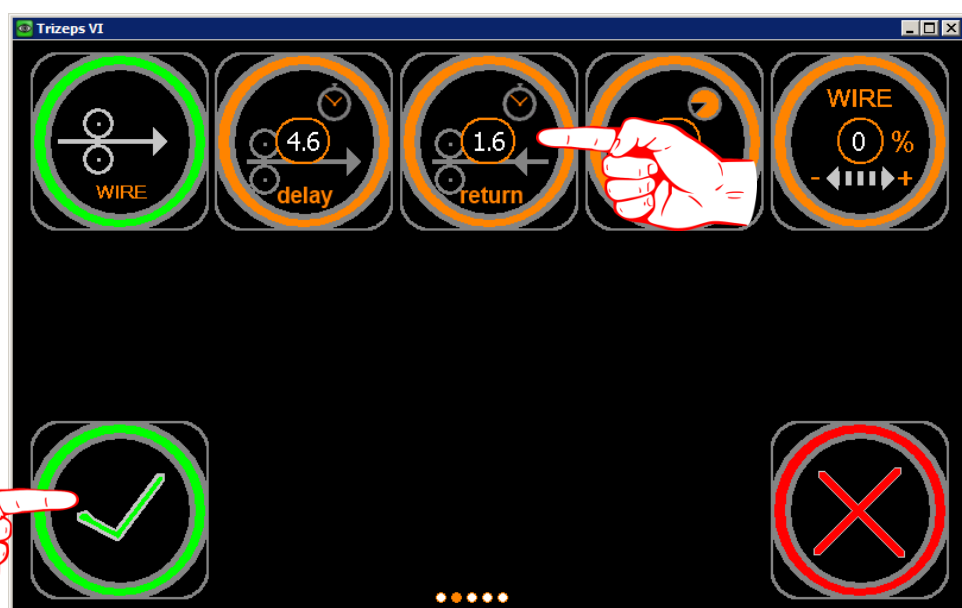
Button Wire Retraction in seconds. Program suggestion: at begin of down slope time or after reaching the entered angle degrees for wire stop (See section 5.3.4 Changing early wire stops) the wire pulls back for 0.5 seconds. Pressing the "return" button will open the submenu.



opened submenu, here program suggestion 0.5 seconds

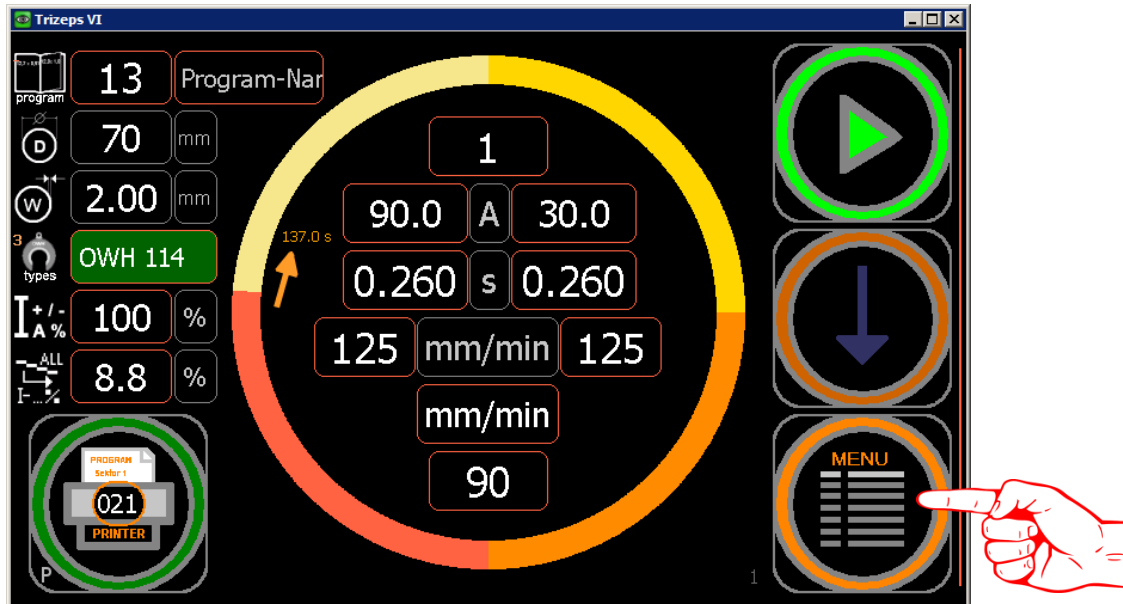


Set wire retraction in seconds with the scrolling wheels.
 Confirm with the "green check"

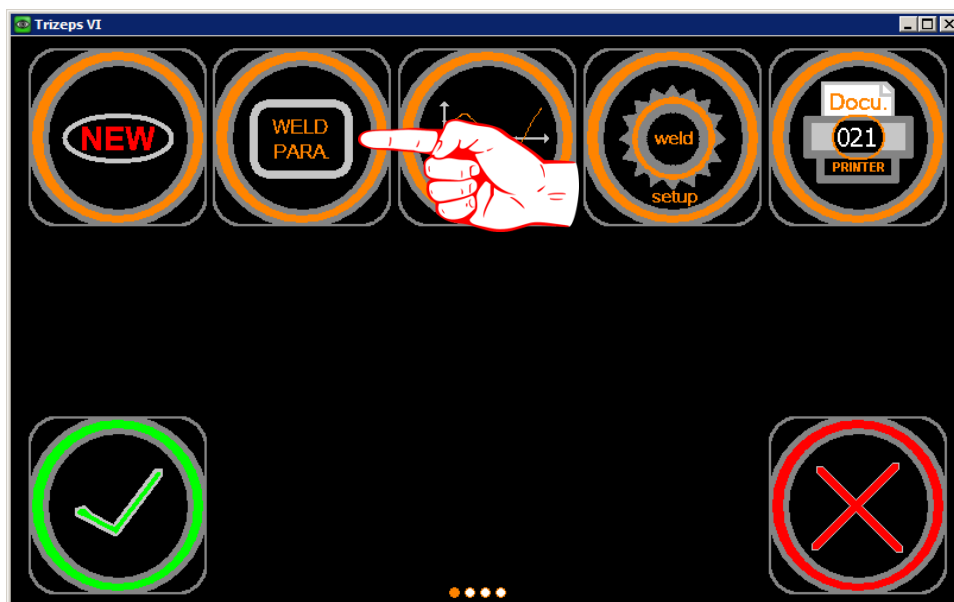


Value is displayed. Confirm with the "green check".

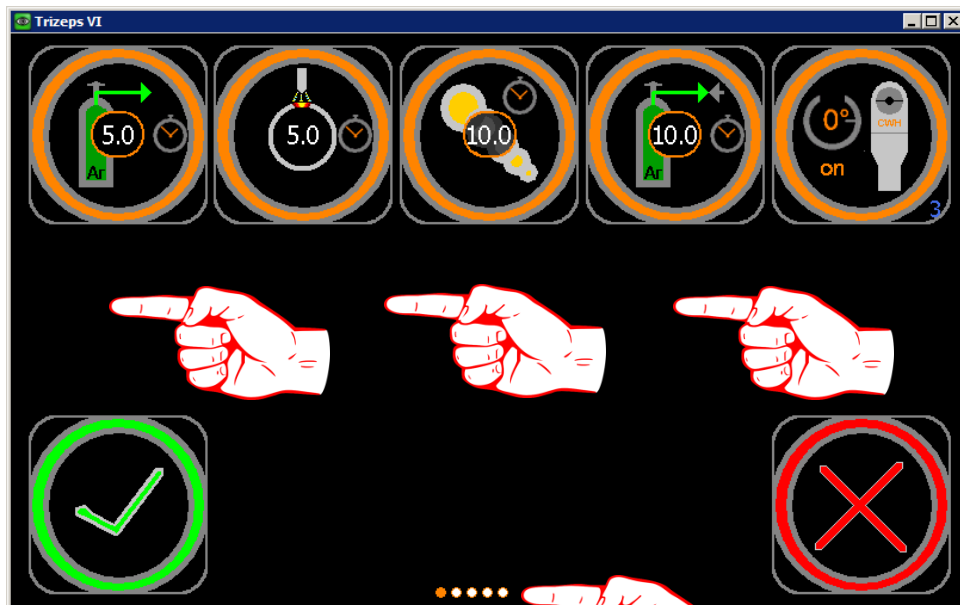
5.3.4 Changing early wire stop



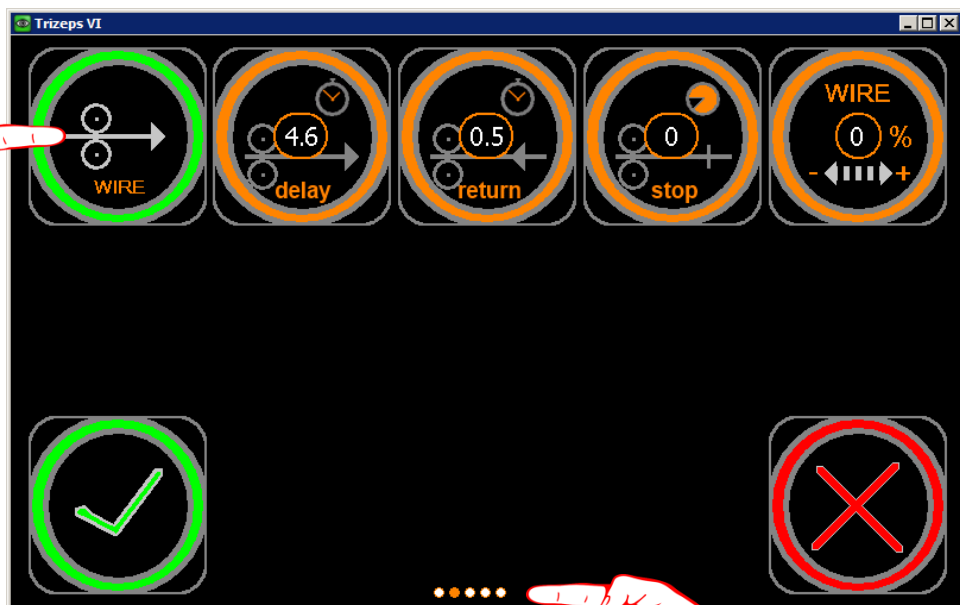
Home screen, press button "MENU"



Pressing button "WELD PARA" opens menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by "whipping" the menu field once to the, menu field 2 (Wire) becomes visible.

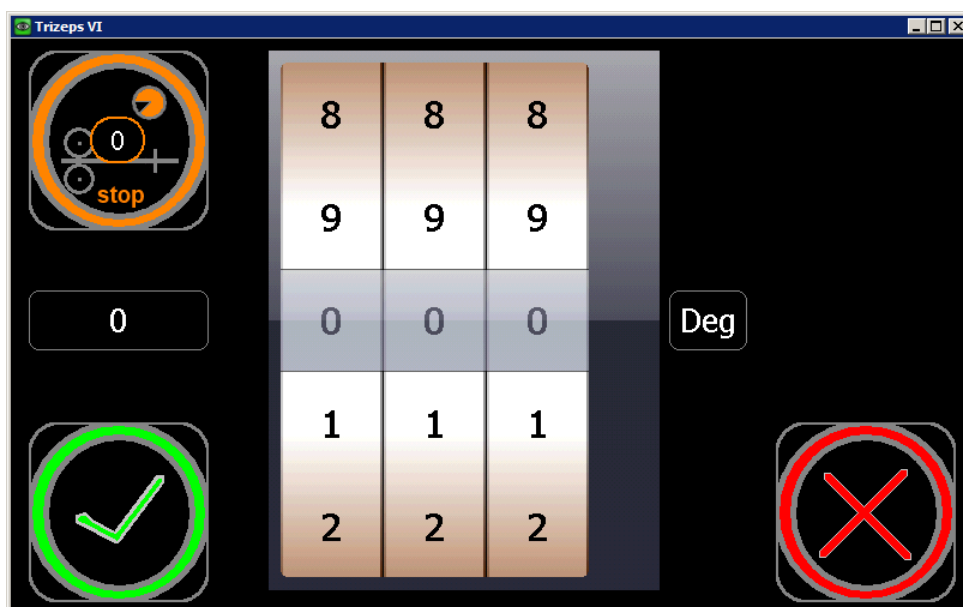


Menu field 2 (Wire), see second colored dot, out of 5 displayed.

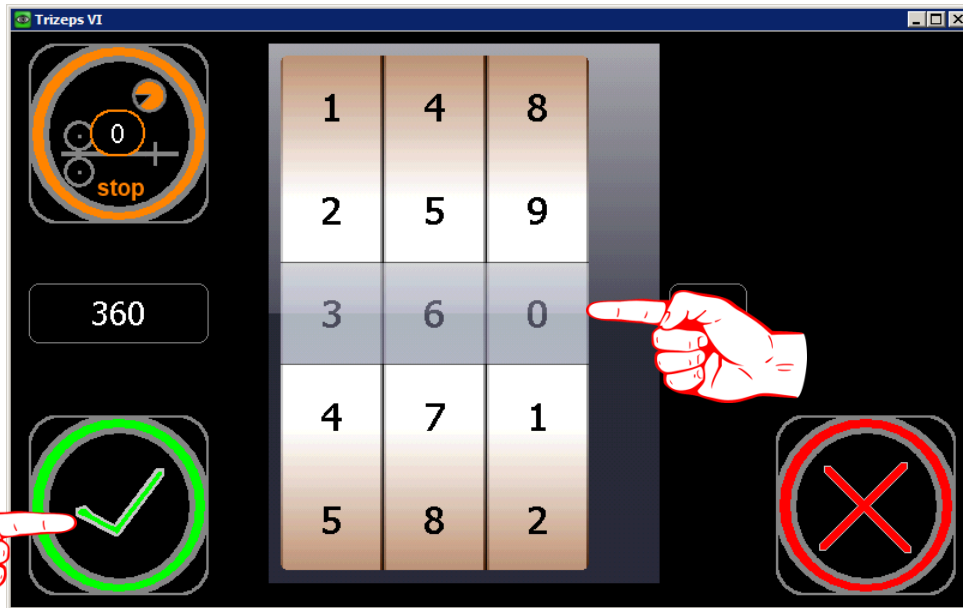
Activate wire! (See section 5.3.1 Wire Activation / Deactivation)



Button Early Wire Stop in angular degrees. Wire stops early at the angular degrees entered (Function of symbol Wire Retraction is also considered). If angle degree is set to 0°, then wire runs 365°. Value 360° is recommended for multi-layer welds. Pressing the "stop" button opens the submenu.



opened submenu, here program suggestion 0° (Wire runs until 365°)



Set early wire stop in angular degrees with the scrolling wheels. Confirm with the "green check"



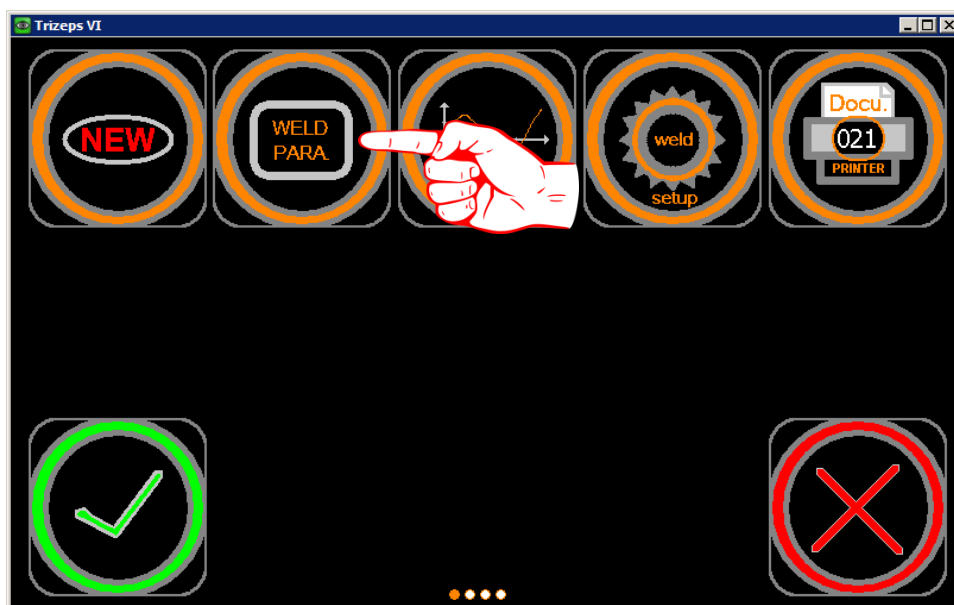
Value is displayed. Confirm with the "green check". Wire now stops early at 360°.

5.3.5 Changing wire speed by percentage

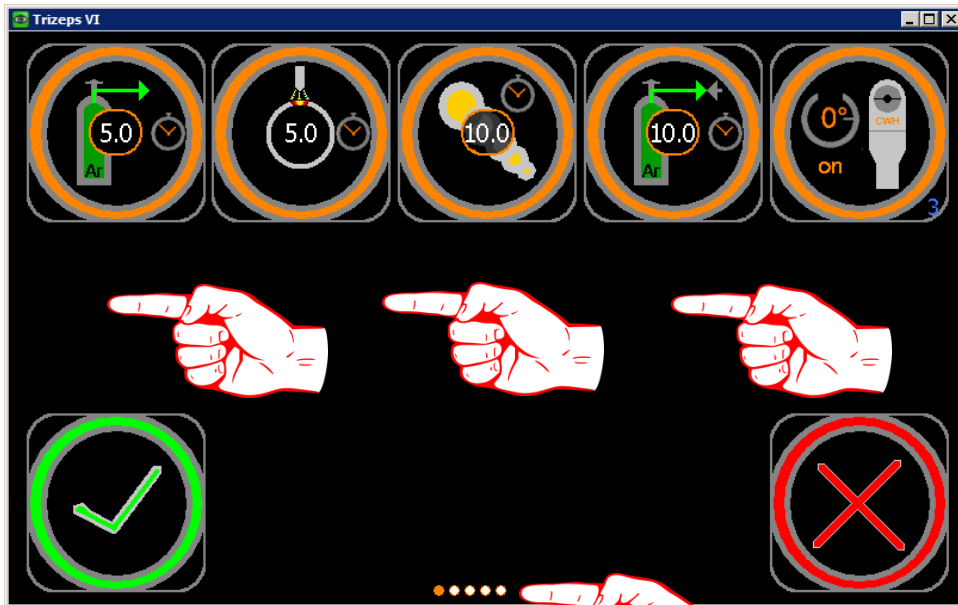
(Function only possible with remote control)



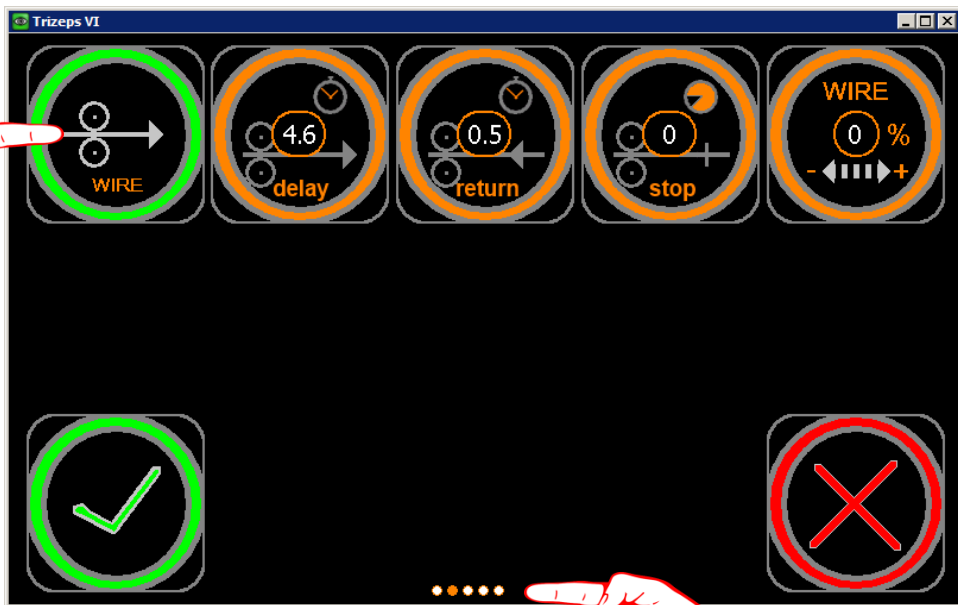
Home screen, press button "MENU"



Pressing button "WELD PARA" opens menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed, by "whipping" the menu field once to the, menu field 2 (Wire) becomes visible.

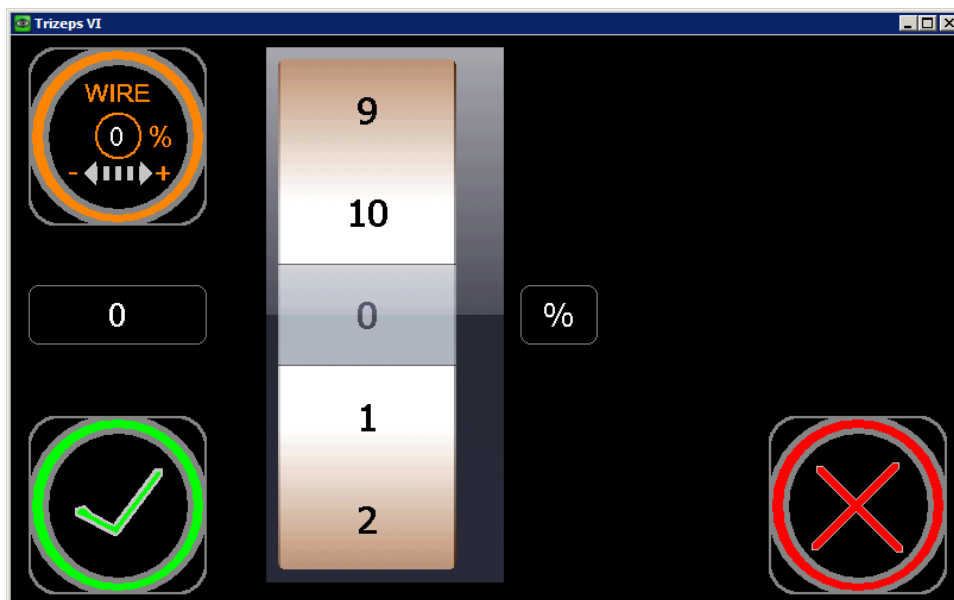


Menu field 2 (Wire), see second colored dot, out of the 5 displayed.

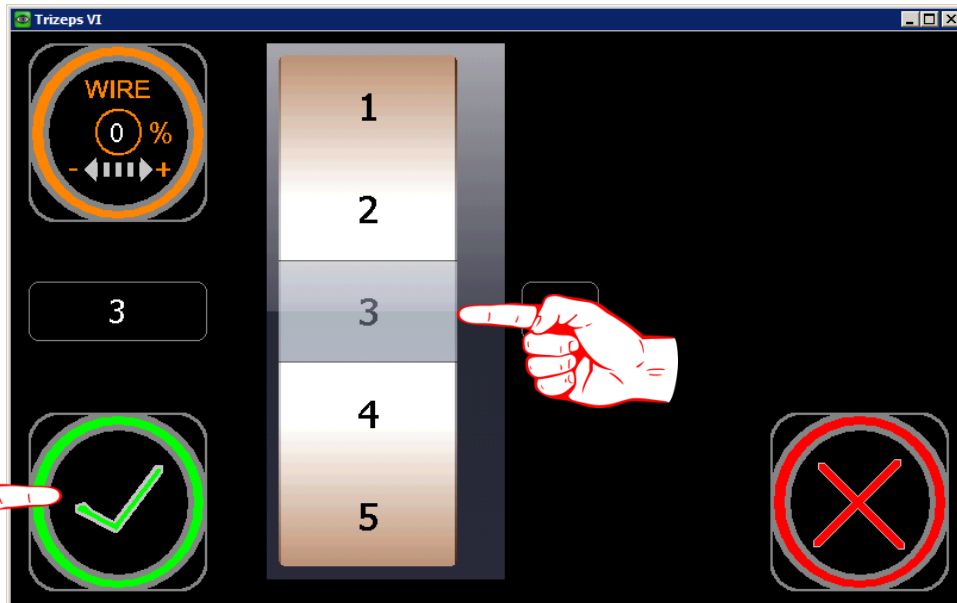
Activate wire! (See section 5.3.1 Wire Activation / Deactivation)



Button Changing Wire Speed in Percentage. Wire speed change as a percentage by pressing the button on the remote control. The wire speed at high and base current is simultaneously adjusted up and down at the push of a button (in all sectors). Calculation basis for the percentage are the wire speeds generated by the program. Pressing the button "WIRE" opens the submenu.



opened submenu, output value always 0% (function deactivated)



Set the wire speed change in percentage with the scrolling wheels.
Confirm with the "green check"



Value is displayed. Confirm with the "green check".

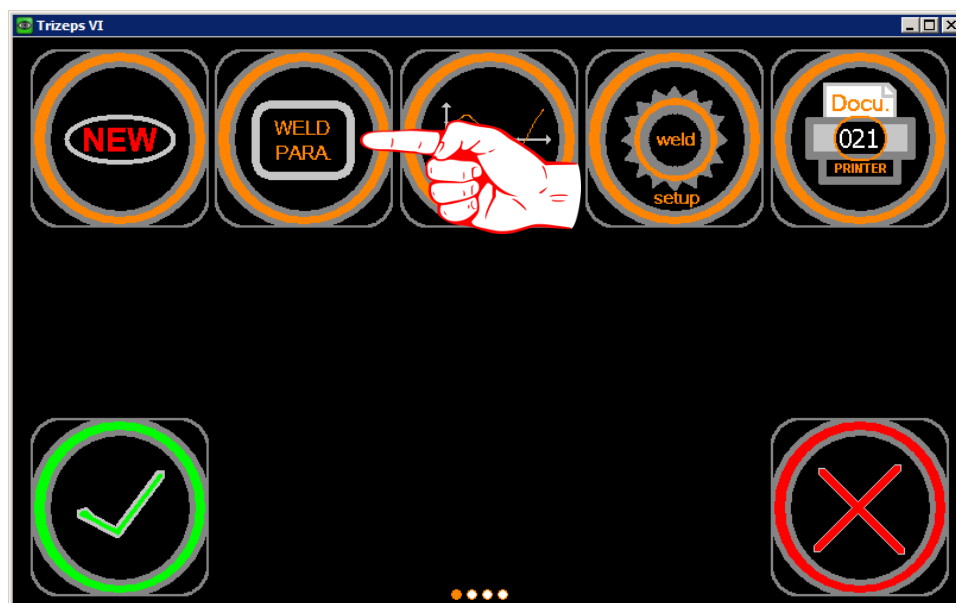
5.4 Changing AVC (Arc Voltage Control)

These changes are made in menu field 3.

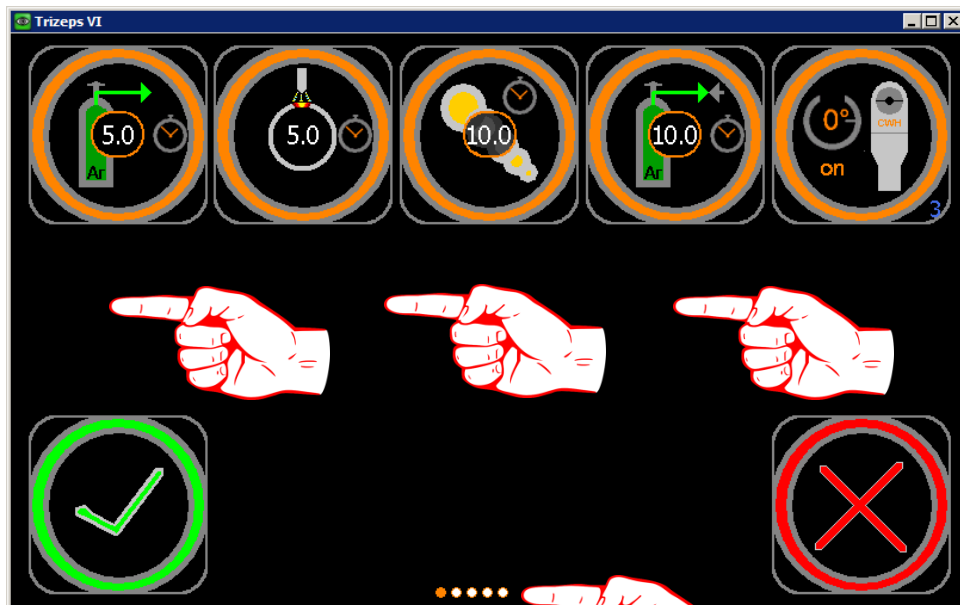
5.4.1 AVC activation/deactivation



Home screen, press button "MENU"



Pushing button "WELD PARA" opens menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by double "whipping" of the menu field to the, menu field 3 (AVC) becomes visible.



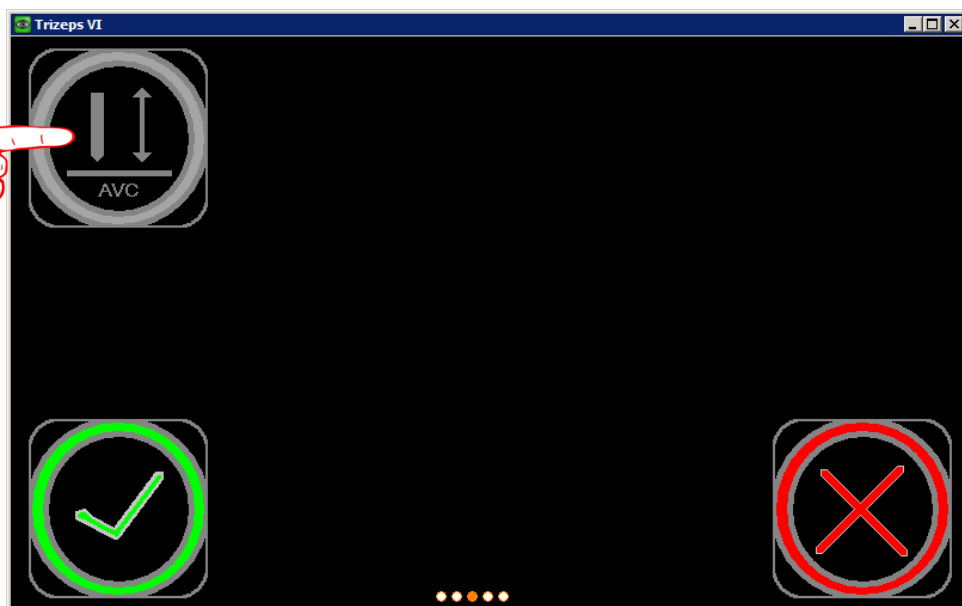
Menu field 3 (AVC), see third colored dot, out of the 5 displayed. Two individually selectable functions are accessible with this button (see pictures 1 and 2 below). Pressing the first "AVC" button changes the symbol between the two functions. Confirm the desired function with the "green check".



Picture 1
AVC activated (green button), simultaneously opens four additional buttons (orange) for further adjustment possibilities



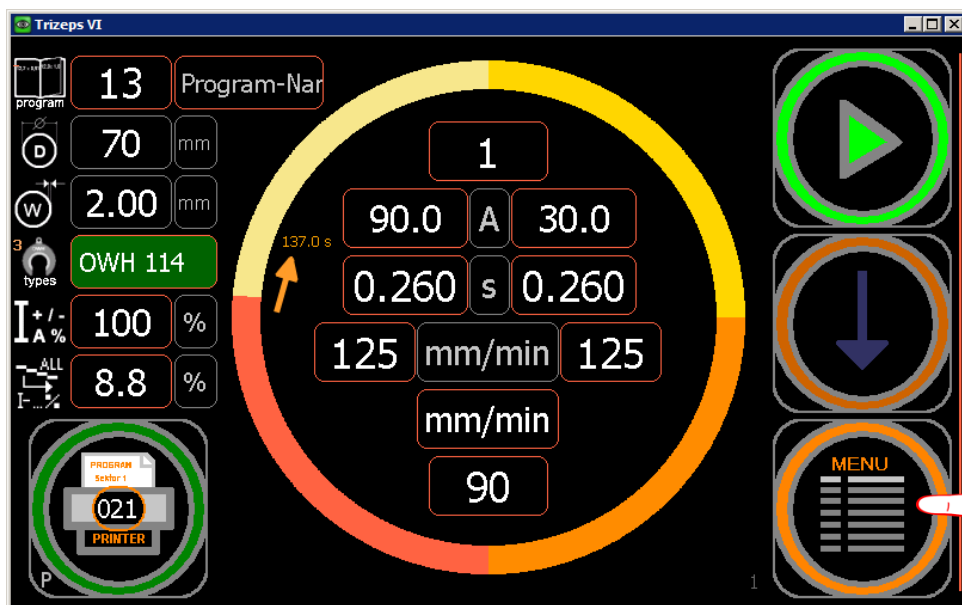
Picture 2
AVC deactivated (red button), all subsequent buttons are hidden



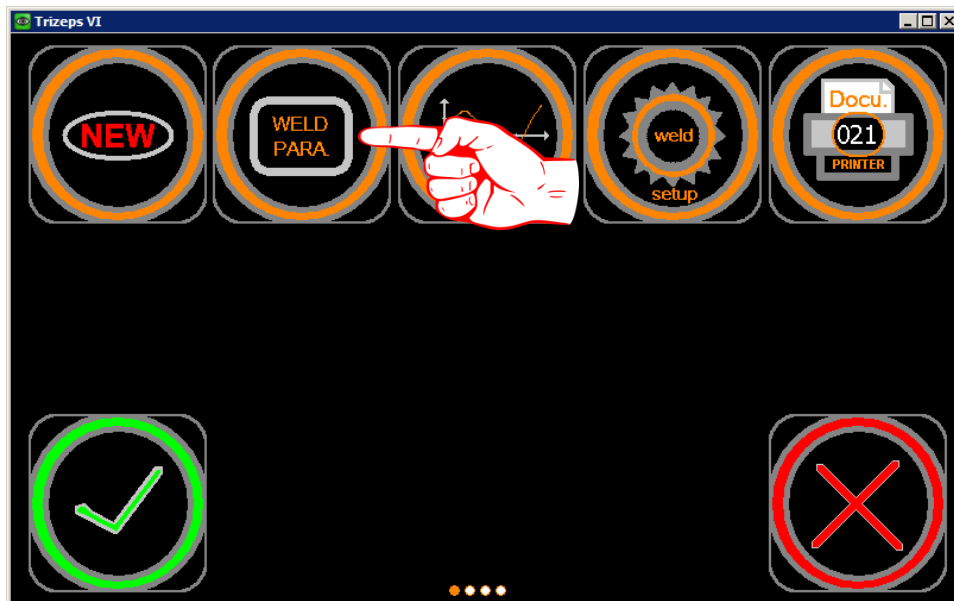
Picture 3

AVC without function (gray button), automatically disabled with all closed weld heads

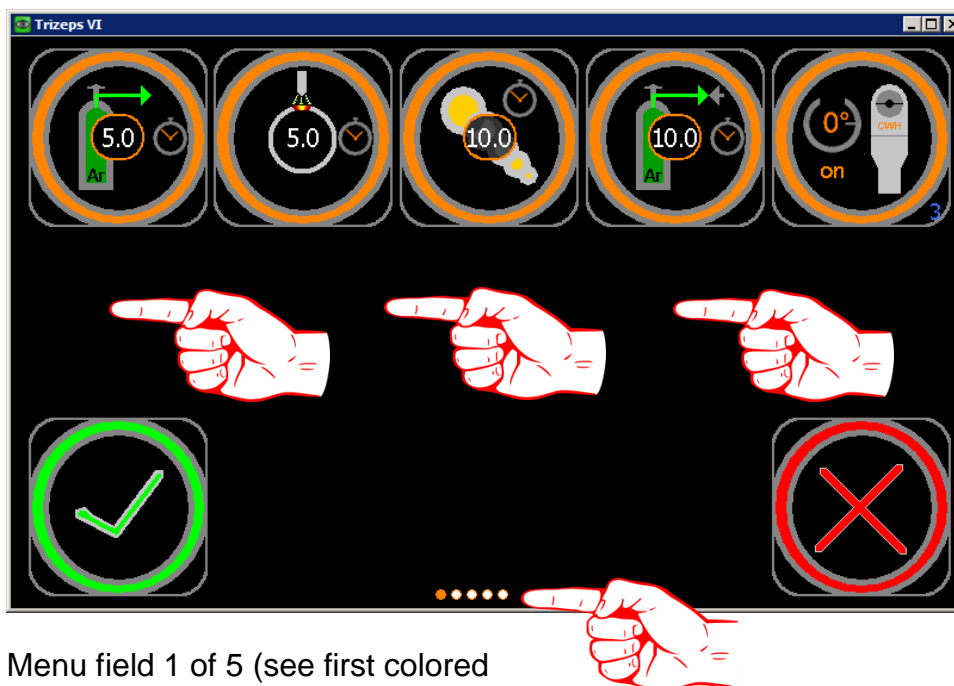
5.4.2 Changing AVC electrode gap



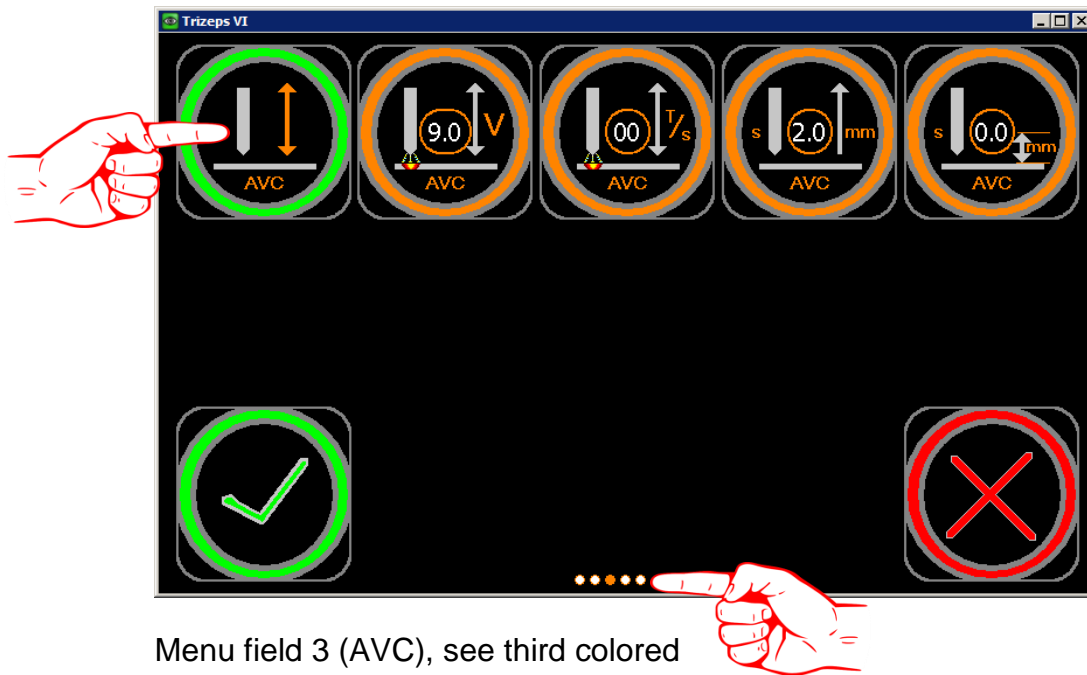
Home screen, press button "MENU"



Pushing button "WELD PARA" opens menu field 1 (frame parameters)

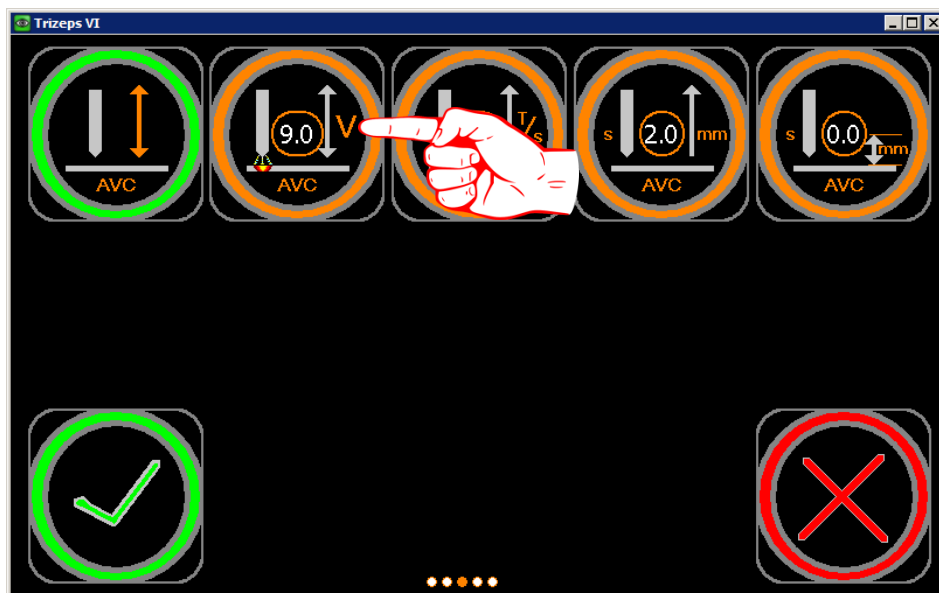


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by double "whipping" of the menu field to the, menu field 3 (AVC) becomes visible.

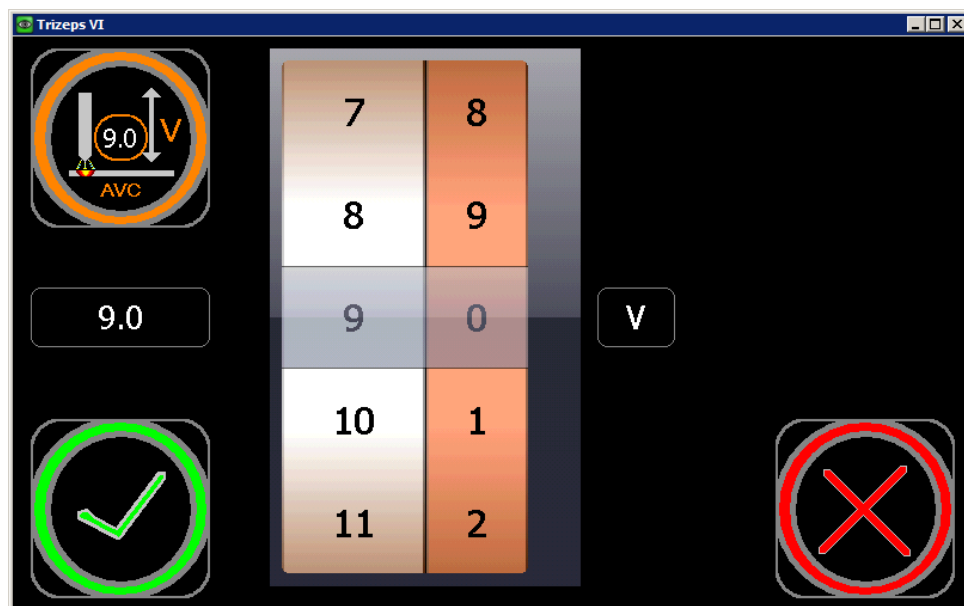


Menu field 3 (AVC), see third colored dot, out of the 5 displayed.

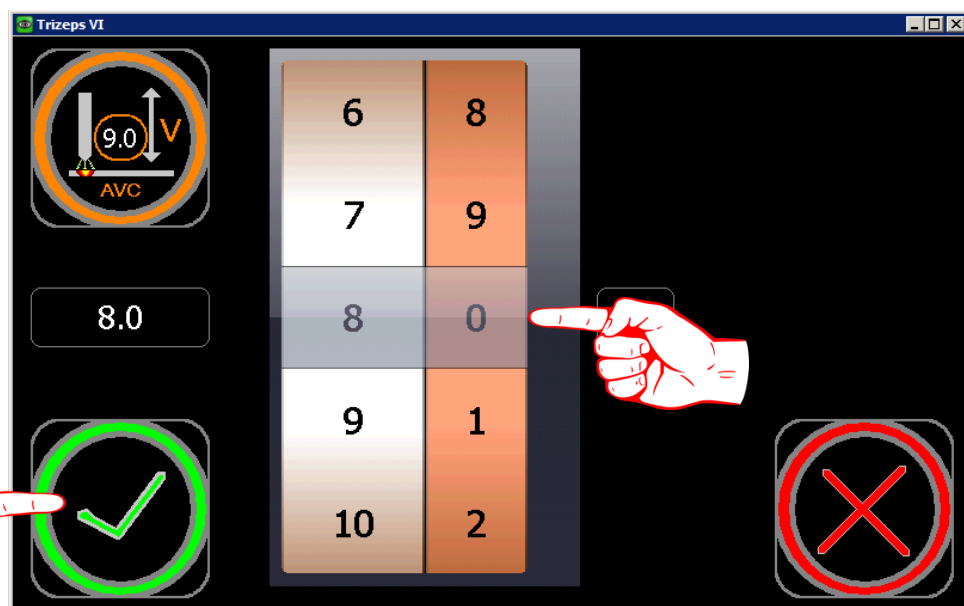
Activate AVC! (See section 5.4.1 AVC Activation / Deactivation)



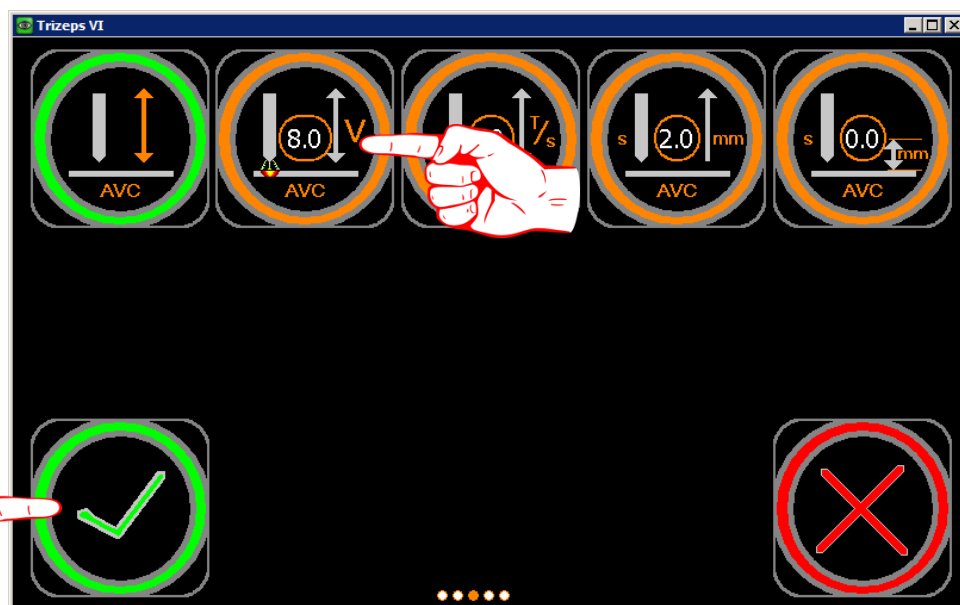
Button AVC Electrode Gap (corresponds to the welding tension in volts). Automatic adjustment back to the set electrode distance when voltage fluctuates. Pressing the button opens the submenu



opened submenu, here program suggestion 9 Volt



Set the AVC electrode gap in volts with the scrolling wheels. Confirm with the "green check"



Value is displayed. Confirm with the "green check".

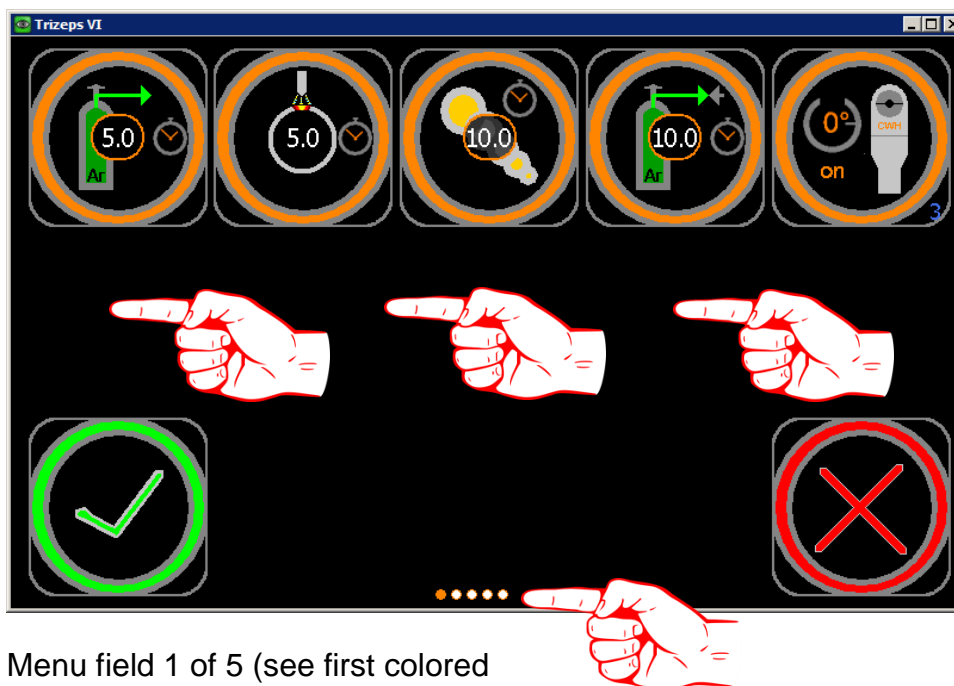
5.4.3 Changing AVC sensitivity



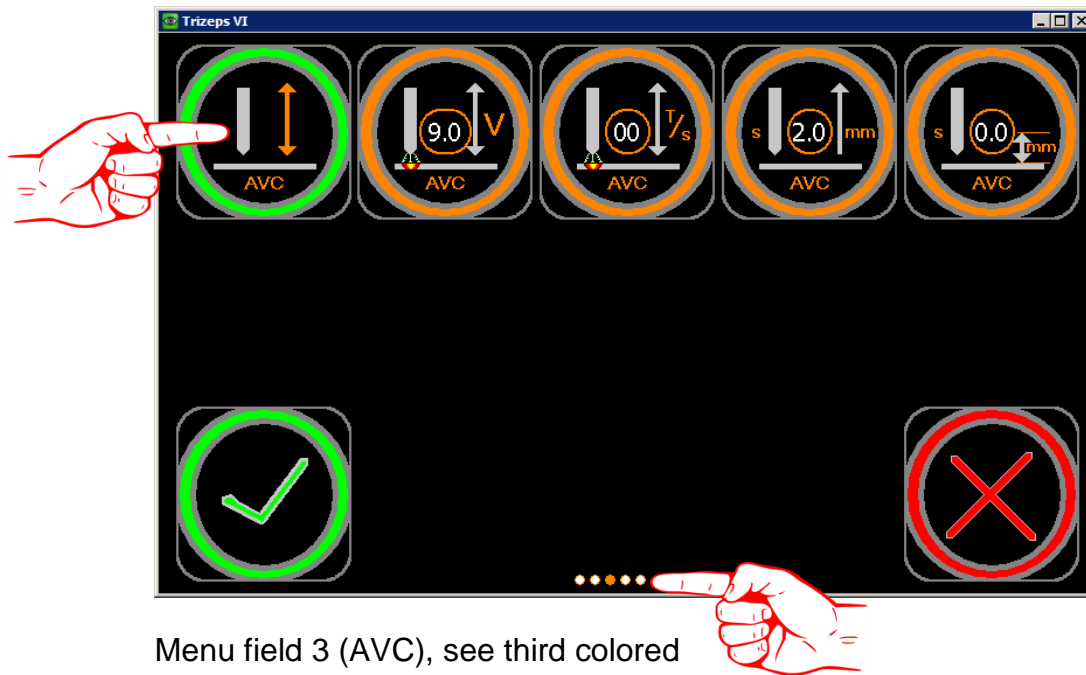
Home screen, press button "MENU"



Pressing button "WELD PARA" opens menu field 1 (frame parameters)

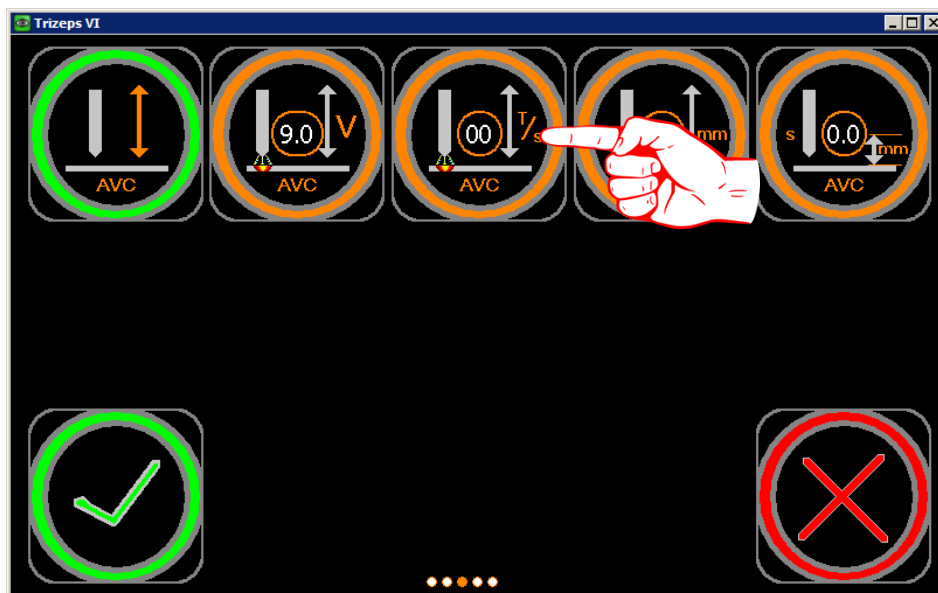


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by double "whipping" of the menu field to the, menu field 3 (AVC) becomes visible.

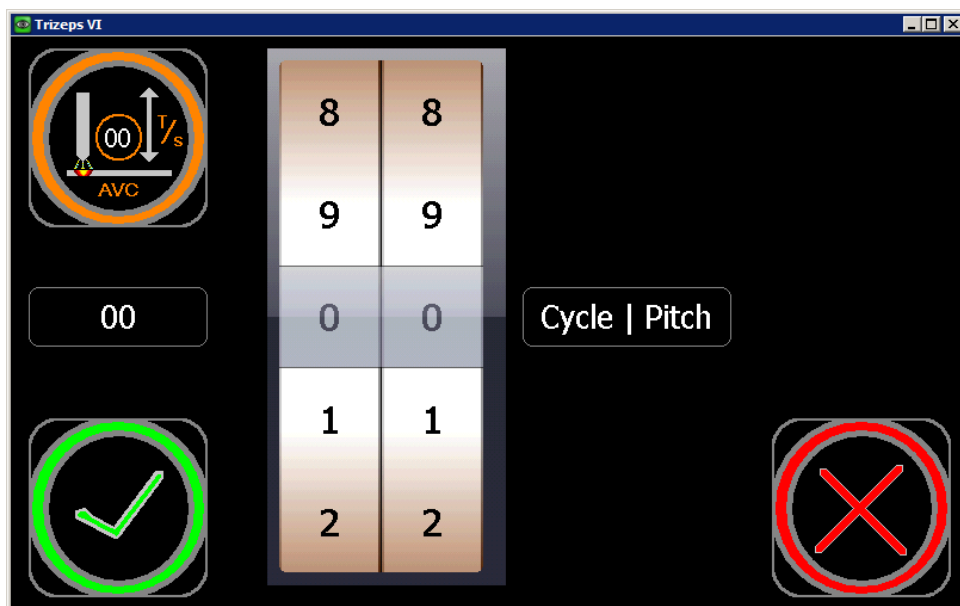


Menu field 3 (AVC), see third colored dot, out of the 5 displayed.

Activate AVC! (See section 5.4.1 AVC Activation /Deactivation)



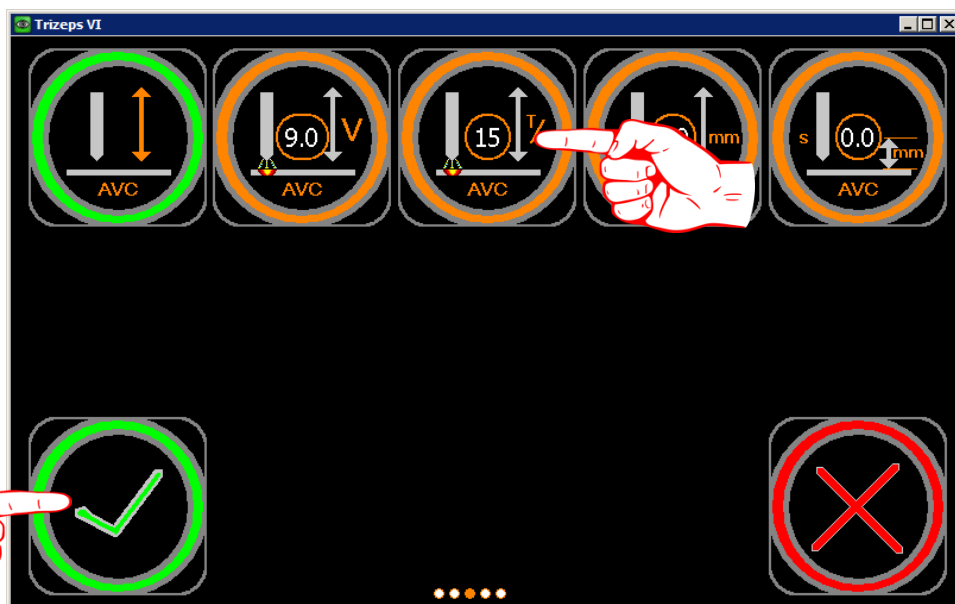
Button Changing AVC sensitivity (time interval / travel distance). First digit corresponds to time interval, second digit corresponds to travel distance (Hub) per time interval. Time interval: the smaller the value, the more frequently the travel distance (Hub) is driven. Travel distance: indicates the hub per time interval. The higher this value, the bigger the stroke at given position deviations. Pressing the button opens the submenu.



opened submenu

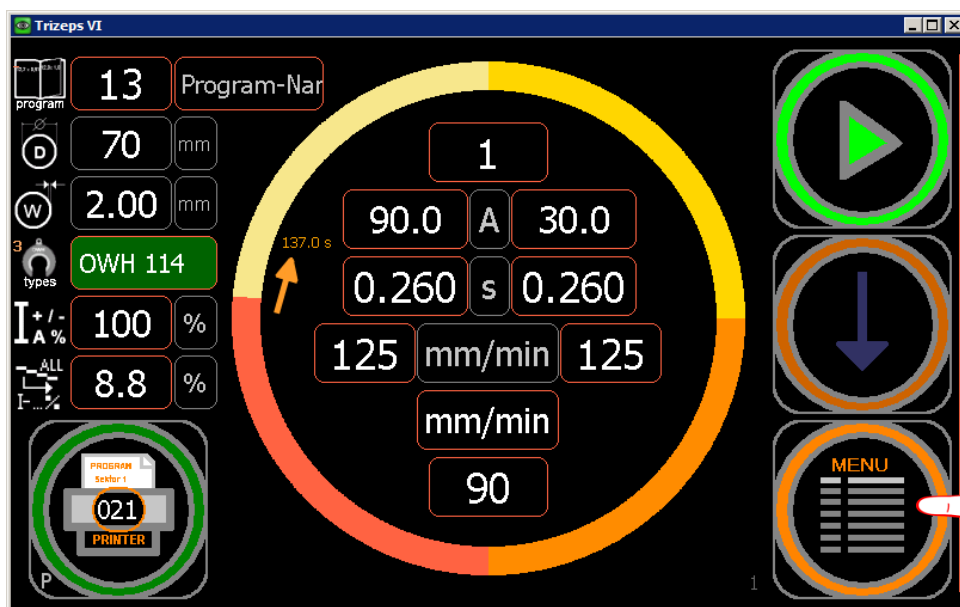


Set AVC sensitivity with the scrolling wheels. Confirm with the "green check"

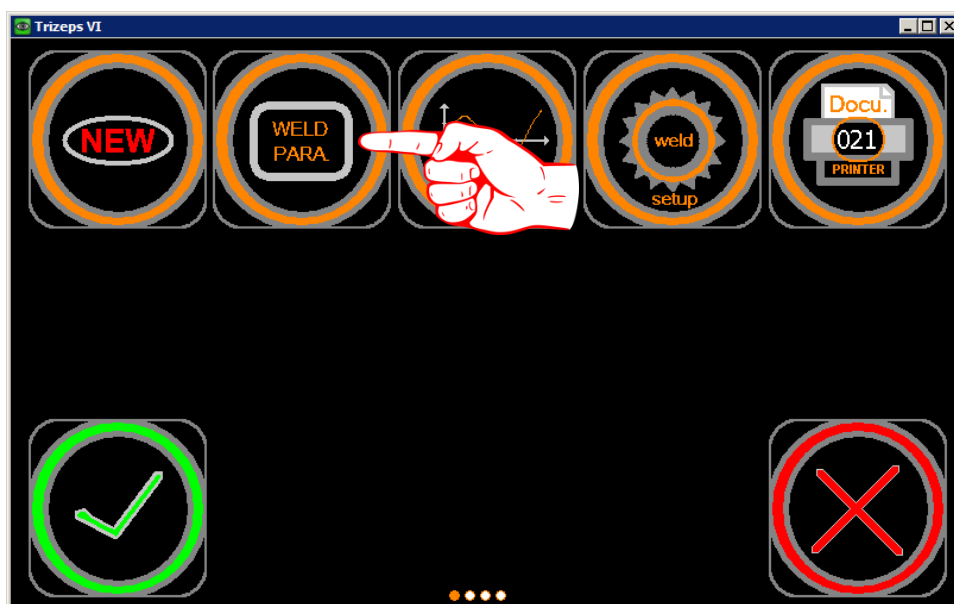


Value is displayed. 1 → fast time interval, 5 → large travel. Confirm with the "green check".

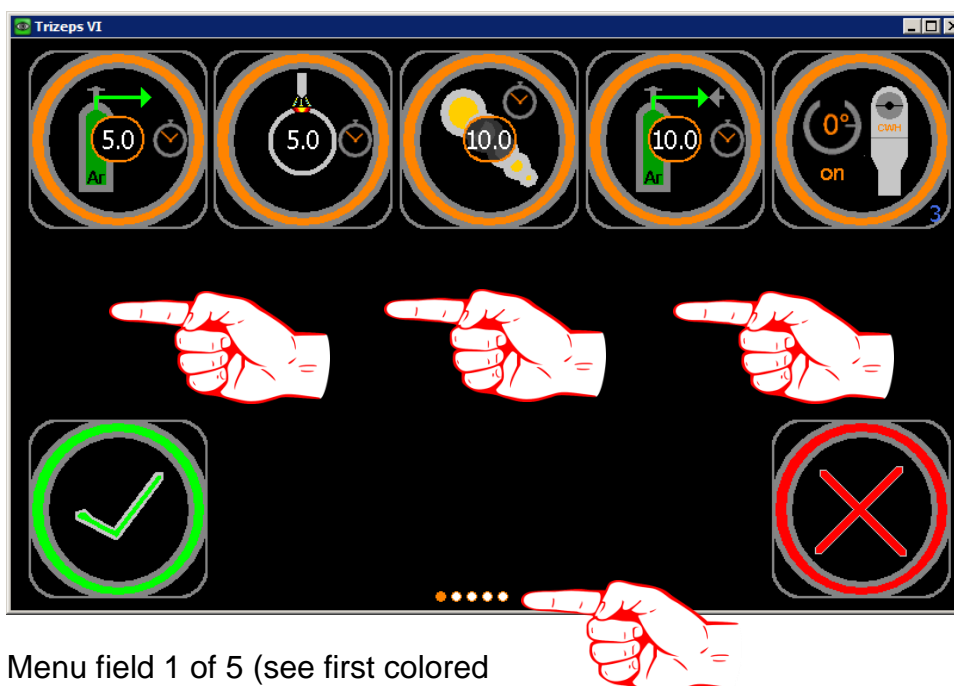
5.4.4 Changing AVC retraction



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by double "whipping" of the menu field to the, menu field 3 (AVC) becomes visible.



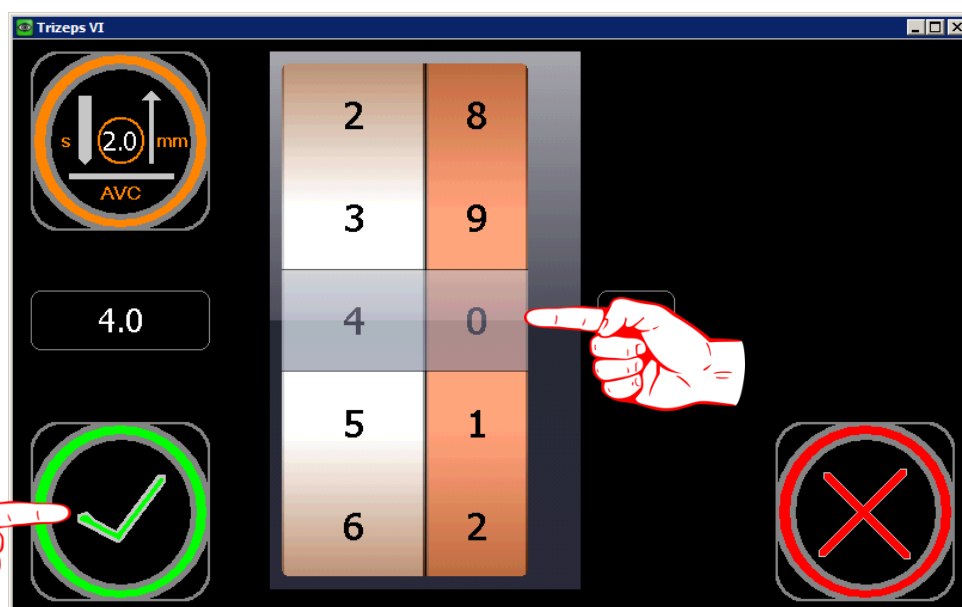
Activate AVC! (See section 5.4.1 AVC Activation / Deactivation)



Button AVC Retraction in mm / second. During the down slope time from less than 30A the weld head retracts under control in mm / second. If the value is 0, the weld head remains still during the down slope time. Pressing the button opens the submenu



opened submenu, here program suggestion 2mm / second

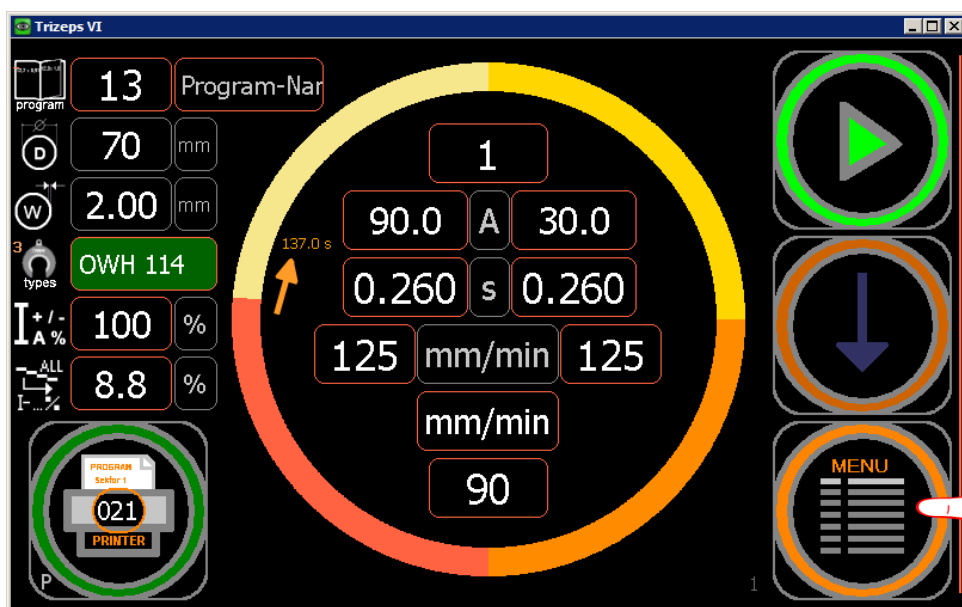


Set the AVC retraction with the scrolling wheels. Confirm with the "green check"

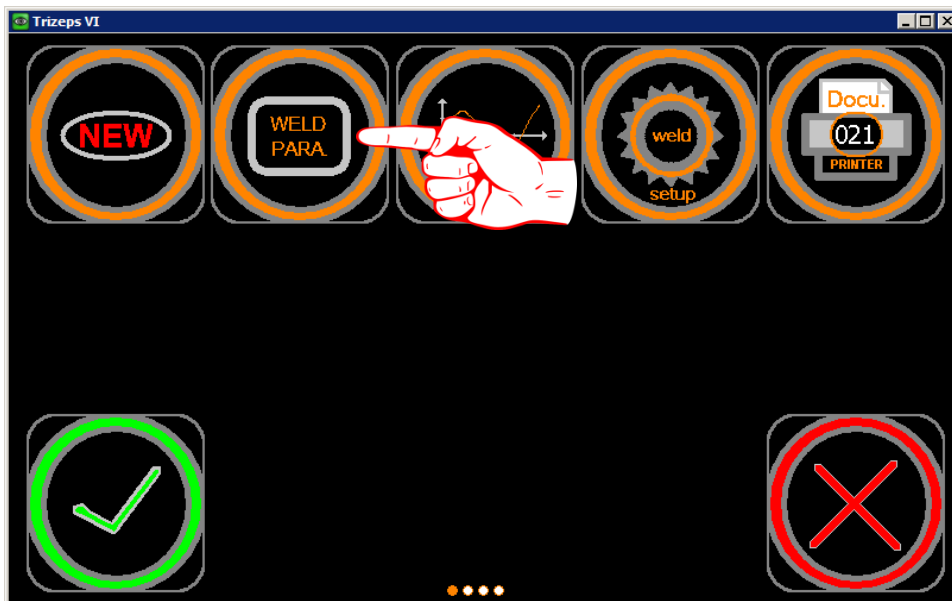


Value is displayed. Confirm with the "green check".

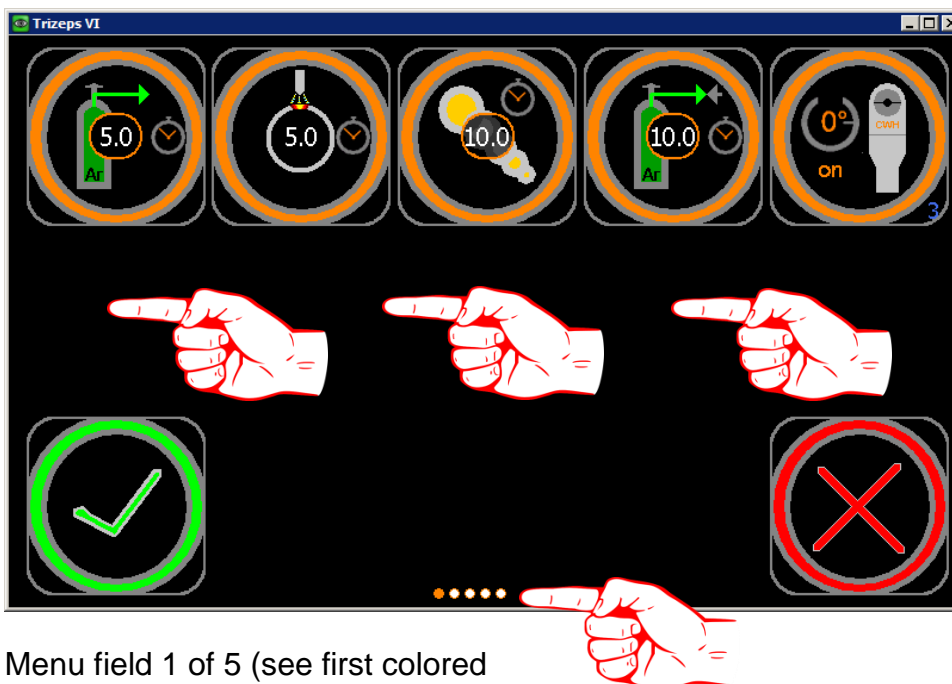
5.4.5 Changing AVC vertical gap



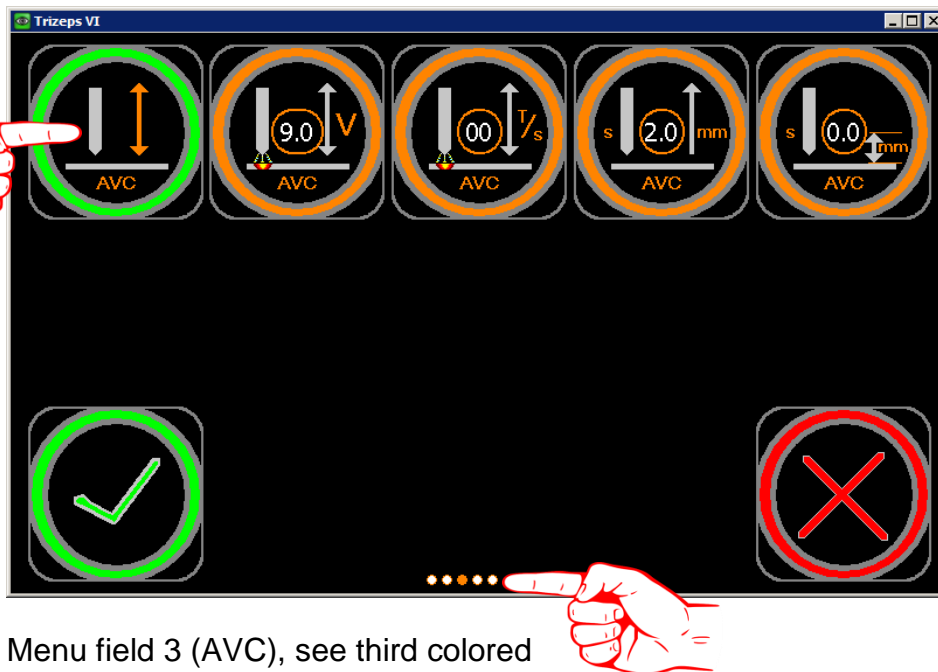
Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by double "whipping" of the menu field to the, menu field 3 (AVC) becomes visible.

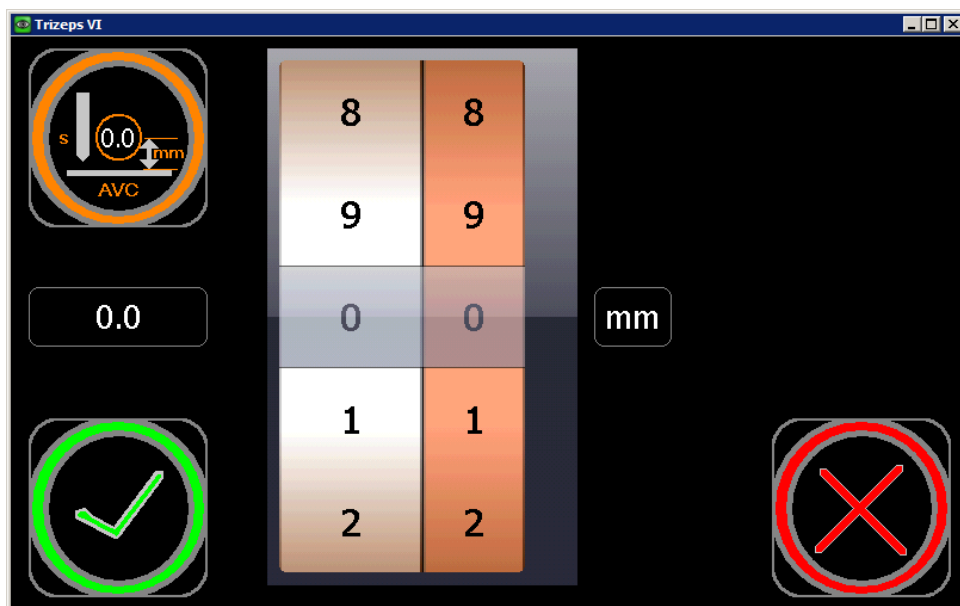


Menu field 3 (AVC), see third colored dot, out of the 5 displayed.

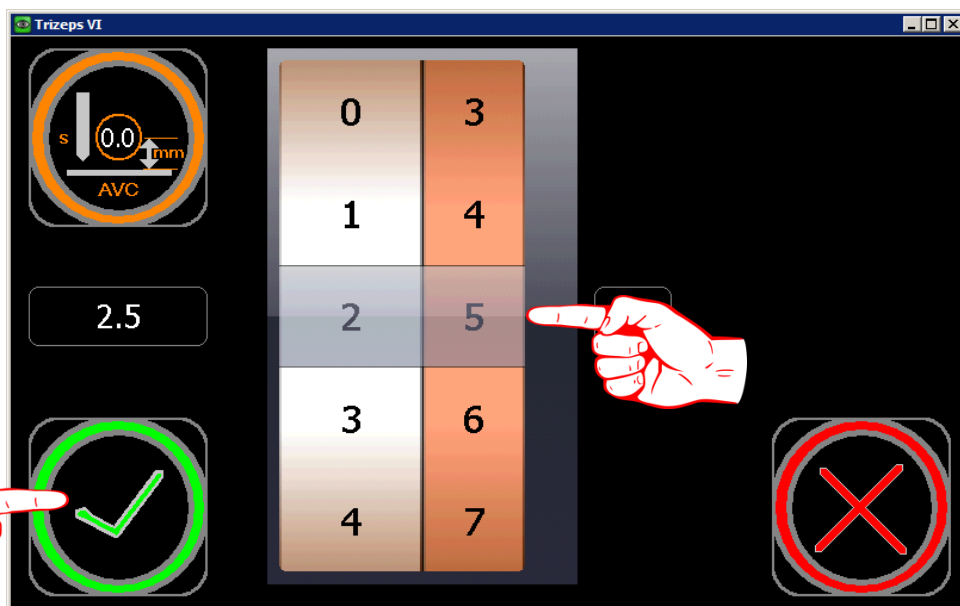
Activate AVC! (See section 5.4.1 AVC Activation / Deactivation)



Button AVC vertical gap in mm. Value in mm corresponds to the distance of the electrode to the work piece. This gap is automatically set before starting the welding process. The electrode touches the work piece (teaching). If AVC vertical gap = 0, then teaching is deactivated and torch moves to the level of the mechanical center of the AVC motor. Pressing the button opens the submenu



opened submenu, initial value always 0 (teaching deactivated)



Set the AVC Vertical Gap with the scrolling wheels. Confirm with the "green check"

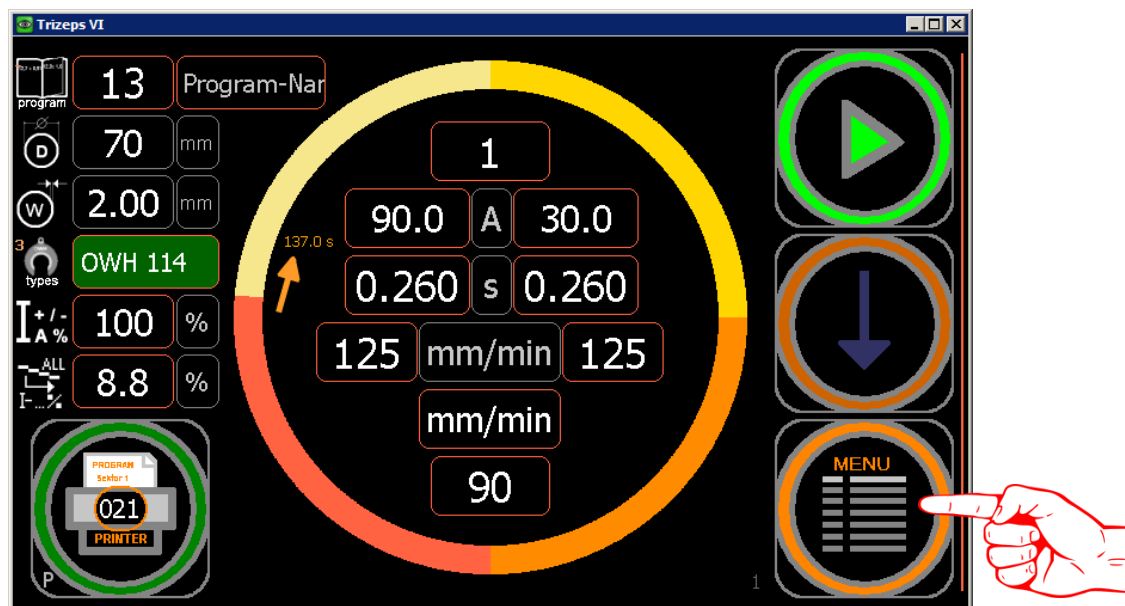


Value is displayed. Confirm with the "green check".

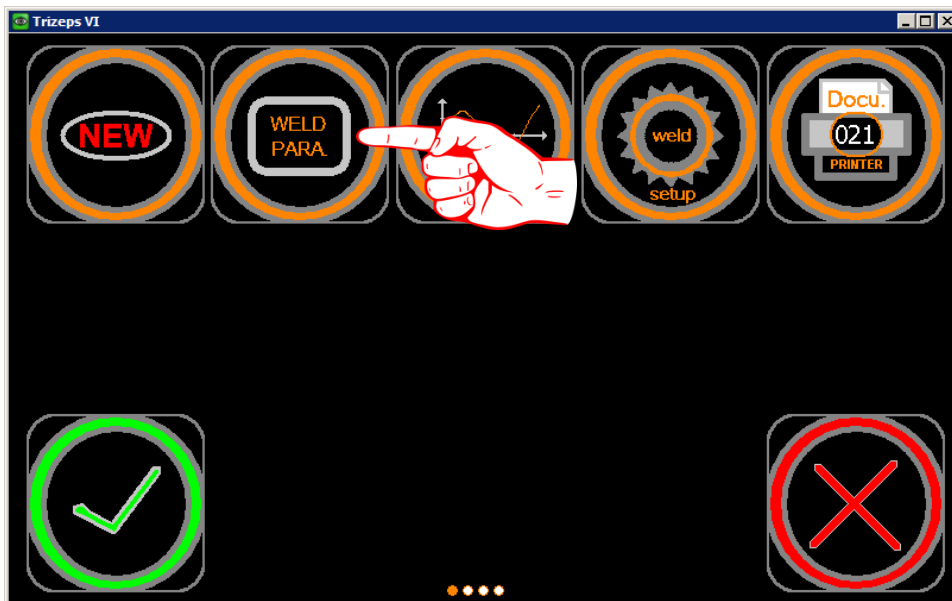
5.5 Changing OSC (Oscillation)

These changes are made in menu field 4.

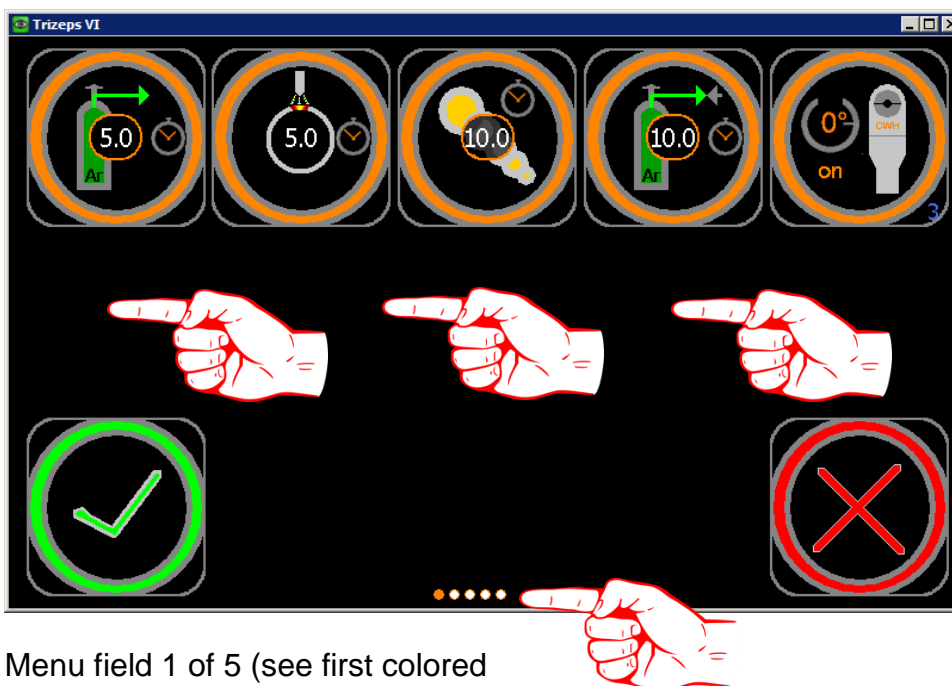
5.5.1 OSC activation/deactivation



Home screen, press button "MENU"



Pressing button "WELD PARA" opens menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed, by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.

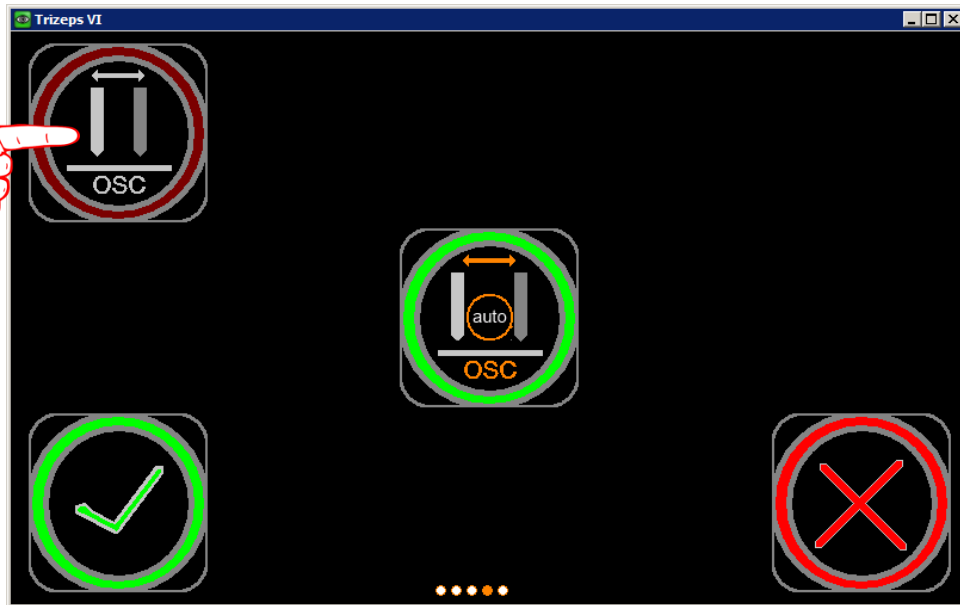


Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed. Three individually selectable functions are accessible with this button (see pictures 1-3 below). Pressing the first button "OSC" switches the symbol between the three functions. Confirm desired function with the "green check".



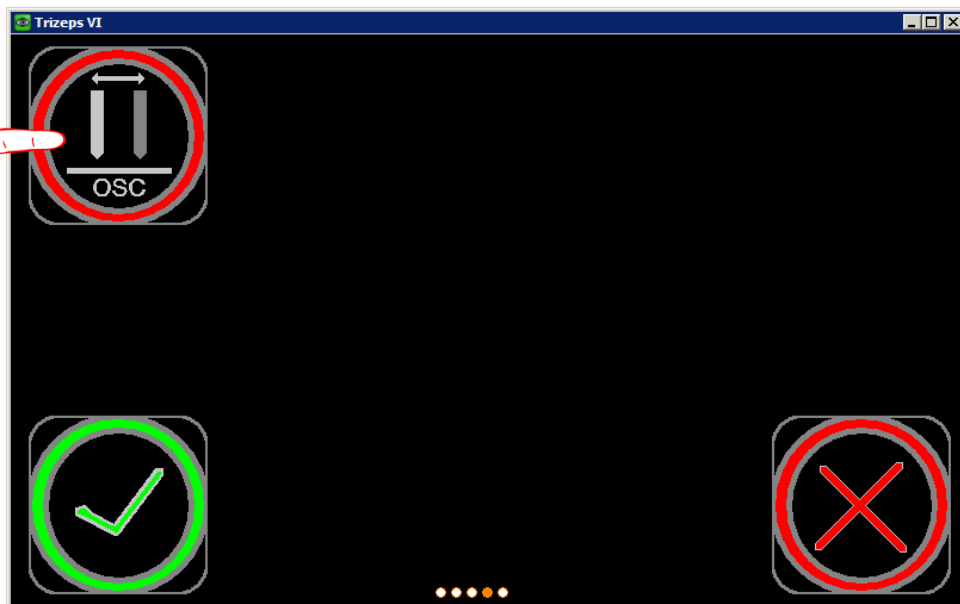
Picture 1

OSC activated (green button), simultaneously opens six more buttons (orange, gray, red) for further adjustment possibilities



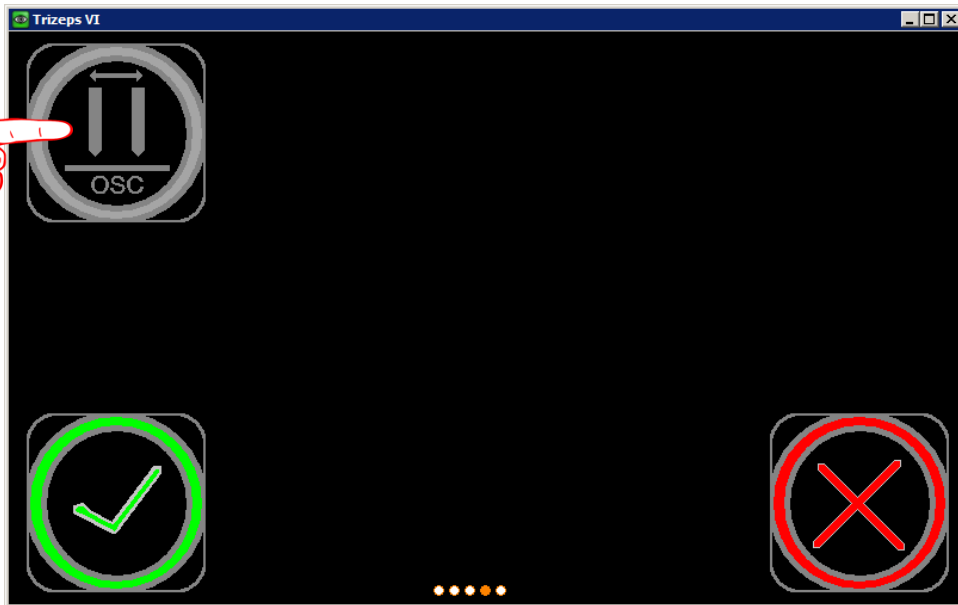
Picture 2

OSC deactivated (dark red button), all subsequent buttons (orange, gray, red) are now hidden. Only "OSC Auto" is enabled (see also section 5.5.6 OSC Automatic Teaching Activation / Deactivation).



Picture 3

OSC deactivated (light red button), all subsequent buttons are hidden



Picture 4
OSC with no function (gray button), automatically deactivated with all closed weld heads

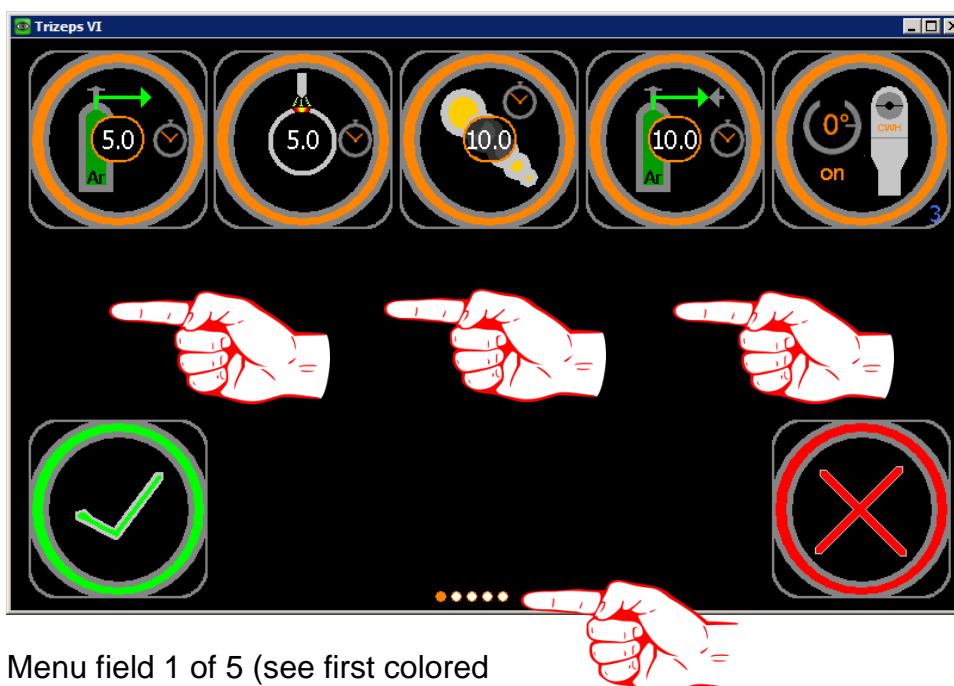
5.5.2 Changing OSC oscillation speed



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

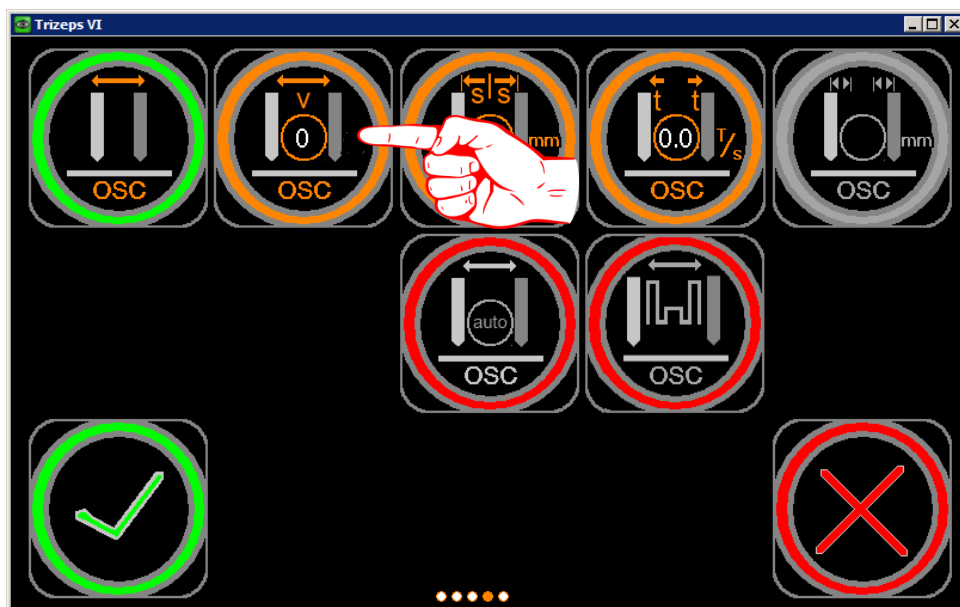


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.

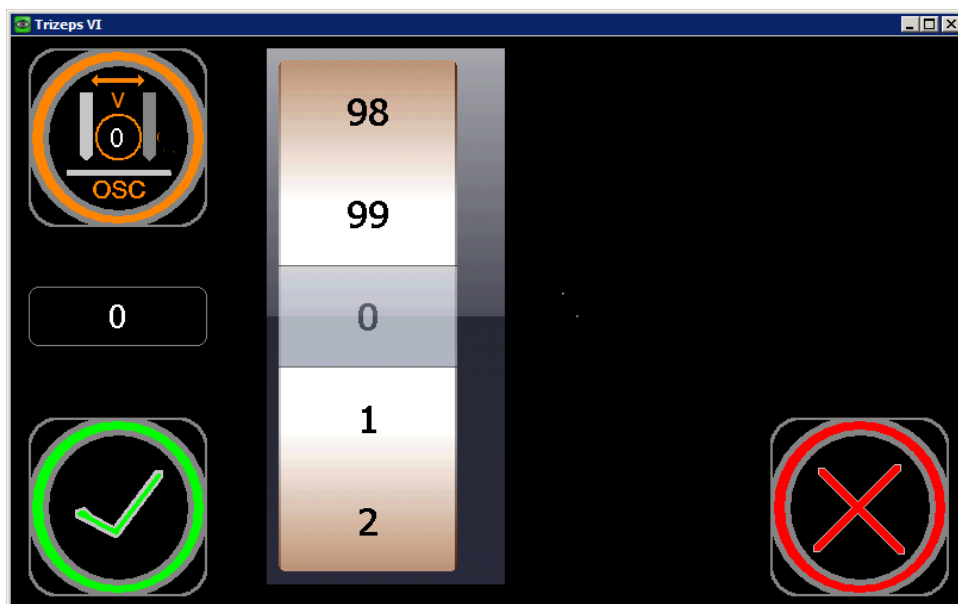


Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed.

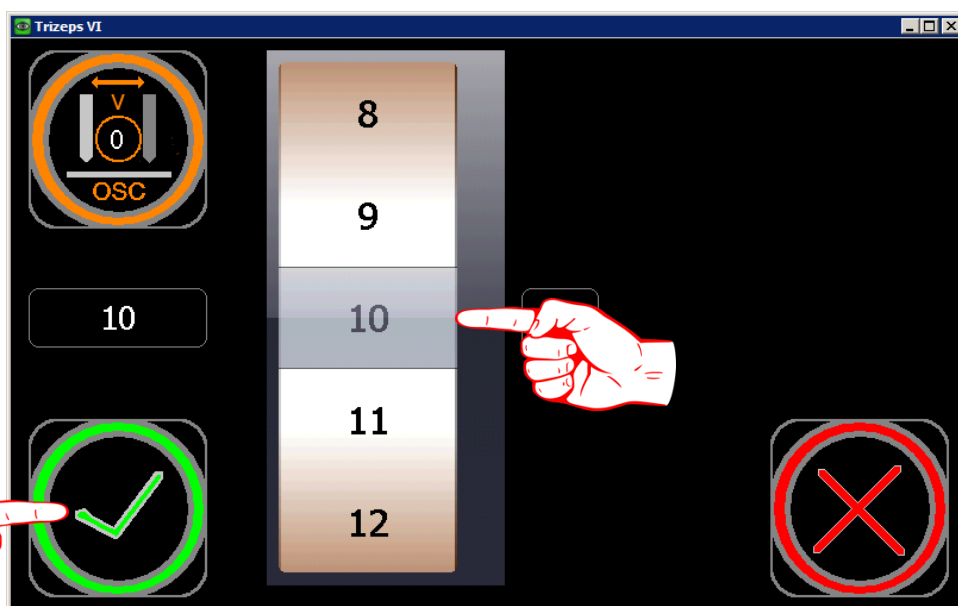
Activate OSC! (See section 5.5.1 OSC Activation / Deactivation)



Button OSC Speed, the higher the value, the faster the torch oscillates. Pressing the button opens the submenu



opened submenu, output value 0 corresponds to the smallest speed level

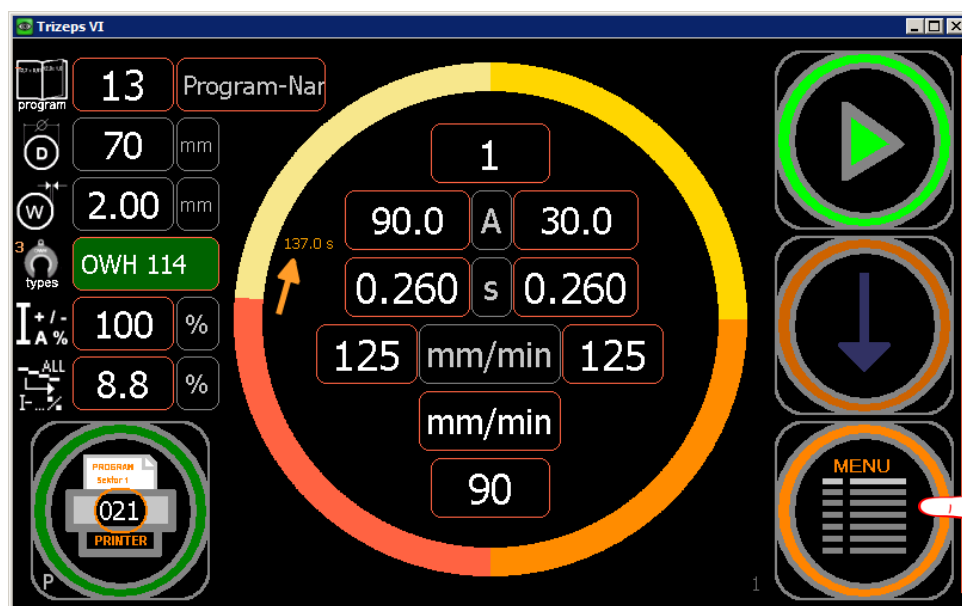


Set the OSC travel speed with the scrolling wheels. Confirm with the "green check"

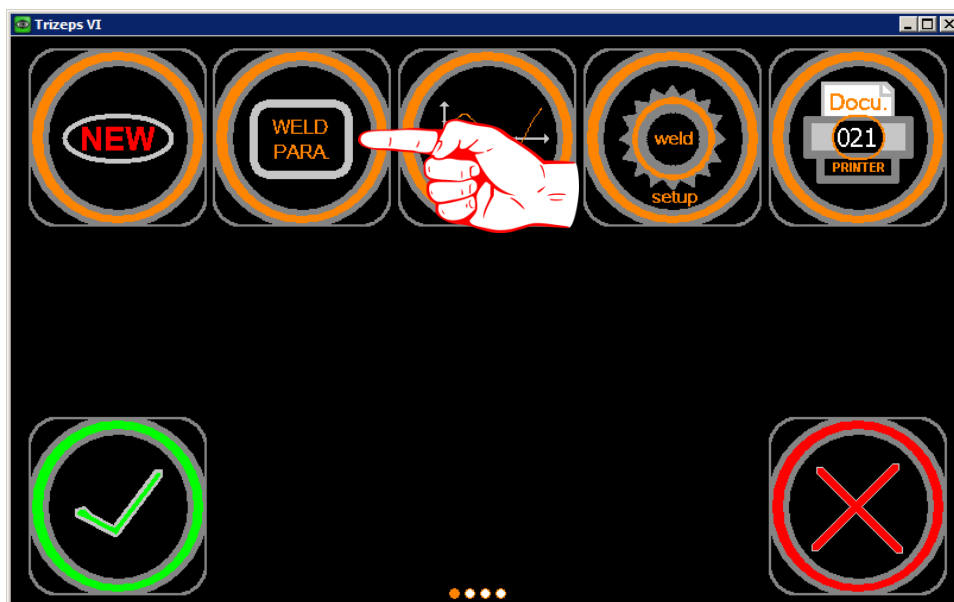


Value is displayed. Confirm with the "green check".

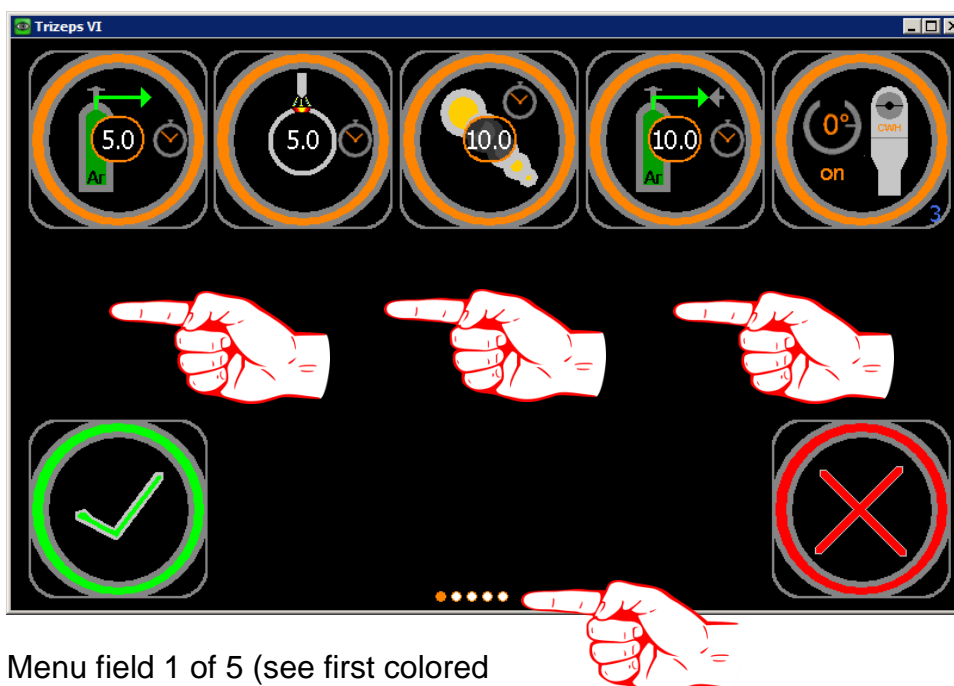
5.5.3 Changing OSC travel distance



Home screen, press button "MENU"



Pressing the button "WELD PARA" opens the menu field 1 (frame parameters)

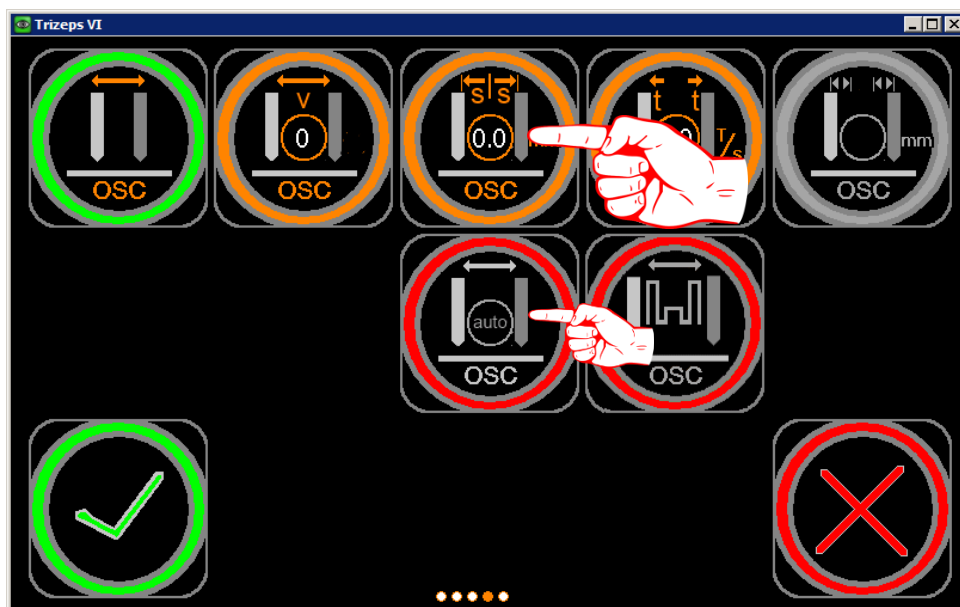


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.

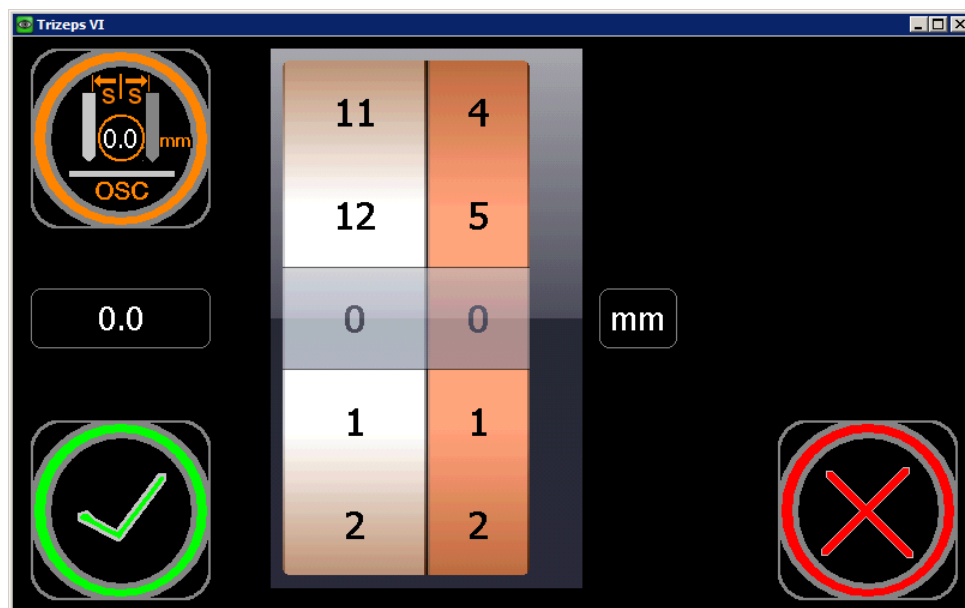


Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed.

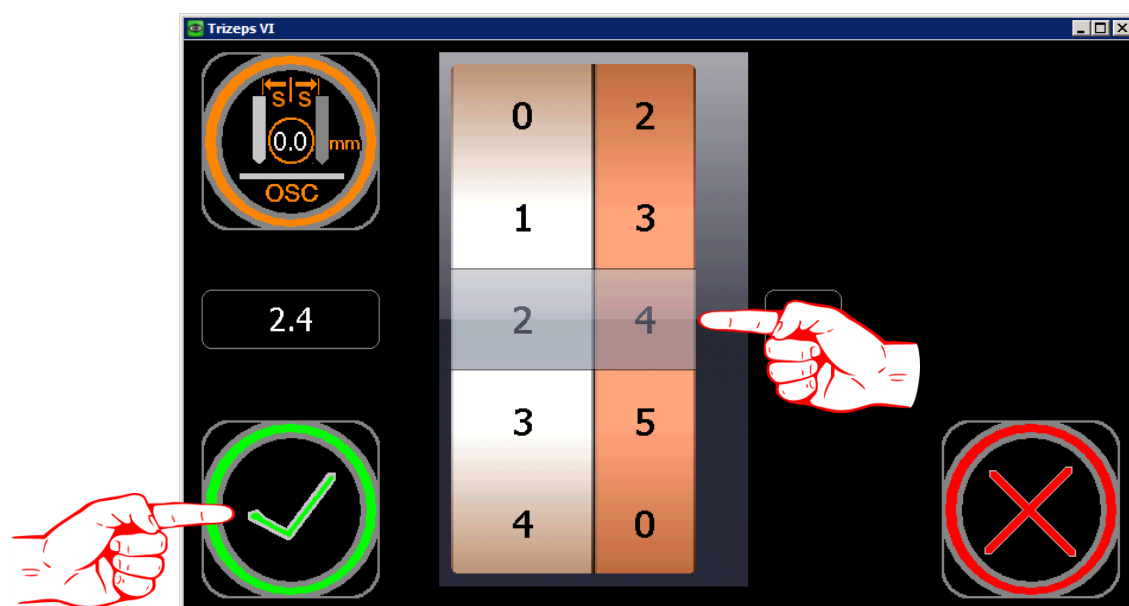
Activate OSC! (See section 5.5.1 OSC Activation / Deactivation)



Button OSC Travel Distance in mm, especially for the final pass. The value entered is the distance from the center of the weld to the left respectively to the right. Button "OSC Auto" (teaching) is automatically disabled. Pressing the button opens the submenu



opened submenu, initial value always 0

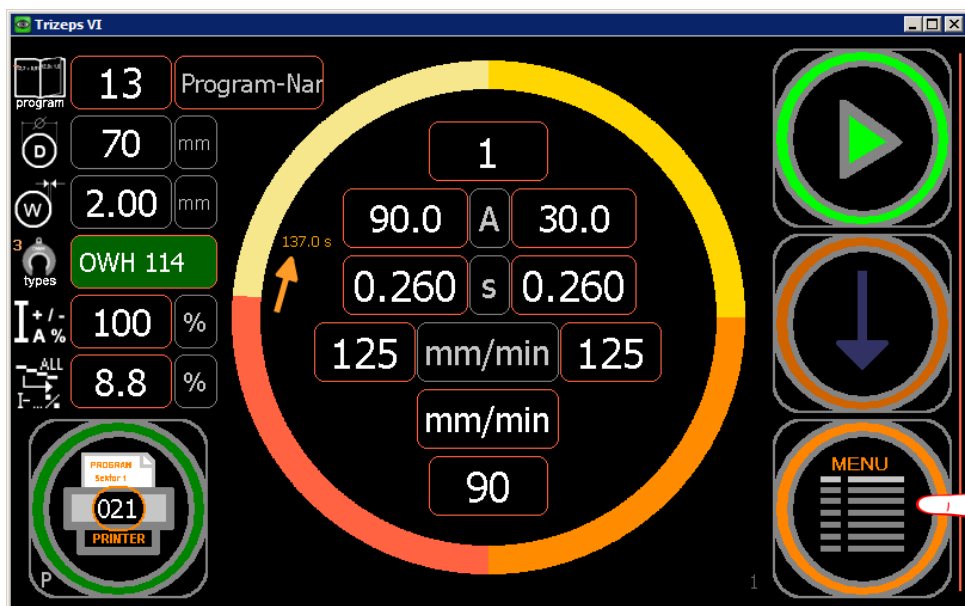


Set OSC Travel Distance with the scrolling wheels. Confirm with the "green check"

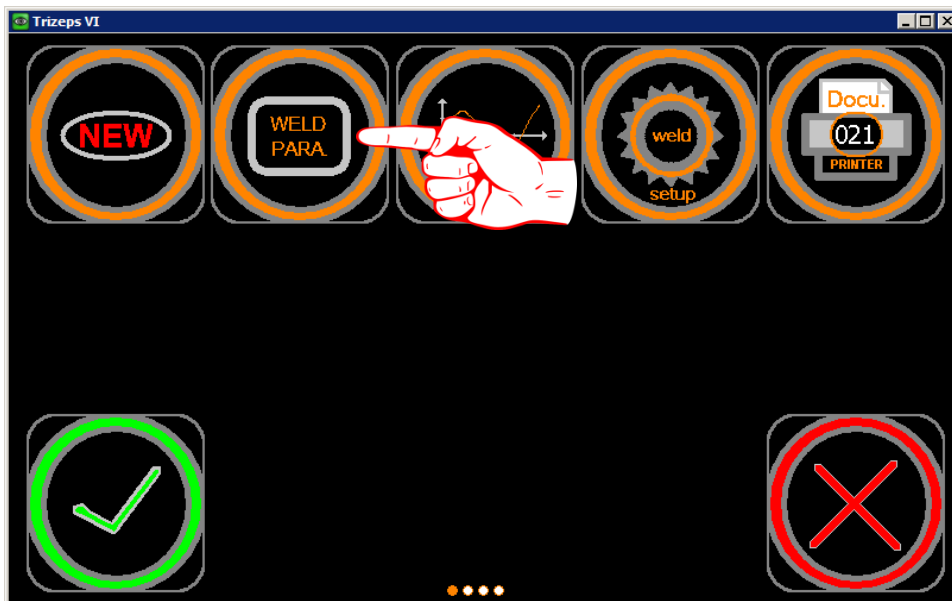


Value is displayed. Confirm with the "green check".

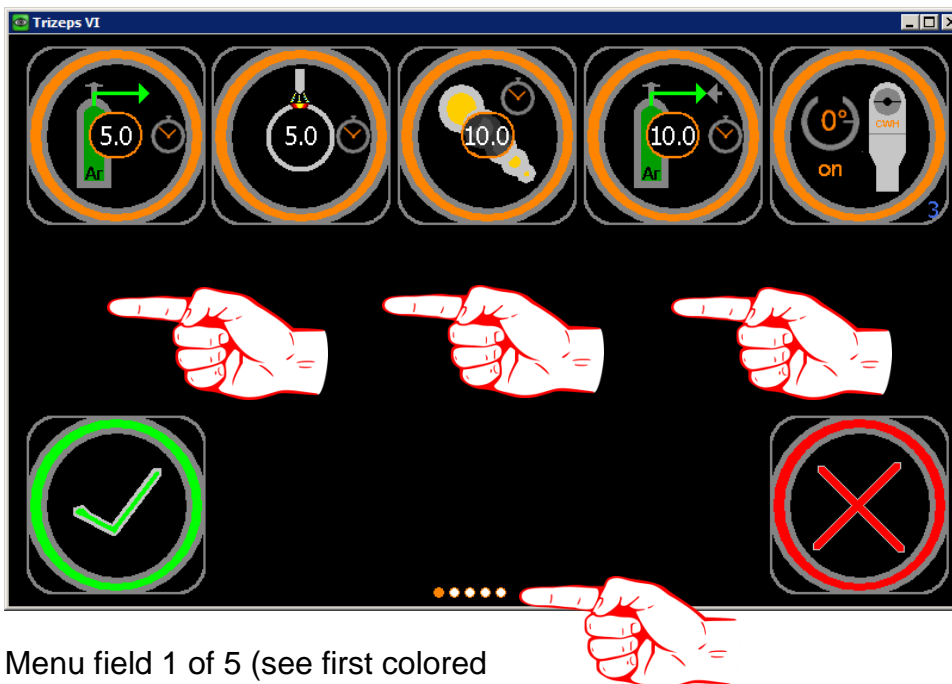
5.5.4 Changing OSC border dwell time



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

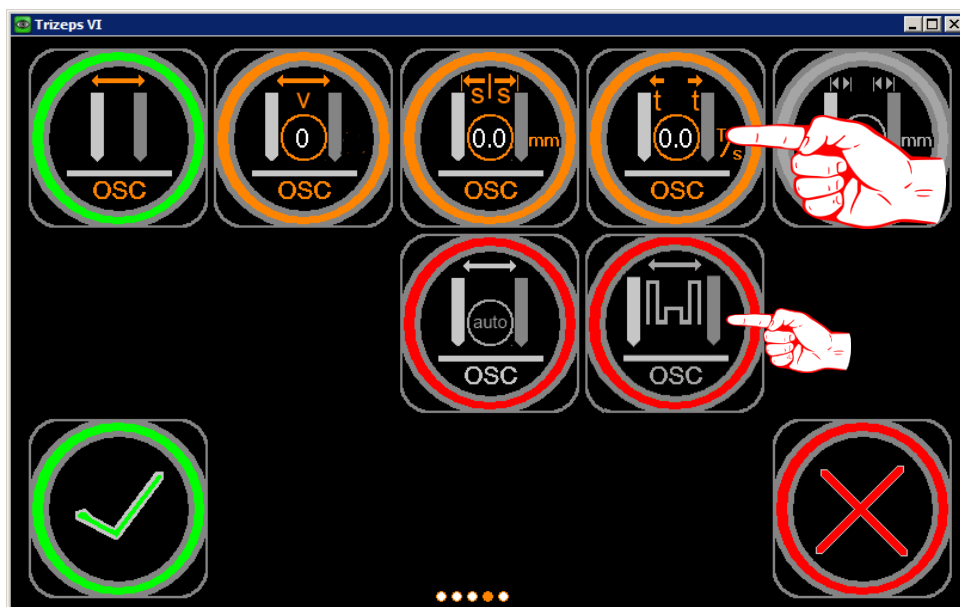


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.

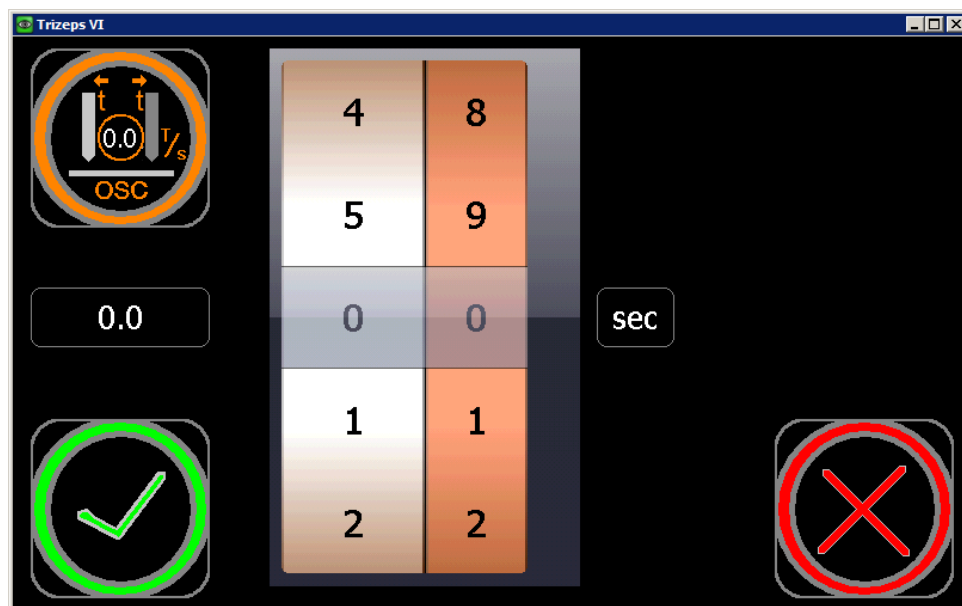


Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed.

Activate OSC! (See section 5.5.1 OSC Activation / Deactivation)



Button OSC Border Dwell Time in seconds. Value corresponds to dwell time in seconds at the end of each commute. Button "OSC Sync" is automatically disabled. Pressing the button opens the submenu



opened submenu, initial value always 0

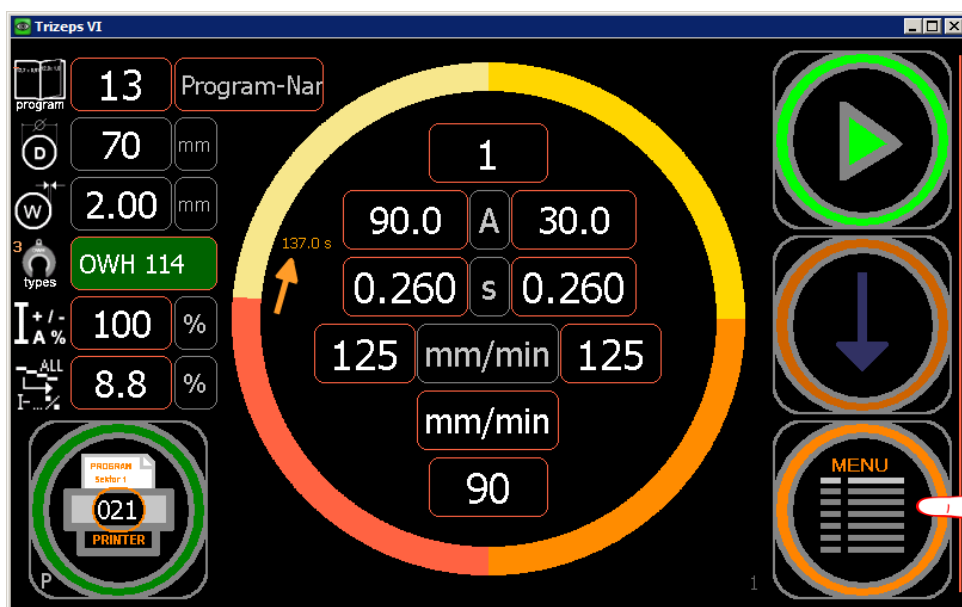


Set the OSC Border Dwell Time with the scrolling wheels. Confirm with the "green check"

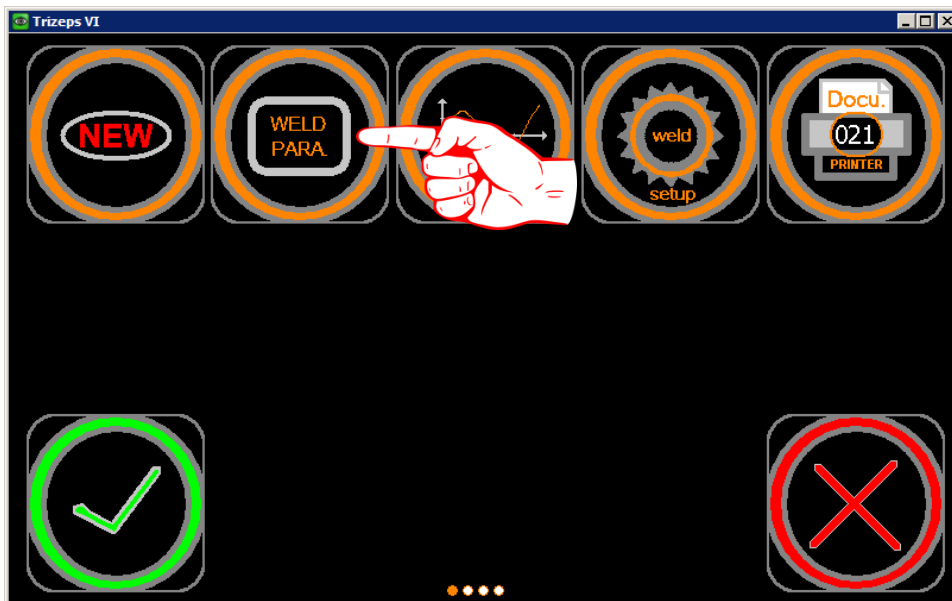


Value is displayed. Confirm with the "green check".

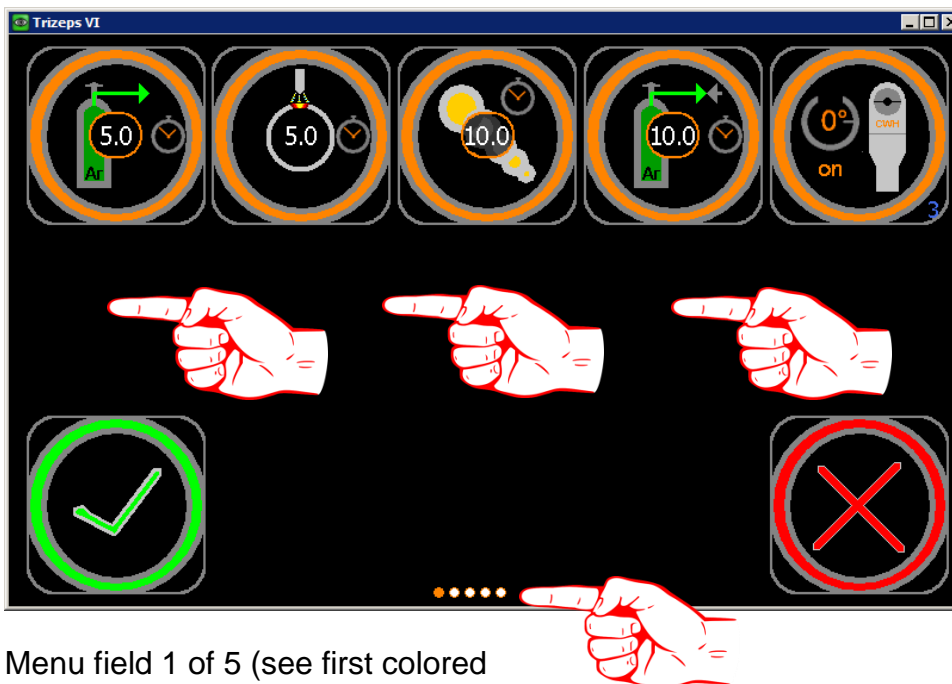
5.5.5 Changing OSC border distance



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

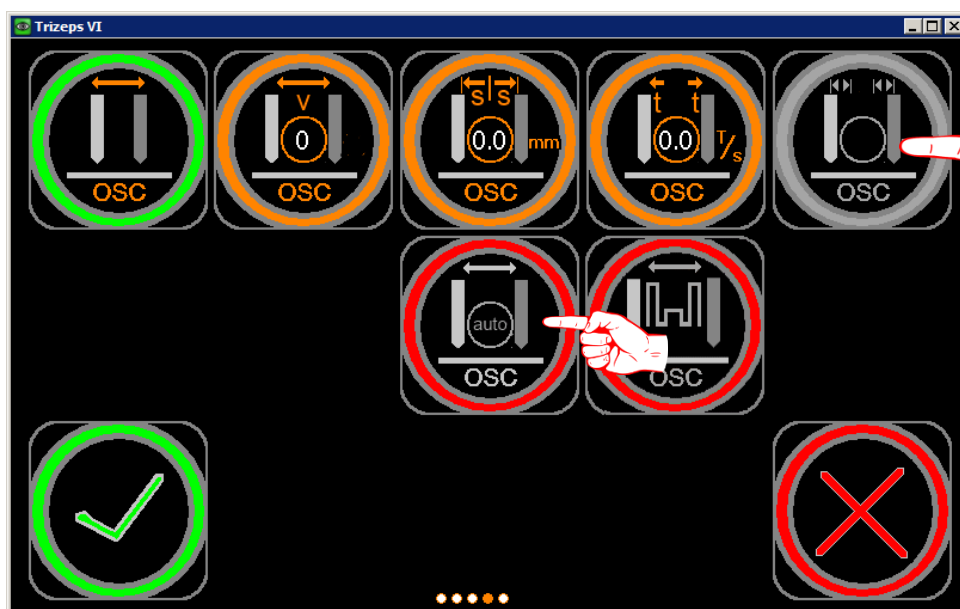


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.

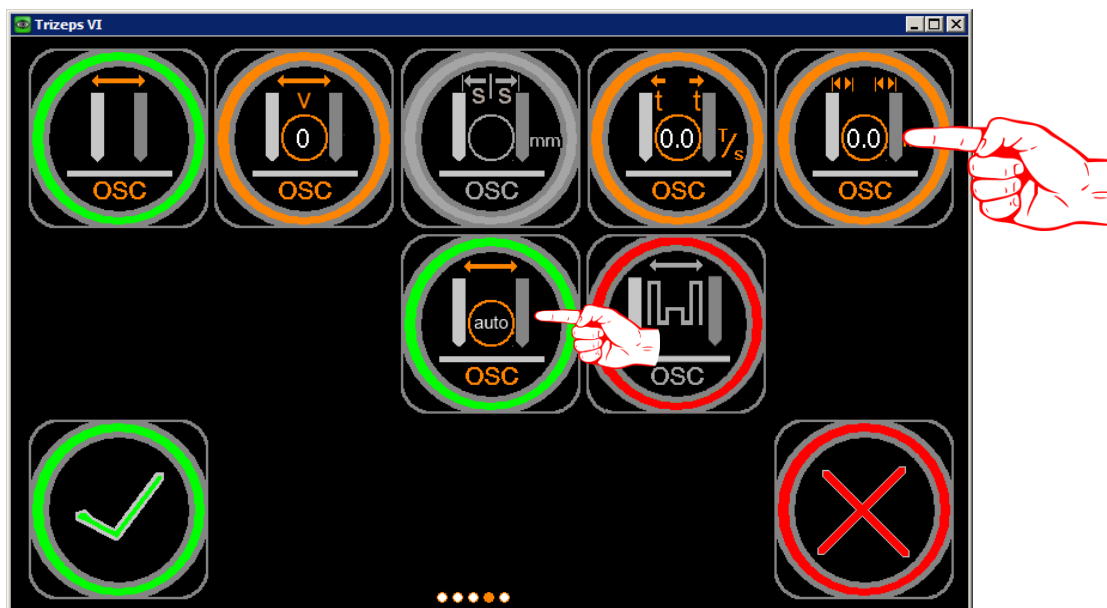


Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed.

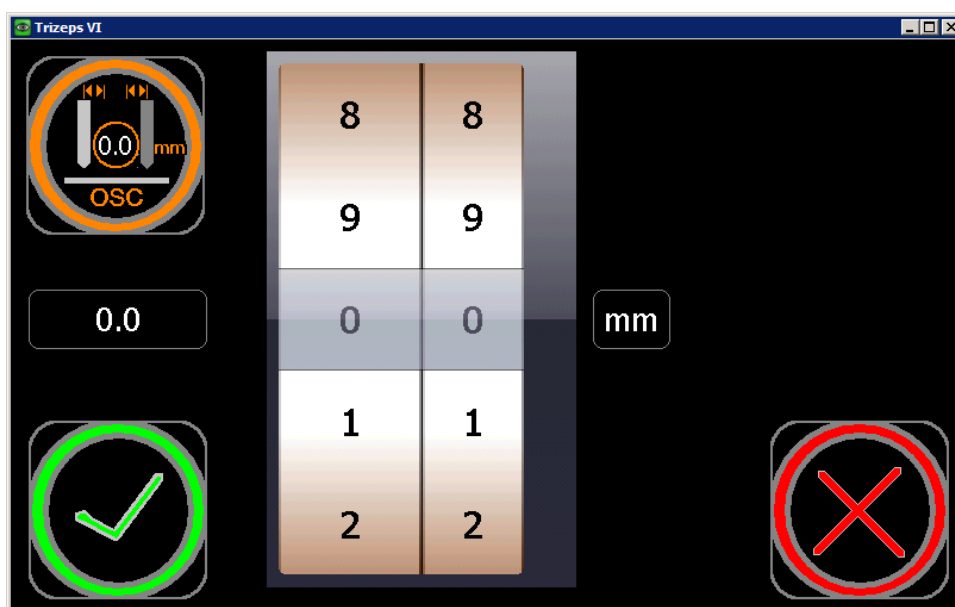
Activate OSC! (See section 5.5.1 OSC Activation / Deactivation)



Button OSC Border Distance in mm. Value corresponds to the distance from the touched border, with simultaneous activation of the "OSC Auto" function (starting point in the menu: both symbols always disabled). Only by pressing the red button "OSC Auto", buttons OSC Border Distance and "OSC Auto" are activated simultaneously. (See also section 5.5.6.1 OSC Automatic Teaching Depending of OSC Border Distance)



Both icons activated (see also section 5.5.6.1 OSC Automatic Teaching Depending on OSC Border Distance), pressing the button opens the submenu.



opened submenu, initial value always 0



Set the OSC Border Distance with the scrolling wheels.
 Confirm with the "green check"



Value is displayed. Confirm with the "green check".

5.5.6 OSC automatic teaching activation/deactivation

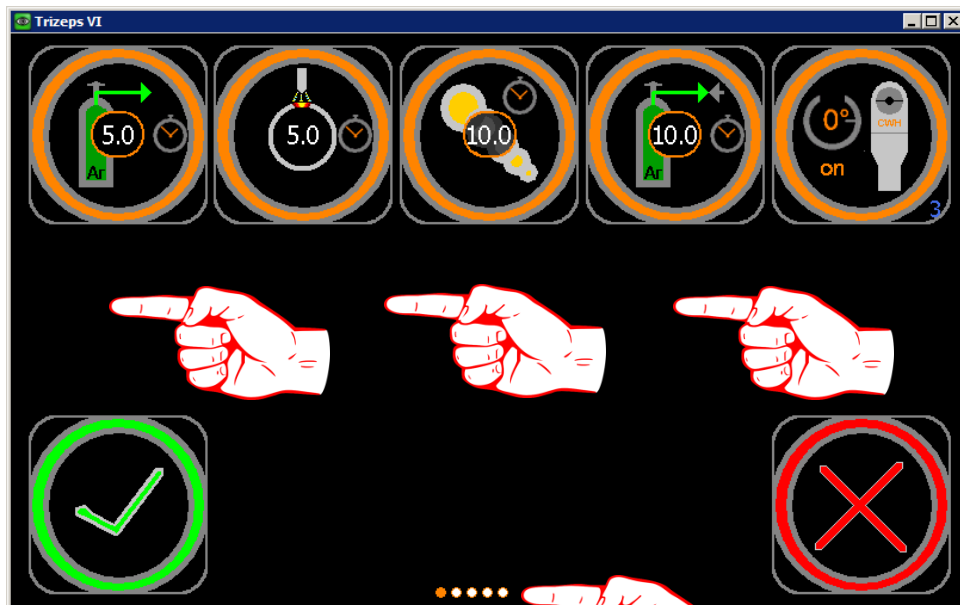
5.5.6.1 Depending on OSC border distance



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.



Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed.

Activate OSC! (See section 5.5.1 OSC Activation / Deactivation)



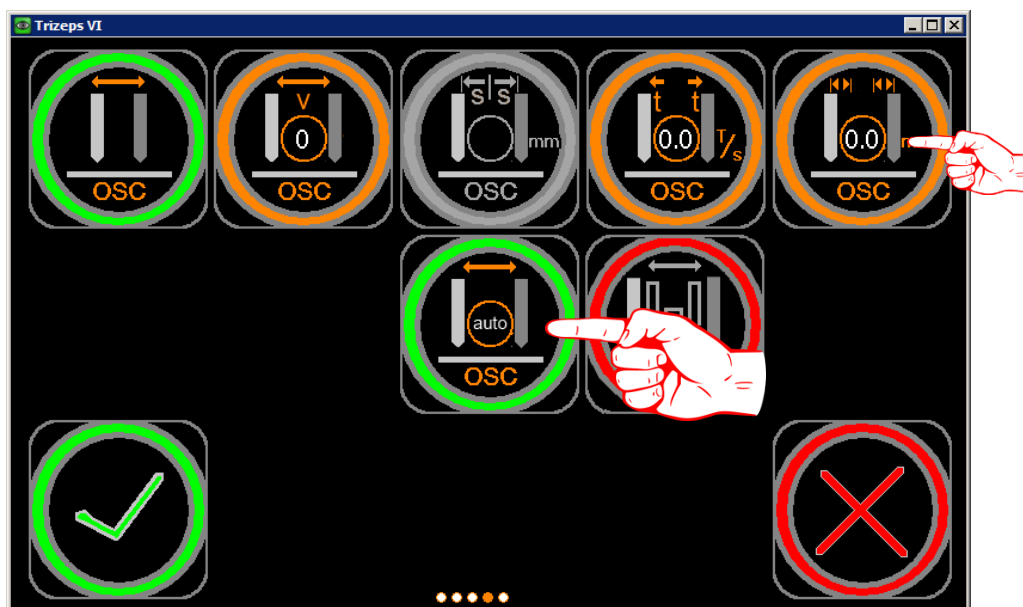
Button OSC Automatic Teaching, especially for middle passes. Automatic travel to weld center depending on OSC border distance. Two individually selectable functions are accessible with this button (See Pictures 1-2 below). Pressing the button "OSC Auto" changes the symbol between the two functions. Confirm desired function with the "green check".

Warning: this function is directly linked to the button "OSC Border Distance" (See section 5.5.5). Therefore a value must be entered under button "OSC Border Distance".



Picture 1

OSC Automatic Teaching disabled, simultaneously Button OSC Border Distance is also disabled. Manual alignment of the torch to weld center is therefore required.



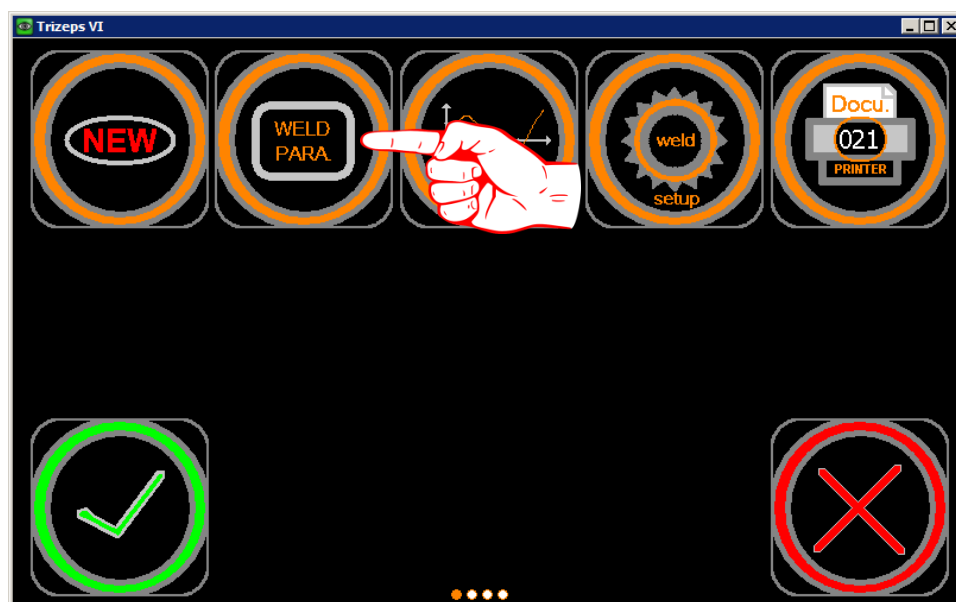
Picture 2

OSC Automatic Teaching is activated, simultaneously Button OSC Border Distance is also activated. Automatic travel of the torch to weld center. Simultaneously the value necessarily entered under Button OSC Border Distance will be considered for the next step of the weld process.

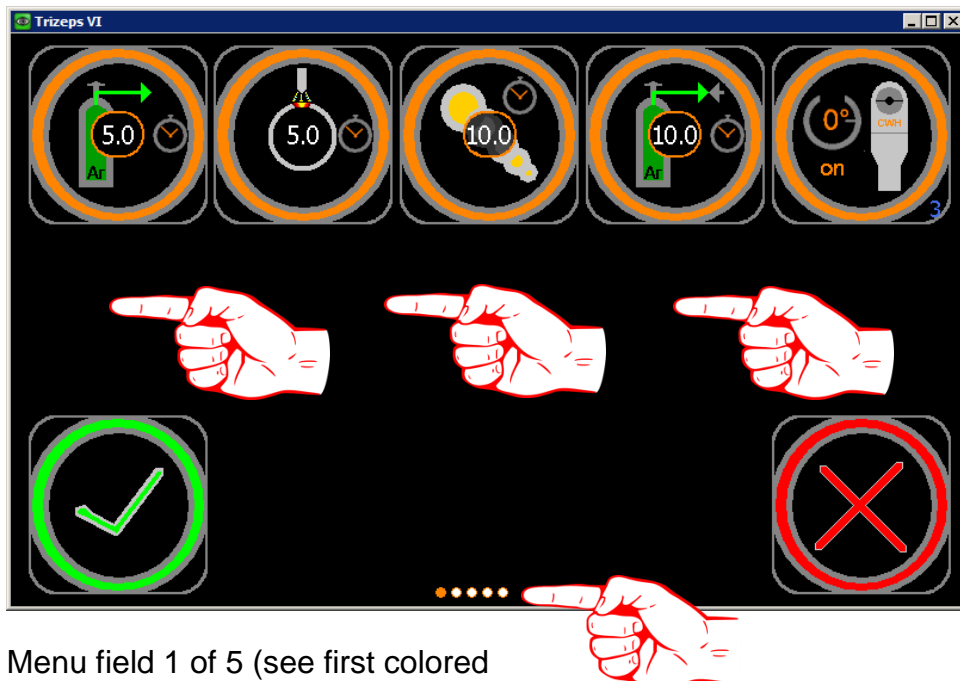
5.5.6.2 Independent from OSC border distance



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

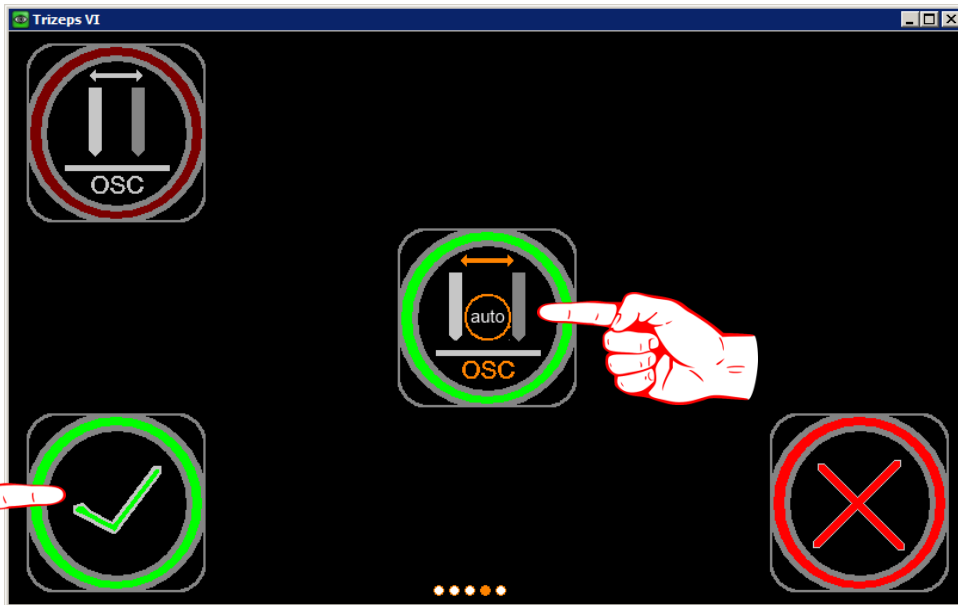


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.

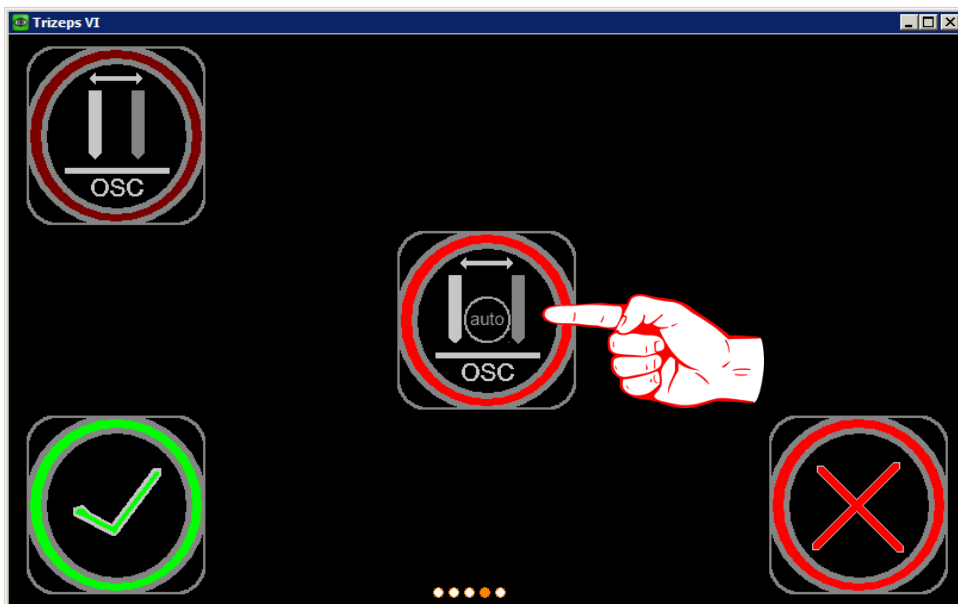


Menu field 4 (OSC), see fourth colored dot, out of the 5 displayed.

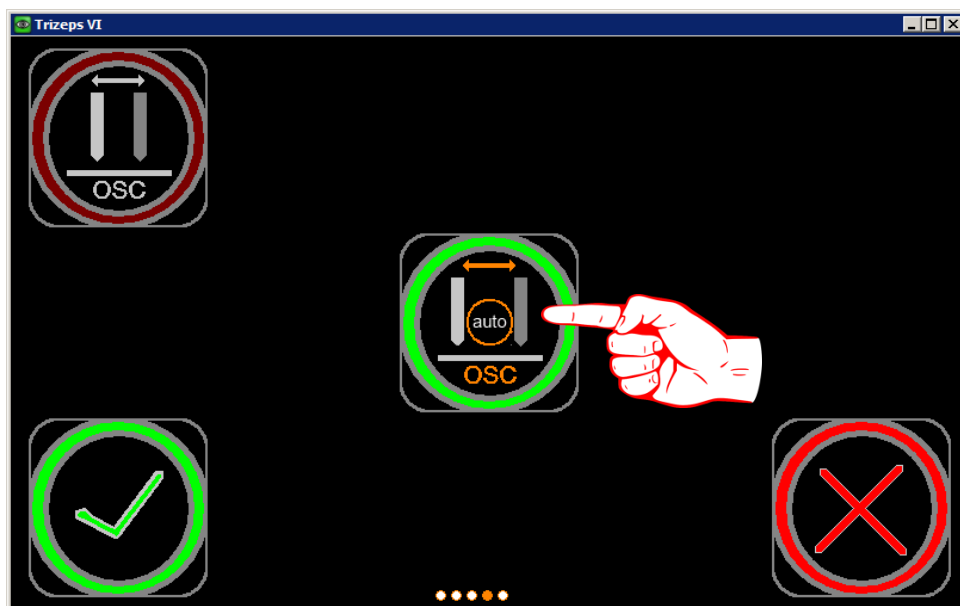
Deactivate OSC! (See section 5.5.1 OSC Activation / Deactivation)



Button OSC Automatic Teaching, especially for root passes. Automatic travel to weld center. Two individually selectable functions are accessible in this button (see pictures 1-2 below). Pressing the Button "OSC Auto" changes the icon between the two functions. Confirm desired function with the "green check".



Picture 1
 OSC Automatic Teaching disabled. Manual alignment of the torch to the center of the weld is therefore required.

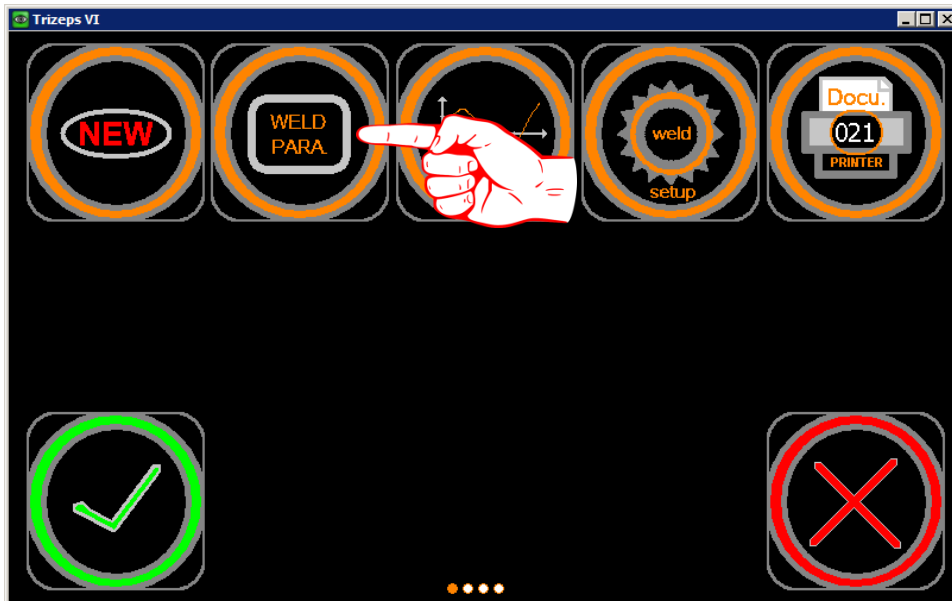


Picture 2
OSC Automatic Teaching activated, automatic travel of the torch to weld center.

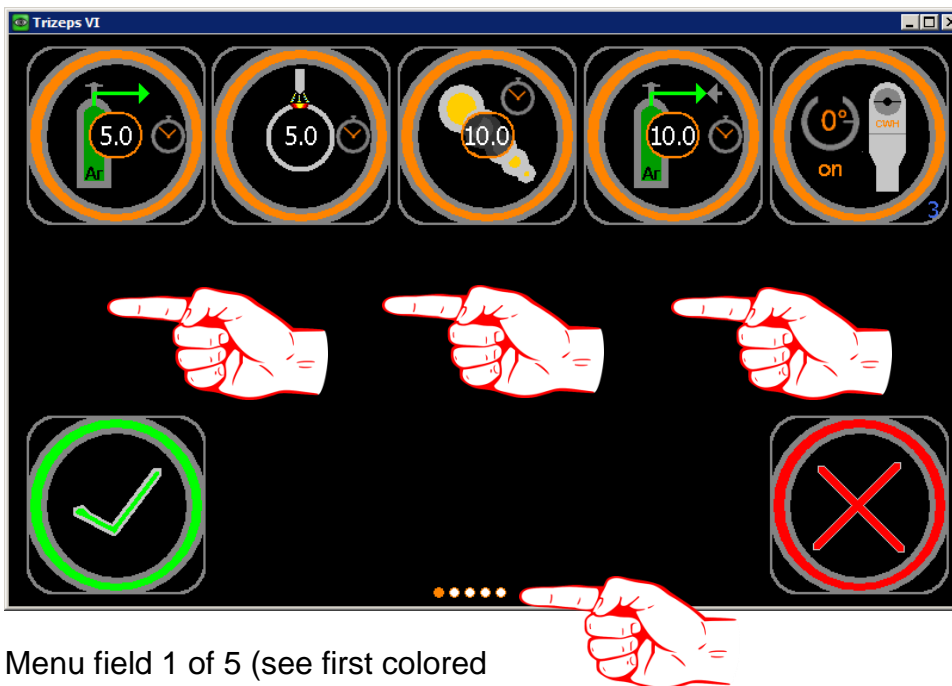
5.5.7 OSC Synchronization activation/deactivation



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

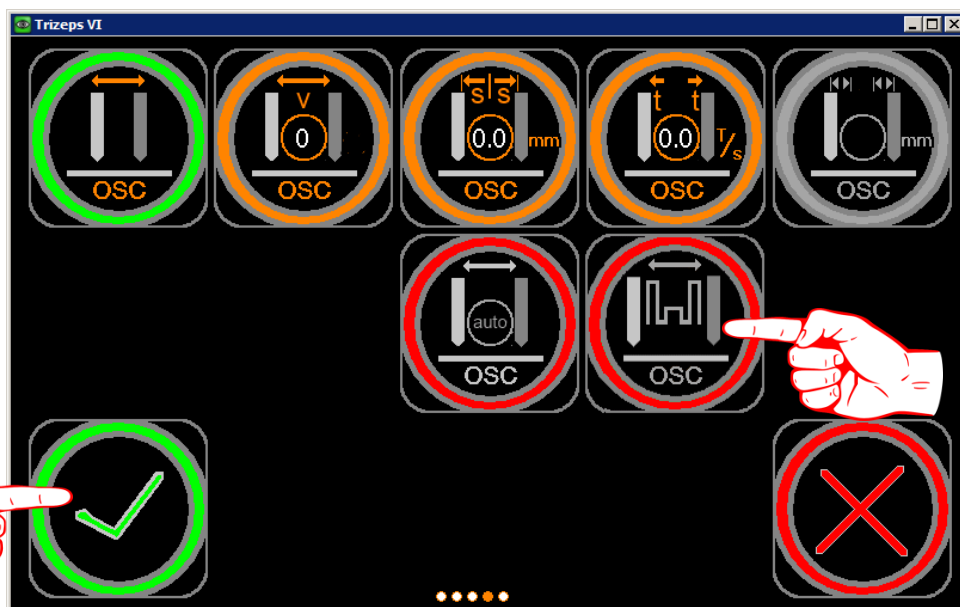


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by triple "whipping" of the menu field to the, menu field 4 (OSC) becomes visible.



Menu field 4 (OSC), see fourth colored dot, out of 5 displayed.

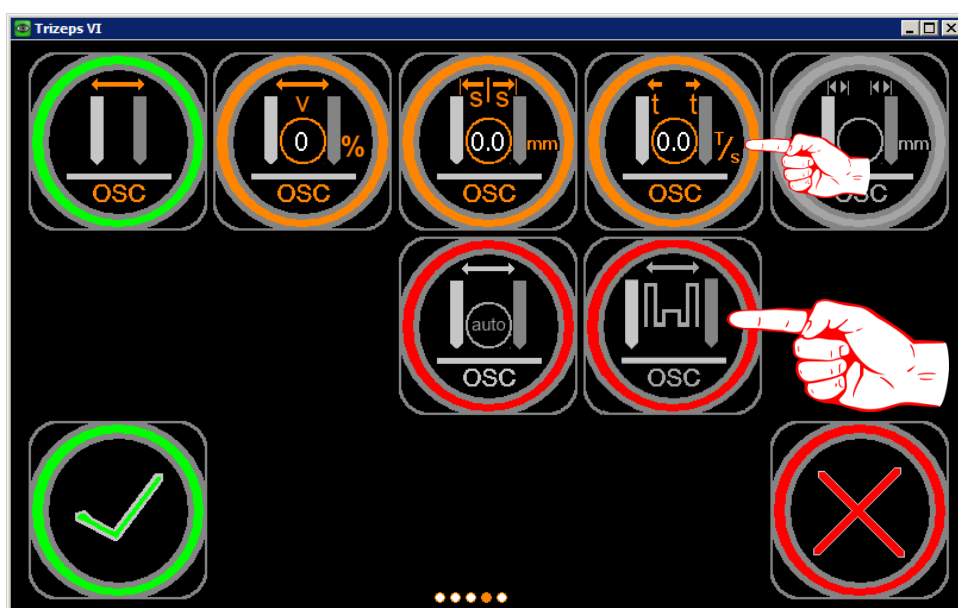
Activate OSC! (See section 5.5.1 OSC Activation / Deactivation)



Button OSC Synchronization. Synchronization of high current with travel and oscillation speed (in both borders high current with high current time, distance to next border with OSC oscillation speed in base current). Two individually selectable functions are accessible with this button (see Pictures 1-2 below). Pressing the button changes the icon between the two functions. Confirm desired function with the "green check".



Picture 1
OSC Synchronization enabled, OSC Border Dwell Time automatically disabled



Picture 2
OSC Synchronization disabled, OSC Border Dwell Time automatically enabled

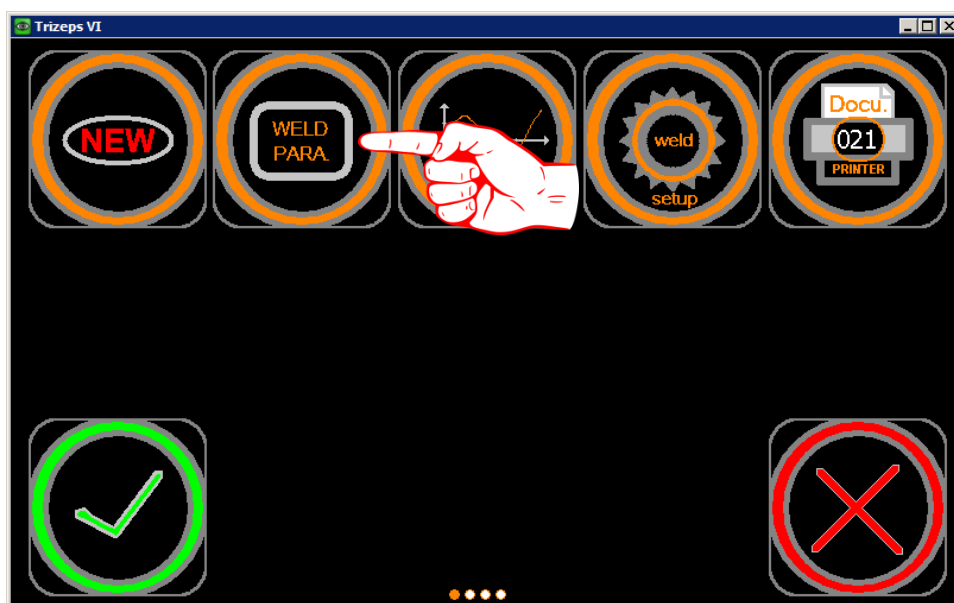
5.6 Changing tack weld

These changes are made in menu field 5.

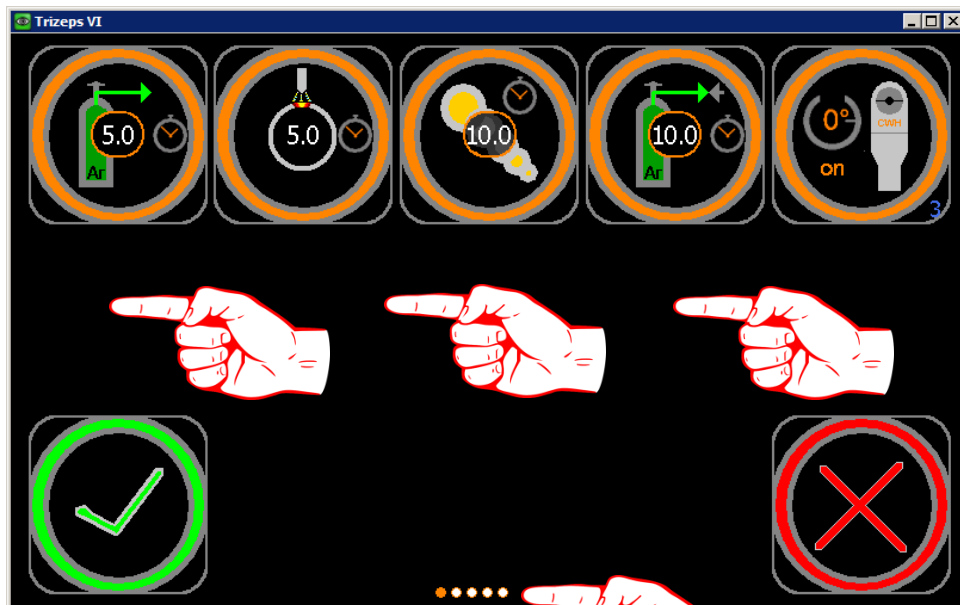
5.6.1 Tack weld activation/deactivation



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by quadruple "whipping" of the menu field to the, menu field 5 (Tack Weld) becomes visible.



Menu field 5 (Tack Weld), see fifth colored dot, out of the 5 displayed. Three individually selectable functions are accessible with this button (see Pictures 1-3 below). Pressing button "TACK" changes the icon between the three functions. Confirm desired function with the "green check".



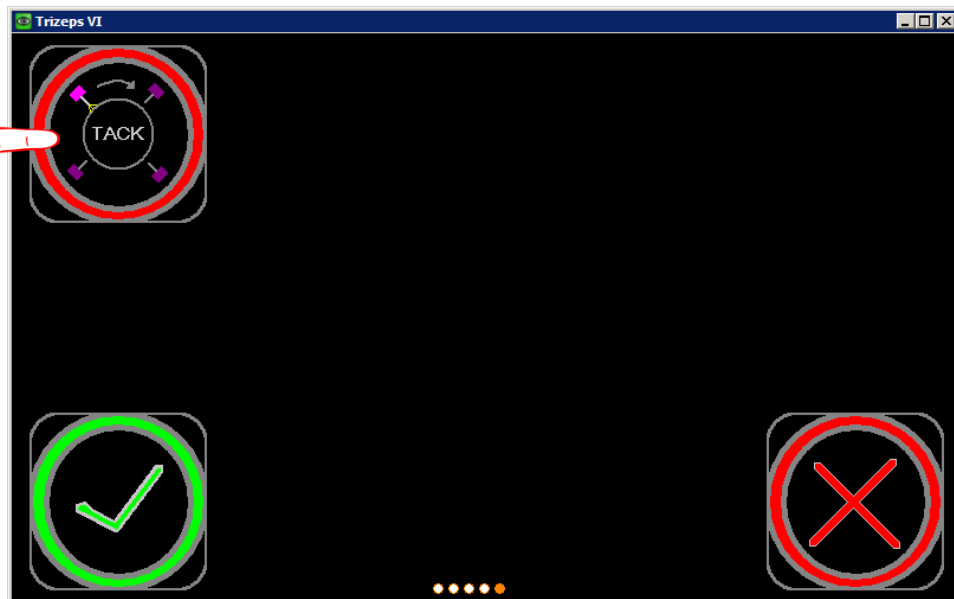
Picture 1

Tacking without automatic start of the welding process is activated (dark green button), simultaneously opens four more buttons (orange) for further adjustment possibilities. After tack welding, the welding process must be started manually.



Picture 2

Tacking with automatic start of the welding process is activated (light green button) the four open buttons (orange) remain accessible. After tacking, the weld process starts automatically.



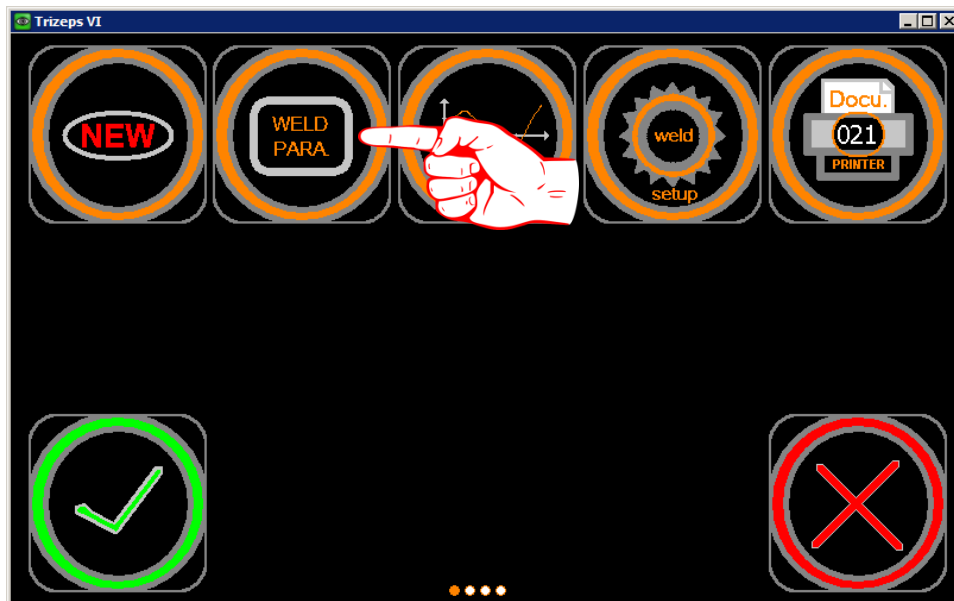
Picture 3

Tacking deactivated (red button), all subsequent buttons are not displayed

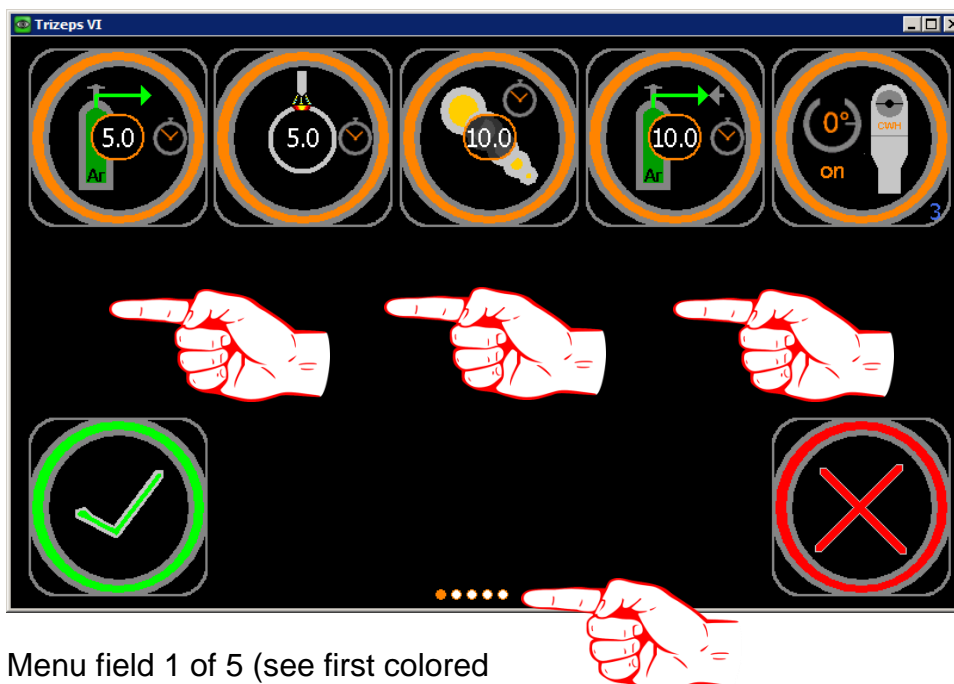
5.6.2 Changing the number of tack welds



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

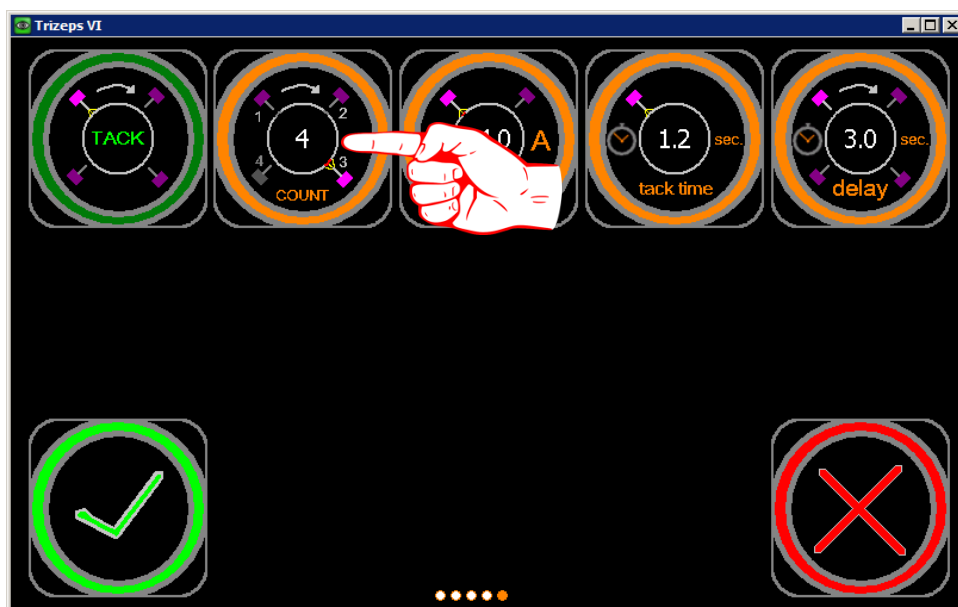


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by quadruple "whipping" of the menu field to the, menu field 5 (TACK) becomes visible.



Menu field 5 (TACK), see fifth colored dot, out of the 5 displayed.

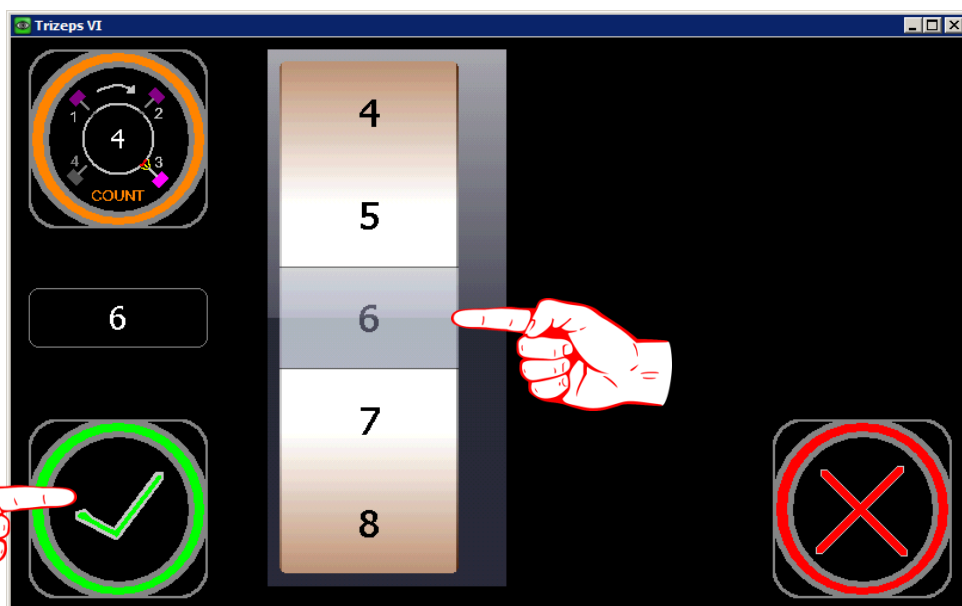
Activate TACK! (See section 5.6.1 Tack Weld Activation / Deactivation)



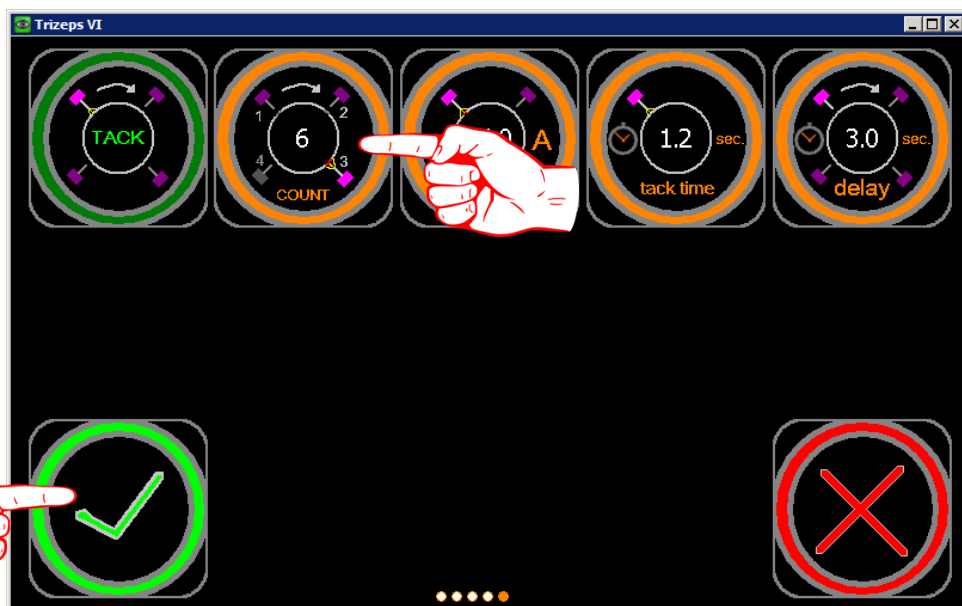
Button Number of Tack Welds (recommended number: min. 4 / max 30), pressing the button "COUNT" opens the submenu



opened submenu, here program suggestion 4 tack welds

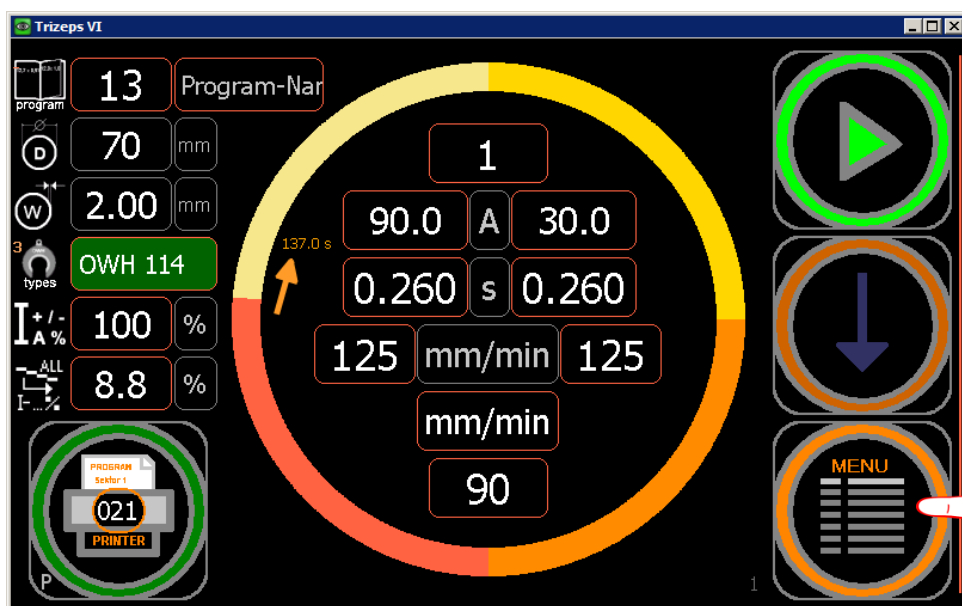


Set the number of tack welds with the scrolling wheels. Confirm with the "green check"

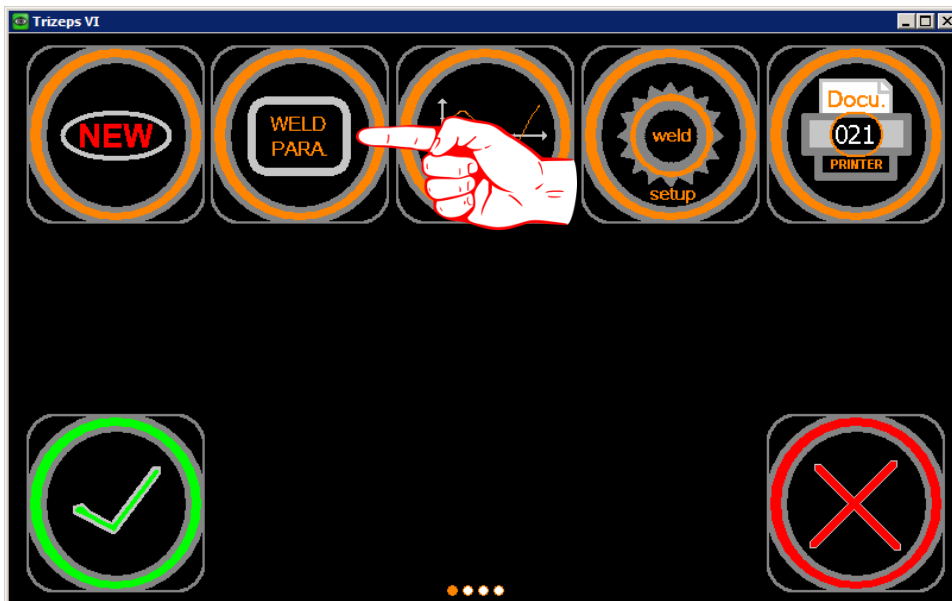


Value is displayed. Confirm with the "green check".

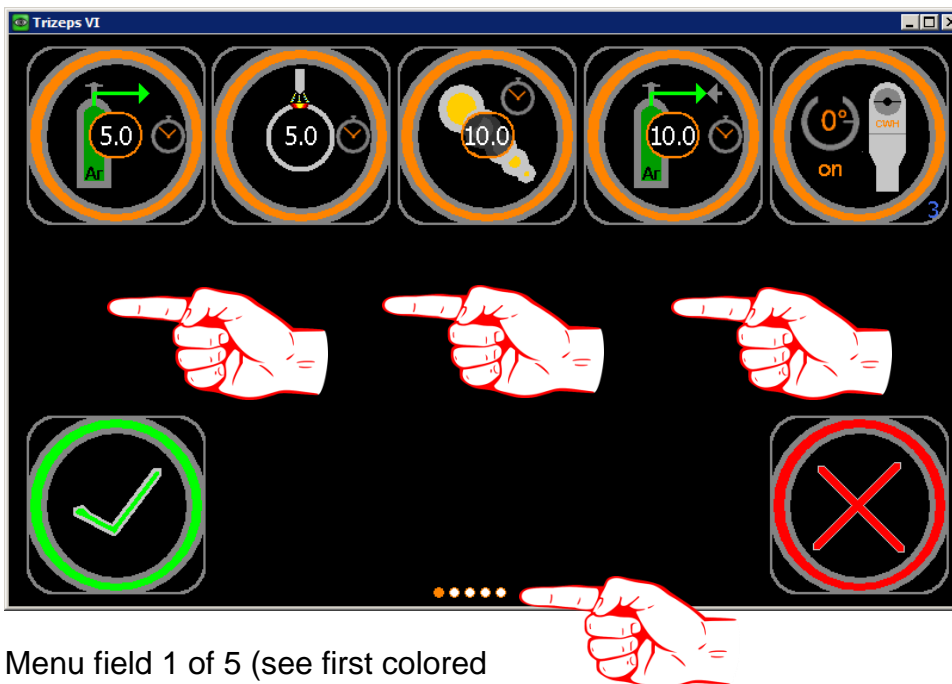
5.6.3 Changing the amperage of the tack welds



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

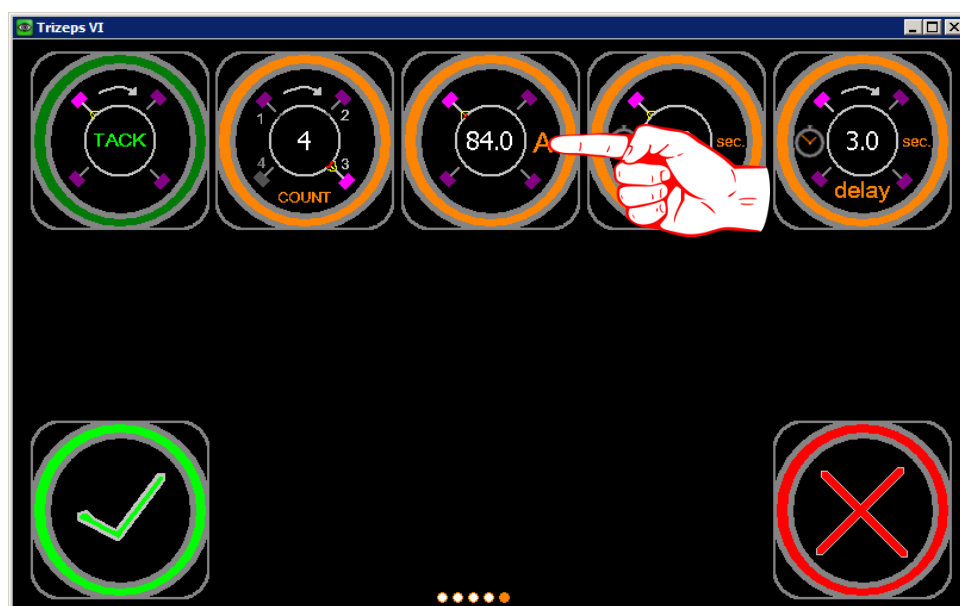


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by quadruple "whipping" of the menu field to the, menu field 5 (TACK) becomes visible.

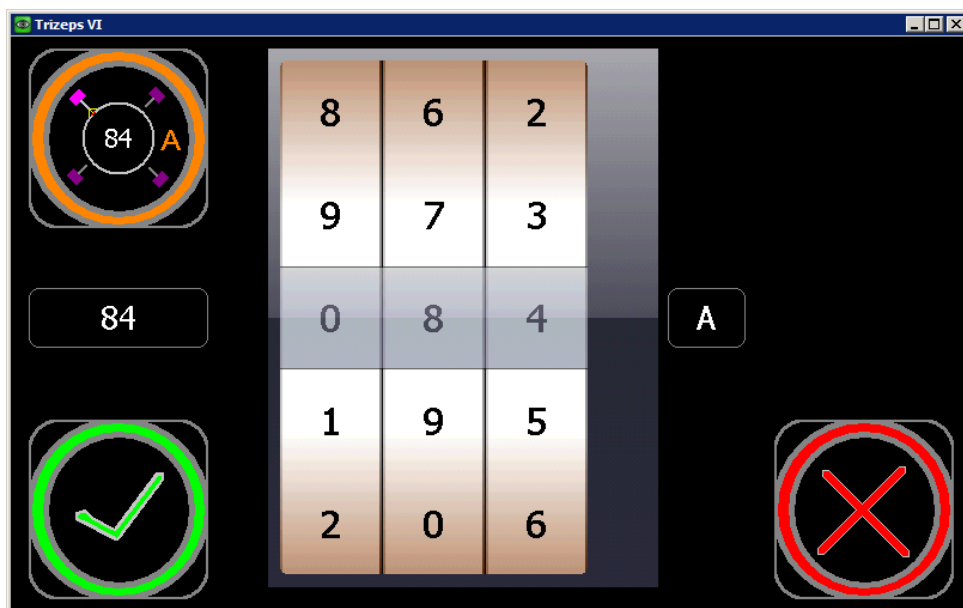


Menu field 5 (TACK), see fifth colored dot, out of the 5 displayed.

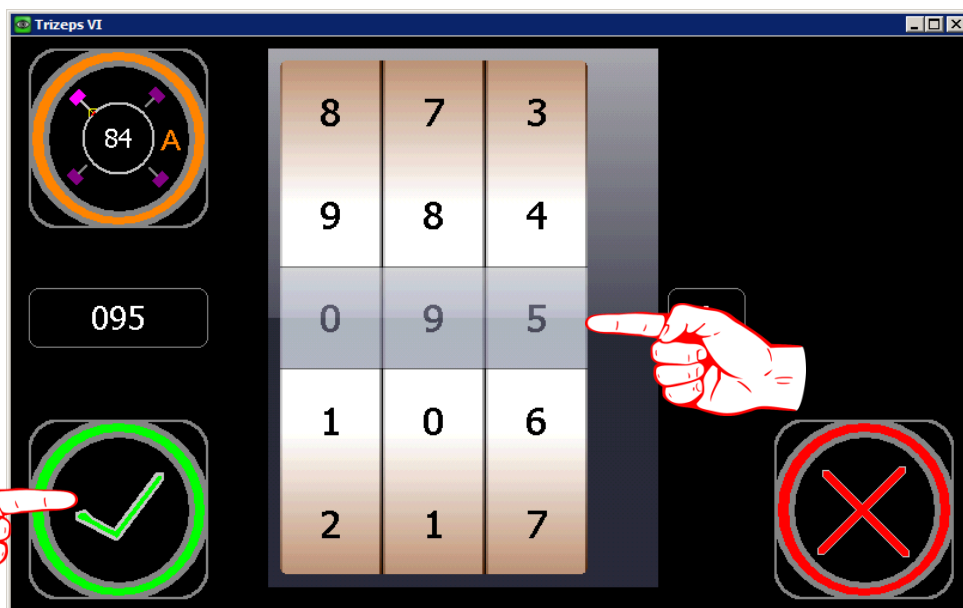
Activate TACK! (See section 5.6.1 Tack Welding Activation / Deactivation)



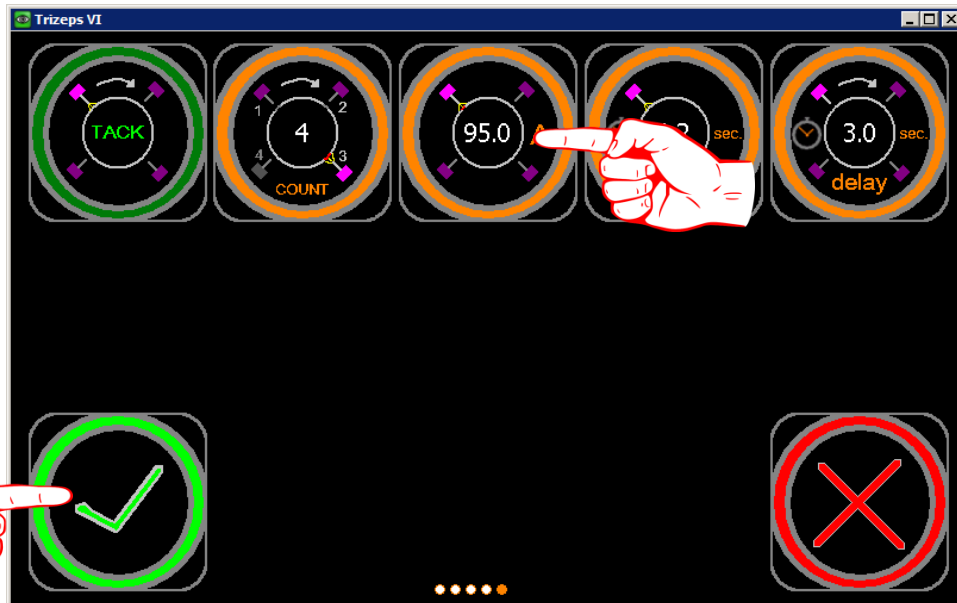
Button Amperage of the Tack Welds in Amps. Pressing the button opens the submenu



opened submenu, here program suggestion 84 Amps



Set the amperage of the tack welds with the scrolling wheels. Confirm with the "green check"

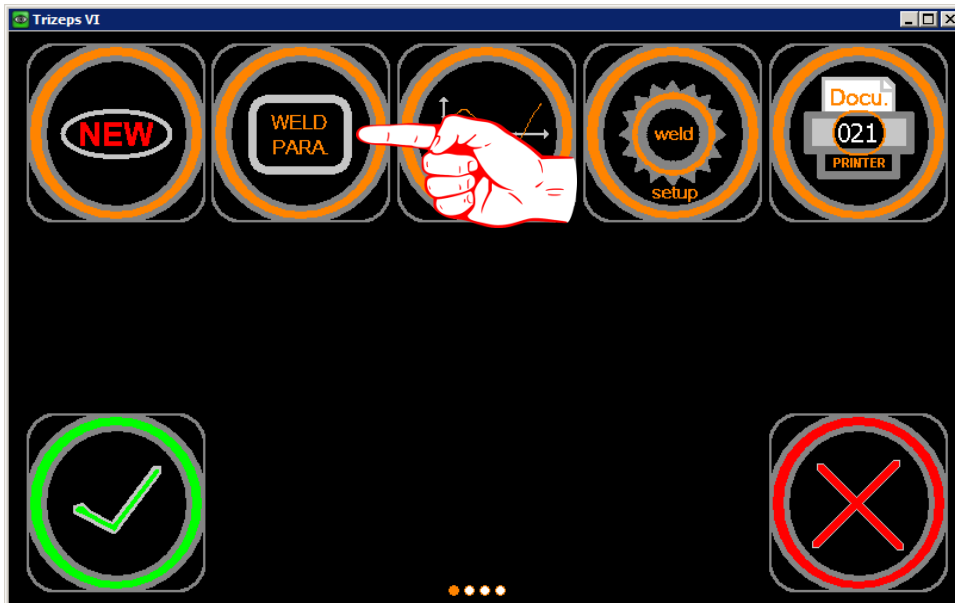


Value is displayed. Confirm with the "green check".

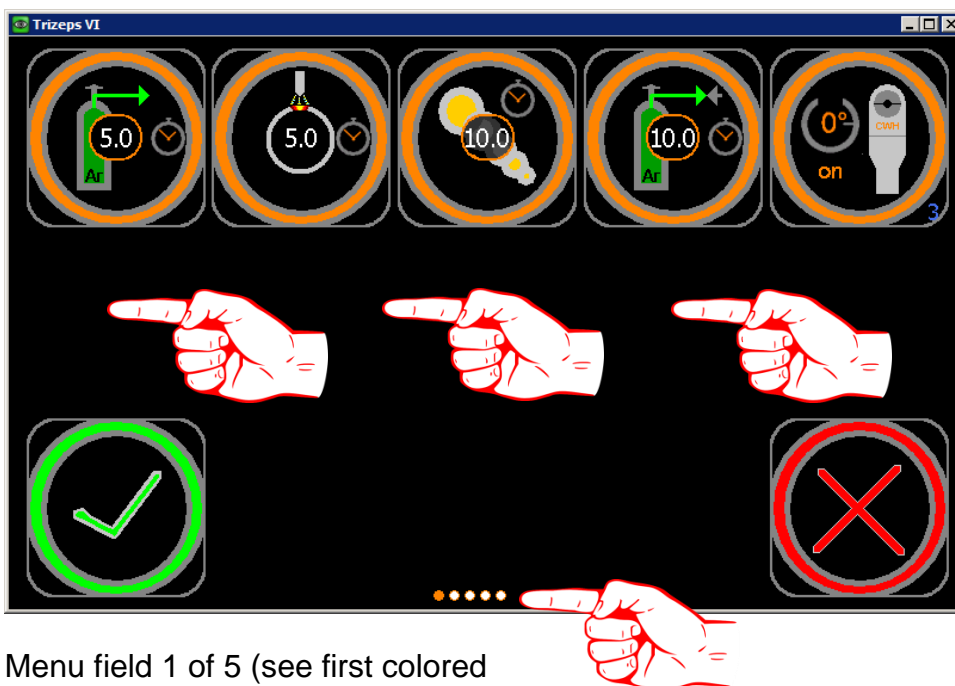
5.6.4 Changing the tacking time



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)

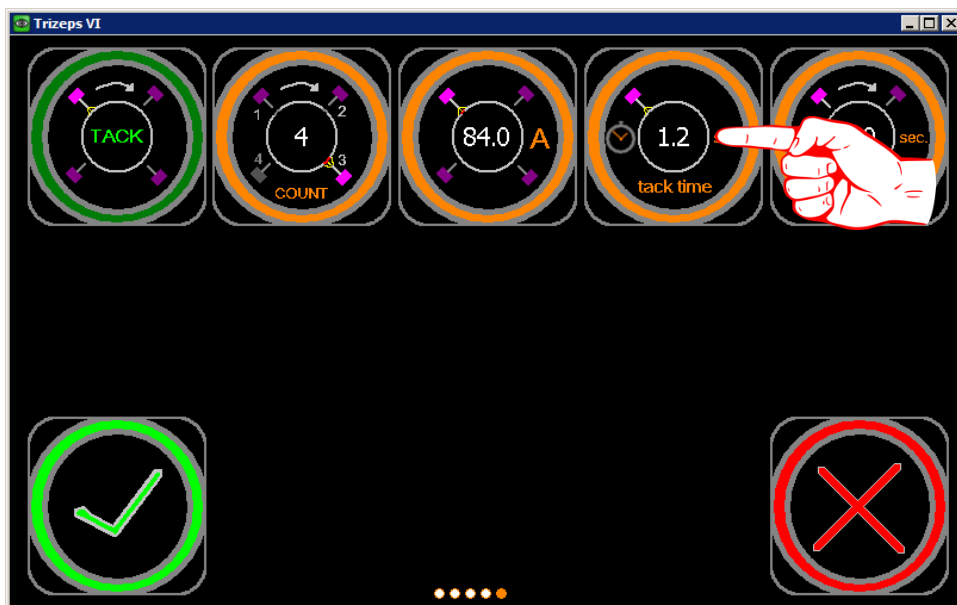


Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by quadruple "whipping" of the menu field to the, menu field 5 (TACK) becomes visible.

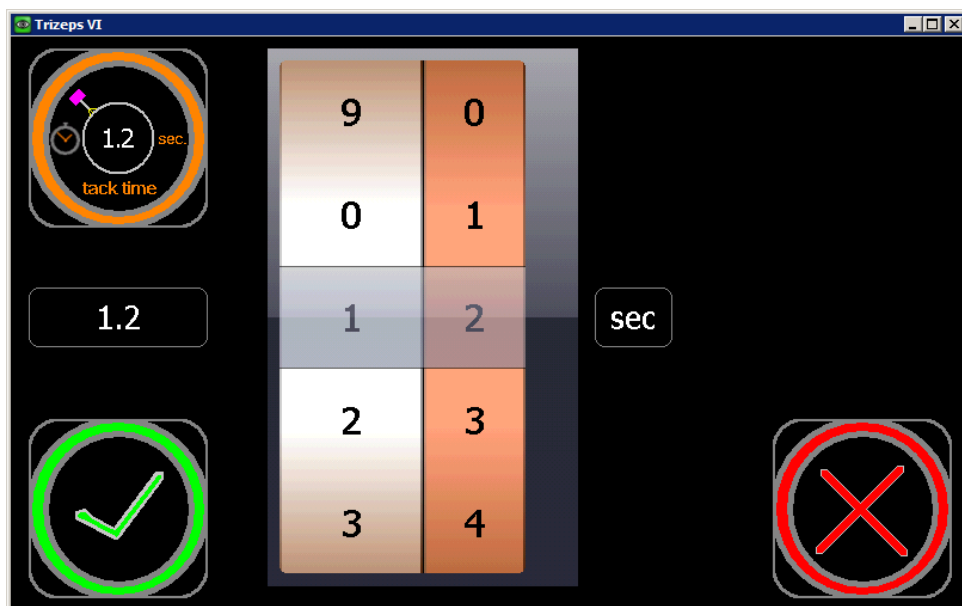


Menu field 5 (TACK), see fifth colored dot, out of the 5 displayed.

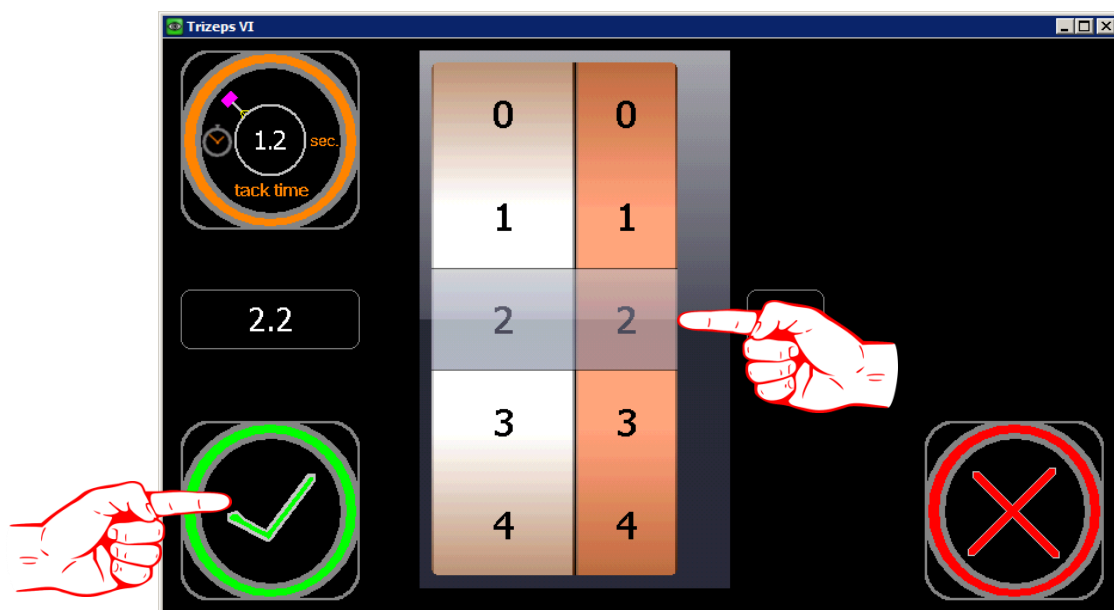
Activate TACK! (See section 5.6.1 Tack Welding Activation / Deactivation)



Button Tacking Time in seconds (welding time measured for each tack weld).
Pressing the button "tack time" opens the submenu



opened submenu, here program suggestion 1.2 seconds

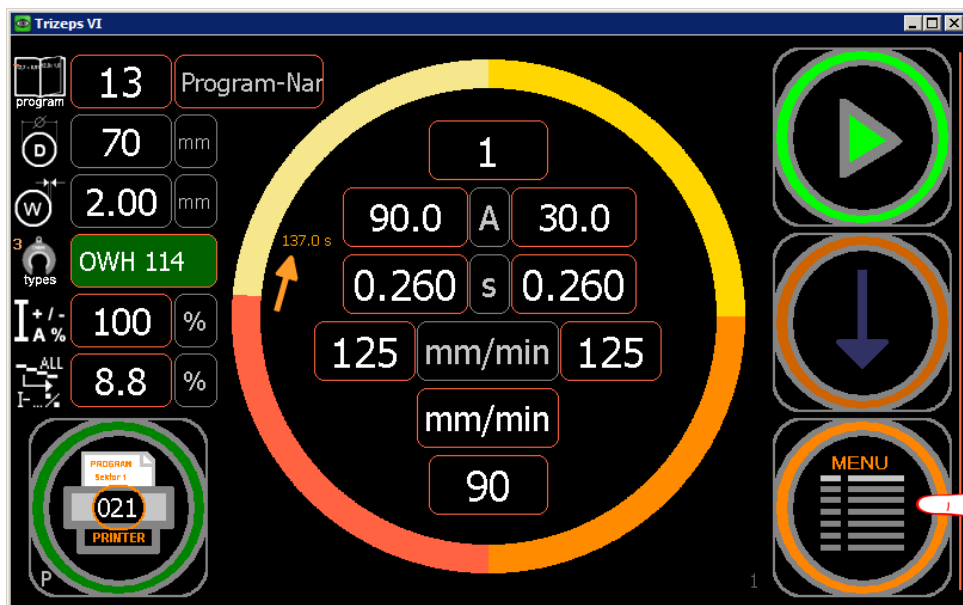


Set the tacking time with the scrolling wheels. Confirm with the "green check"

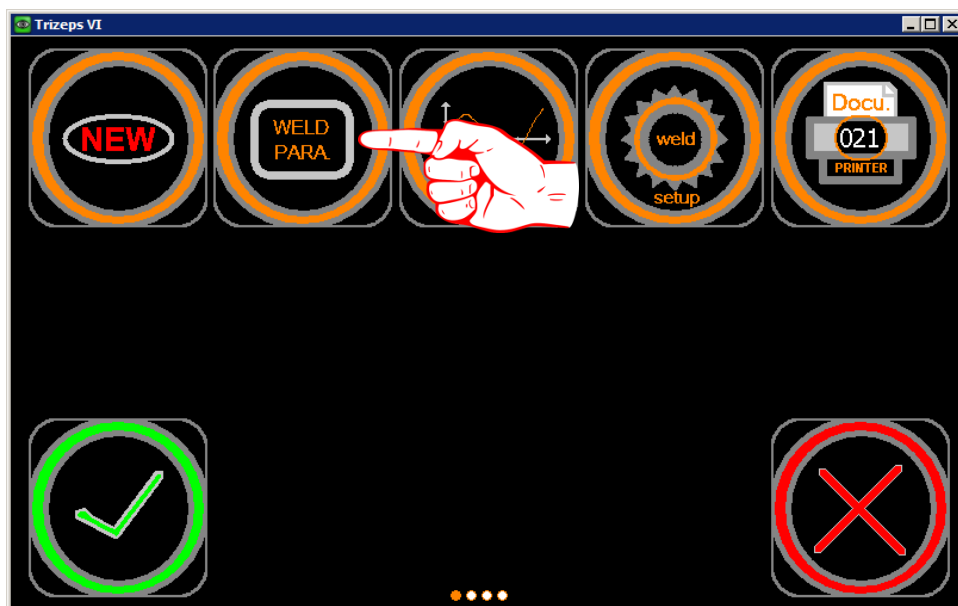


Value is displayed. Confirm with the "green check".

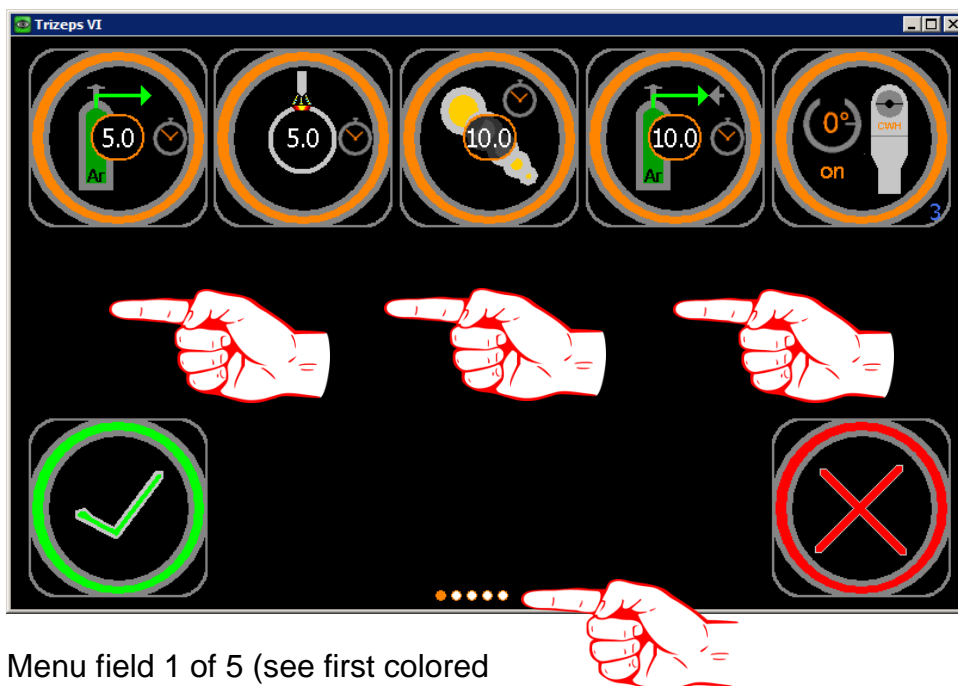
5.6.5 Changing the post-purge time



Home screen, press button "MENU"



Pressing button "WELD PARA" opens the menu field 1 (frame parameters)



Menu field 1 of 5 (see first colored dot, out of the 5 displayed), by quadruple "whipping" of the menu field to the, menu field 5 (TACK) becomes visible.

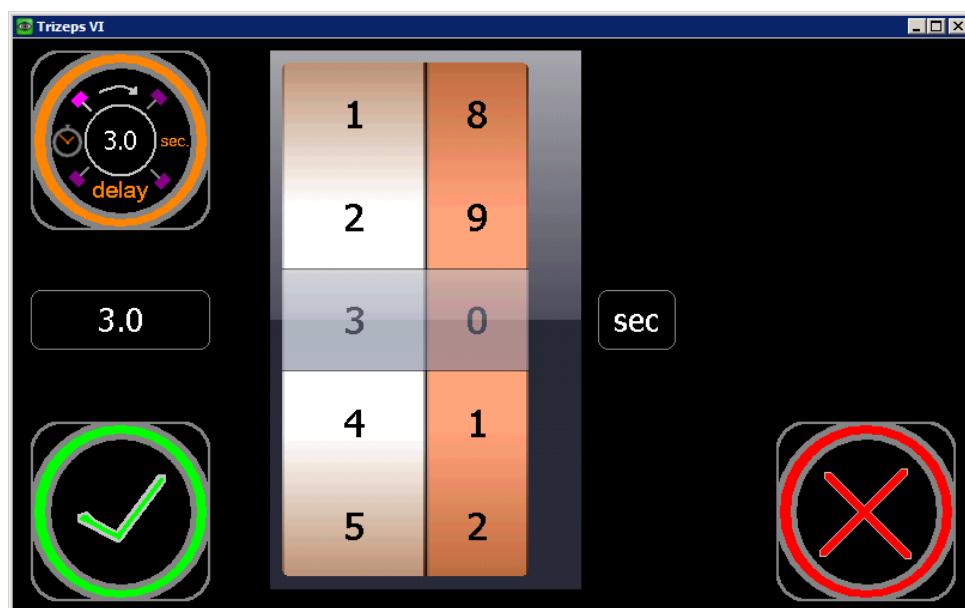


Menu field 5 (TACK), see fifth colored dot, out of the 5 displayed.

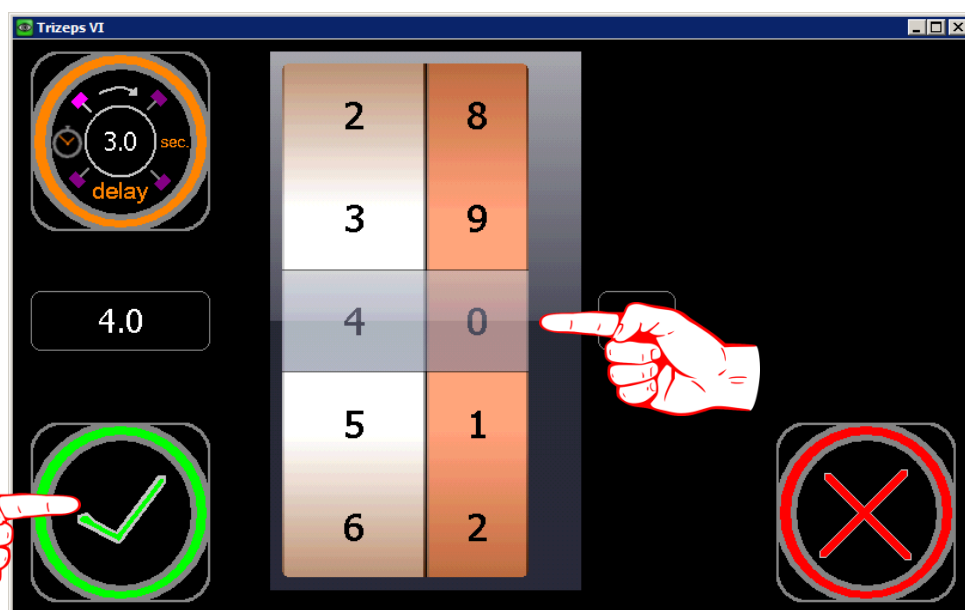
Activate TACK! (See sector 5.6.1 Tack Welding Activation /Deactivation)



Button Post-Purge Time in seconds (per tack weld). After the end of the tacking process protective gas flows per tacking point. Press the button "Delay" to open the submenu



opened submenu, here program suggestion 3 seconds per tack weld



Set the post-purge time with the scrolling wheels. Confirm with the "green check"



Value is displayed. Confirm with the "green check".

6. Documentation

These changes are only made in the submenu.

6.1 Call up / set Documentation

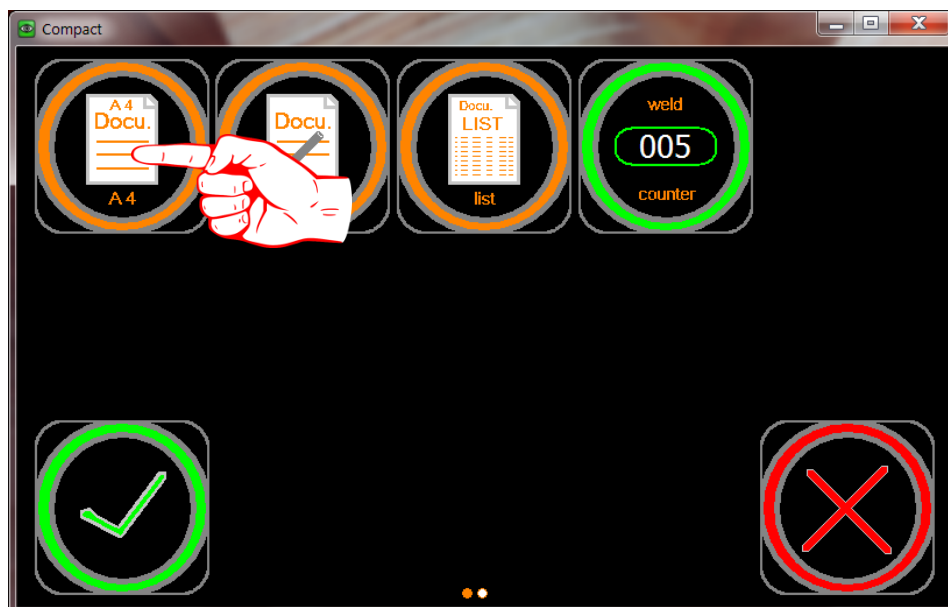


Home screen, press button "MENU"



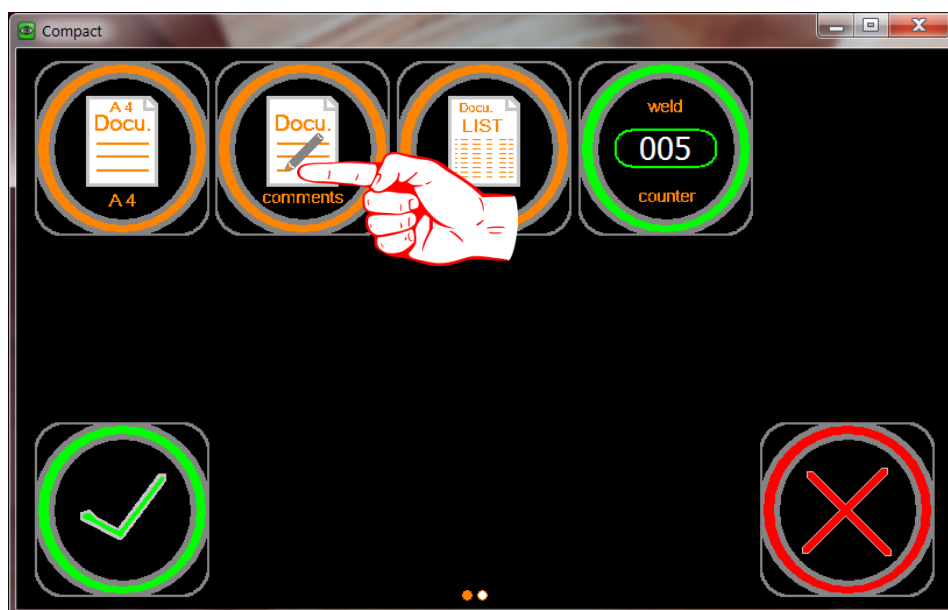
Pressing button "DOCU" opens the documentation menu

6.2 Report view



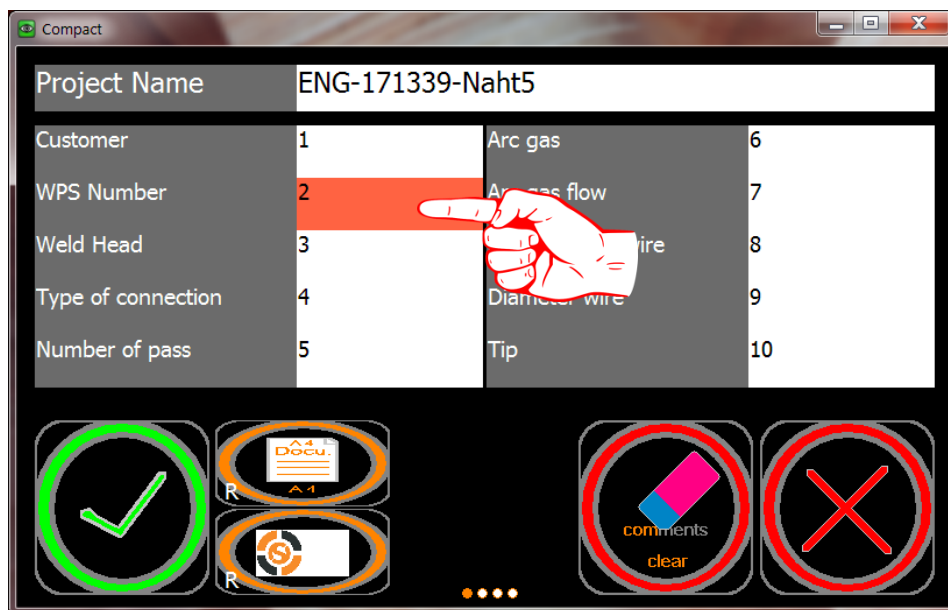
Documentation of the target and actual welding parameters is displayed as a report. The report to be displayed can previously be found in the list of all documentation to be selected.

6.3 View / set Comments



Calling up the submenu for entering additional documentation parameters!

6.3.1 Edit Comments

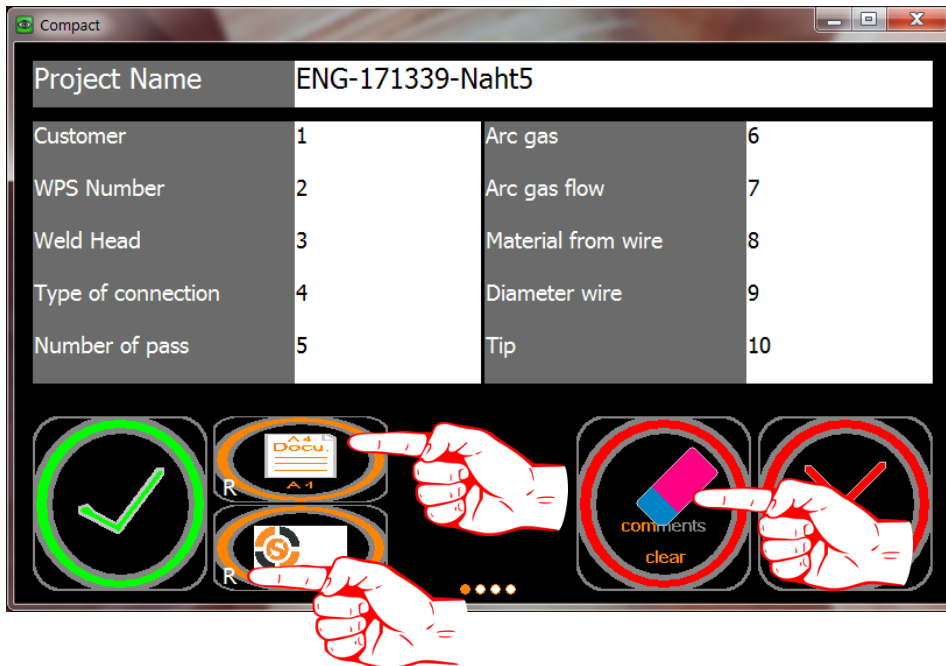


This menu has 4 levels. Recognizable by the 4 points on the lower edge
 Clicking on a text field opens the input mask (keyboard).



- The **123** key opens a keyboard with numbers and special characters.
- The **abc** key opens a keyboard with lowercase letters.
- The **backspace** key deletes a single character.
- The **return** key deletes the entire line

6.3.2 Set / reset templates and logo



Import of documentation templates and your own logo from USB stick

Button **A4-Docu**:

You can import your own templates:

(Format: Doku_XX.html, XX = country code)

By clicking on the R in the lower left corner of the button, the originally installed template files can be restored (reset).

You can use the originally installed Template files are used.

You can obtain this from Orbitalservice.

Button with **logo**:

Your own logo can be read in:

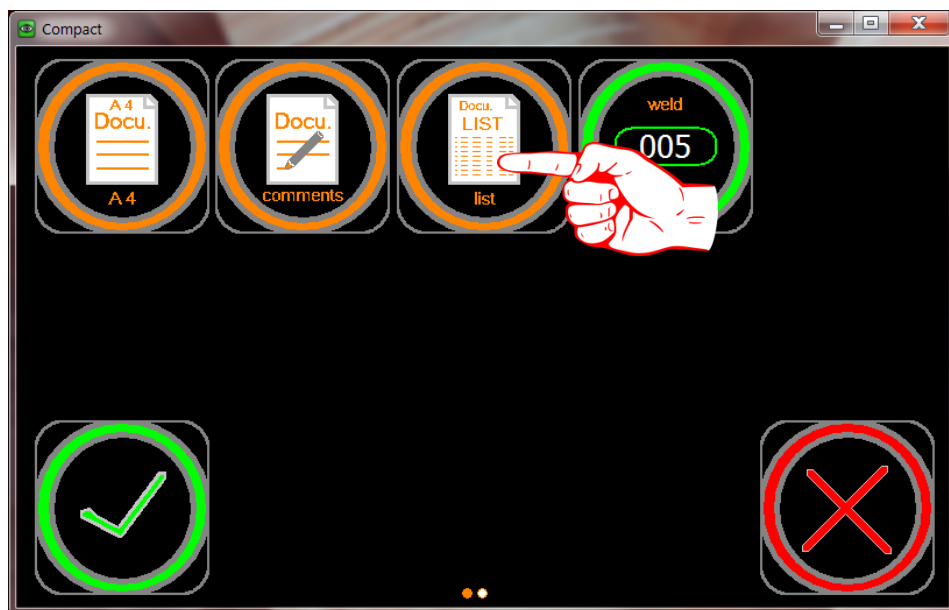
(Format: Logo.png, 300x150 pixels)

By clicking on the R in the lower left corner of the button, the originally supplied logo can be restored (reset).

Button **comments-clear**:

All entered comments will be deleted

6.4 View / edit documentation list

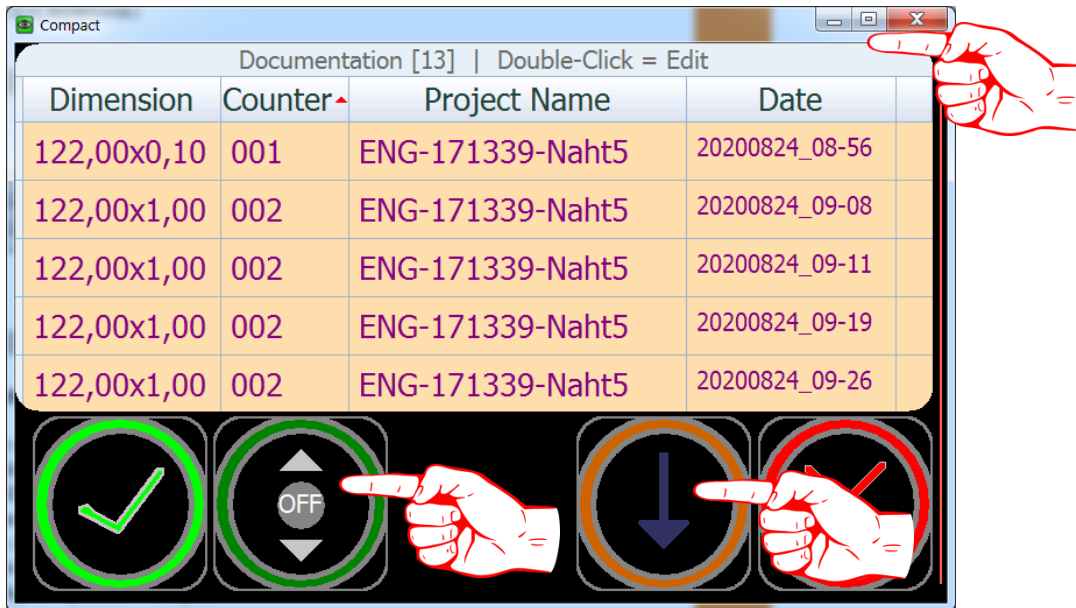


Calling up the list of all existing documentation

The list can be sorted, filtered, copied, deleted, renamed, locked and unlocked.

Some functions are only possible with admin access.

6.4.1 Sort / search the documentation list



A click on a table heading sorts the list according to this column

- Ascending (small red arrow, "up" visible)
- Descending (small red arrow, "down" visible)

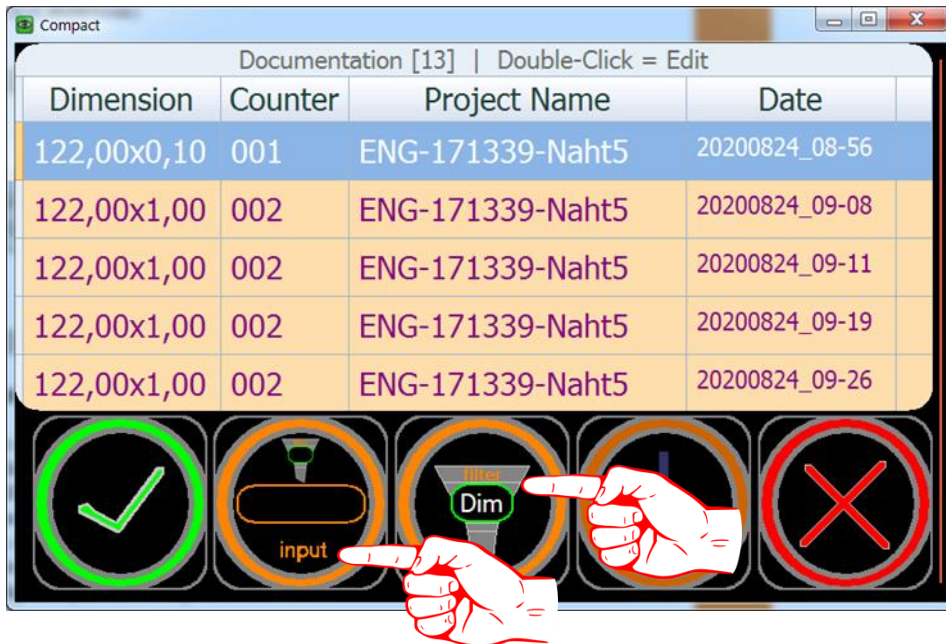
Button **OFF, ON**:

The list is scrolled through automatically until the end of the list is reached. This makes it easier to find a document that is further down the list. Another click on this button stops the process again.

Button **ARROW**:

Calling up further functions

6.4.2 Filter / search the documentation list



Button **input**:

Opens the keyboard input to enter a search term manually.
 The "filter" button (right next to it) decides what is searched for.

Filter **button**:

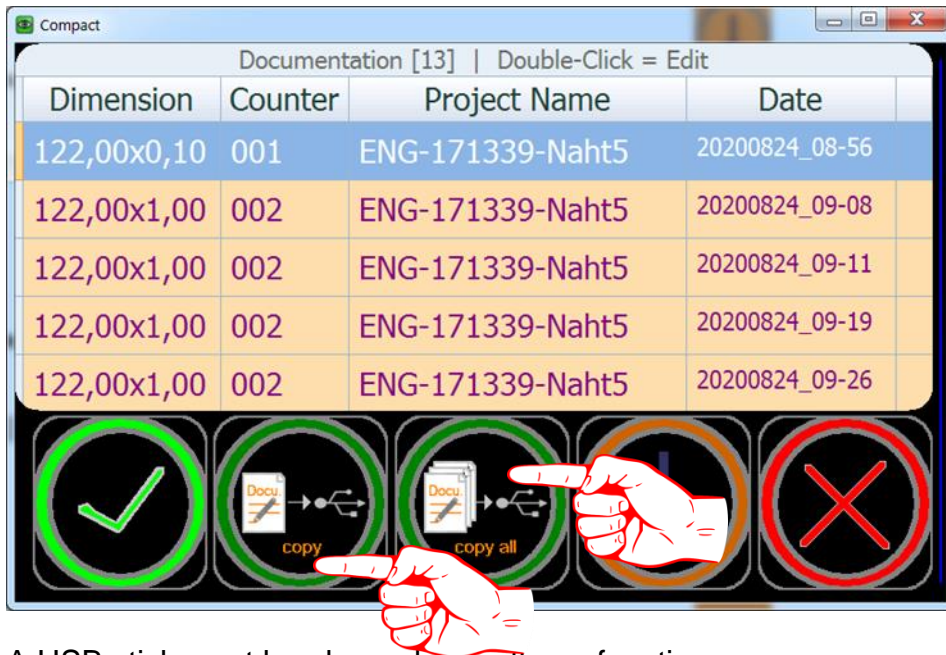
Scrolls through the various search options:

- DIM (search for dimensions, diameters, wall thicknesses)
- Count (search for a document number, counter)
- Name (search for a project name)
- Date (search for a date)
- Filter function off

Button **ARROW**:

Calling up further functions

6.4.3 Copy documentation list



A USB stick must be plugged in for these functions.

Button **copy**:

The currently selected document is copied to the USB stick.

Button **copy all**:

All documentation files are copied to the USB stick.

During the copying process, the button shows a small progress bar.

Special function with copy-all only for user admin:

At the end of the copying process, you will be asked whether all documentation from internal memory of the machine should be deleted.

This query only appears if you are logged in as "User Admin".

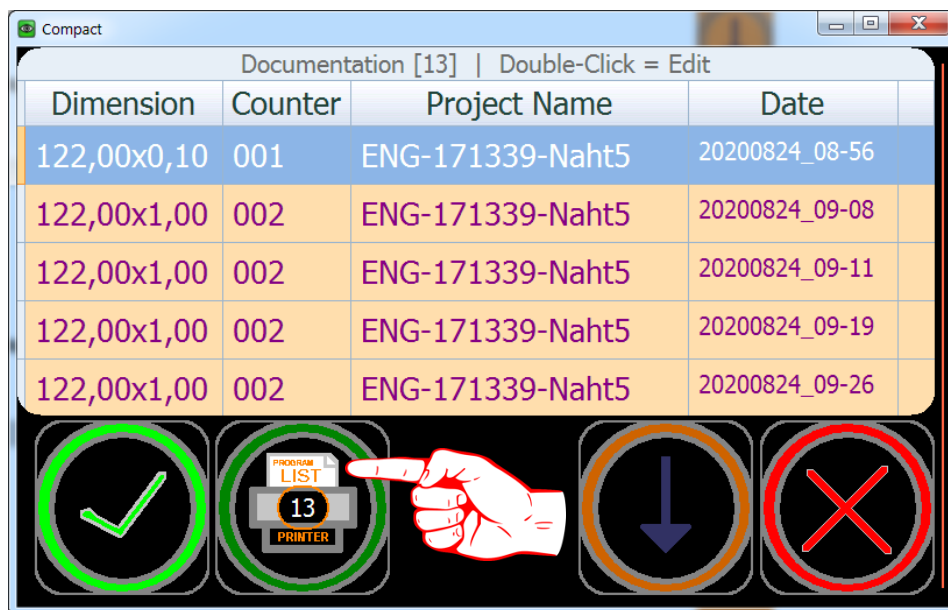
This can be recognized by the blue stripe on the right edge.

A red stripe (normal user) has no authorization to delete the internal Storage - the query to delete is not displayed.

Button **ARROW**:

Calling up further functions

6.4.4 Print documentation list



Print out the list on a receipt printer

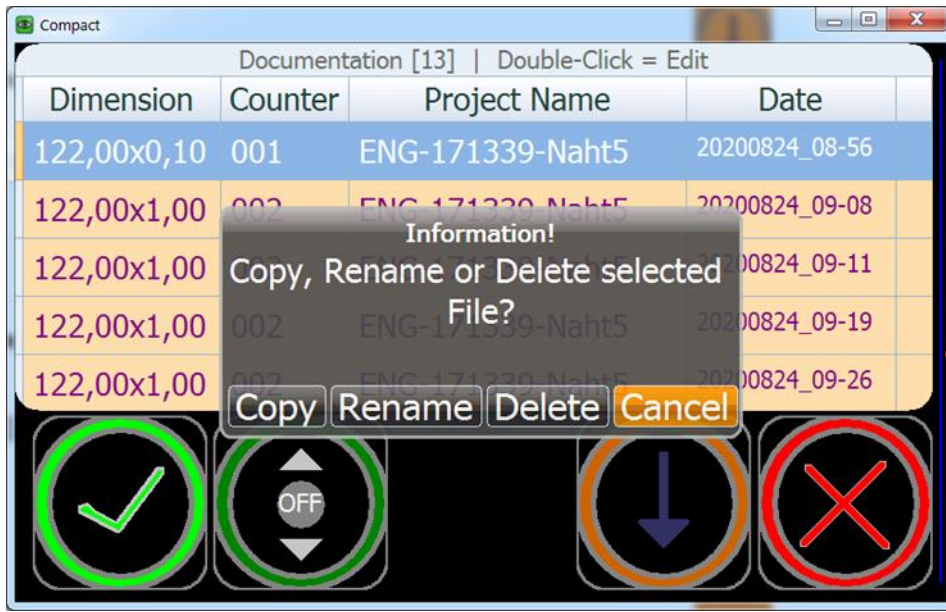
A Bluetooth dongle with a connected Bluetooth printer must be plugged into the USB port.

Otherwise the error message appears that the COM port is not available.

Button **ARROW**:

Calling up further functions

6.5 Documentation list editing functions



With a double click on a selected line further functions are available made available:

- Copy (the selected file is copied to USB)
- Cancel (cancellation of the editing functions)

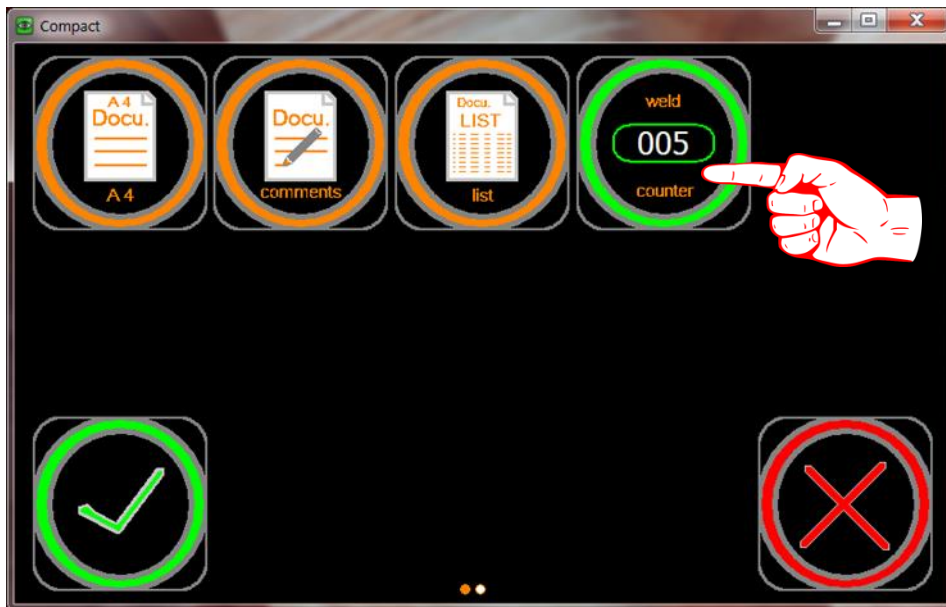
Special function only for user admin:

The following functions only appear if you are "User-Admin" are logged in. This can be recognized by the blue stripe on the right edge.

- Rename (the project name can be renamed)
- Delete (the selected file can be deleted)

6.6 Documentation counter

6.6.1 Internal counter



Weld seam counter (internal counter and freely adjustable counter)

The internal counter can only be recognized by the color of the ring (corresponds to memory allocation).

It is counted up by one after each weld seam.

Color red:

The internal memory is full and all documentation files must be deleted (550+ documentation files available).

To do this, insert a USB stick into the machine and copy all documentation files to the USB stick using the "Copy-All" button. You will then be asked whether you want to delete the files from the internal memory.

You have to be logged in as an admin! (see chapter 6.4.3)

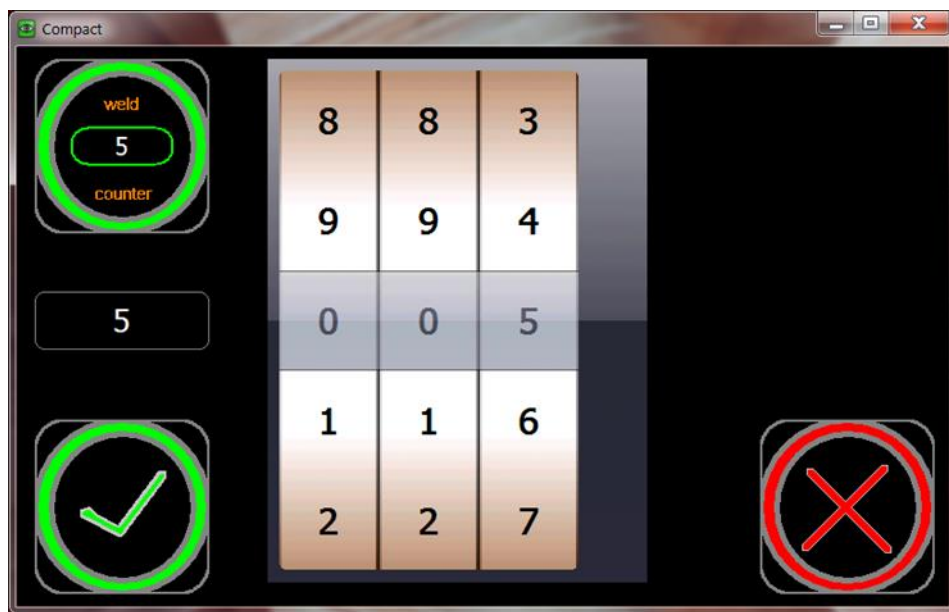
Color yellow:

The memory is running out (500+ docu files available).

Color green:

There is still enough memory available.

6.6.2 Freely adjustable counter



The freely adjustable counter can be called up by pressing the button and be changed.

This counter is also incremented by one after each weld and used in the documentation (report).

7. Service/Customer Support

Minor defects should be repaired only by trained personnel, according to instructions from OrbitalService GmbH. Major damage must be repaired in our factory.

For the elimination of faults, please contact us directly:

ORBITALSERVICE GmbH

Kreuzdelle 13

63872 Heimbuchenthal

Germany

Tel.: +49-(0) 6092 822 94-0

Fax: +49-(0) 6092 822 94-09

E-Mail: info@orbitalservice.de

Internet: www.orbitalservice.de

Internet: www.orbitalservice-group.com

