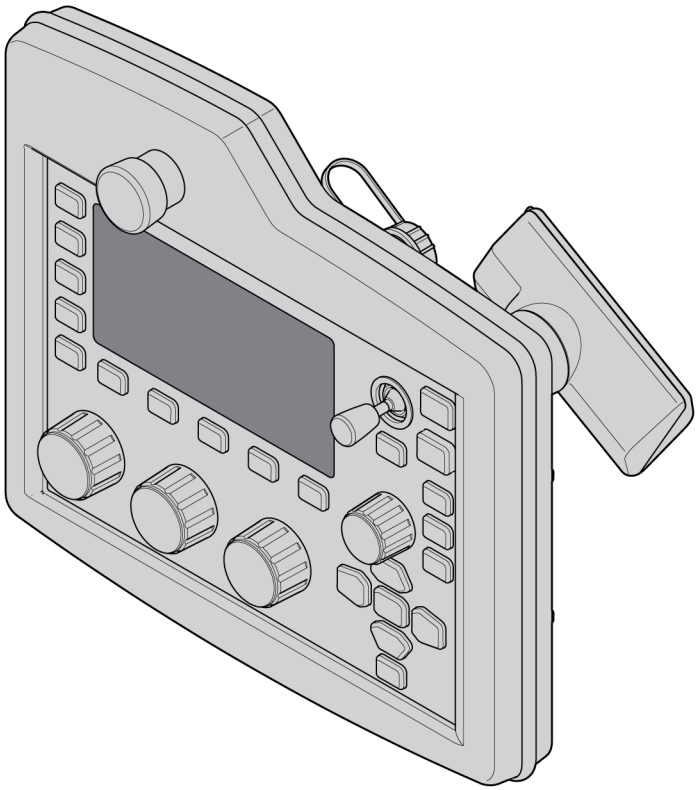
EAC 30

Control panel



Instruction manual

Original instructions

0448 311 001 GB 20241205

Valid for: Serial number: LX436-xxxx-xxxx. Software version: from 1.00C

EU DECLARATION OF INCORPORATION

According to:

The Machine Directive 2006/42/EC;
The EMC Directive 2014/30/EU;
The Low Voltage Directive 2014/35/EU
The RoHS Directive 2011/65/EU;

Type of equipment
Arc welding control Unit

Type designation etc.
EAC 30 (0911492880) from serial number LX436 xxxx xxxx (2024 w36)

Brand name or trademark
ESAB

Manufacturer or his authorised representative established within the EEA
Name, address, telephone no:
ESAB AB
Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden
Phone: +46 31 50 90 00

The following harmonised standard in force within the EEA has been used in the design:

EN ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN IEC 60974-1 :2018/A1 :2019	Arc Welding Equipment - Part 1: Welding power sources
EN IEC 60974-10:2021	Arc Welding Equipment - Part 10: Electromagnetic compatibility (EMC) requirements

Additional Information: Restrictive use, Class A equipment, intended for use in location other than residential

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Place/Date
Gothenburg
2024-11-05

Signature
Cristiano M C Ferreira
Senior Director Automation

CE

1 INTRODUCTION

To benefit as much as possible from your welding equipment, we recommend that you read this instruction manual.

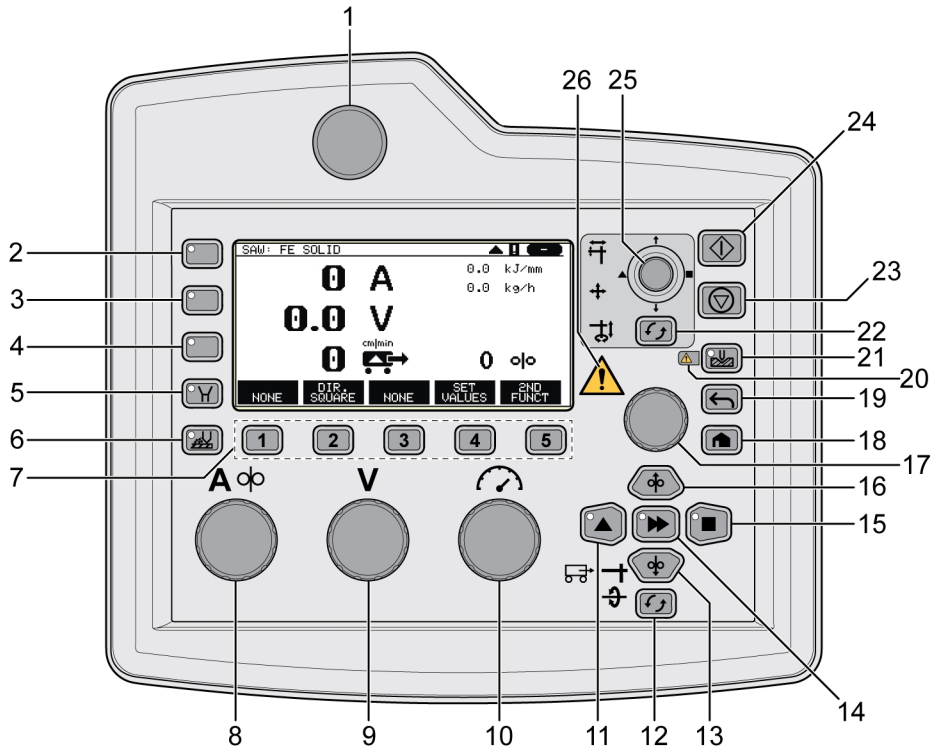
For general information about operation, see the instruction manual for the control unit, automatic welding machine, column and boom or power source.

1.1 Language

The control panel is set to English on delivery. The following languages are available: English, Swedish, Finnish, Danish, German, French, Italian, Dutch, Spanish, Portuguese, Hungarian, Polish, Czech, Norwegian, US English, Russian, Turkish, Chinese and Korean.

To select or change language, follow the instructions in section "Initial configuration".

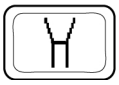
1.2 Control panel



1. Emergency stop
2. Currently not in use
3. Currently not in use
4. Currently not in use
5. Flux valve **Open** / **Close**
6. Flux recovery **ON**/ **OFF**
7. Soft keys
8. Welding current / Wire feed speed / Setting knob
9. Arc voltage / Setting knob
10. Travel speed / Setting knob
11. Manual travel motion
12. Switch between functions
13. Manual wire feed downwards
14. Fast motion
15. Manual travel motion
16. Manual wire feed upwards
17. Positioning knob, for navigating the display
18. Home (main menu)
19. Back
20. Signal lamp for joint-tracking
21. Joint tracking mode
22. Switch between functions
23. Welding stop
24. Welding start
25. Motion control joystick
26. A fault has occured, see event log

1.3 Controls

Flux valve open / close

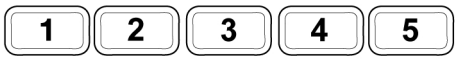


- Press the button once to open the flux valve.
- Press the button once again to close the flux valve.

Flux recovery ON / OFF

- Press the button to activate the flux recovery unit.
- Press the button once again to switch off the flux recovery unit.

Soft keys



The five keys (1 - 5) under the display have different functions. They are called soft keys, i.e. they can have different functions depending on which menu you are in. The current function for these keys can be seen from the text in the bottom row of the display. When the function is active, this is indicated by the field with the text box turning white.

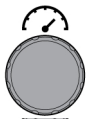
Welding current / Wire feed speed setting knob

The welding current / wire feed speed / balance knob is used for increasing or decreasing set values.

Arc voltage setting knob

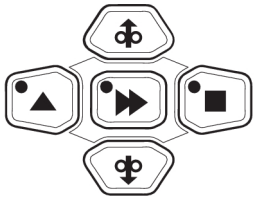
The arc voltage / offset voltage knob is used for increasing or decreasing set values.

Travel speed setting knob



The travel speed / frequency knob is used for increasing or decreasing set values.

Manual travel motion buttons



The buttons are used for manual travel motions.

Square travel motion

Press the square travel motion button to drive in the direction of welding where the symbol is indicated on the weld equipment.

Triangle travel motion

Press the triangle travel motion button to drive in the direction of welding where the symbol is indicated on the weld equipment.

Wire feed downwards

Press the wire feed downwards button to feed the wire downwards. The wire is fed as long as the button is pressed.

Wire feed upwards

Press the manual wire feed downwards button to feed the wire downwards. The wire is fed as long as the button is pressed.

Fast motion

The fast motion button is used together with other buttons to increase speed.

Press the button to activate fast motion and then press the manual wire feed or travel motion button. The LED on the fast motion button is lit while fast motion is activated. Press again to deactivate fast motion. During configuration, it is possible to confirm and save a value and return to previous screen using the Fast motion button.

Switch between functions

Press the switch button to select different function. The available functions are:

- Travel mode for carriage 
- Travel mode for boom 
- External axis 

Positioning knob, for moving cursor

The right-hand knob is the positioning knob and is used to navigate menus. Press the knob to confirm a selection.

Home button

Press the home button to enter the main menu.

Back button

The back button is used to go back one step in the menu.

Joint tracking mode

Press the button to activate joint tracking mode.

Press the button to activate joint-tracking mode. The LED on the Joint tracking mode button is lit while joint-tracking is activated. Press again to deactivate joint-tracking.

Signal lamp

Illuminates when the guide finger is outside the working range (vertical). The automatic function is then blocked.

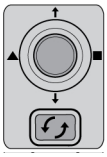
Welding stop

Welding stop. Stops all travel motions, all motors and welding current.

Welding start

Welding start. The LED is lit when welding is in progress.

Motion control joystick and switch button



There are three different functions for the motion control joystick. Press the switch button to switch between them.

- Use the joystick to control the movement of the boom in the triangle and square directions, and the slides up/down
- Use the joystick to control the movement of the servo slides up/down and left/right
- Use the joystick to control the movement of the boom up/down and to rotate the boom

1.4 First steps

1.4.1 Display

SAW				
PROCESS			*SAW*	
METHOD			*DC*	
REGULATION TYPE			*CA*	
WIRE TYPE			*FE SOLID*	
WIRE DIMENSION			*0.8 mm*	
CONFIGURATION►				
TOOLS►				
SET	*MEASURE*	*MEMORY*	*FAST MODE*	

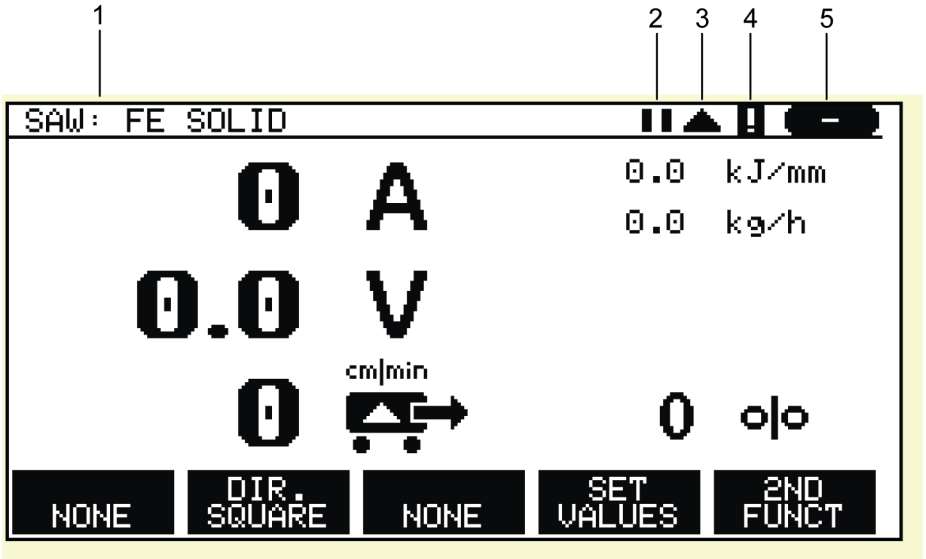
Navigating the display
To navigate the display, use the positioning knob on the right-hand side of the display. Turn the knob to navigate the menus and press the knob to confirm a selection.

Cursor
The control panel's cursor is presented as a black field around the text, with the selected text turning white.

Text boxes
At the bottom of the display are five boxes containing text that describes the current function of the five soft keys below the display.

Arrows
Where there is more information behind a row, this is indicated with a black arrow ▶ behind the text.

Symbols in the display



1. The active weld data setting
2. Parallel power souces
3. Welding direction
4. A fault has occured, see event log
5. Recalled memory position number

1.4.2 Select language

The control panel is set to English on delivery. To select your language, proceed as follows:

Press the home menu button to access the main menu, and position the cursor on the *CONFIGURATION* row, using the positioning knob.

SAW				
PROCESS			*SAW*	
METHOD			*DC*	
REGULATION TYPE			*CA*	
WIRE TYPE			*Fe SOLID*	
WIRE DIMENSION			*3.0 mm*	
CONFIGURATION►				
TOOLS►				
SET	*MEASURE*	*MEMORY*	*FAST MODE*	

Press the positioning knob to confirm the selection.

Position the cursor on the *LANGUAGE* row. Press the positioning knob to bring up a list of the languages that are available in the control panel.

CONFIGURATION				!
LANGUAGE			*ENGLISH*	
CODE LOCK►				
GENERAL CONFIGURATION►				
MACHINE CONFIGURATION►				
CABLE LENGTHS►				
MAINTENANCE►				
MEASURE-VALUES FILTER FACTOR			*ONE*	

Position the cursor on the row for your language and press the positioning knob.

NORSK	
POLSKI	
PORTUGUES	
SUOMI	
SVENSKA	
CHINESE	

1.4.3 Unit of measurements

The control panel is set to metric measurement on delivery. To change measurement unit, proceed as follows:

Press the home menu button to access the main menu, and position the cursor on the *CONFIGURATION* row, using the positioning knob.

SAW				
PROCESS				SAW
METHOD				DC
REGULATION TYPE				CA
WIRE TYPE				Fe SOLID
WIRE DIMENSION				3.0 mm
CONFIGURATION►				
TOOLS►				
SET	MEASURE	MEMORY	FAST MODE	

Press the positioning knob to confirm the selection.

Position the cursor on the *GENERAL CONFIGURATION* row.

CONFIGURATION				
LANGUAGE				ENGLISH
CODE LOCK				
GENERAL CONFIGURATION►				
MACHINE CONFIGURATION►				
CABLE LENGTHS►				
MAINTENACE►				
MEASURE-VALUES FILTER FACTOR				ONE

Press the positioning knob to confirm the selection.

Position the cursor on the *UNIT OF LENGTH* row. Press the positioning knob to bring up a list of the measurements that are available in the control panel.

GENERAL CONFIGURATION				
FAST MODE SOFT BUTTONS				1
QUALITY DATA LOG TO FILE				ON
SOFT KEYS SETUP►				
AUTO SAVE MODE				OFF
UNIT OF LENGTH				METRIC

Position the cursor on the row for the correct measurement and press the positioning knob.

METRIC
INCH.

2 TECHNICAL DATA

Enclosure class	IP23
Operating temperature	-10 to +40 °C (+14 to 104 °F)
Transport temperature	-25 to +55 °C (-13 to 131 °F)
Relative humidity	Max 95%
Dimensions l × w × h	315 × 287 × 160 mm (12.4 × 11.3 × 6.3 in.)
Weight	2.1 kg (4.6 lbs)

Enclosure class
The **IP** code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects or water.

Equipment marked **IP23** is intended for indoor and outdoor use.

3 MENU

3.1 Menus

The control panel uses several different menus. Navigate the menus using the positioning knob, the home button (main menu), back button, and the soft keys.

- Main menu
- Configuration menu
- Tools menu
- Weld data settings menu *SET*
- Measurments menu *MEASURE*
- Weld data memory menu *MEMORY*
- Fast mode menu *FAST MODE*

3.2 Main menu

In the *MAIN MENU*, you can change welding process, method, wire type, control method, wire dimension etc.

You can access other sub menus from this menu.

SAW				
PROCESS			*SAW*	
METHOD			*DC*	
REGULATION TYPE			*CA*	
WIRE TYPE			*Fe SOLID*	
WIRE DIMENSION			*3.0 mm*	
CONFIGURATION►				
TOOLS►				
SET	*MEASURE*	*MEMORY*	*FAST MODE*	

3.3 Configuration menu

MAIN MENU **»** *CONFIGURATION*

In the *CONFIGURATION* menu it is possible to change language, change password, make general configurations, make machine adjustments etc.

CONFIGURATION	
LANGUAGE	ENGLISH
CODE LOCK►	
GENERAL CONFIGURATION►	
MACHINE CONFIGURATION►	
MAINTENANCE►	
NETWORK SETTINGS	
MEASURE-VALUES FILTER FACTOR	TWO

3.4 Tools menu

MAIN MENU **»** *TOOLS*

In the *TOOLS* menu it is possible to transfer files, view quality and production statistics, event logs, etc.

TOOLS
EVENT HANDLING►
EXPORT / IMPORT►
FILE MANAGER►
PRODUCT STATISTICS►
QUALITY FUNCTIONS►
CALENDAR►
USER ACCOUNTS►
UNIT INFORMATION►

3.5 Weld setting menu

MAIN MENU **»** *SET*

In the weld data setting menu, *SET*, it is possible to change different welding parameters. The menu has different appearances depending on which welding process is selected.

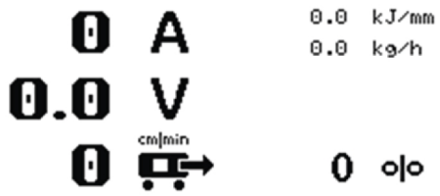
An example of the menu:

SAW WELD DATA SETTING	
VOLTAGE	*24.0 V*
CURRENT	*3200 A*
TRAVEL SPEED	*30 cm/min*
DIRECTION	■
AC FREQUENCY	*50 HZ*
AC BALANCE	*50%*
AC OFFSET	*0 V*
START DATA►	
STOP DATA►	*OFF*
REGULATION PAR.►	*OFF*
SETTING LIMITS►	*OFF*
MEASURE LIMITS►	*OFF*
STEP FUNCTION►	*OFF*
INTERMITTENT WELDING►	
GMH JOINT TRACKING►	

3.6 Measurement menu

MAIN MENU **»** *MEASURE*

In the *MEASURE* menu, you can view measured values for various welding parameters while welding is in progress.

SAW: CA				
				
EXT. AXIS	*DIR. SQUARE*	*NONE*	*SET VALUES*	*2ND FUNCT*

- **A** - Measured welding current
- **V** - Measured arc voltage
- **cm/min** - Measured travel speed
- **kJ/mm** - Shows heat input
- **kg/h** - Shows deposition rate

3.7 Memory menu

MAIN MENU **»** *MEMORY*

In the *WELD DATA MEMORY* menu you can store, recall, delete and copy various set weld data. The weld data sets can be stored in 255 different memory positions.

WELD DATA MEMORY				
1 (SAW) *7 (GMAW)*				
STORE			*2ND FUNCT*	

3.8 Fast mode menu

MAIN MENU **»** *FAST MODE*

For more information, refer to *"Fast mode soft buttons"*, page 41.

4 SUBMERGED ARC WELDING (SAW)

MAIN MENU **»** *PROCESS*

During Submerged Arc Welding (SAW), an arc melts a continuously supplied wire. The weld pool is protected by flux.

When the *SAW* process is selected, choose *METHOD* with the positioning knob and press the positioning knob. Choose *AC* or *DC*.

SAW				
PROCESS				*SAW*
METHOD				*AC*
REGULATION TYPE				*CC*
WIRE TYPE				*Fe SOLID*
WIRE DIMENSION				*0.8 mm*
CONFIGURATION►				
TOOLS►				
SET	*MEASURE*	*MEMORY*	*FAST MODE*	

When the *SAW* process is selected, you can choose between three control methods by marking *REGULATION TYPE* using the positioning knob and pressing the knob. Choose between constant amperage CA or constant wire feed CW or constant current CC.

5 GAS METAL ARC WELDING (GMAW)

The process is available for certain machine types.

MAIN MENU **»** *PROCESS*

During Gas Metal Arc Welding (GMAW), an arc melts a continuously supplied wire. The weld pool is protected by shielding gas.

When the Gas Metal Arc Welding *GMAW* process is selected, you can choose between two control methods by marking *REGULATION TYPE* using the positioning knob and pressing the positioning knob. Choose between constant amperage *CA* or constant wire feed *CW*, see explanation in "CA, constant amperage" and "CW, constant wire feed".

GMAW				
PROCESS				*GMAW*
REGULATION TYPE				*CA*
WIRE TYPE				*Fe SOLID*
WIRE DIMENSION				*0.8 mm*
CONFIGURATION►				
TOOLS►				

6 GOUGING

Availability depending on connected equipment.

MAIN MENU **»** *PROCESS*

With arc air gouging, a special electrode comprising a carbon rod with a copper casing is used.

An arc is formed between the carbon rod and the work piece, which melts the material. Air is supplied so that the melted material is blown away.

When the *GOUGING* process is selected, it is possible to choose between control methods by marking *REGULATION TYPE* using the positioning knob and pressing the knob. Choose between constant amperage *CA* ,constant wire feed *CW* or constant current *CC*. For *GOUGING MODE* it is possible to choose between *AUTO* and *N7500*.

GOUGING	
PROCESS	*GOUGING*
METHOD	*DC*
REGULATION TYPE	*CW*
WIRE DIMENSION	*8.0 mm*
GOUGING MODE	*N7500*
CONFIGURATION►	
TOOLS►	

7 ELECTRO SLAG WELDING

MAIN MENU **»** *PROCESS*

Electro slag welding (ESW) is a single pass welding process.

ESW				
PROCESS				*ESW*
METHOD				*AC*
REGULATION TYPE				*CA*
WIRE TYPE				*SS Strip*
WIRE DIMENSION				*30×0,5 mm*
CONFIGURATION►				
TOOLS►				
SET	*MEASURE*	*MEMORY*	*FAST MODE*	

8 JOINT-TRACKING

GMH JOINT TRACKING				
JOINT TRACKING MODE			*Manual*	
JOINT TRACKING			*Slide/boom*	
CHANGE DIRECTION			*"<---"*	

JOINT TRACKING MODE	*Manual*, *UpDown*, *UpDownLeft*, *UpDownRight* or *UpDownLeftRight* Joint-tracking and joint-searching options
JOINT TRACKING	*Slide* or *Boom* Select if the joint-tracking should be done using the slide/slide or the boom/slide.
CHANGE DIRECTION	*"<---"* or *"--->"* For switching the horizontal slide´s direction of movement

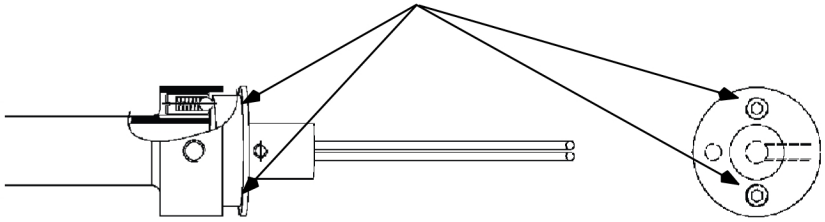
Joint-tracking and joint-searching options

Manual	Manual preset where the servo slide is controlled with the motion control joystick
UpDown	Vertical joint-tracking
UpDownLeft	Vertical and horizontal joint-tracking with joint-searching to the left
UpDownRight	Vertical and horizontal joint-tracking with joint-searching to the right
UpDownLeftRight	Vertical and horizontal joint-tracking

The joint-tracking equipment can be set for different types of joint-tracking. It can be set for joint-tracking with edge control and for joint-tracking with groove control. The setting is made both on the control unit and on the sensor.

8.1 Joint-tracking with edge control

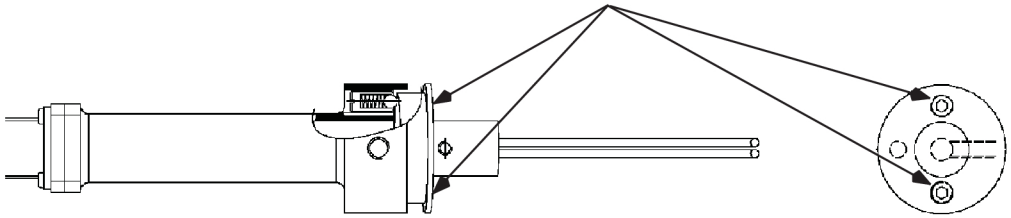
The following functions are set on the control unit, *vertical and horizontal joint-tracking with joint-searching to the right* or *vertical and horizontal joint-tracking with joint-searching to the left* depending on whether right of left-hand control is required. The two stop screws on the sensor must be screwed in to the stop point. See the illustration below. This means that the fuses are spring--loaded laterally and edge control is allowed. Joint-tracking with edge control is used for welding fillet welds and similar joints, see also the joint table.



The stop screws are tightened to the stop point.

8.2 Joint-tracking with groove control

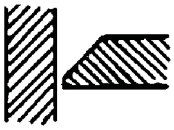
The following functions are set on the control unit, *vertical and horizontal joint-tracking* or *vertical joint-tracking* depending on whether both vertical and lateral control or just vertical control are required. The stop screws on the sensor must be screwed out at least two turns or to the stop point, see the illustration below. This releases the spring loading for the search fingers laterally and enables groove control. If the stop screws are not screwed out then there is a risk that the search fingers start to ”climb” up the joint walls in shallow V and U-joints.

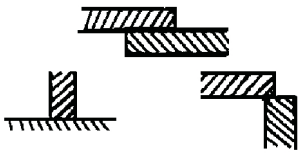


The stop screws screwed out 2 turns

8.3 Joint table

Examples of different types of joint and of the guide finger’s application against the guiding edges.

	Joint type	**Setting, control box**
Double flanged butt weld		*UpDownLeft* or *UpDownRight*
I-weld (A=guide bar)		*UpDownLeft* or *UpDownRight*
V-weld		*UpDownLeftRight*
1/2 V-weld		*UpDownLeftRight*
1/2 V-weld		*UpDownLeft* or *UpDownRight*
U-weld		*UpDownLeftRight*

	Joint type	Setting, control box
Double U-weld		*UpDownLeftRight*
J-weld		*UpDownLeftRight*
Double J-weld		*UpDownLeftRight*
X-weld		*UpDownLeftRight*
Asymmetrical X-weld		*UpDownLeftRight*
K-weld		*UpDownLeftRight*
K-weld		*UpDownLeft* or *UpDownRight*
Fillet weld		*UpDownLeft* or *UpDownRight*

8.4 Position for welding start

1) Align the welding equipment into position in relation to the weld joint so that the working range of the slide cross covers the whole height and lateral deviation of the joint from starting point to the stopping point for welding.

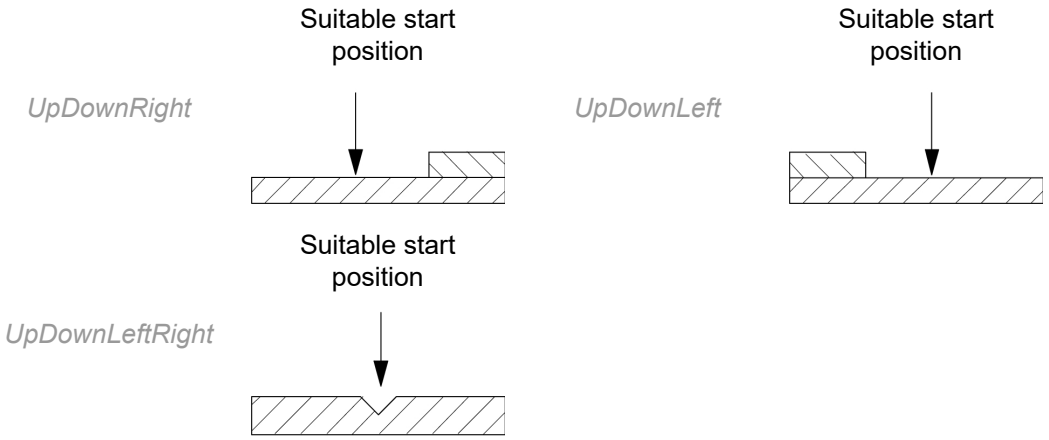
2) Select the required *JOINT-TRACKING MODE* on the control unit.

3) Operate the guide finger horizontally using the motion control joystick on the control unit, until the finger is above a suitable start position, see the illustration below.

   For *UpDown* joint-tracking alone the guide finger is positioned where the start of the weld is required to be.

4) Operate the welding head downwards with the motion control joystick, until the signal lamp goes out.

   The equipment will searches for the ideal position for itself vertically and horizontally if *UpDownLeft*, *UpDownRight* or *UpDownLeftRight* joint-tracking is activated.



8.5 Positioning for welding start (with inductive joint-tracking)

The product must be configured before inductive joint-tracking is possible. Contact authorised ESAB service personnel for configuration.

1) Align the welding equipment into position in relation to the weld joint so that the working range of the slide cross covers the whole height and lateral deviation of the joint from starting point to the stopping point for welding.

2) Select the *UpDown* joint-tracking option on the control unit.

3) Position the sensor downwards with the motion control joystick on the control unit, until the signal lamp goes out. The equipment now searches for the ideal position itself vertically.

   NOTE!
   If only *UpDown* joint-tracking is used, skip the following steps.

4) Select the *UpDownRight* mode on the control unit.

5) Position the sensor using the motion control joystick horizontally to the ideal position until the signal lamp goes out.

6) The signal lamp goes out. The equipment start to search for the ideal position itself horizontally and vertically. If the signal lamp does not go out, repeat the procedure from step 1.

7) For fine adjustment of the welding head position, use the slide cross for the sensor.

9 FUNCTION EXPLANATIONS

The power source can affect the weld using two different means. Either regulation via the power package or via the wire drive. The power package regulation is the quicker of the two and allows for greater control. The wire drive is by nature slower.

NOTE!
The wire drive regulates the wire speed to the set value issued by the power source, based on the encoder feedback. The wire regulation discussed in this section is only the power source wire regulation.

In the different modes that we offer, the two different regulation means are used as follows:

9.1 CA, constant amperage

The power package is used for voltage regulation (Constant Voltage, CV). The wire drive regulation is used to control the current in the weld to match the set current value.

- Constant amperage setting can be selected in the main menu.

9.2 CW, constant wire feed

In this mode as well, the power package is used for voltage regulation (Constant Voltage, CV). The welding current, however, is a result of the selected wire feed speed. No wire drive regulation is used by the power source.

- Constant wire feed setting can be selected in the main menu.

9.3 CC, constant current

(applies only to Aristo® 1000 power source)

In this mode, the power package is used for current regulation. The wire drive regulation is used to control the voltage in the weld to match the set voltage value.

- Constant current setting can be selected in the main menu.

9.4 Wire / electrode dimension

Selected dimensions have a great impact on the start procedure and crater filling. When welding with other wire dimensions other than those found in the table, select one that has a dimension close to one in the list.

- Wire / electrode dimension can be selected in the main menu. The available wire material and dimension are affected by the combination of power source and welding head.

9.5 Arc voltage

Higher arc voltage increases the arc length and produces a hotter, wider weld pool.

- The arc voltage is set in the measurement display, weld data setting menu, or fast mode menu.

9.6 Wire feed speed

This sets the required feed speed of the filler wire in cm/minute or inch/minute. A higher wire speed gives a higher welding current.

- The wire feed speed is set in the measurement display, weld data setting menu, or fast mode menu.

9.7 ICE wire feed speed

ICE wire feed speed is used to set the percentage of the ICE wire of the hot wire speed.

- The ICE feed speed is set in the measurement display, weld data setting menu, or fast mode menu.

9.8 ICE wire start delay

ICE wire start delay is used to indicate how long (s) after welding start ICE wire feed will start.

- ICE wire start delay is set in the weld data setting menu.

9.9 Travel speed

Travel speed indicates the required speed (cm/minute or inch/minute) at which a column and boom or trolley is to move.

- The travel speed is set in the measurement display, weld data setting menu, or fast mode menu.

9.10 Welding direction

Travel motion in the direction that the symbol indicates.

- Welding direction is selected in the weld data setting menu.

9.11 AC frequency

(applies only to Aristo® 1000 power source)

AC frequency refers to the number of oscillations per second through the zero level.

- AC frequency is selected in the weld data setting menu.

9.12 AC balance

(applies only to Aristo® 1000 power source)

AC balance is the relationship between positive (+) and negative (-) pulses. The value that is set indicates the percentage size of the period that is the positive section.

- AC balance is selected in the weld data setting menu.

9.13 AC offset

(applies only to Aristo® 1000 power source)

With AC offset the AC level is offset positively or negatively in relation to the zero level.

- AC offset is selected in the weld data setting menu.

9.14 Flux pre-flow (SAW)

This controls the time during which flux flows before the arc is struck.

- Flux pre-flow is set in the weld data setting menu under start data.

9.15 Gas pre-flow (GMAW)

This controls the time during which shielding gas flows before the arc is struck.

- Gas pre-flow is set in the weld data setting menu under start data.

9.16 Start adjust

In a weld where you have selected CA or CC as regulation type, the start point* for the wire speed control is calculated from the set current. If the calculated speed is either too high or too low, the start of the weld might be affected negatively. If this happens, you can use Start adjust to change the starting point (i.e. start wire speed).

If the wire tends to burn too quickly at start of weld or you get arc lost errors, the Start adjust value should most likely be decreased. If, on the other hand, the current is slow to assume the set value, the Start adjust value should be increased.

- Start adjust is set in the weld data setting menu under start data.

*The start point is the speed that will be used when the initial creep speed phase is over, i.e. the wire is in contact with the weld object and an arc is established. When this happens, the regulation of the wire starts with the start point as the base.

9.17 Air pre-flow (Gouging)

This controls the time during which air flows before the arc is struck.

- Air pre-flow is set in the weld data setting menu under start data.

9.18 Start type

There are two options for start type:

- Direct start, means that the travel speed starts when the arc is struck.
- Scratch start, means that the travel speed starts at the same time as wire feed.

Start type is selected in the weld data setting menu under start data.

9.19 Wire creep start

Wire creep start is used to set the desired creep speed on the electrode motor upon start-up.

If, for example, 50 is set in the menu a creep speed of 50 cm/min is obtained.

Preset value ”AUTO” gives a creep speed calculated from the set values.

- Wire creep speed is set in the weld data setting menu under start data.

9.20 Start phases

When welding special wire or material, it may be necessary to create your own start sequence. The start sequence can affect the appearance of the weld pool.

The following can be set for Start phase1 ON

- Time s

  Time for welding in phase 1.
- Arc voltage %

  In percent of set voltage
- Wire feed %

  In percent of set wire feed
- Welding current %

  In percent of set welding current
- Travel speed %

  In percent of set travel speed

The following can be set for Start phase2 ON

- Time s

  Time for welding in phase 2.
- Arc voltage %

  In percent of set voltage
- Wire feed %

  In percent of set wire feed
- Welding current %

  In percent of set welding current
- Travel speed %

  In percent of set travel speed
- ICE wire speed %

  In percent of live/hot wire speed

Start phases are set in the weld data setting menu under start data.

9.21 Flux post-flow (SAW)

This controls the time during which flux flows after the arc is extinguished.

- Flux post-flow is set in the weld data setting menu under stop data.

9.22 Gas post-flow (GMAW)

This controls the time during which shielding gas flows after the arc is extinguished.

- Gas post-flow is set in the weld data setting menu under stop data.

9.23 Air post-flow (Gouging)

This controls the time during which air flows after the arc is extinguished.

- Air post-flow is set in the weld data setting menu under stop data.

9.24 Crater filling

Crater filling makes a controlled reduction in the heat and size of the weld pool possible when completing the weld. This makes it easier to avoid pores, thermal cracking and crater formation in the weld joint.

- Crate filling is set in the weld data setting menu under stop data.

9.25 Burnback time

Burnback time is a delay between the time when the wire starts to brake until the time when the power source switches off the arc voltage. Too short burnback time results in a long wire stickout after completion of welding, with a risk of the wire being caught in the solidifying weld pool. Too long

burnback time results in a shorter stickout, with increased risk of the arc striking back to the contact tip.

- Burnback time is set in the weld data setting menu under stop data.

9.26 Stop phases

Stop phases are mainly used for setting crater filling.

The following can be set for Stop phase1 ON	The following can be set for Stop phase2 ON
• Time s Time for welding in phase 1.	• Time s Time for welding in phase 2.
• Arc voltage % In percent of set voltage	• Arc voltage % In percent of set voltage
• Wire feed % In percent of set wire feed	• Wire feed % In percent of set wire feed
• Welding current % In percent of set welding current	• Welding current % In percent of set welding current
• Travel speed % In percent of set travel speed	• Travel speed % In percent of set travel speed

Stop phases are set in the weld data setting menu under stop data.

9.27 Regulation parameters

For Aristo® 1000 only, the function Control parameters is displayed instead of Dynamic control. There are two settings to make under Control parameters:

- *DYNAMICS* - Affects the dynamic characteristics
- *INDUCTANCE* - Higher values give a wider weld pool and less spatter. Lower values produce a stable, concentrated arc and a harsher sound.

Control parameters are selected in the weld data setting menu.

9.28 Setting and measure limits

Setting limits and measured value limits are included in the welding data, so there is no need to store separate limit sets.

When you store a memory position, the setting and the measured value limits are also stored in the same memory position.

SAW WELD DATA SETTING				
WELD DIAMETER				*1000 mm*
ROLL DIAMETER				*1000 mm*
POLARITY				*DC+*
START DATA►				
STOP DATA►				
REGULATION PAR.►				
SETTING LIMITS►				*ON*
MEASURE LIMITS►				*OFF*
STEP FUNCTION►				*OFF*
INTERMITTENT WELDING►				*OFF*
MEASURE				

To activate setting limits, set *SETTING LIMITS* to *ON* and then set the desired limits.

SETTING LIMITS				
SETTING LIMITS			*ON*	
VOLTAGE			*8.0 Volt*	*MIN*
VOLTAGE			*60.0 Volt*	*MAX*
CURRENT			*0 Amp*	*MIN*
CURRENT			*4000 Amp*	*MAX*
WIRE FEED SPEED			*0 cm/min*	*MIN*
WIRE FEED SPEED			*3000 cm/min*	*MAX*
TRAVEL SPEED			*0 cm/min*	*MIN*
TRAVEL SPEED			*1000 cm/min*	*MAX*

To activate measured value limits, set *MEASURE LIMITS* to *ON* and then set the desired limits.

If the limits are exceeded during welding, a warning message will appear on the display, which will also be recorded in the error log.

MEASURE LIMITS				
MEASURE LIMITS			*ON*	
VOLTAGE			*8.0 Volt*	*MIN*
VOLTAGE			*60.0 Volt*	*MAX*
CURRENT			*0 Amp*	*MIN*
CURRENT			*4000 Amp*	*MAX*
WIRE FEED SPEED			*0 cm/min*	*MIN*
WIRE FEED SPEED			*3000 cm/min*	*MAX*
TRAVEL SPEED			*0 cm/min*	*MIN*
TRAVEL SPEED			*1000 cm/min*	*MAX*
HEAT INPUT			*0.0 kJ/mm*	*MIN*

9.29 STEP function

STEP FUNCTION	
STEP CONTROL	*ON*
TEST MODE	*ON*
TEST MODE LENGTH	*O mm*
STEP DIRECTION	*TRIANGLE*
STEP LENGTH	*76 mm*
STEP SPEED	*77 cm/min*
NUMBER OF STEPS	*10*
OVERLAP	*10 mm*
MANUAL STEP LENGTH	*3 mm*
WHEEL DIAMETER	*1 mm*
WELD DIAMETER	*1 000 mm*
ROLL DIAMETER	*1 000 mm*

STEP CONTROL	*ON* or *OFF* On/off setting of the step function
STEP DIRECTION	*SQUARE* or *TRIANGLE* Setting of direction for the auto step execution
STEP LENGTH	The length of one auto step (minimum setting 1 mm)
STEP SPEED	The travel speed of the auto step (minimum setting 3 cm/min)
NUMBER OF STEPS	The number of steps during one rotational turn.
OVERLAP	The length of the overlap of one rotational turn.
MANUAL STEP LENGTH	The length of one manual step (minimum setting 1 mm) (for singular manual adjustments during welding)

NOTE!
To be able to run the step function, STEP CONTROL must be in the ON position, the EXT AXIS and AUTO STEP soft keys must be ON

If you want to have a restart of step, to restart step welding after a stop, press soft key *RESTART STEP* before you press the *AUTO STEP* before you start to weld.

For example, if you have 100 mm to next step, press *STOP*, change the wire, position the object, press *RESTART STEP*, press *AUTO STEP*, and start to weld. Next step will be after 100 mm.

When the “one turn switch” is activated, the step function executes one auto step in the direction and with the speed and length specified by the *STEP DIRECTION*, *STEP SPEED* and *STEP LENGTH* parameters.

If the FORCE STEP soft key is pushed, the step function executes one auto step in the direction and with the speed and length specified by the *STEP DIRECTION*, *STEP SPEED* and *STEP LENGTH* parameters.

If the square/triangle button is pushed, one manual step will be executed in the direction and with the speed and length specified by the square/triangle, *STEP SPEED* and *STEP LENGTH* parameters. This function can be used to make one small adjustment during welding.

There is always a possibility to interrupt an auto step or manual step movement by pushing the *SQUARE* or *TRIANGLE* button.

During the auto step or manual step movement, the LED above the square/triangle button is on to indicate movement and direction.

Speed wheel settings
When the positioner and the speed wheel are ON, the speed wheel (encoder) is at the welding object.

When the positioner and the speed wheel are OFF, the encoder is at the motor shaft.

When the roller bed and the speed wheel are ON, the speed wheel (encoder) is at the roller bed wheel.

When the roller bed and the speed wheel are OFF, the encoder is at the motor shaft.

9.30 Intermittent welding

INTERMITTENT WELDING				
INTERMITTENT WELDING				*ON*
RETURN AFTER WELDING				*ON*
WELDING LENGTH				*0 mm*
TRANSPORT LENGTH				*0 mm*
NUMBER OF WELDS				*0*

To activate the function, set intermittent welding to ON. An intermittent welding sequence consists of weld and transport. At the last weld in a sequence, the transport will not be performed.

WELDING LENGTH is the length of the weld.

RETURN AFTER WELDING after finished welding, the welding head returns to its start position.

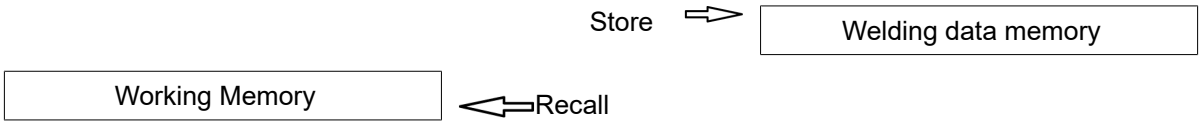
TRANSPORT LENGTH is the length of the transport after a weld has finished.

NUMBER OF WELDS is the number of welds to be performed including transport. If the number of welds is set to “0”, the intermittent welding sequence continues until the user stops the welding using the red weld stop button.

10 MEMORY MANAGEMENT

10.1 Control panel working method

The control panel can be said to comprise two units: working memory and weld data memory.



In the working memory, a complete set of weld data settings is created that can be stored in the weld data memory.

During welding, it is always the content of the working memory that controls the process. It is therefore also possible to recall a weld data set from the weld data memory to the working memory.

Note that the working memory always contains the most recently set weld data settings. They can be recalled from the weld data memory or individually altered settings. In other words, the working memory is never empty or “zeroed”.

MAIN MENU **»** *MEMORY* **»** *WELD DATA MEMORY*

WELD DATA MEMORY				
STORE			*2ND FUNCT*	

It is possible to store up to 255 sets of weld data in the control panel. Each set is given a number from 1 to 255.

You can also delete, copy, change and name data sets and recall a set of weld data to the working memory.

10.2 Storing a set of weld data

If the weld data memory is empty, the following screen appears in the display.

Storing a set of weld data. This will be given memory position 5. Press *STORE*.

Position 1 is displayed. Turn one of the settings knobs until you reach position 5. Press *STORE*.

WELD DATA MEMORY				
STORE			*2ND FUNCT*	

The following screen appears in the display.

The weld data set is now stored as number 5.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm 30.0 V: 450 A: 50 cm/min				
STORE	RECALL	DELETE	2ND FUNCT	

Parts of the content of weld data set number 5 are presented at the bottom of the display.

If a data set is already stored in the selected location, you will be asked if you want to overwrite that set or not, *YES* or *NO*.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm 30.0 V: 450 A: 50 cm/min				
			NO	YES

OVERWRITE DATA SET5 IN MEMORY?

Return to the memory menu using *NO*.

10.3 Recalling a stored data set

Mark the row using the positioning knob. Press *RECALL*.

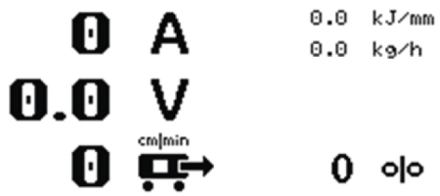
WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm 30.0 V: 450 A: 50 cm/min				
STORE	RECALL	DELETE	2ND FUNCT	

Press *YES* to confirm that you want to recall data set number 5.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm *30.0 V: 450 A: 50 cm/min*				
			NO	*YES*

RECALL DATA SET 5 FROM MEMORY?

The icon in upper right corner of the measurement display shows which memory position number has been recalled.

SAW: FE SOLID				**5**
				
NONE	*NONE*	*NONE*	*NONE*	*2ND FUNCT*

10.4 Deleting data set

It is possible to delete one or more data sets in the memory menu.

Deleting a data set. Select the data set. Press *DELETE*.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm *30.0 V: 450 A: 50 cm/min*				
STORE	*RECALL*	*DELETE*	*2ND FUNCT*	

Press *YES* to confirm that you want to delete.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm 30.0 V: 450 A: 50 cm/min				
			NO	YES

DELETE WELD DATA NR. 5?

10.5 Copying content of a weld data set to a new memory position

Press *2ND FUNCT*.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm 30.0 V: 450 A: 50 cm/min				
STORE	RECALL	DELETE	2ND FUNCT	

Select the memory position you want to copy and press *COPY*.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm 30.0 V: 450 A: 50 cm/min				
COPY	RENAME	EDIT	2ND FUNCT	

We are now going to copy the content of memory position 5 to position 50.

Select memory position 1 and scroll through using one of the settings knobs to the selected memory position; in this case, position 50. Press *YES*.

WELD DATA MEMORY				
1 - *5 - (SAW)*				
COPY *DATA SET 5 TO POSITION: 50*				
			NO	*YES*

Weld data number 5 has now been copied to memory position 50.

10.6 Naming a stored weld data set

Press *2ND FUNCT*. Select the memory position you want to rename and press *RENAME*.

WELD DATA MEMORY				
5 - (SAW) *50 -*				
SAW: CA: FE SOLID: 3.0 mm *30.0 V: 450 A: 50 cm/min*				
COPY	*RENAME*	*EDIT*	*2ND FUNCT*	

Here you have access to a keyboard that is used as follows:

- Position the cursor on the desired keyboard character using the arrows and the positioning knob. Press *DONE*. Enter a complete text string with a maximum of 40 characters in this way.
- Press *DONE* to store. The alternative you have named can now be seen in the list.

KEYBOARD				
A B C D E F G H *I J K L M N O P* *Q R S T U V W X Y Z* *0 1 2 3 4 5 6 7 8 9* *SPACE CAPS*				
0 (MAX 40)				
◄	►	*DELETE*	*SYMBOL*	*DONE*

10.7 Editing content of a weld data set

Press *2ND FUNCT*. Select the memory position you want to edit and then press *EDIT*.

WELD DATA MEMORY				
5 - (SAW)				
SAW: CA: FE SOLID: 3.0 mm *30.0 V: 450 A: 50 cm/min*				
STORE	*RECALL*	*DELETE*	*2ND FUNCT*	

Part of the main menu is displayed and the menu shows the symbol  which means that you are in an editing mode.

Press *SET* and make the relevant changes.

SAW				
REGULATION TYPE *WIRE TYPE* *WIRE DIMENSION*			*CA* *SS FLUX CORED* *2.0 mm*	
SET				

The following menu appears:

In this example we change the welding current from 400 A to 500 A.

Select the welding current and scroll through to 500 using one of the settings knobs.

Press the back button twice.

SAW WELD DATA SETTING				
VOLTAGE *CURRENT* *TRAVEL SPEED* *DIRECTION* *START DATA►* *STOP DATA►* *DYNAMIC REGULATION* *SETTING LIMIT►* *MEASURE LIMITS►*			*20.0 V* *500 A* *0 cm/min* ■ *AUTO*	

The setting for weld data number 5 has now been edited and stored.

11 CONFIGURATION MENU

11.1 Code lock

MAIN MENU **»** *CONFIGURATION* **»** *CODE LOCK*

When the lock function is activated and you are in the measure screen or fast mode menu, a password (lock code) is required to exit from these menus.

Code lock is activated in the configuration menu.

CODE LOCK				
LOCK STATUS			*OFF*	
SET / CHANGE LOCK CODE			*-*	

11.1.1 Lock code status

In lock code status, you can activate/deactivate the lock function without deleting the existing lock code in the event you deactivate the function. If no lock code is stored and you try to activate the code lock, the keyboard is displayed for entering a new lock code.

KEYBOARD				
A B C D E F G H *I J K L M N O P* *Q R S T U V W X Y Z* *0 1 2 3 4 5 6 7 8 9* *SPACE CAPS*				
0 (MAX 16)				
◄	►	*DELETE*	*SYMBOL*	*DONE*

To exit lock status

When you are in the measure screen or the fast mode menu and the code lock is **deactivated**, you can exit these menus without restrictions by pressing the back or menu buttons in order to go to the main menu.

If it is **activated** and you try to exit, the following screen appears in order to warn the user about the lock protection.

PRESS ENTER FOR *LOCK CODE...*

Here you can select the back button to undo and return to the previous menu, or proceed by pressing the positioning knob to enter the lock code.

You will then move to the menu with the keyboard, where you can enter the code. Press the positioning knob after each character, and confirm the code by pressing the positioning knob again.

The following text box appears:

UNIT UNLOCKED!

If the code is not correct, an error message is displayed that offers the option of trying again or returning to the original menu, i.e. the measure screen or the fast mode menu.

If the code is correct, all blocks to other menus will be removed, **although the code lock remains activated**. This means that you can leave the measure screen and the fast mode menu temporarily, yet still retain the lock status when you return to these menus.

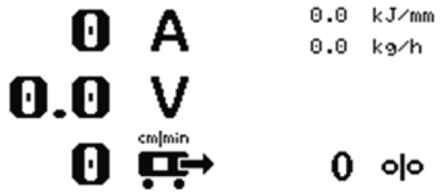
11.1.2 Specify/edit lock code

In specify/edit lock code, you can edit an existing lock code or enter a new one. A lock code can comprise a maximum of 16 optional letters or figures.

11.2 General configuration

11.2.1 Fast mode soft buttons

The soft keys *WELD DATA 1* up to and including *WELD DATA 4* are displayed in the fast mode menu.

SAW: FE SOLID				
				
WELD DATA 1	*WELD DATA 2*	*WELD DATA 3*	*WELD DATA 4*	*2ND FUNCT*

These are configured as follows:

Position the cursor on the row for *SOFT KEY NUMBER*.

FAST MODE SOFT BUTTONS				
SOFT KEY NUMBER *ASSOCIATED WELD DATA*				*1* *1*
SAW: DC: FE SOLID: 0.8 mm *30.0 V: 500 A: 30 cm/min*				
	STORE	*DELETE*		

The keys are numbered 1-4 from left to right. Select the desired key by giving its number using the setting knobs.

Then scroll to the next row *ASSOCIATED WELD DATA*. Here you can browse through the weld data sets that are stored in the weld data memory. Selected the desired weld data number using the setting knobs. Press *STORE* to save. To delete the stored set, press *DELETE*.

11.2.2 Quality data log to file

Activate *QUALITY DATA LOG TO FILE* menu by selecting *ON*.

GENERAL CONFIGURATION				
FAST MODE SOFT BUTTONS				*1*
QUALITY DATA LOG TO FILE				*ON*
SOFT KEYS SETUP►				
AUTO SAVE MODE				*OFF*
UNIT OF LENGTH				*METRIC*

The file is in a folder called QData is created automatically when you insert a USB memory.

Read more about settings for the quality function in section "Quality functions".

11.2.3 Soft key configuration

For Submerged Arc Welding (SAW) and for Gas Metal Arc Welding (GMAW) welding, the user has the possibility of setting the function of these keys by selecting from a list of set options. There are eight soft keys that can be allocated a function.

It is possible to choose between the following options:

- None
- Gas / Flux
- Set values
  Set reference values are displayed instead of the measured values in the measurements menu.
- Relay 2
  Sets relay output no.2 on the motor circuit board, which can be used for any function by the customer.
- Direction
- Remote I/O
  Used when you want to control EAC 30 and a welding power source via an external I/O unit.
- Pneum brake
  Used to turn the pneumatic brake for columns on or off.
- External axis
  To be activated when there is an external I/O unit for controlling a roller bed, for example.
- Tandem
  Used when welding with two welding heads.
- ICE WF
  Used when a non-live wire is fed into the weld pool and the ICE wire speed is to be shown in the display.
- Auto step
  Used in the step function
  - Auto step Off: Setting during preparation of the object before welding
  - Auto step On: Setting after preparation is finished when welding should be executed
- Force step
  Used in the step function to manually force one auto step during welding
- Stop zero pos
  Used to stop automatically at the started rotation position.
- Restart
  When welding is stopped with 100mm left to the start of the next step. Press restart step and the next step is after 100mm, not after Xmm. Then press the welding start key.
- A2TF J1
  Product code.

- A2TG J1
  Product code.
- A6TFF1
  Product code.
- MTW600
  Product code.
- USER DEF.AXIS
  Product code.
- N7500i-A2
  Product code.
- N7500i-A6
  Product code.
- ETC
  Product code.
- EWHC 1000
  Product code.

In the display screen there are two columns; one for *SOFT KEYS* and one for *FUNCTION*.

SOFT KEYS SETTINGS	
SOFT KEYS	*FUNCTION*
S1	*NONE*
S2	*NONE*
S3	*NONE*
S4	*NONE*
S1 2ND FUNCT	*NONE*
S2 2ND FUNCT	*NONE*
S3 2ND FUNCT	*NONE*
S4 2ND FUNCT	*NONE*

When you allocate functions to these keys, they are numbered from the left as follows:

S1	*S2*	*S3*	*S4*	*2ND FUNCT*
S1 2ND FUNCT	*S2 2ND FUNCT*	*S3 2ND FUNCT*	*S4 SND FUNCT*	*2ND FUNCT*

To allocate a new function to a soft key, proceed as follows:

Position the cursor on the row with the soft key number you wish to use and press the positioning knob. A pop-up menu shows the function selections. Select using the positioning knob and press the knob.

SOFT KEY SETUP	
SOFT KEYS	FUNCTION
S1	NONE
S2	NONE
S3	NONE
S4	NONE
S1 2ND FUNCT	NONE
S2 2ND FUNCT	NONE
S3 2ND FUNCT	NONE
S4 2ND FUNCT	NONE

NONE
FLUX
SET VALUES
RELAY 2
DIRECTION
REMOTE IO
PNEUM BRAKE
EXT. AXIS
TANDEM
ICE WF
AUTO STEP
FORCE STEP
STOP ZERO POS
RESTART
A2TF J1
A2TG J1
A6TFF1
MTW600
USER DEF.AXIS
N7500i-A2
N7500i-A6
ETC
EWHC 1000

You can allocate new functions to the other keys in the same way, by pairing a key number in the left-hand column with a function in the right-hand column.

11.3 Machine configuration

11.3.1 Product code

In the *PRODUCT CODE* menu it is possible to select the automatic welding machine, column and boom, roller bed or positioner to be used.

MACHINE CONFIGURATION	
PRODUCT CODE	*A2TF J1*
WIRE FEED AXIS 1►	
TRAVEL AXIS►	
TANDEM►	
PARALLEL POWERSOURCES►	
ICE WIRE FEED►	*OFF*
STEP FUNCTION►	*OFF*
INTERMITTENT WELDING	
NODE ID SETTINGS►	*POSITIVE*
SYSTEM INFORMATION►	

When selecting product code, the correct motor type and gear ratio for the used gearbox in the relevant product are selected automatically.

The following options can be selected:

- *A2TFJ1*

  A2 tractor automatic welding machine for Submerged Arc Welding (SAW)
- *A2TGJ1*

  A2 tractor automatic welding machine for Gas-Shielded Metal Arc Welding (GMAW)
- *A6TFF1*

  A6 tractor automatic welding machine for Submerged Arc Welding (SAW)
- *MTW600*

  A6 tractor automatic welding machine for Gas-Shielded Metal Arc Welding (GMAW)
- *N7500i-A2*

  Welding head for Gouging, A2 tractor.
- *N7500i-A6*

  Welding head for Gouging, A6 tractor.
- *USER DEF.AXIS*

  Optional configuration for connecting external roller beds, positioners or linear axis as well as for 2 motors to the actuator board. One for wire feed and one for travel motion.
- *Motor Control*

  Optional configuration to use the control unit for separate motor control without a power source.
- *EWHC 1000*

  Versotrac automatic welding machine for Submerged Arc Welding (SAW).
- *ETC*

  Dual strip welding head for Electro Slag Welding (ESW).

11.3.2 Wire feed axis 1

The wire feed motor is set automatically according to the tables below.

	A2TFJ1	**A2TGJ1**	**A6TFF1**
Motor	5035 38 RPM	5035 68 RPM	VEC 4000
Gear 1	49:1	49:1	156:1
Gear 2	1:1	1:1	1:1
Diameter feed rollers	49 mm	49 mm	49 mm
Pulse sensor	28 ppr	28 ppr	32 ppr
Low manual speed	150 cm/min	150 cm/min	150 cm/min
High manual speed	300 cm/min	300 cm/min	300 cm/min

	MTW600	**N7500i-A2**	**N7500i-A6**
Motor	FHP258	N7500i 10000	N7500i 10000
Gear 1	24:1	576:1	576:1
Gear 2	1:1	1:1	1:1
Diameter feed rollers	30 mm	40 mm	40 mm
Pulse sensor	28 ppr	128 ppr	128 ppr
Low manual speed	150 cm/min	61 cm/min	61 cm/min
High manual speed	300 cm/min	150 cm/min	150 cm/min

	USER DEF.AXIS	**Motor Control**	**EWHC 1000**
Motor	VEC 4000	VEC 4000	DOGA PM2719
Gear 1	156:1	156:1	52:1
Gear 2	1:1	1:1	1:1
Diameter feed rollers	49 mm	49 mm	47 mm
Pulse sensor	32 ppr	32 ppr	16 ppr
Low manual speed	150 cm/min	150 cm/min	150 cm/min
High manual speed	300 cm/min	300 cm/min	300 cm/min

11.3.3 Wire feed axis 2 (ICE)

	USER DEF.AXIS
Motor	VEC 4000
Gear 1	156:1
Gear 2	1:1
Diameter feed rollers	49 mm
Pulse sensor	32 ppr
Low manual speed	150 cm/min
High manual speed	300 cm/min

11.3.4 Travel axis

The travel motor is set automatically according to the tables below.

	A2TFJ1	A2TGJ1	A6TFF1
Motor	4030-350	4030-350	FHP258
Gear 1	375:10	375:10	24:1
Gear 2	51:1	51:1	51:1
Wheel diameter	158 mm	158 mm	180 mm
Pulse sensor	60 ppr	60 ppr	28 ppr
High manual speed	200 cm/min	200 cm/min	200 cm/min

	MTW600	N7500i-A2	N7500i-A6
Motor	A2 4030-350	A2 4030-350	A2 5035-751
Gear 1	75:2	75:2	24:1
Gear 2	51:1	51:1	51:1
Wheel diameter	158 mm	158 mm	180 mm
Pulse sensor	60 ppr	60 ppr	28 ppr
High manual speed	200 cm/min	200 cm/min	200 cm/min

	USER DEF.AXIS	Motor Control	EWHC 1000
Motor	VEC 4000	VEC 4000	VEC 4000
Gear 1	312:1	312:1	312:1
Gear 2	1:1	1:1	1:1
Wheel diameter	65 mm	65 mm	65 mm
Pulse sensor	32 ppr	32 ppr	32 ppr
High manual speed	200 cm/min	200 cm/min	200 cm/min

11.3.5 External axis

When connecting an external roller bed, positioner or linear axis, *USER DEF.AXIS* must be selected.

When *USER DEF.AXIS* is selected, the motor is automatically set according to the tables below.

	Roller bed	Linear	Positioner
Gear 1	560:1	560:1	560:1
Gear 2	111:22	111:22	111:22
Gear 3	1:1	1:1	1:1
Wheel diameter	160 mm	160 mm	160 mm
Pulse sensor	30 ppr	30 ppr	30 ppr
High manual speed	200 cm/min	200 cm/min	200 cm/min
Frequency ratio	85:50	85:50	85:50
Motor	2000 rpm	2000 rpm	2000 rpm
Weld diameter	1000 mm	-	1000 mm
Roller diameter	1000 mm	-	-

When the positioner and the speed wheel are ON, the speed wheel (encoder) is at the welding object.

When the positioner and the speed wheel are OFF, the speed wheel (encoder) is at the motor shaft.

When the roller bed and the speed wheel are ON, the speed wheel (encoder) is at the roller bed wheel.

When the roller bed and the speed wheel are OFF, the speed wheel (encoder) is at the motor shaft.

11.3.6 Tandem

Used when welding with two or more welding heads. The welding heads are each controlled by their own control unit.

Position the cursor on the *TANDEM* row and press the positioning knob. Select *ON* using the positioning knob and press the knob.

The front welding head is selected.

TANDEM				
AC SYNC MASTER				*ON*
PHASE SHIFT				
TRAVEL CONTROL				*ON*
TANDEM				*ON*
└ *WELDING HEAD*				*HEAD*
└ *SYNCRONIZED WELD START*				*ON*

The rear welding head is selected.

TANDEM				
AC SYNC MASTER				*OFF*
└ *PHASE SHIFT*				*90*
TRAVEL CONTROL				*OFF*
TANDEM				*ON*
└ *WELDING HEAD*				*TAIL*
└ *SYNCRONIZED WELD START*				*ON*
└ *WELD HEAD OFFSET*				*20 mm*

WELDING HEAD

Select whether the welding head is to be the front *HEAD* or rear *TAIL*.

AC SYNC MASTER

If more than one AC power source is in the tandem set-up, then one of them (preferably the first of them) has to be assigned *AC SYNC MASTER*.

TRAVEL CONTROL

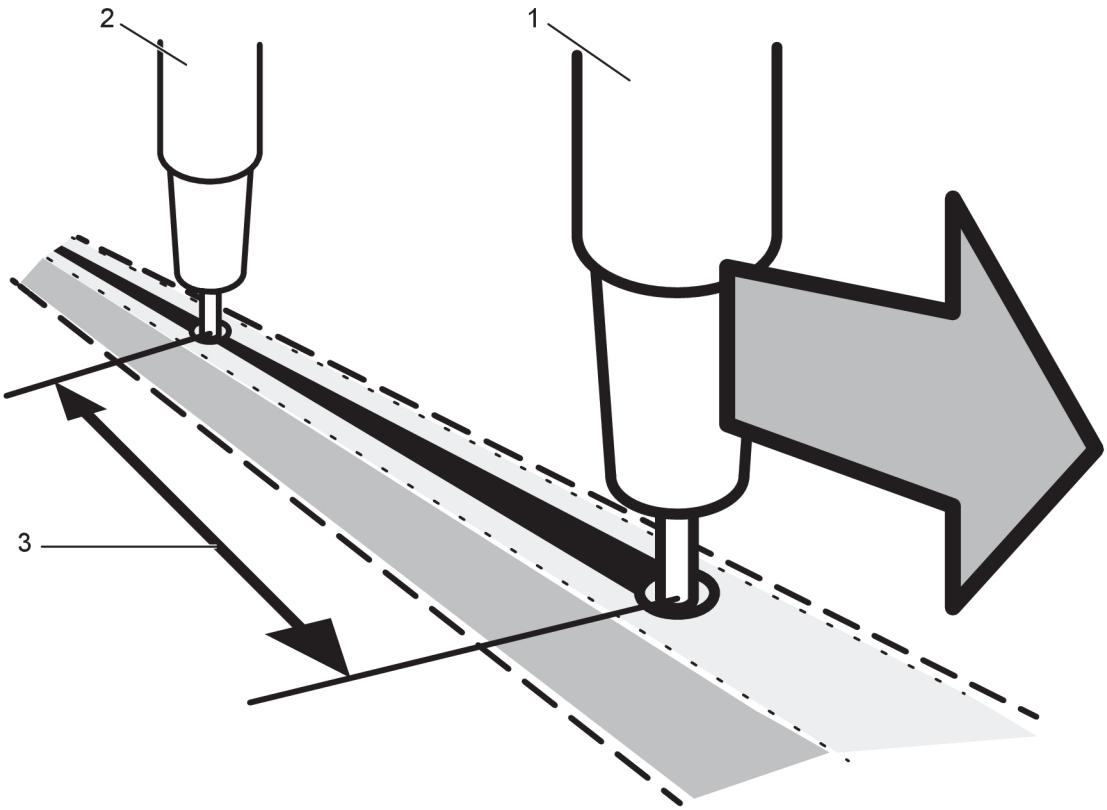
Select whether the welding head is controlling the travel. Both the front and rear welding heads can control the travel, but only one at a time.

SYNCRONIZED WELD START

If ON is selected it means that one only need start the control unit for the front welding head. The rear one is started automatically. If OFF is selected all the welding heads must be started using the relevant control unit.

NOTE!
Synchronized AC welding is always ON at AC welding, meaning that the frequency and balance of the AC pulses are synchronized to the same values for all welding heads in the tandem system.

WELD HEAD OFFSET
WELD HEAD OFFSET is the distance in millimetres between the welding heads. The weld head offset should always be set, whether a synchronised welding start is selected or not. If a **non**-synchronised welding start is selected, the offset is used to calculate a time delay for the welding start on the TAIL welding head.



1. HEAD, Welding head 1 (master)
2. TAIL, welding head 2 (slave)
3. WELD HEAD OFFSET

PHASE SHIFT (applies only to AC welding)

Phase shift means a phase offset in relation to the front welding head. The unit is degrees.

11.3.7 Parallel power sources

To be able to set up power sources in parallel, only the power sources that are to be connected should have power on and be active on the CAN2 bus.

PARALLEL POWERSOURCES	
PARALLEL POWERSOURCES	*OFF*
Number of power sources	*2*
Parallel couple ID	*1*
Parallel status	*- -*

Number of power sources

How many power sources we have in parallel.

Parallel couple id

Identification id for the active couple of parallel power sources. If you have a second couple of parallel power sources in a tandem system, they must have a unique id number.

Parallel status

Indicates if the power sources are parallelly connected or not.

PARALLEL POWERSOURCES	
PARALLEL POWERSOURCES	*ON*
Number of power sources	*2*
Parallel couple ID	*1*
Parallel status	*- -*

Perform settings for parallel power sources as follows:

1. Set the *PARALLEL POWERSOURCES* function to *ON*.
2. Set *Number of power sources*.
3. Set *Parallel couple ID*. The first parallel couple is set to 1, the next parallel couple is set to 2 etc.
4. Press soft button *Connect*.
5. When the master and slave power sources are connected, the text *Connected* is presented as *Parallel status*.

Indication will also be in the measurement view, in the status field. The symbol || will be shown if the master has detected the specified slave units.

11.3.8 ICE wire feed

NOTE!
ICE option is only available with an ICE license. Contact ESAB for more information.

The option *ICE WIRE FEED ON* can be selected in the machine configuration menu. If ICE wire feed is selected, the option *WIREFEED AXIS 2* appears.

MACHINE CONFIGURATION	
PRODUCT CODE	*USER DEF.AXIS*
WIREFEED AXIS 1►	
WIREFEED AXIS 2►	
TRAVEL AXIS►	
EXTERNAL AXIS►	
TANDEM►	
PARALLEL POWERSOURCES►	
ICE WIRE FEED	*ON*
NODE ID SETTINGS►	
SYSTEM INFORMATION►	

WIREFEED AXIS 2	
MOTOR	VEC4000
GEAR 1►	ON
└ N 1	74
└ N 2	1
GEAR 2►	ON
└ N 1	1
└ N 2	1
FEED ROLLER DIAM	49 mm
ENCODER PULSES	32 ppr
LOW MANUAL SPEED	150 cm/min

Motor is selected from a dropdown list with the following options:

5035 38RPM
5035 68RPM
FHP258
VEC8000
VEC4000
DUNKER1
DUNKER2
MET3B
VEC4000Par
A2 4030-350

- *GEAR 1* must be set to *ON*. The value cannot be *OFF*.
- *GEAR 2* must normally be set to *ON*, but *OFF* can be selected.
- The values *N1* and *N2* under *GEAR 1* and *GEAR 2* are set with one of the three settings knobs at the bottom of the panel. The interval for N1 and N2 depend on selected motor.
- The diameter of the feed rollers *FEED ROLLER DIAM* is selected with any settings knob. The interval depends on selected motor.
- The encoder for pulses *ENCODER-PULSES* is selected with any settings knob. The interval is between 1 - 9998 ppr (ppr = pulses per revolution).
- *LOW MANUAL SPEED* is selected with any of the settings knobs.
- *HIGH MANUAL SPEED* is selected with any of the settings knobs.

11.3.9 Node id settings

If there are I/O nodes in the system the ID numbers are given here.

NODE ID SETTINGS	
I/O NODE 1 ID	17
I/O NODE 2 ID	25

11.3.10 System information

The *SYSTEM INFORMATION* menu shows active power sources connected via the CAN2 bus, if the power sources are in tandem or parallel mode and if they are configured as master or slave.

SYSTEM INFORMATION		
Active power sources on CAN2		
PS id	*Tandem*	*Parallel*
No contact with master power source		

11.4 Maintenance

MAIN MENU **»** *CONFIGURATION* **»** *MAINTENANCE*

In this menu you set how often the contact tip is to be changed. Specify the number of weld starts after which the tip is to be changed by selecting the *CONTACT TIP CHANGE INTERVAL* row and pressing the positioning knob. Change the value using the setting knobs. When the interval has been passed, fault code 54 is displayed in the error log.

TOTAL RUNNING TIME LIMIT can only be changed via ESAB service tool, contact an authorised ESAB service center.

MAINTENANCE	
CONTACT TIP CHANGE INTERVAL	*0 Welds*
└ *WELD COUNT*	*0 Welds*
TOTAL RUNNING TIME LIMIT	*0d:00:00:00*
└ *TOTAL RUNNING TIME*	*0d:00:00:00*

11.5 Network settings

Settings for connection to WeldCloud™ gateway.

NETWORKS SETTINGS	
DHCP	*OFF*
IP ADDRESS	*0.0.0.0*
WELDING HEAD ID	*1*
TORCH ID	*1*

DHCP

Set DHCP to OFF.

IP ADDRESS

In a tandem system for the first control unit, set the 192.168.0.100 IP address. For the following unit, set 192.168.0.101.

WELDING HEAD ID

An identifier for the welding head. All control units connected to the welding head will have the same identifier.

TORCH ID

Torch id is the number in the transport direction that the welding electrodes have in a tandem system.

11.6 Measure–values filter factor

MAIN MENU **»** *CONFIGURATION* **»** *MEASURE-VALUES FILTER FACTOR*

This menu provides a filter factor for the measurement values of the welding current. The higher filter factor value you choose, the more stable welding current measurement value and filtration you will get. You can choose between filter factors 1, 2 and 4.

Position the cursor on the *MEASURE-VALUES FILTER FACTOR* row and press the positioning knob. A pop-up menu shows filter factors *ONE*, *TWO* and *FOUR*. Select the preferred filter factor using the positioning knob and press the knob.

CONFIGURATION	
LANGUAGE	*ENGLISH*
CODE LOCK►	
GENERAL CONFIGURATION►	
MACHINE CONFIGURATION►	
CABLE LENGTHS►	
MAINTENANCE►	
MEASURE-VALUES FILTER FACTOR	*ONE*

ONE
TWO
FOUR

12 TOOLS MENU

12.1 Event handling

12.1.1 Event log

MAIN MENU **»** *TOOLS* **»** *EVENT HANDLING* **»** *EVENT LOG*

EVENT LOG				
Index	*Date*	*Time*	*Unit*	*Error*
1	180917	11:24:13	8	19
2	181021	10:15:36	8	17
(Error message description)				
DELETE	*DELETE ALL*	*UPDATE*	*VIEW TOTAL*	

All errors that occur during the use of the welding equipment are documented as error messages in the event log.

An error message description is displayed for the selected error.

Up to 99 error messages can be saved. If the error log becomes full, i.e. if 99 error messages have been saved, the oldest message is automatically deleted when the next error occurs.

Only the most recent error message is displayed on the control panel.

Errors are monitored/detected in two ways: by test routines that are run on initiation and by functions that can detect a error when it occurs.

Headings used in the error log:

- *Index* Error message number
- *Date* When the error occurred, in format YYMMDD
- *Time* When the error occurred, in format hh:mm:ss
- *Unit* Which unit has generated the error message
- *Error* Error code number

Unit ID for Aristo® 1000 power source:

1 = Power source

6 = Motor control board

8 = Welding data unit

12.1.2 Active errors

MAIN MENU **»** *TOOLS* **»** *EVENT HANDLING* **»** *ACTIVE ERRORS*

The Active errors menu shows only the errors active for the moment.

ACTIVE ERRORS		
Error nr	*Node ID*	*Device type*
78	*1*	*powersource*
152	*1*	*powersource*

Error nr 78				
				QUIT

12.2 Export Import

MAIN MENU **»** *TOOLS* **»** *EXPORT / IMPORT*

In the Export/Import menu, it is possible to transfer information to and from the control panel via a USB memory.

The following information can be transferred:

- *WELD DATA SETS* *EXPORT* / *IMPORT*
- *SYSTEM SETTINGS* *EXPORT* / *IMPORT*
- *EVENT LOG* *EXPORT*
- *QUALITY FUNCTION LOG* *EXPORT*
- *PRODUCTION STATISTICS* *EXPORT*
- *USER ACCOUNTS* *EXPORT* / *IMPORT*

Carry out the following to save on a USB memory:

Insert the USB memory into the control unit.

Select the row with the information that is to be transferred. Press *EXPORT* or *IMPORT*, depending on whether the information is to be exported or imported.

EXPORT/IMPORT				
WELD DATA SETS *SYSTEM SETTINGS* *SETTING LIMITS* *MEASURE LIMITS* *EVENT LOG* *QUALITY FUNCTION LOG* *PRODUCTION STATISTICS* *USER ACCOUNTS*				
EXPORT	*IMPORT*			

12.3 File manager

MAIN MENU **»** *TOOLS* **»** *FILE MANAGER*

In the file manager it is possible to manage information on a USB memory (C:\). File manager makes it possible to delete and copy weld data and quality data manually.

When the USB memory is connected, the display shows the memory's default folder if one is not previously selected.

The control panel remembers where you were the last time you used file manager, so that you return to the same place in the file structure when you come back.

FILE MANAGER				
.. *NEW FOLDER* *QData.xml*				
INFO	*UPDATE*		*ALT.*	

- Update the information by pressing *UPDATE*.
- When you want to delete, change name, create new folder, copy or paste, press ALT. A list then appears from which you can choose. If (..) or a folder is selected, you can only create a new folder or paste in a file that you have previously copied. If you have selected a file, the options *RENAME*, *COPY* or *PASTE* will be added if you have previously copied a file.

FILE MANAGER				
.. *WeldData* *NEW FOLDER* *ErrorLog.xml* *QData.xml* *~Weldoffice.dat*				
INFO	*UPDATE*		*ALT.*	

This list is displayed when you have pressed ALT.

COPY
PASTE
DELETE
RENAME
NEW FOLDER

If *RENAME* or *NEW FOLDER* is selected, a keyboard appears in the display. Use the positioning knob to change row and the arrows to move left and right. Select the character/function that is to be used and press the positioning knob to confirm.

KEYBOARD				
A B C D E F G H *I J K L M N O P* *Q R S T U V W X Y Z* *0 1 2 3 4 5 6 7 8 9* *SPACE CAPS*				
ErrorLog.xml *12 (MAX 40)*				
◄	►	*DELETE*	*SYMBOL*	*DONE*

12.4 Production statistics

MAIN MENU **»** *TOOLS* **»** *PRODUCTION STATISTICS*

The production statistics will keep track of the total arc time, the total amount of material and the number of welds since the most recent reset. They will also keep track of the arc time and the amount of material used in the most recent weld. For information purposes, the melted wire material per length unit that has been calculated and when the most recent reset occurred are also displayed.

PRODUCTION STATISTICS				
		LAST WELD		*TOTAL*
ARCTIME		*0s*		*0s*
CONSUMED WIRE		*0g*		*0g*
CONSUMED ICE WIRE		-		-
DEPOSITION RATE		0 kg/h		
BASED ON		*1g/m*		0 kg/h
NUMBER OF WELDS				*0*
LAST RESET		*081114*		*08:38:03*
RESET	*UPDATE*			

When you press *RESET*, all counters are reset. Date and time show the most recent reset.

If you do not reset the counters, these are all automatically reset when one of them has reached its maximum value.

Maximum counter values

Time	999 hours, 59 minutes, 59 seconds
Weight	13350000 grams
Quantity	65535

12.5 Quality functions

MAIN MENU **»** *TOOLS* **»** *QUALITY FUNCTIONS*

Quality functions keep track of various interesting weld data for individual welds.

These functions are:

- Identification of displayed weld. In the example WELD 2-1, 2 means weld and 1 means weld segment.
- Time of welding start.
- Duration of welding.
- Selected weld data set.
- Maximum, minimum and average current during welding.
- Maximum, minimum and average voltage during welding.
- Maximum, minimum and average energy per unit length during welding.
- Maximum, minimum and average wire speed during welding.
- Maximum, minimum and average travel speed during welding.

The number of welds since the most recent reset is displayed in the row at the bottom. Information can be stored about a maximum of 300 welds. In the event of more than 300 welds, the first one is overwritten.

The most recently noted weld is presented in the display, although it is also possible to browse between other noted welds. All logs are deleted when you press *RESET*.

QUALITY FUNCTIONS				
WELD: 2 - 1	*TOTAL: 2*			
START 20231109 10:48:14 *WELD TIME 00:00:20 WELD DATA: 2*				
		MAX	*MIN*	*AVE.*
I (Amp)		*285.00*	*239.00*	*265.00*
U (V)		*23.90*	*20.80*	*22.50*
Q (kJ/min)		*0.70*	*0.70*	*0.70*
V(t) (cm/min)		*63.60*	*63.60*	*63.60*
V(w) (cm/min)		*101.00*	*94.20*	*97.60*
RESET	*UPDATE*			

Store quality data
MAIN MENU **»** *TOOLS* **»** *EXPORT / IMPORT*

The files that are produced in the control panel are stored as xml files. The USB memory must be formatted as FAT32 in order to work.

Insert a USB memory in the control panel, select *QUALITY FUNCTION LOG*, and press *EXPORT*.

EXPORT/IMPORT				
WELD DATA SETS *SYSTEM SETTINGS* *EVENT LOG* *QUALITY FUNCTION LOG* *PRODUCTION STATISTICS* *USER ACCOUNTS*				
EXPORT				

The entire set of quality data (information about the 300 most recent welds) that is stored in the control panel is now saved on the USB memory.

12.6 Calender

MAIN MENU **»** *TOOLS* **»** *CALENDAR*

Date and time are set here.

Select the row that is to be set: *YEAR*, *MONTH*, *DAY*, *HOUR*, *MINUTES* or *SECONDS*. Set the correct value using one of the setting knobs. Press *SET*.

DATE & TIME				
YEAR			2019	
MONTH			NOV	
DAY			21	
HOUR			10	
MINUTES			45	
SECONDS			55	
20100115			10:48:59	
			SET	

12.7 User accounts

MAIN MENU **»** *TOOLS* **»** *USER ACCOUNTS*

Occasionally it is particularly important from a quality perspective that the product cannot be used by unauthorised parties.

User name, account level and password are registered in this menu.

Select *USER NAME* and press the positioning knob. Step down to an empty row and press the knob. Enter a new user name on the keyboard using the positioning knob and the arrows.

USER ACCOUNTS				
USER NAME			ADMINISTRATOR	
└ACCOUNT LEVEL			ADMIN	
└PASSWORD				
USER ACCOUNTS			OFF	
STORE	DELETE			

There is space for 16 user accounts. In the quality data files it will be evident which users have executed a particular weld.

Under *ACCOUNT LEVEL* choose from:

ADMIN	*FULL ACCESS* (can add new users)
SENIOR USER	can access everything except: *MACHINE CONFIGURATION*, *USER ACCOUNTS* and *NETWORK SETTINGS*
NORMAL USER	can access: *MAINTENANCE* in *CONFIGURATION* menu. *UNIT INFORMATION* in *TOOLS* menu. *VOLTAGE*, *CURRENT / WIRE FEED*, *TRAVEL SPEED* and *WELDING DIRECTION* in *SETTINGS* menu.

In the *PASSWORD* row, key in a password using the keyboard. When the power source is switched on and the control panel activated, you are asked in the display to enter your password.

If you choose not to have this function, but instead want the power source and control panel to be unlocked for all users, select *USER ACCOUNTS OFF*.

12.8 Unit information

MAIN MENU **»** *TOOLS* **»** *UNIT INFORMATION*

This menu contains the following information:

- Machine ID
- Node ID
- HW ID (Hardware ID)
- Software version
- Serial number, if available
- *INFO* is shown if the unit selected contains subunits. If the soft button is pressed then you will get a new menu with information (same fields as in the previous menu) on the subunits.

UNIT INFORMATION			
Machine ID	*Node ID*	*HW ID*	*Version*
44 *50* *5*	*8* *1* *6*	*0* *14* *1*	*5.08A* *2.10A* *1.40A*
POWER SOURCE 1 *Seral Number 1452226815*			
	UPDATE		*INFO*

UNIT INFORMATION			
Machine ID	*Node ID*	*HW ID*	*Version*
50 *-* -	*1* *-* -	*14* *-* -	*2.10A* *0.02m* *0.02m*
POWER SOURCE 1		*DSP 1*	

13 ERROR CODES

6 High temperature

The power source has overheated. Welding is cancelled. Welding is permitted again when the temperature falls below the maximum temperature parameter.

1. Check that the cooling air inlets or outlets are not obstructed or clogged with dirt.
2. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

7 Low welding current

The weld arc has been shut down due to too low welding current during the welding process.

1. Is reset at next weld start. If the error persists, send for a service technician.

8 Low battery voltage

Battery voltage too low. If the battery is not replaced, all stored data will be lost. This error does not disable any functions.

1. Send for a service technician to replace the battery.

11 Speed error on a motor (wire feed, travel motor)

A motor cannot maintain its speed. Welding stops.

1. Check that the wire feed has not jammed or runs too fast. If the error persists, send for a service technician.
2. If the error persists, send for a service technician.

17 Lost contact with the unit

Lost contact with a unit.

1. Check wiring and the connector between the control unit and power source.

43 High welding current

Power source have switched off the welding process because the current has exceeded the maximum current parameter for the power source.

1. Is reset at next weld start. If the error persists, send for a service technician.

44 Current servo saturation

The welding process has stopped because it has not advanced within 10 seconds.

1. Is reset at next weld start. If the error persists, send for a service technician.

2310 Current servo saturation

The power source has temporarily delivered maximum current.

1. If the error persists, try lowering the weld data.

3205 High DC voltage

1. Check if the main voltage is too low or too high.

4201 High temperature

The power source has overheated. Welding is cancelled. Welding is permitted again when the temperature falls below the maximum temperature parameter.

1. Check that the cooling air inlets or outlets are not obstructed or clogged with dirt.
2. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

4202 High temperature

The power source has overheated. Welding is cancelled. Welding is permitted again when the temperature falls below the maximum temperature parameter.

1. Check that the cooling air inlets or outlets are not obstructed or clogged with dirt.
2. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

4203 High temperature

The power source has overheated. Welding is cancelled. Welding is permitted again when the temperature falls below the maximum temperature parameter.

1. Check that the cooling air inlets or outlets are not obstructed or clogged with dirt.
2. Check the duty cycle being used, to make sure that the equipment is not being overloaded.

5010 High inductance

Inductance is too high, depending on long welding cables and/or high weld data.

1. Adjust the welding data.

8117 Lost contact with the unit

Lost contact with a unit.

1. Check wiring and the connector between the control unit and power source.

8411 Motor servo error

A motor cannot maintain its speed. Welding stops.

1. If wire motor: check that the wire feed has not jammed or runs too fast.
2. Check the motor cables.
3. If travel motor: replace the pulse transducer.
4. If the error persists, send for a service technician.

14 OPTIONAL

14.1 EAC 30 control unit as separate motor control

EAC 30 as motor control without a power source is used when you want to have a travel control and possibility to give a start signal to an external power source. Remote is also active via ATAS I/O so you can control a roller bed with relay out for the start and an analogue reference for speed.

Activate motor control
To activate the motor control function set *PRODUCT CODE* to *MOTOR CONTROL*. The supervision by the power source is now disabled.

MACHINE CONFIGURATION				
PRODUCT CODE			*Motor control*	
WIRE FEED AXIS 1►				
TRAVEL AXIS►				
TANDEM►				
PARALLEL POWERSOURCES►				
ICE WIRE FEED►			*OFF*	
NODE ID SETTINGS►				
SYSTEM INFORMATION►				

A6TF F1
MTW600
N7500i-A2
N7500i-A6
USER DEF.AXIS
Motor control

Travel axis and wire axis
Set travel axis and wire gearing by performing the same procedure as for product code external axis.

Setting menu
Here you can set travel speed and direction, start data and limits can be used for travel speed.

SAW WELD DATA SETTING				
TRAVEL SPEED			*30 cm/min*	
DIRECTION			■	
START DATA►				
SETTING LIMITS►				
MEASURE LIMITS►				
MEASURE				

Start data menu
Flux/Gas pre-flow is active if the chosen start type is scratch. Start signal (relay output 2) will be generated, and when pre-flow time has elapsed travel will start. When start type direct is chosen, pre-flow has no function.

SAW START DATA				
FLUX PREFLOW *START TYPE*			*0.0 s* *DIRECT*	
MEASURE				

Scratch start will start a travel and generate start signal out at the same time when the start button is pressed. Pre-flow has no function.

When starting relay output 2, a direct start will be generated, but travel will not start until digital input for current flow is active. So if no input on I/O ATAS for current flow, use scratch start instead.

SAW START DATA				
FLUX PREFLOW *START TYPE*			*0.0 s* *SCRATCH*	
MEASURE				

Measure menu
In the measure menu, you can see measure values for travel speed and jog wire speed. The wire motor is not started when you press the start button on the control unit, but you can use that motor for other work. In the setting menu, you can also set travel speed.

SAW: CW FE SOLID			■ *7*	
				
NONE	*DIR. SQUARE*	*NONE*	*SET VALUES*	*2ND FUNCT*

Remote and external axis
Remote via ATAS I/O and external axis for controlling a roller bed can also be used together with motor control.

SAW 0.8 mm : EXT			■ *7*	
				
REMOTE IO	*DIR. SQUARE*	*EXT. AXIS*	*SET VALUES*	*2ND FUNCT*

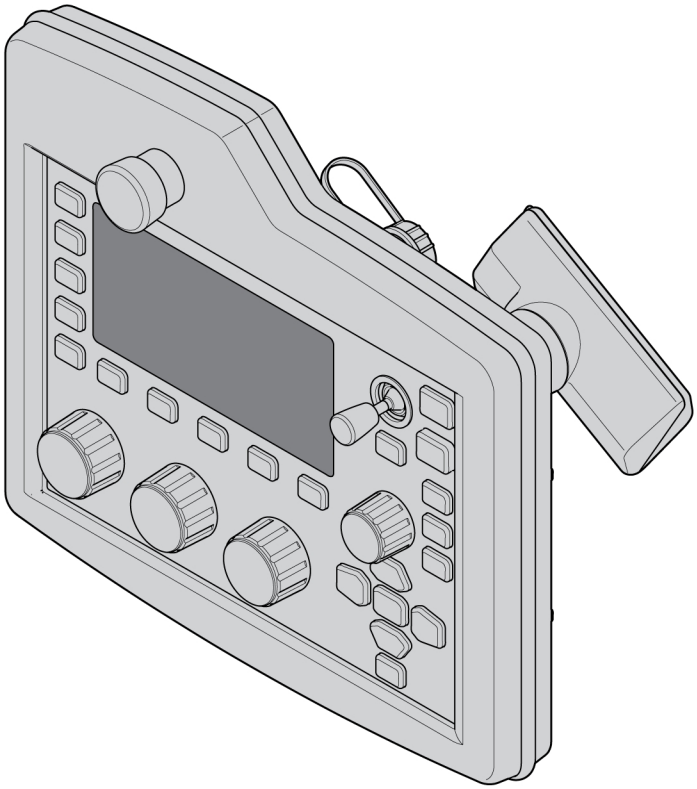
Machine configuration
With product code motor control you can set gearing as with user defined axis on wire feed, travel and external axis.

MACHINE CONFIGURATION				
PRODUCT CODE *WIRE FEED AXIS 1►* *TRAVEL AXIS►* *EXTERNAL AXIS►*			*Motor control*	

Motor card
Start signal to external equipment’s as the power source is located on connector X1.15-16.

APPENDIX

ORDERING NUMBERS



Ordering number	Denomination	Type	Notes
0911 492 880	Control unit	EAC 30	
0448 311 *	Control unit, Instruction manual		

Technical documentation is available on the Internet at: **www.esab.com**

The three last digits in the document number of the manual show the version of the manual. Therefore they are replaced with * here. Make sure to use a manual with a serial number or software version that corresponds with the product, see the front page of the manual.

ACCESSORIES

Ordering number	Denomination	Type	Notes
0465 585 001	USB Memory Stick, 8 GB		

Control Cables

	2 m	5 m	10 m
Control cable	0912 061 802	0912 061 805	0912 061 810

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