ATS 250

Operating manual

Quick Start Guide

- Prepare the pipe and fitting according to the manufacturer's specification.
- Unwind all cables from the welding unit.
- Connect the supply cable to the correct voltage and switch it on.
- The unit will power up and show "Connect Fitting".
- Connect the welding cable to the fitting.
- Read the bar code on the fitting or enter a time.
- Press the Start button.
- The time will count down to zero as the fitting is being welded. Any faults will be indicated on the display.
- At the end of the weld, disconnect the welding cable to reset the unit.

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Operating Controls

1. Welding Cable
2. Ratings Plate
3. Supply Cable
4. Buttons
5. Temperature Sensor
6. Protective Frame
7. On/Off switch (on right hand side of unit)
8. Display
9. Bar code pen reader

⚠ Safety Notes

- **RISK OF EXPLOSION! This welding unit must not be used in a gaseous atmosphere.**
- **RISK OF ELECTRIC SHOCK! Do not open. No user serviceable parts inside.**
- Before using, always visually inspect the unit to see that the cables and connectors are not worn or damaged. Replace the damaged part before welding.
- Switch off and remove the plug from the mains before adjusting, cleaning, or if the cables are entangled and before leaving the equipment unattended for any period.
- To avoid damaging the unit, do not interrupt the supply voltage or disconnect the welding cable, while the unit is welding a fitting.
- Do not lift or pull the equipment by its cables.
- Do not disconnect the welding cables by pulling on them, always pull off the connectors from the fitting.
- Do not start a weld without the pipe correctly inserted into the fitting.
- Do not touch the fitting while welding.
- Do not weld in the rain or leave the equipment outdoors whilst it is raining.
- Weld only in daylight or in good artificial light.
- The operator is responsible for accidents or hazards occurring to other people or their property while using this equipment. Keep the work area safe!
- Keep bystanders a safe distance away from the machine while welding.
- Never allow people unfamiliar with these instructions to use the welding unit.

Product Specification

Input Power Connections for this model:

- 110V version
- 120V version
- 320V version

Input plug for your region or country are available

Contact us for more information

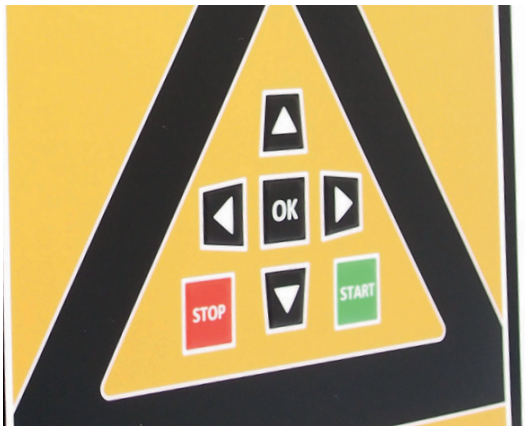
Bespoke OEM

As a bespoke OEM Original Manufacturer we can produce this product as an OEM to suit your business

Contact us to discuss your requirements

Specification details - ATS 250

Operating Modes	Manual, Barcode
Welding Voltage	39.5V (8 to 48V)
Welding Current	1-60A
Welding Time	1-3000 seconds
Supply Voltage	115V ± 15% 110V (40-60Hz) 230V ± 15% 230V (40-60Hz)
Supply Current	1-28A (115V) 1-14A (230V)
Supply Power	3500 W
Weight	20 kg
Size	22 x 26 x 45cm
Operating Temp.	-15°C to +50°C



Intended Use

This equipment is intended to weld constant voltage electrofusion fittings suitable for low, medium and high pressure pipe work systems.

This welding unit has been designed to comply with the International Organization for Standardization standard ISO12176-2:2000 "Plastic pipes and fittings, equipment for fusion jointing polyethylene systems , part 2, electrofusion".

Introduction

This manual gives instructions on the correct assembly and safe use of your welding unit. It is important that you read these instructions carefully, and keep these instructions for the life of the unit.

This manual does not detail the specific welding procedure for the fittings: scraping, clamping and assembly of joints. For this information you must contact the manufacturer of the fittings.

Delivered Items

Carefully remove the welding unit from its packaging and check that you have the following items:

- Welding unit.
- Bar code reading pen (not Manual unit)

When parts are missing or damaged, please contact your dealer.

Electrical Safety

WARNING! Switch off and remove the plug from the mains before adjusting, cleaning or if the cable is cut, damaged or entangled.

This welding unit is Class 1 and requires an earthed (grounded) connection. An earth spike must be used with generators.

This unit is supplied in either 110 volt or 230 volt operation. **Check the rating plate on the side of the unit for the correct supply voltage.**

The power source must be capable of providing 3500 Watts.

Extension cables should only be used if they comply with the H07RNF harmonized standard. They must be fitted with connectors to the BS EN 60309-2 standard. All cables must be unwound from the reel to stop inductive heating effects. The cable dimensions should be as follows:

110V Volt operation	**230 Volt operation**
Up to 63mm diameter 2.5mm2 cable = 30m	Up to 63mm diameter 1.5mm2 cable = 40m
Up to 180mm diameter 2.5mm2 cable = 20m	Up to 180mm diameter 1.5mm2 cable = 25m
Over 180mm diameter 4.0mm2 cable = 10m	Over 180mm diameter 2.5mm2 cable = 20m

It is recommended for increased electrical safety to use a Residual Current Device (RCD) with a tripping current of not more than 30 mA. Always check your RCD every time you use it.

The supply cable must be inspected for signs of damage before each use and the equipment may only be used if in perfect condition. Damaged cables must be replaced by an approved service agent.

This equipment is classified as "Portable for use on industrial applications", and must undergo a formal electrical safety check (Portable Appliance Test) as per local regulations.

Using the equipment

Prepare and clamp the pipe and fittings inline with the manufacturers recommendations. Connect the supply cable to the correct supply voltage and switch the unit on.

The screen will show the model number and software version. It will also show the current date and the calibration due date.

		A	D	V	A	N	C	E		W	E	L	D	I	N	G			
A	T	S	2	5	0		E	X	T	R	A			A	.	1	.	0	2
C	A	L		D	U	E	:		0	9	/	1	0	/	2	0	1	0	
			1	0	:	3	1		1	9	/	1	0	/	2	0	0	9	

After a short pause the owner details will be shown.

P	R	O	P	E	R	T	Y		O	F	:								
A	D	V	A	N	C	E		W	E	L	D	I	N	G					
T	E	L	:		0	8	7	0		6	0	9	3	2	5	7			
F	A	X	:		0	8	7	0		7	5	2	6	1	3	9			

The display will now show the "Connect Fitting" screen.

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
S	T	O	P	:			D	A	T	A	L	O	G		I	N	F	O	
O	K	:					M	E	N	U									
S	U	P	P	L	Y	:	2	4	0	V		5	0	H	Z				

Connect the welding cable to the fitting to begin the welding process.
Press the STOP button to enter the data logging menu (on the EXTRA unit only).
Press the OK button to enter the options menu.
The supply voltage and frequency are shown. This allows the operator to check the quality of the power supply before welding starts.

Data Entry

Letters and numbers are entered using the arrow buttons. Using the up and down arrows will scroll through the list of A to Z and 1 to 9. When the correct letter has been chosen, pressing the right arrow button will move to the next position. If a mistake has been made the left arrow button can be used to backspace.

For example, in the following screen:

M	A	N	U	A	L		W	E	L	D	I	N	G						
				T	I	M	E	:		_	_	_	_		S				
			V	O	L	T	S	:		3	9	.	5		V				
▲	▼		◀	▶		O	K												

To enter 40 seconds...

Press the up arrow button four times until the 4 is shown.
Press the right arrow button to move to the next position.
Press the down arrow button once until the 0 is shown.
Press the OK button to accept 40.

Welding modes:

Bar Code	No
Manual	Yes
Data Logging	No

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
O	K	:					M	E	N	U									
S	U	P	P	L	Y	:	2	4	0	V		5	0	H	Z				

Connect the welding cable to the fitting and the screen will show

M	A	N	U	A	L		W	E	L	D	I	N	G						
				T	I	M	E	:		_	_	_	_		S				
			V	O	L	T	S	:		3	9	.	5		V				
▲	▼		◀	▶		O	K												

Enter the welding time and press the OK button.

The welding voltage can now be entered. This will default to 39.5 volts. Use the up and down arrows to select the required voltage and press the OK button to select.

The screen will display the following:

M	A	N	U	A	L		W	E	L	D	I	N	G			+	2	0	C
					4	0	S			3	9	.	5	V					
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button.

During the welding, the following screen will be displayed:

W	E	L	D		N	U	M	B	E	R	:		2	3	5				
W	E	L	D		T	I	M	E	:				4	0	S				
E	L	A	P	S	E	D	:						1	2	S				
			3	9	.	5	3	V				5	.	1	4	A			

The elapsed time will count up from zero to the set weld time.
The welding voltage and current will be displayed to allow the operator to confirm the welding process is correct.

When the weld is complete, the following screen will be displayed:

C	O	O	L	I	N	G		T	I	M	E	:		0	4	:	5	1	
D	I	S	C	O	N	N	E	C	T		L	E	A	D		T	O		
C	O	M	P	L	E	T	E		W	E	L	D		2	3	5			

The cooling time will now count up. This is to help the operator know when the weld ended and will continue to count up until the lead is disconnected from the fitting.

Disconnect the lead and the unit will reset back to the “Connect Fitting” message.

ATS 250 BASIC Welding

Welding modes:

Bar Code	Yes
Manual	Yes
Data Logging	No

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
O	K	:					M	E	N	U									
S	U	P	P	L	Y	:	2	4	0	V		5	0	H	Z				

Connect the welding cable to the fitting and the screen will show

F	U	S	I	O	N		B	A	R		C	O	D	E					
R	E	A	D		C	O	D	E											
▲	N	U	M	B	E	R	S		▼	M	A	N	U	A	L		V	/	T

Read the bar code on the fitting. If the code is read correctly then a message will be displayed saying "Read OK". Next, the resistance of the fitting will be measured and checked to the bar code data. If they match the message "Fitting Resistance Verified OK" will be shown. This is to make sure the correct bar code for the correct fitting is read.

The display will now show

G	F		S	A	D	D	L	E								+	2	2	C
1	2	5	M	M							8	0	S		4	0	.	0	V
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button, or by reading the bar code for a second time.

During the welding, the following screen will be displayed:

W	E	L	D		N	U	M	B	E	R	:		2	3	5				
W	E	L	D		T	I	M	E	:				8	0	S				
E	L	A	P	S	E	D	:						2	2	S				
			4	0	.	0	1	V				5	.	1	4	A			

The elapsed time will count up from zero to the set weld time.

The welding voltage and current will be displayed to allow the operator to confirm the welding process is correct.

When the weld is complete, the following screen will be displayed:

C	O	O	L	I	N	G		T	I	M	E	:		0	4	:	5	1	
D	I	S	C	O	N	N	E	C	T		L	E	A	D		T	O		
C	O	M	P	L	E	T	E		W	E	L	D		2	3	5			

The cooling time will now count up. This is to help the operator know when the weld ended and will continue to count up until the lead is disconnected from the fitting.

Disconnect the lead and the unit will reset back to the "Connect Fitting" message.

NUMBER ENTRY

If the bar code pen does not work or the bar code label on the fitting has been damaged, then the barcode numbers can be manually entered. On the "Read Code" screen, press the UP arrow button. The following screen will be displayed:

F	U	S	I	O	N		D	I	G	I	T	S							
_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
_	_	_	_																
▲	▼		◀	▶		O	K												

Many bar code labels show the 24 numbers underneath the bar code stripes. Read these from the label and enter them. When all numbers have been entered, press the OK button.

The display will now show

G	F		S	A	D	D	L	E								+	2	2	C
1	2	5	M	M							8	0	S		4	0	.	0	V
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button.

MANUAL ENTRY

If the bar code pen does not work or the bar code label on the fitting has been damaged and there are no numbers shown on the label, then the time and voltage can be entered manually. On the "Read Code" screen, press the DOWN arrow button. The following screen will be displayed:

M	A	N	U	A	L		W	E	L	D	I	N	G						
				T	I	M	E	:		_	_	_	_		S				
			V	O	L	T	S	:		3	9	.	5		V				
▲	▼		◀	▶		O	K												

Enter the welding time and press the OK button. The welding voltage can now be entered. This will default to 39.5 volts. Use the up and down arrows to select the required voltage and press the OK button to select.

The screen will display the following:

M	A	N	U	A	L		W	E	L	D	I	N	G			+	2	0	C
					8	0	S			3	9	.	5	V					
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button.

ATS 250 EXTRA Welding

Welding modes:

Bar Code	Yes
Manual	Yes
Data Logging	Yes

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
		S	T	O	P	:		D	A	T	A	L	O	G		I	N	F	O
				O	K	:		M	E	N	U								
S	U	P	P	L	Y	:		2	4	0	V		5	0	H	Z			

Connect the welding cable to the fitting and the screen will show

F	U	S	I	O	N		B	A	R		C	O	D	E					
R	E	A	D		C	O	D	E											
▲	N	U	M	B	E	R	S			M	A	N	U	A	L		V	/	T

Read the bar code on the fitting. If the code is read correctly then a message will be displayed saying "Read OK". Next, the resistance of the fitting will be measured and checked to the bar code data. If they match the message "Fitting Resistance Verified OK" will be shown. This is to make sure the correct bar code for the correct fitting is read.

The display will now show

G	F		S	A	D	D	L	E								+	2	2	C
1	2	5	M	M							8	0	S		4	0	.	0	V
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button, or by reading the bar code for a second time.

During the welding, the following screen will be displayed:

W	E	L	D		N	U	M	B	E	R	:		2	3	5				
W	E	L	D		T	I	M	E	:				8	0	S				
E	L	A	P	S	E	D	:						2	2	S				
			4	0	.	0	1	V				5	.	1	4	A			

The elapsed time will count up from zero to the set weld time.

The welding voltage and current will be displayed to allow the operator to confirm the welding process is correct.

When the weld is complete, the following screen will be displayed:

C	O	O	L	I	N	G		T	I	M	E	:		0	4	:	5	1	
D	I	S	C	O	N	N	E	C	T		L	E	A	D		T	O		
C	O	M	P	L	E	T	E		W	E	L	D		2	3	5			

The cooling time will now count up. This is to help the operator know when the weld ended and will continue to count up until the lead is disconnected from the fitting.

Disconnect the lead and the unit will reset back to the "Connect Fitting" message.

NUMBER ENTRY

If the bar code pen does not work or the bar code label on the fitting has been damaged, then the barcode numbers can be manually entered. On the "Read Code" screen, press the UP arrow button. The following screen will be displayed:

F	U	S	I	O	N		D	I	G	I	T	S							
_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
_	_	_	_																
▲	▼		◀	▶		O	K												

Many bar code labels show the 24 numbers underneath the bar code stripes. Read these from the label and enter them. When all numbers have been entered, press the OK button.

The display will now show

G	F		S	A	D	D	L	E								+	2	2	C
1	2	5	M	M							8	0	S		4	0	.	0	V
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button.

MANUAL ENTRY

If the bar code pen does not work or the bar code label on the fitting has been damaged and there are no numbers shown on the label, then the time and voltage can be entered manually. On the "Read Code" screen, press the DOWN arrow button. The following screen will be displayed:

M	A	N	U	A	L		W	E	L	D	I	N	G						
				T	I	M	E	:		_	_	_	_		S				
			V	O	L	T	S	:		3	9	.	5		V				
▲	▼		◀	▶		O	K												

Enter the welding time and press the OK button. The welding voltage can now be entered. This will default to 39.5 volts. Use the up and down arrows to select the required voltage and press the OK button to select.

The screen will display the following:

M	A	N	U	A	L		W	E	L	D	I	N	G			+	2	0	C
					8	0	S			3	9	.	5	V					
	S	C	R	A	P	E	D		&		C	L	A	M	P	E	D	?	
				P	R	E	S	S		S	T	A	R	T					

Confirm that the pipe and fitting have been correctly prepared and start the welding by pressing the START button.

DATA LOGGING

If data logging information is required, on the "Connect Fitting Screen" press the STOP button. The screen will show:

C	H	A	N	G	E		O	P	E	R	A	T	O	R		N	A	M	E
	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
▲	▼		◀	▶		O	K												

Enter the Operator Name press the OK button. The screen will now show:

C	H	A	N	G	E		L	O	C	A	T	I	O	N					
	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
▲	▼		◀	▶		O	K												

Enter the Location and press the OK button. The screen will now show:

C	H	A	N	G	E		J	O	B		R	E	F	E	R	E	N	C	E
	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
▲	▼		◀	▶		O	K												

Enter the Job Reference and press the OK button. The screen will now show:

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
		S	T	O	P	:		D	A	T	A	L	O	G		I	N	F	O
				O	K	:		M	E	N	U								
S	U	P	P	L	Y	:		2	4	0	V		5	0	H	Z			

Continue with the welding process by connecting the welding cable to the fitting.

Options Menu

When the display shows the "Connect Fitting" message, pressing the OK button will enter the options menu.

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
		S	T	O	P	:		D	A	T	A	L	O	G		I	N	F	O
				O	K	:		M	E	N	U								
S	U	P	P	L	Y	:		2	4	0	V		5	0	H	Z			

Press OK and the display will show:

▲	▲																		
▶		W	E	L	D	I	N	G											
◀		D	A	T	A		D	O	W	N	L	O	A	D					
▼	▼																		

Use the up and down arrows to scroll through the options. When the required option is shown press the left or right arrow to select it.

For additional security, some options require a Supervisor or Workshop password to access them. This stops the operator adjusting features without permission. When asked for a password, the following screen will be shown:

S	Y	S	T	E	M		O	P	T	I	O	N	S						
S	U	P	E	R	V	I	S	O	R		P	A	S	S	W	O	R	D	
	_	_	_	_					O	K	=	C	O	N	T	I	N	U	E
							S	T	O	P	=	C	A	N	C	E	L		

Enter the Supervisor Password. Use the up and down arrows to scroll through A to Z and then use the left and right arrows to move between positions. When the correct password has been entered press the OK button.

The Supervisor and Workshop passwords are available on request.
Important! Not all options are available on all models of ATS250.

Welding. Operator

C	O	N	N	E	C	T		F	I	T	T	I	N	G					
		S	T	O	P	:		D	A	T	A	L	O	G		I	N	F	O
				O	K	:		M	E	N	U								
S	U	P	P	L	Y	:		2	4	0	V		5	0	H	Z			

This will enter the welding menus.

Data Download — Operator

	D	A	T	A		D	O	W	N	L	O	A	D						
			▲	=		V	I	E	W		L	A	S	T		W	E	L	D
		O	K	=		C	O	N	T	I	N	U	E						
S	T	O	P	=		C	A	N	C	E	L								

This will allow the stored data log memory to be downloaded to a USB memory drive. To view the details of the last weld on the screen, press the up arrow. All stored information will be shown.

To download the data, unplug the bar code reading pen from the USB socket and connect a USB memory drive. Follow the instructions shown on the screen. The data will be downloaded.

Set Time — Operator

C	L	O	C	K		2	4	H	R			1	5	:	1	0			
▲	▼		◀	▶		O	K												

This will allow the clock to be set.

Set Date — Supervisor

D	A	T	E		D	D	M	M	Y	Y		1	9	/	1	0	/	0	9
▲	▼		◀	▶		O	K												

This will allow the date to be set.

Change Language — Supervisor

▲	▲																		
▶		E	N		E	N	G	L	I	S	H								
◀		E	S		E	S	P	A	N	O	L								
▼	▼																		

This will allow different display languages to be selected. Use the up and down arrow buttons to scroll through the available languages. When the required language is shown, press the left or right arrow button to select it.

UK Data & Celsius — Operator

U	K		D	A	T	E	/	T	E	M	P		M	O	D	E			

This will change the format of the date and temperature into UK Metric format. The date will be set to dd/mm/yy and the temperature to Celsius.

US Date & Fahrenheit — Operator

U	S		D	A	T	E	/	T	E	M	P		M	O	D	E			

This will change the format of the date and temperature into US Imperial format. The date will be set to mm/dd/yy and the temperature to Fahrenheit.

Software Update — Operator

P	R	E	P	A	R	I	N	G		F	O	R		U	P	D	A	T	E
P	L	E	A	S	E		W	A	I	T	.	.	.						

This will allow the operating software to be updated. After the software has prepared for the update the screen will show:

C	O	N	N	E	C	T		M	E	M	O	R	Y		S	T	I	C	K
W	I	T	H		S	O	F	T	W	A	R	E		U	P	D	A	T	E
T	O		U	S	B		P	O	R	T									
▶		=		C	O	N	T	I	N	U	E								

The software should be copied onto the USB memory drive and it should be inserted into the USB socket on the unit. Press the right arrow button and follow the instructions to update the software. When complete, a message showing "Success!" will be displayed.

Switch the power off and on to restart the welding unit with the new software.

Warranty Information — Operator

P	U	R	C	H	A	S	E		I	N	F	O	R	M	A	T	I	O	N
			S	O	L	D		O	N	:		2	1	/	0	9	/	0	9
W	E	L	D		C	O	U	N	T	:		0	0	0	0	0	4		
O	K	=	C	O	N	T	I	N	U	E									

This will display the warranty information for the unit, when it was sold and what the weld counter was.

First Use Date — Operator

E	C	U		F	I	R	S	T		U	S	E	D		O	N	:		
2	1	/	0	9	/	2	0	0	9										

This will show the date the unit was first used from new:

Display Basic Calibration Information — Operator

A	W		P	A	R	T			A	W	1	1	-	2	3	1	0		
S	E	R	I	A	L				A	T	S	2	5	0	-	0	0	0	1
C	A	L		D	A	T	E		0	9	/	1	0	/	2	0	0	9	
P	E	R	I	O	D				W	1	2		M	O	N	T	H	S	

This will show basic information about the last calibration, then the weld counters will be shown:

				W	E	L	D		C	O	U	N	T	E	R				
C	U	R	R	E	N	T		C	O	U	N	T		0	0	0	2	7	8
L	A	S	T		C	A	L							0	0	0	2	0	5
S	I	N	C	E		C	A	L						0	0	0	0	7	3

Display Full Calibration Information — Operator

C	A	L	I	B	R	A	T	I	O	N		D	A	T	A	.	.	.	▶
@	1	6	:	0	3		1	9	/	1	0	/	0	9					
W	E	L	D		C	O	U	N	T	:			0	0	0	2	7	8	
W	E	L	D	S		@		C	A	L	:		0	0	0	2	0	5	

This will show the full calibration information. Use the right arrow button to scroll through the calibration information. This will show all of the values entered when the unit was last calibrated.

Display Ohm Meter — Operator

F	I	T	T	I	N	G		R	E	S	I	S	T	A	N	C	E	:	
			0	0	8	.	0	4	4		O	H	M	S					
P	R	E	S	S		S	T	O	P			T	O		E	X	I	T	

This will display the resistance of the fitting connected to the welding cable. This option can be used for fault finding, to make sure the welding unit is measuring the fitting resistance correctly.

Erase Data Log — Supervisor

E	R	A	S	E		L	O	G	?										
▶		=		N	O														
◀		=		Y	E	S													

This can be used to erase the data log information after it has been downloaded to a USB memory drive. Press the left arrow to erase the log or the right arrow to cancel.

Erase Data Log — Supervisor

E	N	C	R	Y	P	T	E	D											

This will encrypt the data download into a format that can not be altered. This gives extra security to the downloaded data. The information can not be adjusted by the supervisor. A "Download Manager" program is available to decrypt this format.

Plain Data Download — Supervisor

N	O	T		E	N	C	R	Y	P	T	E	D							

This will format the data download as plain text. The downloaded data file will have the format "XLS" to allow Microsoft Excel to open the information as a spreadsheet.

Barcode Ohms Required — Supervisor

B	A	R	C	O	D	E		O	H	M	S		C	H	E	C	K		
O	V	E	R		R	I	D	E		D	I	S	A	B	L	E	D		

In bar code welding, the actual resistance of the fitting is matched against the information in the bar code label. This option will force the checking of the fitting resistance. If there is a difference, the weld will not be allowed to continue.

Barcode Ohms Warn — Supervisor

B	A	R	C	O	D	E		O	H	M	S		C	H	E	C	K		
O	V	E	R		R	I	D	E		E	N	A	B	L	E	D			

In bar code welding, the actual resistance of the fitting is matched against the information in the bar code label. With this option set, if the resistance of the fitting does not match the information in the bar code, a warning message will be displayed. The operator can accept this message and continue welding.

Full Calibration — Workshop

				C	A	L	I	B	R	A	T	I	O	N	?				
						▶		=		Y	E	S							
						◀		=		N	O								

This option allows an authorised service agent to calibrate the unit

Change Owner Information — Workshop

C	U	S	T	O	M	E	R		D	E	T	A	I	L	S				
▶	=	A	D	V	A	N	C	E		W	E	L	D	I	N	G	_	_	_
▲	=	T	E	L		0	8	7	0		6	0	9	3	2	5	7	_	_
◀	=	F	A	X		0	8	7	0		7	5	2	6	1	3	9	_	_

This option allows an authorised service agent to change the owner details.

Change Unit Information — Workshop

E	N	T	E	R		P	R	O	D	U	C	T		C	O	D	E		
	A	W	1	1	-	2	3	1	0	_	_								
▲	▼		◀	▶		O	K												

This option allows an authorised service agent to change the part number and serial number of the unit.

Set Calibration Period — Workshop

S	E	T		C	A	L	I	B	R	A	T	I	O	N					
T	O		_	_		M	O	N	T	H	S								
O	K	=	C	O	N	T	I	N	U	E									
S	T	O	P	=	C	A	N	C	E	L									

This option allows an authorised service agent to set the calibration period of the welder. The unit can have a calibration period between 1 month and 99 months. For 30 days before the calibration is due, the unit will warn the operator. The unit can then be set to continue working or stop when the calibration has expired. This feature can also be turned off so the unit never warns the operator or stops.

Set Warranty Information	Workshop

P	U	R	C	H	A	S	E		I	N	F	O	R	M	A	T	I	O	N
▶	=		S	O	L	D		O	N	:		2	0	/	1	0	/	0	9
W	E	L	D		C	O	U	N	T	:		0	0	0	2	7	8		
O	K	=	Y	E	S				S	T	O	P	=	C	A	N	C	E	L

This option allows an authorised service agent to set the warranty information into the unit. The date the unit was sold by the distributor can be entered into the unit. This allows reseller warranty periods to be checked.

Maintenance

Regularly check for obvious defects such as loose or damaged cables and connectors. Look for warn components and broken covers or housings.

There are no user serviceable parts inside the unit. It should be returned to an approved service agent for repair and calibration.

It is recommended that the unit is calibrated and checked for electrical safety every twelve months.

After use, clean the outside of the unit with a soft brush or cloth. Carefully wind up and store the cables around the frame in the location provided.

⚠ Fault Finding

During operation, the welding unit monitors all aspects of its operation. If a fault occurs then an error message will be shown.

0: Weld OK
No Fault, weld completed OK.

1: Stuck button on start up
This fault shows when the power is first switched on. Either the Stop, Start, or a keypad button is stuck in. Free the button to clear the fault.

2: Output fault before weld start
This fault shows when the power is first switched on. The unit will check the output terminals to make sure no voltage is present when first switched on. If this fault happens then the internal power relays have stuck in the closed position. The unit will need to be returned for service.

3: Toroid thermal switch tripped
This fault happens when the toroidal transformer becomes too hot. This will happen if the unit is used for a long period of time on large fittings. Let the unit cool down and the fault will clear. If this happens when the unit is cold, then there could be a bad connection on one of the internal plugs. In this case, the unit will need to be returned for repair.

4: No calibration
This fault happens when the unit has no calibration. This will normally not show, and if the unit has been calibrated, would be caused by a fault with the internal memory. Return the unit for service.

5: Case temperature sensor fault (if fitted)
Some units have a case temperature sensor fitted to switch the unit off if the electronics become too hot. This fault will show if the sensor is faulty. Return the unit for service.

6: Case temperature out of limits (if fitted)
Some units have a case temperature sensor fitted to switch the unit off if the electronics become too hot. This fault will show if the temperature is too hot. Let the unit cool down.

7: Ambient temperature less than -40°C.
The unit has detected that the ambient temperature is very cold or the sensor has broken. If the temperature is not below -40°C then the unit will need to be returned to a service agent for repair.

8: Ambient temperature more than +600ºC.
The unit has detected that the ambient temperature sensor has broken or a wire has gone open circuit. The unit must be returned to a service agent for repair.

10: Low supply frequency <40Hz
The unit has detected that the supply frequency is below 40 Hz. This will normally be caused by a poor quality generator. If this fault happens then check the supply or change the generator.

11: High supply frequency >70Hz
The unit has detected that the supply frequency is above 70 Hz. This will normally be caused by a poor quality generator. If this fault happens then check the supply or change the generator.

12: High supply voltage >140v (or 280v with a 220v supply)
The unit has detected that the supply voltage is more than 140 volts (280 volts with a nominal 220v supply). Check the supply voltage and if necessary use a different generator.

13: Low supply voltage <95v (or 190v with a 220v supply)
This fault can be caused by a few problems. It could be that the generator is running slowly and so the supply voltage is low. Try speeding the generator up or use a different generator. It could also be caused by a generator that is too small. If a large fitting is welded, then a large amount of power will be needed from the generator. If it can not supply this power then it will stall and the voltage will drop away. Check that the generator is the correct size, if needs be try another generator.

It could be caused by the use of long extension leads. If a large fitting is welded then a high current will be taken from the supply. If extension leads are used, there will be a volts drop down the lead making the unit sense a low supply voltage. Try not to use extension leads with the unit. If you have to then use just 10 meters of 4.0mm2 cable, the same size fitted to the unit.

14: Relay failed to latch on weld start
This fault could happen when the start button is pressed. If the main power relays do not operate correctly then this fault will be shown. The unit needs to be returned for service.

20: Low output volts (-1.25%)
This fault will happen if the output voltage is 1.25% lower than the set point for more than 3 seconds. This can be caused by a generator that is not big enough to supply the required power to the fitting. Check the size of the generator and if needs be try another generator. It can also be caused by using long extension leads with the unit. It is recommended that only 10 meters of extension are used, and the cable should be the same thickness as the input lead on the unit (4.0mm2).

21: High output volts (+1.25%)
This fault will happen if the output voltage is 1.25% higher than the set point for more than 3 seconds. It will normally be caused by a poor quality generator with the supply voltage fluctuating. Try a different generator.

22: Excess output volts (+6.25%)
This fault will happen if the welding voltage is 6.25% more than the set point for more than 2 seconds. This fault is normally caused by a fault within the unit, a short circuit triac. The unit must be returned for service.

23: Low output current (<2.5A)
This fault will happen if the welding current is below 2.5 amps for more than 3 seconds. It can be caused by a faulty fitting. Try another fitting. If this doesn't clear the fault then there is a problem inside the unit and it must be returned for repair.

24: Shorted turn detected in fitting
While welding, the unit has detected a sharp increase in welding current. This is normally caused by a shorted turn happening in the fitting. (An increase OF 10%). If this happens then it is most likely a faulty fitting. This must be replaced. If the fault persists then it could be a fault within the unit.

25: User stop button pressed
The operator has pressed the stop button.

26: Relay unlatched
During welding, if the main power relay disconnects then this fault will be shown. It could be caused by the unit being knocked or a temporary dip in the power supply. If the fault persists then the unit should be returned for repair.

27: Fitting open circuit
This fault is shown if the output lead disconnects from the fitting while welding. Follow the guidelines from the fitting manufacturer, reconnect the lead and try welding again.

30: Bar Code Mode: No fitting connected
This fault is shown if the output lead is not connected to a fitting when a bar code is read. Connect the fitting.

31: Bar Code Mode: Ohms error
This fault is shown if the connected fitting resistance is different from that coded into the bar code. Try another fitting.

40: Bar Code Invalid: Temperature Compensation
Digits 22 and 23 of the bar code have been decoded incorrectly.

41: Bar Code Invalid: Resistance Coefficient
Digit 18 of the bar code has been decoded incorrectly.

42: Bar Code Invalid: Welding Voltage.
Digits 13 and 14 of the bar code have been decoded incorrectly

43: Bar Code Invalid: Regulation Mode.
Digit 12 of the bar code has been decoded incorrectly.

44: Bar Code Invalid: Fitting Size.
Digits 9, 10 and 11 of the bar code have been decoded incorrectly.

45: Bar Code Invalid: Cooling Time.
Digit 7 of the bar code has been decoded incorrectly.

46: Bar Code Invalid: Fusion Cycle Type.
Digit 5 of the bar code has been decoded incorrectly.

47: Bar Code Invalid: Energy Correction.
Digit 3 of the bar code has been decoded incorrectly.

48: Bar Code Invalid: Component Type.
Digits 1 and 2 of the bar code have been decoded incorrectly.

49: Bar Code Invalid: Check Digit.
Digit 24 of the bar code has been decoded incorrectly.

50: USB Memory: Disc full.
This fault will happen if the USB flash memory pen is full. Delete some files from the device.

51: USB Memory: File allocation table full.
This will happen if the USB flash memory pen's file structure becomes fragmented. Follow the instructions with Windows to defragment the memory pen.

52: USB Memory: File not found.
When performing a software upgrade, the required file was not found on the memory drive. Reload the upgrade files onto the memory drive.

127: Power off failure.
If the power is turned off while the unit is welding, this fault will be recorded to the datalog.

Disposal

The equipment and packaging should be sorted for environmentally friendly recycling.

DO NOT DISPOSE OF THIS EQUIPMENT INTO HOUSEHOLD WASTE !

According to the European Directive 2002/96/EC Waste Electrical and Electronic Equipment (WEEE), when no longer suitable for use, this equipment must be separately collected and sent for recycling.

RoHS Compliant
Directive 2005/ 95/ EC

According to the European Directive 2005/95/EC Restriction of Hazardous Substances (RoHS), this equipment does not contain more than the agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

Calibration and Warranty

This welding unit has been manufactured, inspected and tested in accordance with the quality control systems in place at Advance Welding.

This welding unit has been calibrated using equipment that is traceable to national and international standards, through a NAMAS accredited laboratory. NAMAS (National Accreditation of Measurement and Sampling) is a service of UKAS (United Kingdom Accreditation Service).

This welding unit has a TWELVE month calibration and warranty period, active from the first use of the unit by the end user customer.

Conditions of Warranty:

This warranty covers only those defects to the product which arise from normal use of the product, and will become invalid if any of the following apply:

- Failure to follow the operating instructions.
- Improper or inadequate maintenance.
- Unauthorised modification.
- Misuse or any use not in accordance with the operating manual or good industry practice.
- Physical abuse of the product.
- Operation outside the products specifications.
- Improper site preparation or site maintenance.
- Faulty pipe or fitting.

Extent of Warranty:

Subject to the conditions and limitations of warranty; Advance Welding warrants that its electrical products will be free from defects in materials and workmanship for a period of twelve months, and its mechanical products for six months, from the date of purchase by the end-user customer.

If during this period, notice of a defect which is covered by this warranty is received, then Advance Welding will either repair or replace the product at its option. Any replacement product will have functionality at least equal to that of the product being replaced, and will in our opinion, perform consistently with its age and usage.

Unless otherwise agreed, all warranty work will be carried out by Advance Welding or an authorised and approved service facility.

Customers will prepay all shipping charges for products returned under warranty, and Advance Welding will charge for return of the products back to the customer.

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from country to country in the world.

Limitations of Warranty:

Advance Welding does not warrant the operation of any product to be uninterrupted or error free.

Advance Welding specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.

Advance Welding makes no other warranty of any kind, whether express or implied, with respect to its products.

To the extent that this warranty statement is inconsistent with the law of the locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.
To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.

This equipment has been designed for use with the range of fittings and pipe available at the time of its design and development. Advance Welding can accept NO liability for the equipments ability or otherwise to be used with new or different fittings or pipe that subsequently appear in the market place.

This equipment is not intrinsically safe and must not be used in a gaseous or explosive atmosphere. Advance Welding can accept NO liability if the equipment is used in these circumstances.

Declaration of Conformity

This welding unit has been designed to comply with the harmonised standards under the "New Approach" directives, and has been CE marked accordingly.

The applicable standards are:

89/336/EEC	Electromagnetic compatibility
73/23/EEC	Low voltage equipment
98/37/EC	Machinery safety
94/62/EC	Packaging and Packaging Waste
2002/96/EC	Waste Electrical & Electronic Equipment (WEEE)
2002/95/EC	Restriction of Hazardous Substances (RoHS)
2006/66/EC	Batteries & Accumulators

More detailed information is available on our web site at www.advancewelding.co.uk

On behalf of
Advance Welding: K.M. Wilkinson

Service and Repair

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