Proxima

Electrofusion Processor with Bluetooth Connectivity
Operator Instruction Manual

Helping you make the right connections™

Revision: 28-09-2016
Software Version: 6.04 and above

Contents

Specification

Welding modes:	Manual Barcode Fusamatic (available on request) Easi-Grip (available on request)
GPS Location:	Calder GPS module (available on request)
Data log memory:	767 welds
Memory download:	USB Flash Disk (supplied with CalderSafe software) BlueBox smartphone app CalderSafe smartphone app
Languages:	English (others available on request)
Input voltage:	110V ac **or** 230V ac 110V (40/80V units only)
Input frequency:	50 Hz
Input current:	1 A to 27.1 A with 110V input 1 A to 13.5 A with 230V input
Input power:	110 VA to 3300 VA (apparent) 110V 230 VA to 3450 VA (apparent) 230V for 40/80V units: 110 VA to 11000 VA (apparent) 40/80V
Power factor:	Apparent 0.72 (40V units) Apparent 0.72 (80V out with 40/80V units)
Output voltage:	39.5 V ac true rms (default 40V mode) (8 to 48Vac selectable in 40V manual mode) (8 to 48Vac in barcode mode) (39.5V ac in Fusamatic mode) 79V a.c true rms (default 80V mode)
Output stability:	+/- 1.5%
Output current:	1 A to 60 A (continuous) 1A to 100A (cont. 40/80V units only)
Output power:	40 W to 2880 W (40V units) 40W to 7900W (40/80V units)
Operating temperature:	-10°C to +40°C
Weight:	25 kg inc. output lead (40V units) 18 kg inc. output lead (40/80V units)
Dimensions:	38.5 x 27.5 x 21.5cm
Protection level:	IP54
Protection class:	Class 1 (equipment must be earthed)

Caldervale Technology Ltd has a policy of continuous improvement in product design.
Caldervale Technology Ltd therefore reserves the right to change the specification of its models at any time, without prior notice and with impunity

Warnings

<u>Risk of explosion!</u> This equipment is not to be used in a gaseous atmosphere.

Risk of electric shock! Do not open.

To avoid damage to the welding unit do not interrupt the input supply or disconnect the output lead from the welding unit or fitting during a fusion cycle.

This apparatus must be earthed (grounded).

Replacement of the power lead must be carried out by Caldervale Technology Ltd or an approved service centre.

The mains input plug must be connected to a suitable socket in an accessible area to enable disconnection.

This product must not be used by children or persons with reduced physical, sensory or mental capabilities.

Children should not be left unsupervised near the equipment at any time.

Do not attempt to repeat a welding operation on an accessory as this can result in live parts becoming accessible.

Allow a minimum clearance of 1 metre around the equipment and ensure that all leads are fully unwound from the equipment whilst in operation.

RoHS This product conforms to the RoHS directive.

Not to be disposed of in domestic waste.
Contact Caldervale Technology Ltd or your local authority for the disposal of this product.

Controls

Display:

- Illuminated 4 x 20 character LCD.
- All the welding information and entered data is shown here.
- Visible in all light conditions.

USB data port:

- Allows connection to a USB memory stick for downloading the weld data.
- Can be used with USB barcode readers to scan in coupler parameters and ID badges.

Start button:

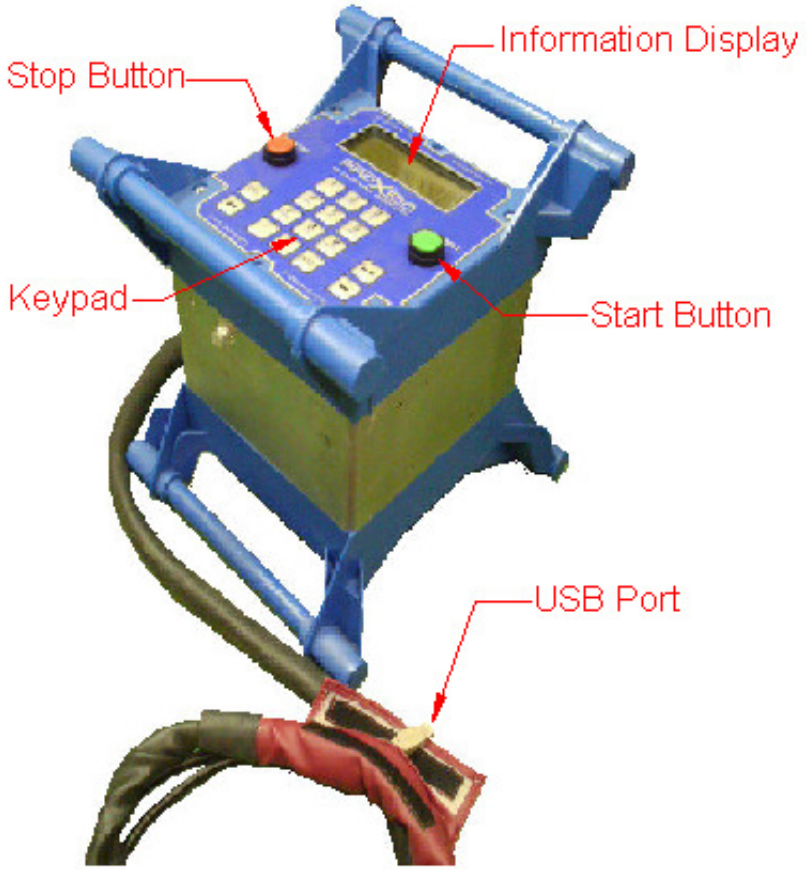
- Starts the welding cycle, also used when entering weld information.

Stop button:

- Used to stop the welding cycle, also used when entering weld information.

Keypad:

- Used for entering weld information.
- Designed to withstand harsh site environments.



Keypad Functions

MODE – Pressing the Mode key changes the keypad entry between numerical, alphabetical and symbolic characters.

The mode is indicated by three characters displayed in the top right of the display:

'123' only numerical characters are entered.
'ABC' only upper case letter characters are entered.
'abc' only lower case letter characters are entered.
'(*)' only symbolic characters are entered.

⬅ - The Left Arrow key moves the position of the cursor on the display one place to the left during the entering of the operator, location and job reference data.
It is also used in confirming YES/NO actions.

➡ - The Right Arrow key moves the position of the cursor on the display one place to the right during the entering of the operator, location and job reference data.
It can also be used in confirming YES/NO actions.

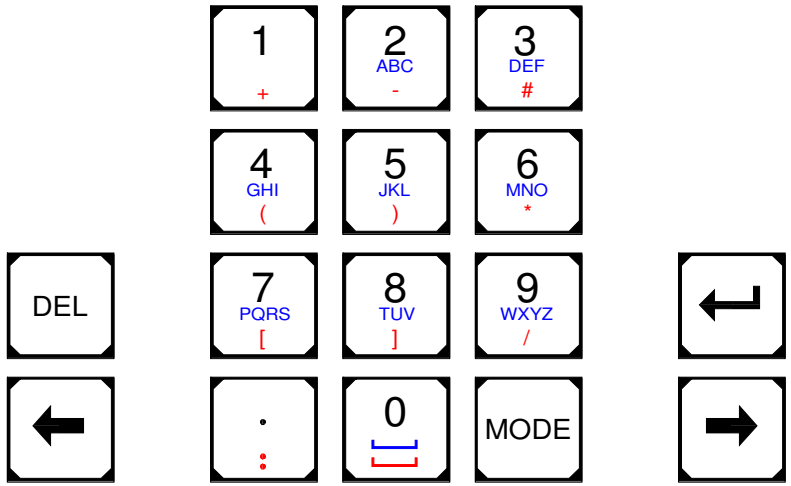
DEL – Pressing the Delete key will erase any text at and to the right of the cursor position.

↵ **-** The Return key is used to confirm data entry as on a standard computer keyboard.

Entering text:
To select an individual letter press the key the required number of times; for example to display the letter 'B', press the '2' key twice.

To display the letter 'Z', press the '9' key four times. The selected character will be shown on the display.

To overwrite a character move the cursor to the desired position and re-type the character (remember pressing the Delete key will erase all the text to the right of the cursor).



Electrofusion & Portable Generators

Warning! Do not start the generator with the electrofusion control unit plugged in.
Always! Start the generator with no load connected.
Always! Allow the generator to stabilize (run unloaded) for a minute before connecting the electrofusion unit.
Warning! Do not stop the generator with the electrofusion control unit plugged in.

Electrofusion units are designed to provide a stable regulated voltage for a period of time to an electrofusion fitting. This is done by taking the supply voltage (from mains or a portable generator) and reducing it by 'cutting out' part of the voltage.

This reduction in the voltage has strange effects with the overall power of the system. Even though this part of the power has been cut out and is not used for welding the fitting, it still has to be supplied by the generator.

Total power supplied = Real welding power + 'cut out' lost power

'Apparent Power Factor' is the output power compared to the input power. In simple terms this power factor can be thought of as a mark of the machines efficiency; if the power factor is 1 then the machine is '100% efficient'. If the power factor is 0.5 then the machine is '50% efficient'.
Electrofusion machines have a power factor of 0.75, this means that they could be said to be 75% efficient.
Portable AC generators are designed to supply power evenly over the voltage waveform. If power is taken unevenly, as with an electrofusion machine, then generators start to have problems. The electrofusion machine will actually only take power from the generator for 75% of the time, the other 25% is the lost 'cut out' power.
This 'full power' then 'no power' then 'full power' then 'no power' effect causes great problems with the generator's alternator. This un-even power take up causes the properties of the alternator that actually produce the voltage (the magnetic fields) to break down. This causes the rated power of the generator to drop sharply.
A good quality generator will be designed to work with machines that have a power factor as low as 0.7 or 0.8 due to complicated alternators that are more expensive to manufacture. Cheaper generators will sacrifice the quality of the alternator in favour of price and are only capable of working with machines that have a power factor of 0.9 or 1. In this case, the generators will not work with the electrofusion machines.
When specifying generators for use with electrofusion, it is very important not only to get the right power, 3kW, but also to get a generator that will work with equipment that can tolerate a power factor of 0.75.

Decoding the weld barcode for use in the manual mode of operation

In the event that the barcode reader cannot read the barcode, the full barcode can be entered manually. Alternatively the welding time and voltage can be read from the barcode label and entered into the electrofusion processor in the manual mode of operation.
(Providing that the numbers of the barcode are printed below the stripes as shown in figures 1 and 2 below.)

Figure 1 above shows the welding voltage required is 40 volts and that the welding time is 315 seconds.
Figure 2 above shows an example of a barcode for a large diameter accessory with the welding time in minutes (digit 19 equals '9'), the welding time is 20 minutes (digits 20 and 21), so the welding time to be entered into the electrofusion processor is 20 x 60 = 1200 seconds.
Note: this is only to be used in cases where the barcode reading device has failed and there is no welding information on the accessory. This method does not account for ambient temperature compensation, and the welding times are only correct for ambient temperatures of 20°C.

Starting Up the Unit

Connect the welding unit to a good quality power source of the appropriate voltage and capable of supplying at least 3 kW.

Ensure that the emergency stop switch* (fitted to the side of the casing) is not in the off position (red actuator pushed in).
Switch to the on position by twisting the actuator clockwise until the actuator releases.
**some older units may not be fitted with an emergency stop switch.*

The unit will power up, perform some internal tests then show a welcome screen for a few seconds.

If ID badges are enabled the unit will then request a valid CalderSafe or ISO 12176-3 badge to be scanned before it will proceed.

The unit will then display the Product Code, Serial Number, Date & Time, Memory Usage and Calibration Date.

If the calibration period of the unit has expired then a warning message will be displayed. It is recommended that you return the welding unit to Caldervale Technology Ltd or one of their approved repair agents for service and calibration if this message is shown.

All error messages will be displayed as they are detected. A list with explanation of these is detailed further on in this manual.

A note on data entry:
Use the touch keypad keys to change the displayed information. Use the Start button or Return key to accept information or move forward. Use the Stop button to reject information or move backward.

Entering the Weld Record Information

Information about each weld is recorded. The recorded information contains the operator identification, weld location and job reference, the fitting, and the welding parameters and the GPS location* of the weld.

If the optional GPS module is fitted the next screen shown after the owner name will be the GPS co-ordinate screen. This shows the latitude and longitude co-ordinates of the current position of the unit; whether the GPS module has a fix on one or more satellites and also the number of satellites found. Satellite acquisition time is dependent on the physical location of the unit and its proximity to any buildings, it can take up to 30 seconds for the module to receive a signal; if the satellite reception is poor press the START button to exit the GPS location screen.

Use the keypad arrows (⇦ and ⇨) to scroll through Yes and No. When the required option is shown, press the Start button or Return key to select it.

The display will ask for an Operator Name. Enter the Operator identification using the keypad and press the Start button or Return key to accept it. (maximum 16 characters.)

The display will now ask for a Location. Enter this in the same way (maximum of 16 characters).

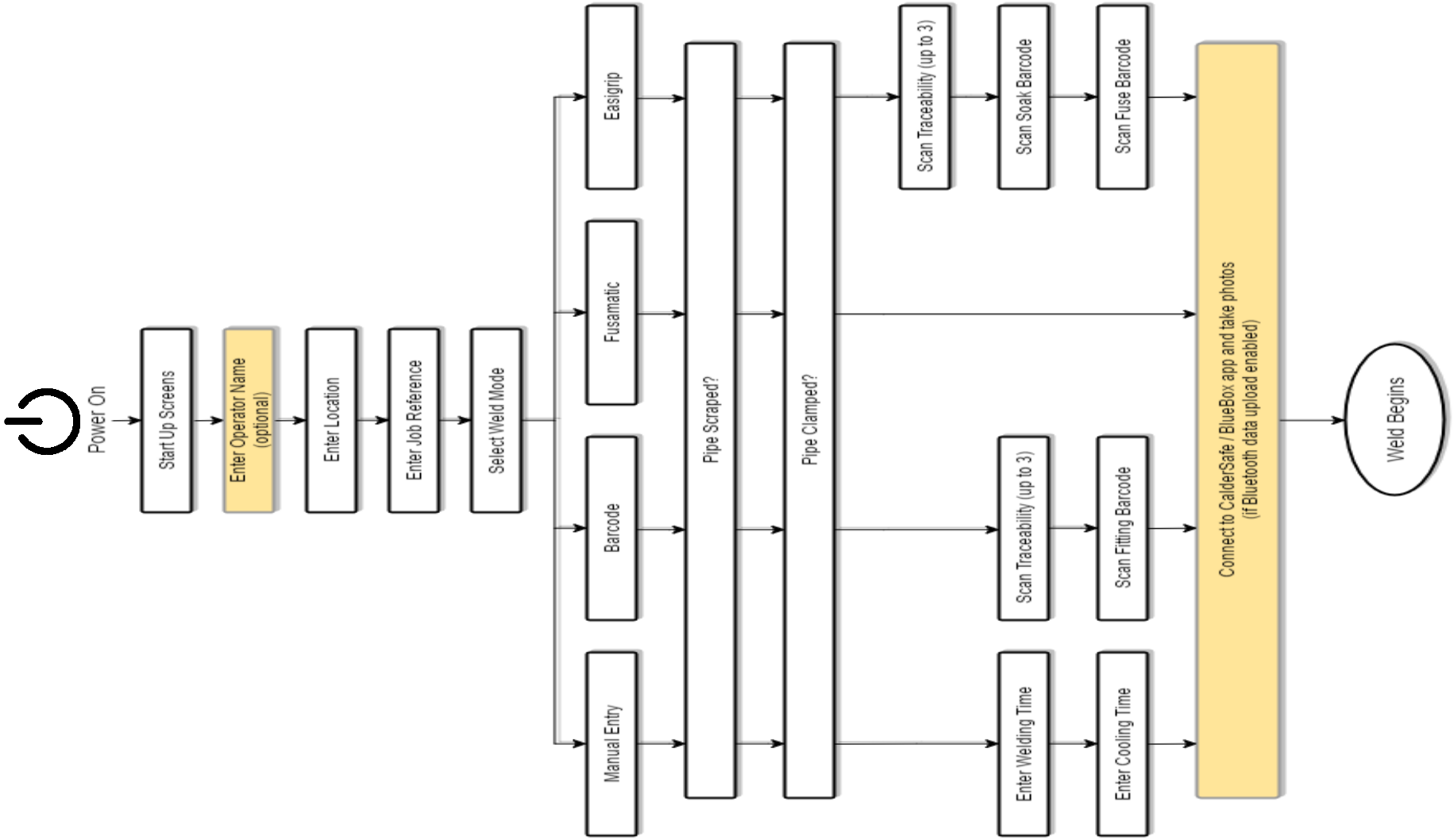
The display will ask for a Job Reference. Enter this in the same way (maximum of 16 characters).

The display will ask if the pipe has been scraped and the fitting has been clamped. Use the arrow keys to scroll through Yes and No. Select the required option by pressing the Start button or Return key.

The display will now ask you to select the mode of operation. Use the ⇦ or ⇨ arrow buttons to scroll through 'Manual', 'Barcode', 'Fusamatic**' and 'Settings'. Use the Start button to select the desired welding mode.

**only with models fitted with optional GPS module.*
***only with models fitted with Fusamatic option.*

Overview of Operating Procedure



Using the Electrofusion Processor in the Manual Mode of Operation

Connect the 40V or 80V output lead (depending on the unit and which type of accessory is to be welded) to the electrofusion processor's output socket, ensuring that the connector of the output lead is locked into position into the output socket.

Connect the accessory to be welded to output lead terminal ends.
(Note: the 80V output lead has 5.0mm terminal ends and will only connect correctly to an 80V accessory.)

Using the keypad enter the welding time of the accessory, the cooling time of the accessory can also be entered if desired although it is not necessary.
The output voltage can also be altered at this stage (the default value is 39.5V for 40V accessories).
Only do this if you are sure of the welding voltage required by the accessory, otherwise use the default values.

If you are using the BlueBox or CalderSafe app you will be prompted to connect to the app. Start the app and follow its instructions. The unit will start the weld automatically when instructed to by the app.
If you are not using an app, just press the Start button to begin welding.

The total weld time and the remaining weld time will be displayed which will count down to zero. During the weld, the unit monitors, displays and logs the supply voltage, output voltage and the output current.

Any faults which occur during the welding cycle will cause the welding cycle to be stopped and the relevant error message will be displayed. The weld can also be aborted by pressing the STOP button.

At the end of the weld, the current weld number will be displayed along with a 'Cooling Time'.
The cooling time is shown to help the operator. If it was not entered at the inputting of the times stage it will continue to count up until the Start button is pressed. If the cooling time was entered at the inputting of the times stage, it will count down until it times-out or the Start button is pressed. It acts like a stopwatch and is designed to tell the operator how long ago the weld ended.

The display will ask you to disconnect the fitting from the output lead terminals, when this is done the welding mode menu is displayed ready for the next weld. The Manual mode will be still be selected to make it easier to perform consecutive welds of the same type, even if the unit is powered off between welds.

Using the Electrofusion Processor in the Barcode Mode of Operation

If data logging has been enabled then the display will ask you to read the traceability barcodes from the components being joined together. You can read a maximum of three codes for each weld. When the codes have been read, press the Start button.
The display will ask you to connect a fitting to the output leads. Once this has been done, the unit will check the fitting connection and ask, for the welding barcode to be read.

When the barcode has been read, the unit will check that the fitting resistance matches the value given in the barcode.

If a barcode from a different type of fitting to the one connected to the output lead is read, then the unit will detect that the fitting resistance is incorrect and it will not allow the unit to weld. This is a safety feature to prevent mismatched barcodes being read.

Information about the connected fitting will be displayed. The welding time and voltage will be set automatically.

If you are using the BlueBox or CalderSafe app you will be prompted to connect to the app. Start the app and follow its instructions. The unit will start the weld automatically when instructed to by the app.
If you are not using an app, just press the Start button to begin welding.

The total weld time and the remaining weld time will be displayed which will count down to zero. During the weld the unit monitors, displays and logs the supply voltage, output voltage and the output current.

Any faults which occur during the welding cycle will cause the welding cycle to be stopped and the relevant error message will be displayed.

At the end of the weld, the current weld number will be displayed along with a 'Cooling Time'.
If a cooling time was indicated by the barcode then the unit will count down the indicated amount of time.
If no cooling time is indicated by the barcode then the box will count up from 0 to 60 minutes like a stopwatch. This is designed to tell the operator how long ago the weld ended.

The cooling time can be bypassed by pressing the Start button, the unit will record the actual amount of time the fitting was cooled for.

The display will ask you to disconnect the fitting from the output lead terminals, when this is done the welding mode menu is displayed ready for the next weld. The Barcode mode will be still be selected to make it easier to perform consecutive welds of the same type, even if the unit is powered off between welds.

Using the Electrofusion Processor in the Fusamatic™ Mode of Operation

Note: this mode of operation is only available on units where the option is fitted.

Connect the 40V Fusamatic output lead to the electrofusion processor's output socket, ensuring that the connector of the output lead is locked into position into the output socket.

The display will show connect fitting. Connect the accessory to be welded to output lead terminal ends.
(Note: the Fusamatic output lead has 4.7mm terminal ends and will only connect correctly to a 40V accessory.)

The electrofusion unit will automatically acquire the welding time of a Fusamatic fitting by measuring the value of an embedded resistor in of the fitting terminals.

If you are using the BlueBox or CalderSafe app you will be prompted to connect to the app. Start the app and follow its instructions. The unit will start the weld automatically when instructed to by the app.
If you are not using an app, just press the Start button to begin welding.

The total weld time and the remaining weld time will be displayed which will count down to zero. During the weld the unit monitors, displays and logs the supply voltage, output voltage and the output current.

Any faults which occur during the welding cycle will cause the welding cycle to be stopped and the relevant error message will be displayed.

At the end of the weld, the current weld number will be displayed along with a 'Cooling Time'.
If a cooling time was entered at the setup stage, it will count down the indicated amount of time.
If a cooling time was not entered then the box will count up from 0 to 60 minutes like a stopwatch. This is designed to tell the operator how long ago the weld ended.

The cooling time can be bypassed by pressing the Start button, the unit will record the actual amount of time the fitting was cooled for.

The display will ask you to disconnect the fitting from the output lead terminals, when this is done the welding mode menu is displayed ready for the next weld. The Fusamatic mode will be still be selected to make it easier to perform consecutive welds of the same type, even if the unit is powered off between welds.

Using the Electrofusion Processor with the BlueBox™ smartphone app

Note: this mode of operation is only available on units where the Bluetooth module is fitted and activated.

Enabling the BlueBox mode:
Activate the BlueBox mode by selecting the settings option in the weld mode menu, which opens the Service menu, from here select password and enter the code 2582. Select BlueBox on and press the start button. Disconnect the unit from the supply.

Using the BlueBox:
Connect the electrofusion unit to the supply.
After the start-up messages have been displayed the message "**Pair your device with BlueBox and then launch BlueBox App**" will be shown. At this point turn on bluetooth conectivity on your mobile device, the BlueBox identification number should become visible on the screen of your mobile device. Select the identification number on the screen of your device to pair with the electrofusion unit.
When your mobile device is paired with the electrofusion unit open up the BlueBox application on your mobile device and again select the BlueBox identification number, once selected your mobile device and the electrofusion unit will synchronise to each other allowing data communication with the display on the electrofusion unit showing "**Synchronised**".
The welding information can now be entered by the operator by following the instructions for welding in the required mode of operation i.e manual, barcode or fusamatic depending on the welding unit.
After the welding information has been entered and the start button pressed, the display will show "**Take Photo**". Using your mobile device follow the on-screen instructions on the BlueBox mobile application and take a photograph of the fitting to be welded. When the photograph has been taken and accepted you will be asked if more photographs are to be taken, once the desired number of photographs have been taken and accepted the welding process will begin automatically.
After the weld has completed and cooling time has elapsed remove the output leads from the fitting the display will show the message "**Uploading**", during this time the weld information is being transferred to your mobile device which will show the progress of the upload as a percentage. Once the upload is complete the BlueBox mobile application will transfer the weld information to ControlPoint.
Refer to info@controlpointllp.com for further information.

Using the Electrofusion Processor with the CalderSafe™ smartphone app

Note: this mode of operation is only available on units where the Bluetooth module is fitted and activated.

Enabling the CalderSafe Mobile mode:
Activate the Caldersafe mobile mode by selecting the settings option in the weld mode menu, which opens the Service menu, from here select password and enter the code 2582. Select Caldersafe on and press the start button. Disconnect the unit from the supply.

Using the Caldersafe Mobile:
Connect the electrofusion unit to the supply.
After the start-up messages have been displayed the message "**Pair your device with Caldersafe Mobile and then launch CalderSafe Mobile App**" will be shown. At this point turn on bluetooth conectivity on your mobile device, the CalderSafe identification number should become visible on the screen of your mobile device. Select the identification number on the screen of your device to pair with the electrofusion unit.
When your mobile device is paired with the electrofusion unit open up the CalderSafe Mobile application on your mobile device and again select the CalderSafe identification number, once selected your mobile device and the electrofusion unit will synchronise to each other allowing data communication with the display on the electrofusion unit showing "**Synchronised**".
The welding information can now be entered by the operator by following the instructions for welding in the required mode of operation i.e manual, barcode or fusamatic depending on the welding unit.
After the welding information has been entered and the start button pressed, the display will show "**Take Photo**". Using your mobile device follow the on-screen instructions on the CalderSafe mobile application and take a photograph of the fitting to be welded. When the photograph has been taken and accepted you will be asked if more photographs are to be taken, once the desired number of photographs have been taken and accepted the welding process will begin automatically.
After the weld has completed and cooling time has elapsed remove the output leads from the fitting the display will show the message "**Uploading**", during this time the weld information is being transferred to your mobile device which will show the progress of the upload as a percentage. Once the upload is complete the CalderSafe mobile application will transfer the weld information to the entered e-mail address' which have been entered into the CalderSafe app.

Settings Menu

The Settings Menu allows features of the electrofusion processor to be changed, as well as date and time adjustment.
Access to the Settings Menu is only available by entering a supervisor password.
Ask your supervisor for advice about the electrofusion processor settings.

Error Messages

E00 Good weld

E01 Supply voltage low.
The supply voltage is more than 20% lower than the nominal value. Check the supply.

E02 Supply voltage high.
The supply voltage is more than 20% higher than the nominal value. Check the supply.

E03 Supply frequency low.
The supply frequency is less than 40 Hz. Check the supply.

E04 Supply frequency high.
The supply frequency is greater than 70 Hz. Check the supply.

E05 Output voltage low.
The output voltage is more than 1½% lower than the nominal value. Check the power supply to the welding unit has sufficient capacity.

E06 Output voltage high.
The output voltage is more than 1½% higher than the nominal value. Possible fault within the welding unit.

E07 Excessive output voltage.
The output voltage is more than 6% higher than the nominal value. Possible fault within the welding unit.

E08 Fitting connection fault.
An open circuit in the output has been detected while a weld is in progress. Check the fitting and output leads.

E09 Output current low.
The output current is less than 2 amps. Check the fitting and the output lead connections.

E10 Case temperature too high.
The case temperature is too high. Disconnect the unit from the supply and allow it to cool down before reconnecting it.

Error Messages cont.

E11 Operator stop.
The operator has interrupted the welding process by pressing the Stop button.

E12 Self test error – Stuck button.
During the power up self test, the unit has detected that a button was pressed or is stuck in.

E13 Self test error – Output fault.
During the power up self test, the unit has detected a voltage on the output terminals. This indicates a fault within the unit.

E14 Self test error – Calibration error.
During the power up self test, the unit has detected that the unit requires calibration.

E15 Internal temperature error.
The internal temperature of the unit is too high. Disconnect the unit from the supply and allow it to cool down before reconnecting it.

E16 Power relay error.
The power relays have not activated. This indicates a fault within the unit.

E17 Current surge.
The output current has increased over time indicating a fault with the fitting.

E18 USB memory disc full.
The USB memory disc has not got sufficient free space for the records held in the control unit to be downloaded.

E127 Loss of supply.
The supply has been lost during the fusion cycle.
Note: *This will be recorded on the fusion joint record and on the next power up of the unit a message will be displayed to notify the operator of a power fail. This message will remain until acknowledged.*

Saving the Weld Records to a USB Flash Disk

The weld record information can be transferred to a computer by using a USB flash disk. This drive connects to the external USB data port on the side of the welding unit:

- With the unit switched off, insert the USB stick into the USB port.
- Switch on the electrofusion unit.
- The unit will start downloading the weld records to the USB stick.
- If existing weld records from that unit are on the USB stick, the unit will append the newest records.

The weld record information is downloaded as a single binary (.BIN) data file which can be opened using the CalderSafe Weld Analyser. Each time a .BIN file is opened from a particular unit, the weld records are collated into a single .CVT file on the computer.

The USB flash disk can be plugged into any computer capable of recognising USB1.1 devices. When plugged in, this will act like a drive on the computer and the downloaded file can be opened, saved or deleted.

The USB flash disk will act like any other disk drive on a computer. When full, files will have to be deleted to make space. As with other drives, occasionally it will require defragmenting. Please see your computer help files for information on this.

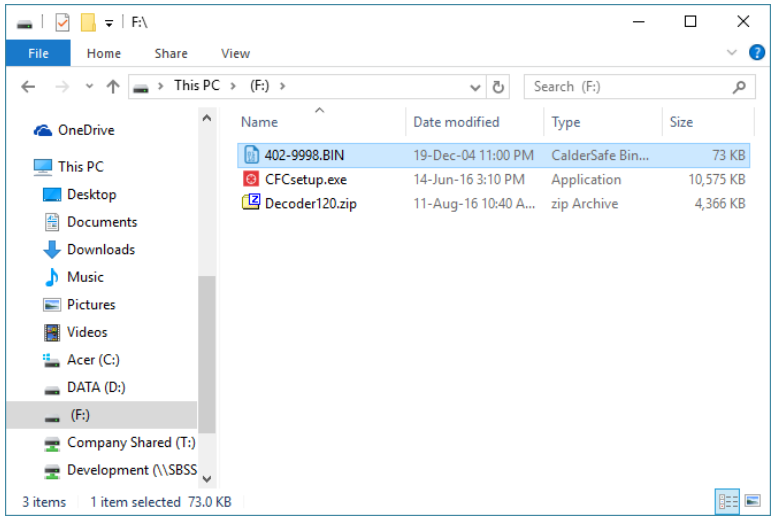
Note:
The units' internal data log can only be cleared through the Supervisor Menu.

The welding unit cannot delete files from the USB flash disk. This must be done from a computer.

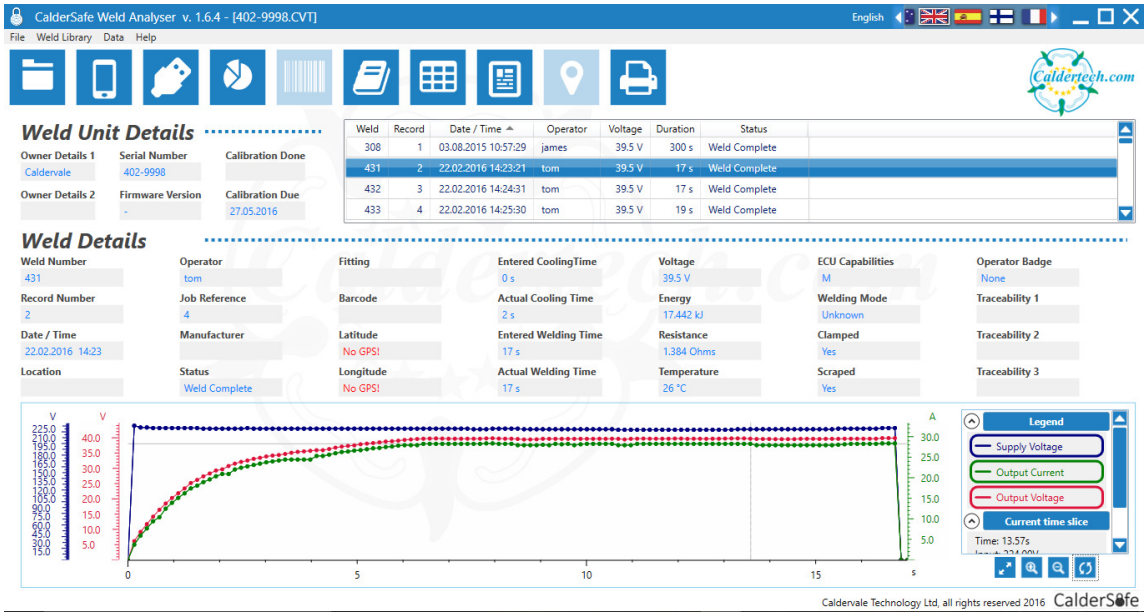
Using the CalderSafe Weld Analyser Software

Opening .BIN file from USB

- Insert the USB stick into the PC and double click the .BIN file with filename matching the units' serial number.

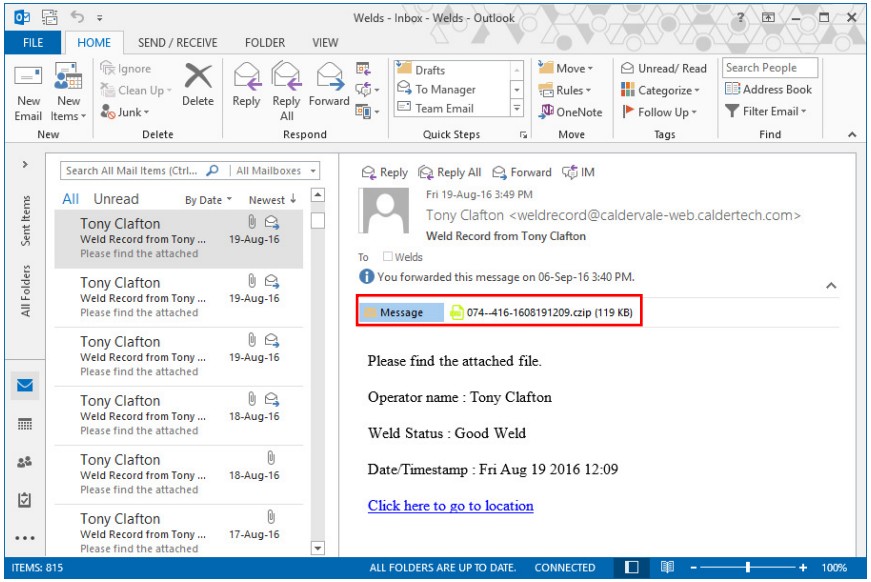


- The CalderSafe Weld Analyser will launch and open up the BIN file.



Opening .czip files from email

- From your email inbox, find the email with the relevant weld data attached. The operator name will be visible as the Sender and the unit Serial Number is contained within the attachments' filename.

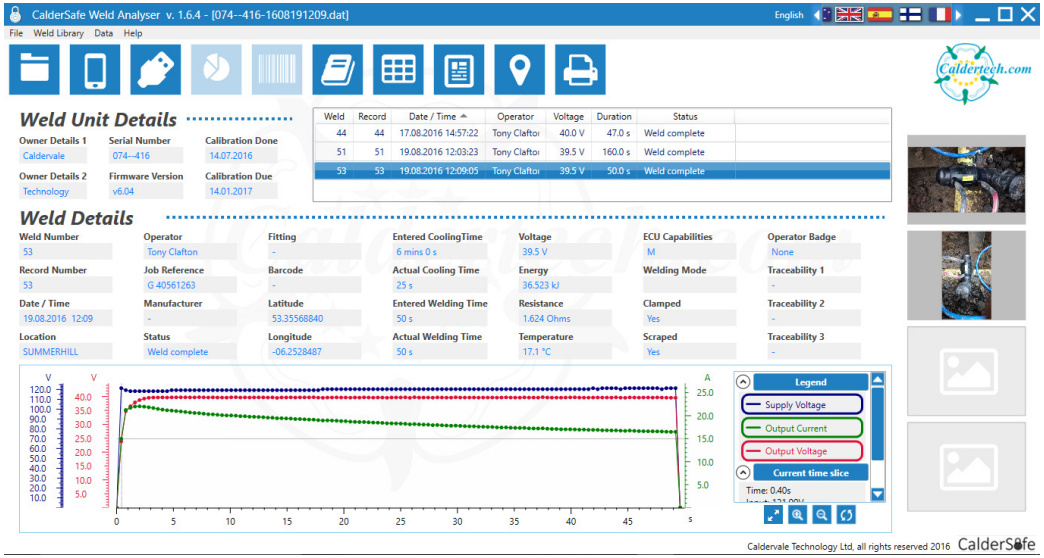


- Double click the attachment, it should have a yellow icon beside it indicating that the Weld Analyser is associated with this file type.

- The Weld Analyser will launch and open the .czip file contents.

- It will also look for other .czip files previously opened, from the same unit, and populate the list with multiple weld records.

- Photographs are shown on the right and can be viewed in full screen by clicking on them.



Care and Maintenance

After using the equipment coil the supply (input) lead around the casing of the equipment to avoid damage to the lead whilst in transit or storage.

Make sure that the supply plug is in good condition and is not damaged in any way – if so return for repair.

Make sure that the output lead/s are in good condition and are not damaged in any way – if so return for repair.

Do not fully submerge this equipment – it is not airtight.

Clean the equipment using a damp cloth and soap (do not use chemical solvents as this will damage the casing and fascia).

Avoid placing heavy objects on top of the equipment whilst in storage.

Certificate of Conformity

This product has been manufactured in accordance with the following directives:

- **73/23/EEC Low voltage – Electrical Equipment (Safety) Regulations.**
- **2002/95/EC Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations.**
- **2002/96/EC Waste Electrical and Electronic Equipment (WEEE) Directive.**

This product has been manufactured to meet the following standards:

Safety of Electrical Products:

- **ISO 12176-2 Equipment for fusion jointing polyethylene systems. Part 2 : Electrofusion.**
- **Italian National Standard UNI 10566**
- **BS 7540-1,2 & 3:2005, BS 7671:2001, BS 7919:2001, BS EN 1555-3:2002,**
- **BS EN 60068-2:1993, BS EN 60204-1:2004, BS EN 60309-2:1999,**
- **BS EN 60529:1992, BS EN 60947-1:2004, BS EN 61558-1:1998,**
- **BS EN 61558-2 &23:2001, BS EN 62262:2002**

This product conforms to the RoHS directive (restriction of hazardous substances)

Contact Caldervale Technology Ltd for the disposal advice of this equipment.

Certificate of calibration

- **This product has been inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Caldervale Technology Ltd, Dewsbury.**

- **This product has been calibrated using equipment traceable to national and international standards, by a NAMAS (National Accreditation of Measurement and Sampling) accredited laboratory. NAMAS is a service of UKAS (United Kingdom Accreditation Service).**

- **This product has a set calibration period, active from the date of purchase by the end-user.**

- **The calibration certificate can be downloaded from the machine and viewed using the CalderSafe software.**

Warranty Information

1. Extent of Warranty.

(a) Subject to clauses 2 and 3, Caldervale Technology Ltd warrants to the end-user customer that its products will be free from defects in materials and workmanship, for one year after the date of purchase by the end-user customer, subject to providing proof of purchase.
(b) If Caldervale Technology Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty, Caldervale Technology Ltd shall either repair or replace the product, at its option. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.
(c) All warranty work will be carried out by Caldervale Technology Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from authorised Caldervale Technology Ltd service facilities world-wide.
(d) Customers shall prepay shipping charges for products returned to Caldervale Technology Ltd for warranty service, and Caldervale Technology Ltd will charge for return of the products back to the customer.
(e) 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.

2. Pre-conditions for Warranty Application.

Caldervale Technology Ltd's warranty covers only those defects which arise as a result of normal use of the product, and this warranty shall only apply in the following circumstances:
(a) All the instructions contained in the operating manual have been complied with; and
(b) None of the following apply:
(i) Improper or inadequate maintenance;
(ii) Unauthorised modification, misuse or any use not in accordance with the operating manual and good industry practice:
(iii) Operation outside the products specifications, including duty cycle abuse, and input power abuse;
(iv) Improper site preparation or maintenance; and
(v) Faulty pipe or fitting.

3. Limitations of Warranty.

(a) Caldervale Technology Ltd does not warrant the operation of any product to be uninterrupted or error free.
(b) Caldervale Technology Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Caldervale Technology Ltd specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.
(c) 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.
(d) To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.
(e) This control unit has been designed to weld the range of fittings available at the time of its design and development. Caldervale Technology Ltd can accept NO liability for the units ability or otherwise to weld new or different fittings that subsequently appear in the market place.

Please complete this information and keep it safely with your proof of purchase receipt.
You will require it for any warranty claim.

Where purchased .....

Date of purchase .....

Name & address .....
of purchaser .....
.....
.....
.....
.....

Type of unit .....

Serial number .....

For Service and repair please contact:

Caldervale Technology Ltd
Bretfield Court
Dewsbury
West Yorkshire
WF12 9GB
United Kingdom

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