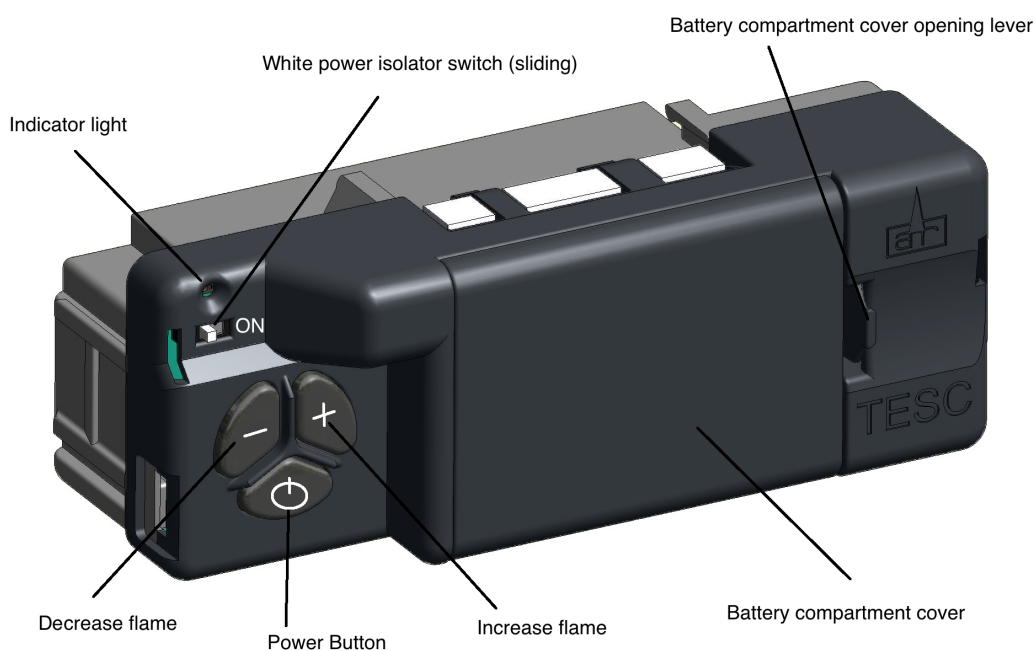


Tesc remote gas valve information booklet



Display Handset



Non display handset

CONTENTS

SECTION 1	CARE AND MAINTENANCE OF THE FIRE CONTROL	PAGE
1.0	What you should do	3
1.1	How do you know when to replace the batteries	3
1.2	What happens if i do not replace the batteries	3
1.3	How to replace the batteries	3-4
1.4	What is the meaning of the red indicator Handset -valve or switch	5
SECTION 2	FREQUENTLY ASKED QUESTIONS	6
2.1	What should i do if my fire does not light or stay lit	6-7
2.2	Restoring communication with a display type handset	8
2.3	Pairing the handset with a display type handset	9-10
2.4	General notes on the handset that may be of interest	10
2.5	Using the display type handset	10-11
2.6	Restoring communication with a standard non display handset	12
2.7	pairing the handset standard non display type	12-13
2.8	Using the Standard non display handset	14
SECTION 3	GAS ENGINEER SERVICING INFORMATION	
3.0	important information for installers	16
3.1	System operation explanation	16-17
3.2	Error codes	18-22
3.3	Pilot information and servicing	23-24
3.4	Other useful information	25-26
3.5	Where to obtain spares	26
3.6	Where to obtain more information	26

Section 1 – Care and maintenance of the fire control

1.0 What should you do?:-

- Replacing the batteries at least every 12 months will help prevent damage to the valve and handset owing to leaking batteries.
- Use only brand new high quality alkaline batteries(i.e. Energizer showed good results in our test).
- Replace always the complete set of batteries and do not mix brands.
- Keep contacts clean and do not bend the contacts
- As with all battery powered equipment, remove batteries if the fire is not used for long periods (to prevent old batteries from leaking and damaging the valve).
- Do not operate the fire without the battery covers in place.
- If handset is dropped and damaged, obtain a replacement (see spares section).

1.1 How do you know when to replace the batteries? :-

- Replace batteries at least every 12 months during the annual service of the fire (if it has not been done as a part of your yearly gas appliance service).
- If you have a display handset and it shows less than a full battery symbol on the display (see Page 23).
- If you have a non-display handset and the red light indicator is flashing every 10 seconds.
- If the red light indicator on the valve is flashing every 10 seconds.
- If you have panel switch control and the red light indicator is flashing every 10 seconds.

1.2 What happens if i do not replace the batteries

- The fire will stop working or will work intermittently.
- The handset/valve may give error codes (or wrong error codes).
- The batteries may leak and cause permanent damage to the electronics requiring a replacement valve which is not covered by any warranty(see example of leaked battery damage on page 17)

1.3 How to replace the batteries :

The control consists of a handset and gas valve within the fire. There are batteries both in the handset (2 x AA Alkaline) and in the valve (3 x AA Alkaline).

The battery covers can be opened without tools by using your fingernail and pressing to unhook the clip that retains to cover (See photos)

VALVE



Remove and replace the batteries being careful not to bend the battery contacts. The batteries should be held firm in place by the valve contacts.

It is as important to ensure the contacts on the battery, valve and handset are completely clean and dry and free from any contamination or surface damage.

It is vital that the batteries are put inside in the correct direction as shown in the above photos. Pay special attention to the position to the “ + ” end of the battery (Note: adjacent batteries are in different directions to each other).

HANDSET



1.4 What is the meaning of the red indicator (on handset, valve, panel switch):-

Red indicator	Meaning
Permanently Lit	Valve tried to light but failed and in LOCKOUT E00
Flashing very fast	Valve is busy (will not accept any command)
Flashing once a second	Valve detects an error
Flashing once every 10 seconds	Indication of low battery power in valve
Flashing twice every 10 seconds(handset only)	Indication of low battery power in handset
Flashing three times every 10 seconds(handset only)	Indication of low battery power in both handset and valve
Permanently off	valve in standby or in a stable operation
On momentarily after power up	Valve doing a self test
Appears after pressing start	Indicates time to release pressing the start button

What should I do if valve indicating an error? :-

- Let the fire cool down (if hot).
- Check if batteries are good and replace with brand new ones if in any doubt (see section on changing the batteries).
- Reset the error by first pressing the power button(once the fire has cooled down). Then press once again to try to start the fire.
- If the error repeats refer to section 3.

Section 2 - FAQ (Frequently asked Questions)

NOTE: Use this guide in association with your gas fire user book and only attempt work as recommended in those instructions and where suitably qualified.

2.1 What should I do if my fire does not light or stay lit?

o Check if gas supply is on

o **If the fire is hot wait for the fire to cool down.**

o If your fire has a remote handset, put the handset to one side and get access to the gas valve in the fire (see your user instruction on how to do this, if allowed).

o Unless your fire is powered by a plug-in power supply, it will have batteries inside the valve to enable it to operate and these may need changing.

o Gain access to the batteries by removing the battery cover (see section 1.3) Check batteries are ok and there is no sign of the batteries leaking or any other contamination of the contacts. If in any doubt replace the batteries with newly purchased good quality batteries. (i.e. Energizer brand showed good results in our test).

o When replacing the batteries ensure the battery contacts are clean and free from any contamination that may have come from the old batteries. Polish the contacts of both the valve and batteries to remove any finger print grease etc., being careful not to bend any contacts.

o Ensure you replace the batteries in the correct orientation

o Next replace the battery cover on the valve. (This is very important to do before doing the next stage.)

o Check that the ceramic parts (matrix, coals or logs) on the fire are in the correct place and are in a good condition (according to the fire instructions).

o Perform any general cleaning of the fire that is recommended in your user instructions, in particular the pilot assembly.

o Replace any other part of the fire that needed to be removed to access the valve.

o If the red light on the valve is on, reset the valve by pressing the on/off button briefly (the red light will go off).

o Try to start the fire using the control button(s) on the valve.

o If your fire still does not light normally, wait until the red light on the valve indicates an error or a lockout. Note: the valve may make several automatic attempts to start the fire, which could take several minutes to complete. Do not interrupt the valve while it does this).

o If fire still does not work correctly:-

Double check the above steps, particularly if the batteries are good and are in the correct way and everything is clean.

If your fire user instructions cover cleaning the pilot follow these instructions.

Reset the valve by pressing the on/off button as described above.

Then try a starting again.

Repeat starting attempts several times.

If fire still does not work you may need help from a service engineer to service the problem. The appliance may need a good clean as debris may be stopping the fire from working properly. Check your user instructions on this and seek a service engineer if necessary to do this work for you as advised there.

If the fire does work correctly when using the valve operation buttons, pick up the handset to check that is working well.

When holding the handset firmly (like a handshake), the green unlock keypad light should be permanently lit(not flashing).

If it is **not lit** at all :-

- Check the batteries in the handset are good, there is no contamination of the battery contacts, the contacts are not bent (preventing the battery contacts from touching them) and are in the correct way around
- Note: If the battery contacts are contaminated, (i.e. from old batteries leaking), this may damage the handset and a new one may need to be purchased (see section on spares).
- Clean and replace with new batteries as necessary.

• **IMPORTANT NOTE: The pairing of the handset is already done for you during manufacturing and is not forgotten if the batteries are removed.**(If using a handset with display, the time will be lost after some minutes of no power but the pairing will remain. Refer to the instructions on how to set the time to restore the time to the display. **Do not press the buttons on the valve to make a new pairing.** If you do then you will have to reset the handset to accept an new pairing and make a new pairing, see the sections on restoring handset communication).

If the green indicator is flashing like a heart beat, it is not in communication with the valve for some reason(on display handset additionally the communication symbol is missing see photo in 2.2).

Communication can be lost by:


- * The slide switch on the valve not in the on (I) position (see front page) **or**
- * The batteries need replacing in the valve (see section above) **or**
- * The handset is too far away from the fire(it needs to be some within a few metres) **or**
- * If the above are correct, and the handset is still flashing, then the pairing on the valve may have been accidentally altered and the handset will need to be reset and a new pairing performed to restore communication(see section on restoring handset communication

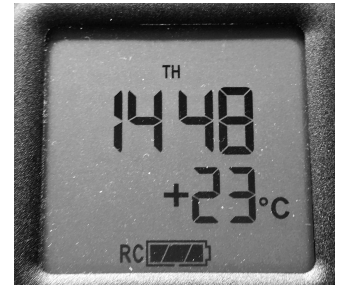
If this does not resolve the problem call a service engineer.

2.2

Restoring communication with a Display type handset (see later section for handset without display).

If the handset for what ever reason has lost communication with the Fire Control valve, when the handset is held like a firm handshake the green light will be permanently lit but will pulse brighter.

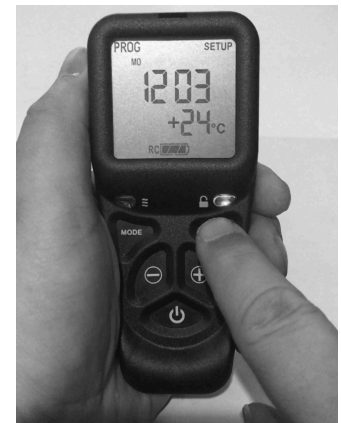
In addition the communication symbol  and other symbols will be **missing** from the display and it will appear as shown.



To reconnect do the following :-

Reset the handset to clear the old pairing and enable it to accept a new pairing:-

- With good batteries inside etc, hold the handset (like a firm hand shake) to unlock the keypad, **and keep hold of the handset while doing all of the following.**
- Press and hold the set button and keep held for around 3 seconds until you hear a second beep. Release the set button and PROG appears at the top left of the handset. SETUP should also be flashing at the top right corner of the display.
- When SETUP is flashing, press and release the SET button to enter the menu. H24 (or 12) , will be flashing. Press and release the SET button about 9 more times until the display shows CA with a flashing 0. Press and release the + or – button once to change the CA0 to a CA1. Then press and release the SET button once again. The display will now show 7ESC r4 (or some other number next to the r).
- The handset is now at factory reset condition and a new pairing can be performed, see next section.
- To see a you tube video of the above go to youtube and enter the following as a search :- TESC Gas Control - Display Handset - Factory reset - to enable it to be paired again



2.3 PAIRING THE HANDSET (with LCD display)

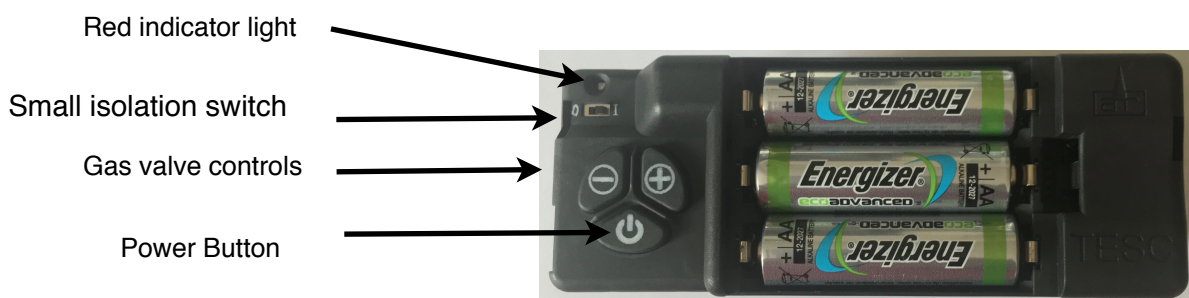
Ensure the handset and the gas fire control have good batteries inside etc as described in section 1.3

If the handset is in its factory reset condition(as performed in 2.2), the display will 7ESC and r and a number(as shown in the photo).



Picking up and holding the handset will unlock the keypad and the green light will illuminate a solid green (and the LCD backlight may come on if the room is dark enough).

(NOTE: Ensure the small isolation slide switch on the top left of the gas fire control is slid to the right, (I) position to turn the power on to the valve).



- Place the handset near the fire, i.e.within a metre (3 feet).No need to hold the handset at this time.
- Simultaneously press and hold the - and + buttons on the gas valve control (not the handset) until the red light on top left of fire control begins to flash rapidly,(it will take about 5 seconds to start flashing), then immediately release the - and + buttons and quickly pressing just the power button on the gas fire control valve. Note: Pressing of the power button must be done within 1 second of the red light coming on. If not done quickly enough, then the above must be repeated until done correctly.
- When done correctly you will hear an audible sound from the handset and the display will show the symbol "] - - [" and the green light on the handset will be flashing. You now have 60 seconds to accept the pairing. To do this pick up and hold the handset and hold it like a handshake to activate the unlocking of the keypad and press and hold the "SET" button for a few seconds.
- You will hear a few beeps from the handset and the display will change and enter the setup menu .
- Whilst maintaining your grip on the handset, you can now set the display functions of the handset. Momentarily pressing and releasing the SET button advances through the settable features and pressing and releasing the MENU button returns to the previous one. Pressing + or – changes the displayed information, for example :-
 - o H 24 – This is the 12 hr or 24 hours time format. Pressing and releasing + or – will change H24 into H12. Once happy with that setting, press and release SET to move to the day of the week.
 - o Day of the week is Mo, Tu, We,Th,Fr, Sa, Su. Again pressing and releasing +/- will change the day and when happy press and release SET to move to the hour of the day.(Pressing Mode button at this stage will return the menu to the previous one , in this case H 24/12).

- o Do the same for the minute of the day and temperature display C or F.
 - o The remaining parameters do not need adjusting so keep pressing and releasing the SET button several times(about 7 times) to advance the display to the end of the menu.
- You know when the setup menu has ended as will see the communication symbol (3 arcs of a circle) in the upper right hand side of the display. This symbol indicates that the handset is in operation mode (not setup) and in good communication with the fire valve control

IMPORTANT NOTE : Even in case you do not complete all of the setup, the pairing is still stored once accepted by pressing set the first time. The handset will re enter setup mode at next unlock (pick up) or by entering set up mode manually. Do not send pairing request again from the valve ! If this is done the another factory reset of the handset will be required and reset and new pairing done again.

2.4 The following are general notes on the handset that may be of interest

- When paired correctly but the gas fire control is out of range of the handset

or the batteries in the gas fire control are flat etc.

or the slide switch on the gas fire is in the off position

or the handset pairing has been broken

the Communication symbol is not shown on the display, only the time of day, the day of the week and the handset temperature and battery state in the RC handset(as photo in 2.2).

No communication symbol means the handset will not work the fire. Remedy the above to enable the control to operate the fire.

There is a youtube video showing this procedure above on youtube, search for:-
TESC Gas Control - Display handset pairing

2.5 Using the Display Handset

IMPORTANT USER INFORMATION – AFTER INSTALLATION BY THE ENGINEER , READ THIS BEFORE ATTEMPTING TO OPERATE THE FIRE

NOTE: The handset is supplied paired to the Gas Control. DO NOT ALTER THE PAIRING , this will only compound any difficulties you may have in understanding how to operate the handset. Read the instructions below.

The handset is designed to be not too easily operated by accident for safety reasons. If for any reason the pairing has been altered, then the handset will not work. The handset needs to be reset and paired again.



Insert good batteries into the Gas Valve on the fire and handset, as indicated inside each battery compartment, ensuring correct orientation of the batteries. Ensure the isolation switch (at the top left corner of the gas control) is in on (I) position.

Hold the handset as shown, wrapping your hand around the handset touching both sides, and the green unlock light will illuminate allowing the buttons to work. (If the green light is not lit, the buttons will not operate).



Press and hold in the power symbol button and release immediately as soon as the word pilot appears at the bottom left of the display(after about 1-2 seconds). The fire will then light.

(Note: releasing the power button too soon or holding too long after the word pilot is shown, will result in the fire not starting correctly).



To adjust the flame, hold the handset to enable the buttons to work and press and hold the - button to reduce the flame. Tapping the button will adjust the flame step by step. Holding the button will skip through the steps. Similarly, press the + button to increase the flame as described.



To STOP the fire, hold handset to unlock the buttons and then press the power button. The fire will stop without delay. Wait for the word OFF to appear on the display before trying to start again.

Note:

The handset is designed to make the operation of the fire to be as safe as possible. It has been deliberately designed not to be operated too easily for very good safety reason.

It is intended that the handset is only going to be successfully operated by a human, with a deliberate act.

For these reasons it might take a few attempts to become familiar with the starting of the fire, however, once understood, I hope you agree this is a good thing for safety reasons. It is necessary to prevent the control from being operated by accident.

2.6 Restoring communication with a standard handset (without LCD display).

If the valve operates by the manual buttons on the valve okay but when holding the handset the green light on the handset pulses around once per second when held for a few seconds (or not at all on older handsets), then either :-

The gas fire control is out of range of the handset or

the batteries in the gas fire control are flat or have bad connections etc. or

the slide switch on the gas fire is in the off position or

the handset pairing has been broken and needs resetting and pairing again.

Note: Taking batteries out or replacing dead batteries does not affect the pairing. The handset remains paired even without batteries inside. To re-establish communication of the handset if lost for any reason, the handset will have to be reset to clear the old pairing information to enable it to accept a new pairing from the gas control. The most common reason for lost pairing is mistakenly pressing the +/- buttons of the valve together and so changing the communication channel.

Resetting a handset to accept new pairing:-

- With good batteries inside, hold the handset to unlock the key pad, and press and hold the set button for around 10-15 seconds and keep held until the red and green lights are flashing. They will flash for up to 10 seconds.

- Quickly while the red and green are flashing, open up the battery compartment on the handset and remove one of the batteries for about 30 seconds.

- Replace the battery and the battery cover.

- Now when you hold the handset the green light should be flashing faster (several times a second), the handset is now able to be paired with the valve, see the next section.

(Note: If the red and green lights do not flash together, then the handset is probably already reset and ready to pair again.)



Once reset go to next section on pairing the handset.

(There are youtube videos that show these operation and more . Search for TESC Gas Control - Display less Handset factory reset (to enable to be paired again). and you should find them.

2.7 PAIRING THE HANDSET Standard Non display type

Ensure the handset and the gas fire control have good batteries inside etc as described in section 1.3

If the handset is in its factory reset condition(as performed in previous section) when held the green light on the handset will be flashing quickly.

(NOTE: Ensure the small isolation slide switch on the top left of the gas fire control is slid to the right, (I) position to turn the power on to the valve).

- Place the handset near the fire, i.e.within a metre (3 feet). No need to hold the handset at this time.
- Simultaneously press and hold the - and + buttons on the gas valve control (not the handset) until the red light on top left of fire control begins to flash rapidly,(it will take about 5 seconds to start flashing), then immediately release the - and + buttons and quickly pressing just the power button on the gas fire control valve. Note: Pressing of the power button must be done within 1 second of the red light coming on. If not done quickly enough, then the above must be repeated until done correctly.
- When done correctly you will hear an audible sound from the handset and the green light on the handset will be flashing more slowly than before. You now have 60 seconds to accept the pairing(if not accepted within 60 seconds the green light stops flashing. Simply repeat the above to send a new pairing.
- * To accept the pairing sent from the valve hold the handset it like a handshake to activate the unlocking of the keypad and press and hold the "SET" button for a few seconds.
- You will hear a few beeps from the handset and the green light will now be permanently lit when held. When ever the green light is on and not flashing this means the handset is in good communication with the valve. If flashing see earlier sections for the possible reason(s).

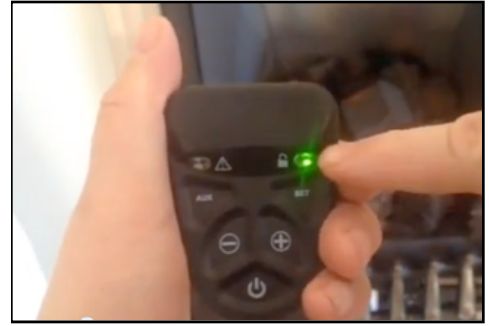
Note: There is a certain way to press the power button to enable the fire to start that may not be obvious. This is done for safety reasons. Read the next section on operating the handset to show how to press the start button correctly.

(There are youtube videos that show these operation and more . Search for TESC Gas Control - Displayless handset pairing (to enable to be paired again) and you should find them.

2.8 Using the Standard non display handset

Hold the handset as shown, wrapping your hand around the handset touching both sides. In a second or less a the green unlock light will illuminate, allowing the buttons to work when pushed.

(NOTE: If the green light is not lit steady green or not lit at all, the buttons will not be operable).



Press and hold in the power symbol button(for about two seconds) and release immediately after the red light comes on. The fire will then light.

(NOTE: Releasing too soon or too long after the red light illuminates, results in the fire not lighting, this is for safety reasons as it assumes the button press was not intentional.)



Once lit, to adjust the flame, hold the handset to illuminate the green light (to enable the buttons to work).

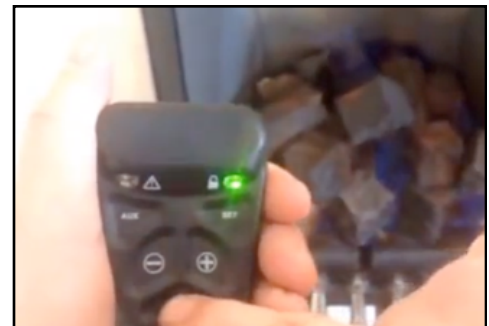
Press and the - button to reduce the flame. Press the + button to increase the flame.

Taping the buttons steps the flame height, holding skips through the flame step positions.



To Stop the fire, hold handset to unlock the buttons and then press the power button. The fire stops almost immediately.

The red light will flash for a few seconds while the fire is shutting down. Allow the red light to stop flashing before pressing the power button to start again.



There is a video available on youtube to watch this procedure, find it by inputting TESC Gas Control - using Non Display Handset into youtube.

3.0 Important information for installers

NOTE: Unless otherwise stated in your user book, the following section is intended to be used by a suitably qualified person.

IMPORTANT USER INFORMATION – AFTER INSTALLATION BY THE ENGINEER , READ THIS BEFORE ATTEMPTING TO OPERATE THE FIRE

NOTE: The handset is supplied paired to the Gas Control. Do not alter the pairing. The handset is designed to be not too easily operated by accident for safety reasons.

Pressing the power button is deliberately not as easy as it appears for safety reasons. Please read the section on operating the handset to understand this and then explain to the user. Youtube videos are available to help understanding by search TESC gas Control.

If for any reason the pairing has been altered, then the handset will not work. The handset needs to be reset and paired again. See section on how to do this.

Insert good batteries into the Gas Valve on the fire and handset, as indicated inside each battery compartment, ensuring correct orientation of the batteries. Ensure the isolation switch (at the top left corner of the gas control) is in on (I) position.

Section 3 – Gas Engineer Servicing information

Why does my fire not light?

Most common reasons are:-

- * Batteries need replacing (See earlier sections)
- * Batteries not in correctly
- * Contamination of battery contact from bad batteries
(Clean contacts or replace valve if too damaged)
- * Contamination of pilot (see section below)
- * Contamination of valve from gas pipe particles
- * Faulty gas supply
- * Faulty thermocouple or connections
- Gas supply contains particles blocking gas flow through the

3.1 System operation explanation

The Gas control valve is one components contains the gas valve, control electronics, ignition unit and battery box. It is a full sequential ignition system(with no standing pilot). It utilises both a conventional thermoelectric thermocouple and electronic flame sensing for its operation. The ignition phase (first 15-30 seconds) is without the thermocouple in circuit and then after this time the thermocouple holds the valve magnet open as a convention system.(If the burner stays lit for only this time period then the is a sign of no or insufficient thermocouple current reaching the valve.). The electronic flame sensing is also constantly in operating while running. It is therefore important that the pilot flame is in good order and both the thermocouple and electrode tip are immersed within the pilot flame and the ignition cable is undamaged and connected well to the valve.

The handset is merely another wires way of effectively pressing the operation buttons on the valve. The handset is not the control. Check the fire works ok using the manual buttons on the valve first when doing any problem solving.

Start from the valve being in standby position. In standby the red light on the valve should be off and the fire burner also off.

Press the power button (the one like a part circle with a line through it) and hold for a second or until the red light near the button comes on, then release. This should start the start sequence. Within a few seconds the valve will start to produce a spark at the electrode

a) The fire may make 3 automatic up to attempts to light the fire. Each ignition cycle takes between 15 and 30 seconds with a pause of typically 10 seconds in between each cycle. It is not a FAULT if it takes several automatic attempts to light the fire. Each fire and installation is unique and may be the reason for this.

b) If the fire does not light within the automatic cycles period, E00 will appear on the handset and the RED light on the valve will stay permanently lit (indicating a valve lockout). To reset the "lock out", press start as a normal start attempt and release, the red light will stop flashing to show it is in normal standby position. Try lighting the fire again.

c) If this persists and the fire keeps going to lockout refer to the cleaning and maintenance section as the fire may have become contaminated with debris and this will need cleaning to restore good operation.

- The fire does not light and or :-
 - There is an error code "E **" (* a two digit number) displayed on the handset. (usually E07 or E06, but it can be any error code if the batteries are very low)
 - The red LED light on the front top left corner of the valve is flashing like a heart beat.
 - The display handset has a graphic in the middle at the bottom. This represents the battery health. The display shows some times RC and sometime FC next to it. FC is indicating the condition of the batteries inside the valve. It has 3 parts to the graphic. A full graphic means the batteries should be ok. If 2 parts full it's a sign that maybe your batteries need changing soon and if one part then the batteries will be requiring changing very soon.
N.B. This display is not definitive and it is possible it may give indication the battery is ok when it isn't. This is down to the way in which the batteries behave when they are approaching empty. In case of any doubt over batteries, change them for known good ones.

Check trouble shooting section and error codes section for further information

3.2 Error codes

Error codes are to assist in diagnosis of why the fire cannot start. They appear if the control detects abnormal conditions with the fire, either in environment, in installation or components or internal the electronics. (If you do not have a handset with a display that shows the error codes, then checking for the faults below are still valid. The illumination of the red indicator light show the valve is in error see 1.4 on page 5).

Note : To reset any error code, press and the power button  on the valve.

False error can be reported if the batteries are faulty or lack enough power to operate the valve.

Following table shows possible error codes, their meaning and what to check.

E00 - Explanation

This is the only code where the red indicator stays permanently lit without flashing (on newer models the indicator will dim after a few minutes to save battery power).

E00 occurs after attempting (but failing) to light after all automatic start cycle(s). If this happens it is a sign that the electromagnet within the valve has not received enough power from the thermocouple at the end of the start cycle(s). The main burner may light for 15 to 30 seconds on each start cycle but then go off.

Possible reasons:

Thermocouple - Not being heated or heated quickly enough:-

* No gas at all to pilot /main burner-

* Check gas supply is on and supply pipes for contamination that may be blocking gas flow to the valve inlet.

* Pilot pipe from valve to pilot blocked

* Pilot injector blocked.

* Pilot head damaged or contaminated (See fig xx) stopping good flame heating thermocouple.

* Debris from fire ceramics out of position or causing carbon deposits to contaminate pilot.

* Small pilot hole blocked by lint (see fig xx)

* No Spark at electrode, tracking out somewhere (i.e. damaged isolation, spark gap too wide, damaged electrode – crack in ceramics, dirt or soot on electrode (causing tracking out) or ceramic body of electrode, see page 23)

* Flame is not touching the spark electrode. (The electrode needs to be in the flame as the valve is sensing the flame through the electrode and cable in addition to the thermocouple).

* Flame signal shorted out. This can occur if any liquids (i.e, leak detection spray) has been used and contaminated the area of the pilot terminals connection or inner workings of the valve.

* Spark cable is open circuit (spark may be present as it can jump gaps but if there is a break in the cable or if inner metal terminal under ignition cable plastic terminal cover on valve is not in good contact with the high voltage outlet connection terminal on the valve, then valve will not continue after ignition cycle as no sensing current is reaching the valve. Another sign of this fault is the control may light the pilot but not the main burner and will not stop sparking, as it has not detected a flame.

* Thermocouple is aged or damaged and is not producing enough output

* The insulation on the thermocouple wire is damaged (i.e on a sharp edge) and the electrical current is shorted to chassis metal).

Note: If stop is pressed during a start cycle, E00 may also be generated. This is normal and not a failure condition.

The valve can attempt self fix issues. When an E00 code has been displayed this will initiate a recalibration of the internal valve mechanics to compensate possible deviations due to contamination, ageing and so on. If the fire does not light on the first cycle, allow the valve to complete its automatic recycles to enable the valve to go to E00 to recalibrate. Reset Error and try again.

E01

Meaning - This error is intended to indicate that possibly the content of CO is too high in ambient atmosphere.

This error will usually be generated when there has been a good electronic flame signal, but the temperature of the couple was once hot enough but then become cooler.

Possible reasons:

- * Problems with chimney or room air inlets (insufficient air circulation)
- * Unstable pilot flame (i.e. wind, insufficient thermocouple couple position)
- * Contaminated pilot, giving poor flame that heats thermocouple)
- * Poor position of Ceramic parts (i.e. coals logs or matrix)
- * Intermittent failure in Thermocouple (only when hot) Inner wire in head maybe making contact when cold but not when hot).

E02

Meaning - Ambient around Gas valve in the fire too hot (exceeded 72°C).

Note: This error protects the fireplace and the valve from excessive temperatures.

Possible reasons:

- * Faulty installation of fire (not sealed in correctly in fire opening).
- * Problems with chimney (insufficient air circulation)
- * Poor position of Ceramic parts (i.e. coals logs or matrix)

Note: Batteries do not tolerate well high ambient temperatures, eventually this could cause them to leak and damaging the valve and new valve will be required and is not covered by any warranty. Typically the maximum temperature for alkaline batteries is 50 C.

E03

Meaning - Thermocouple connection to valve issue. Incorrect reading from thermocouple.

Possible reasons:

- * No Thermocouple connected
- * Thermocouple connection reversed / connected incorrectly (see fig xx for correct connection)
- * Insulated thermocouple wire shorting to chassis earth (damaged insulation).
- * Damaged or defective , worn out thermocouple

E04

Meaning - Flame detected on pilot **after** valve has **shutdown**.

Possible Reasons:

- * Carbon or soapy / conductive contamination on spark electrode.
- * Combustable material burning on pilot near electrode (Carbon deposits etc),
- * If Easytest box used :- simulate flame switch not operated correctly

E05

Meaning - Flame detected on pilot **before** valve has **started** .

Possible Reasons:

- * Carbon or soapy / conductive contamination on spark electrode.
- * Combustable material burning on pilot near electrode (Carbon deposits etc),
- * If Easytest box used :- simulate flame switch not operated correctly

E06 & 07

Meaning - Occurs when supply voltage is too low to operate the valve.

Possible reasons:

- * Batteries are completely flat(may display random error codes in this case not just E06 and 7).
- * Damaged battery contacts (dirty, corroded, bent so not making strong contact with batteries)
- * Short circuit in external wiring or connected accessories (i.e. wired control panel, cable shorting to chassis earth.)
- * Defective power plug power supply (if used) or damaged wiring to it.
- * Contact problem of slide switch (moving on/off..on/off several time may clean contacts)
- * Batteries not in correct way around

E08, 09, 10, 51

Meaning - Rises when a device connected to the TESC extension socked do not work correctly.

Possible reasons:

- * If nothing connected: are links are missing, in wrong position or bad contact(see photo xx)
- * Failure in extension module connected to extension connector(if used, see photo xx)

E11,12,13,18, 25, 28, 29, 30, 31, 33, 36, 44, 45, 63

Meaning - Not applicable - only should occur during valve manufacturing and reserved for future use.

E14,15,16,17

Meaning - Occurs when buttons on valve (or wired control panel) do not work or are not wired correctly

Possible reason:

- * Buttons are sticking or blocked
- * Buttons are damaged
- * Cable damaged or short circuit to ground (wired control panel)

Note: disconnect wired panel (if applicable) and test again to determine the root cause
For correct way to connect cable see photo xx)

E19,20,27,50,54,57,58,59,60,61

Meaning- Occurs when internal CPU diagnostics runs self tests and returns invalid results

Possible reason:

- * EMC problems (in this case, twist ignition cable around thermocouple wire several times to quench radiated EMC emissions)
- * Spark track out somewhere but not at electrode creating unusual interference

E21,22

Reserved for later use.

E23

Meaning - Vale performed 40 000 start operations

- * End of life – raises when valve proceed more than 40.000 burner starts (40000 is over 15 years life based on 7 starts a day every day for 15 years.

E24

Meaning - Occurs when thermocouple does not reach its final temperature within 1 minute

Possible reasons:

- * Aged thermocouple
- * Thermocouple wire insulation damage and shorting to metal chassis.
- * Problems with chimney or room air inlets (insufficient air circulation)
- * Unstable pilot flame (i.e. wind, insufficient thermocouple couple position)
- * Contaminated pilot, giving poor flame that heat thermocouple(see section on pilot)
- * Poor position of Ceramic parts (i.e. coals logs or matrix)

E26

Meaning - Occurs when a power supply with wrong pinning is connected to the USB-socket

E32,43,46,47,52,53,55,56,62

Meaning - Occurs when a self test procedure of the valve electronic fails.

Possible reasons:

- * Completely flat batteries
- * Liquids inside electronic (i.a. after leakage test with soapy water)

E33,34,35,37,38,39,40,41,42

Meaning - Occurs when internal piston is having trouble moving.

Possible reasons:

- * Contamination of valve in- outlets with debris from supply pipe or other.
- * Mechanical damage of the valve

Note: After cleaning etc, before resetting these error codes allow the fire to cool down. Upon starting the valve will reinitialise and perform a self recalibration and needs to be cold when doing this recalibration.

Note: If the valve needs replacing, check the pipework for contamination to avoid repeated problems.

E48

Meaning - Occurs when the control detects a short circuit of the couple

Possible reasons:

- * Thermocouple connection reversed / connected incorrectly (see fig xx for correct connection)
- * Insulated thermocouple wire shorting to chassis earth (damaged insulation).
- * Damaged or defective , worn out thermocouple
- * Weak connection of thermocouple to valve

E49

Meaning - Occurs when the control senses a false flame signal on electrode

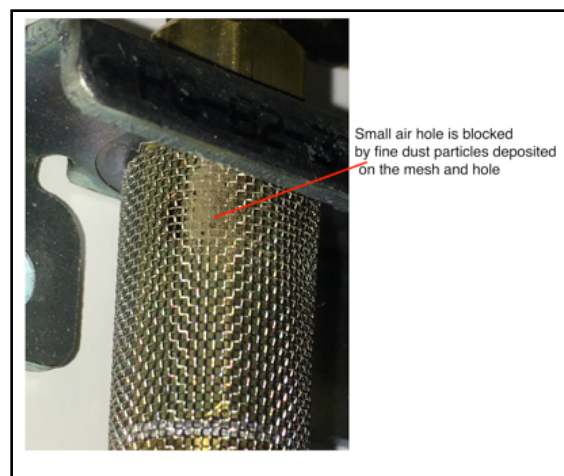
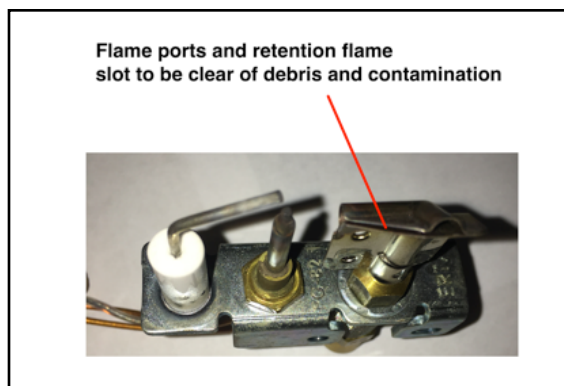
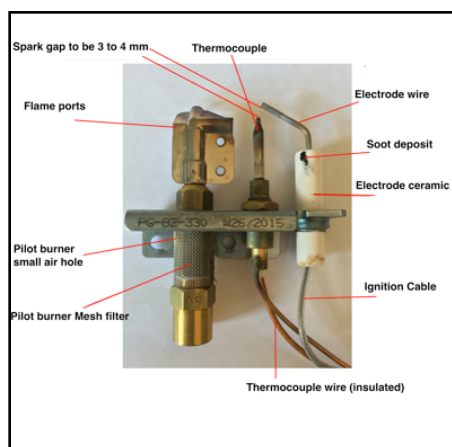
Possible Reasons:

- * Contamination of the electrode with carbon deposits, conductive liquids(leak detection spray) or similar.
- * Contamination of the rear of the valve where the thermocouple and ignition cable connect to the valve with conductive liquids(leak detection spray) or similar.

Note: It is critical to avoid leak detection fluid to contact any part of the valve other than the threads where the pipe connects. Leak detection fluids are highly corrosive and will damage any electronics they come into contact with. Other forms of leak detection should be used.

3.3 Pilot information and servicing-

Usually changing the pilot every 12 months forms a part of any warranty a fire may have as it is a critical part for safety and continued good operation. Cleaning of the pilot may be necessary more frequently than the yearly service depending up on the fire and the installation itself.



Things to check

- A blockage in the gas pipe to the pilot or the injector inside the pilot.
- A contaminated pilot assembly
 - Note: The pilot MUST be changed on every annual service of the fire to ensure safe and trouble free operation of the fire. The pilot is an integral part of the safe operation of the fire. They are date coded to enable tracking of the age of the pilots. Your warranty will be void if this component is not changed every 12 months.
 -
- Cleaning the pilot in between full fire annual service.
 - The pilot must be kept clean of any debris, dust or contamination. If it is not then the fire will not light very well and may not light and run at all.

Electrode

The electrode in consists of an ignition cable, white ceramic body and a wire tip. These parts must be kept completely clean. Using a new and unused dry paint brush to sweep away contamination is the best tool to use. (Note on photo above there is a soot deposit shown as an example of carbon contamination that can occur. This does not look much but as carbon is conductive, the spark may track out via such deposits and so not light the pilot gas flame).

If ignition cable insulation becomes damaged, this will also cause the spark not to reach the pilot burner, preventing ignition.

Pilot small air hole

The pilot small air hole (see Photos) can become contaminated from the room environment. The dust can be very hard to see but even a small amount in this area can stop the fire from igniting. When in operation, the chimney and the fire suck air from the room at low level and drag into the fire all dust and airborne particulates from the room. How quickly this happens depends on the room furnishing etc.. Cleaning of the pilot may be required more than once a year in some cases, others may take several years before this gets blocked.

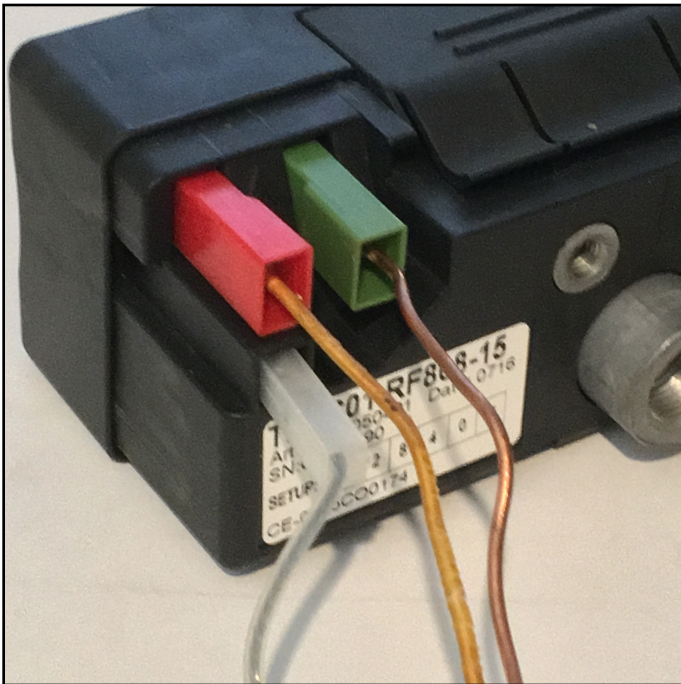
If the small air hole is covered with a mesh, it can be rotated and a clear area of mesh may then be over the hole. Cleaning the mesh and hole clear of dust or fluff etc. is essential.

The pilot is an important The sensitive part of the pilot is the small air holes of the side of the pilot as shown in Figure 1. This photo shows a pilot that has a mesh filter over the hole (some do not have a mesh filter). If the hole or mesh filter become blocked even with a little microscopic dust particles or lint or fluff, this will stop the flame from lighting and or burning properly and so prevent good ignition of the pilot and consequently the main burner.

Cleaning this area using a fine clean and dry paint brush and a gentle vacuum cleaner may resolve the problem.

The fire can produce small pieces of carbon (soot) if the artificial coals are not placed correctly or if they have moved during use or if there is a problem with the fire burner and chimney. This soot is conductive to electricity and so if it deposits near the electrode or on the electrode itself, it will short out the spark or make the spark take a path that lead to the gas not being lit. Cleaning the pilot of contamination as described above, should resolve that issue.

3.4 Other useful information



Correct position of thermocouple and connections on the valve.

Battery indicator display

Examples of the battery indicator- the display toggles between FC and RC (FC is the battery condition in the Fire Control valve and RC is the battery condition in the Remote Control handset).



Battery symbol showing 3 bars showing batteries in fire control(FC) valve are ok. When showing RC it shows handset battery condition.

Usually ok to use until 1 bar is showing, if in doubt change the batteries.

Note: pairing is not lost if batteries are dead or removed. To restore time see relevant section.



Battery symbol showing no bars RC. This means the batteries in the remote control need changing.

If showing FC then batteries in gas fire valve need replacing.

If fire does not light, its best to change the batteries for known good ones before doing anything else.

Leaking batteries

N.B. If batteries leak and damage the valve, this is not a fault of the valve or gas fire. it could be a sign of overheating that can be caused by poor fire air supply.

Also ,almost all batteries will leak eventually if the are allowed to go totally flat and are then left within any type of electronic devices. In order to prevent this, the batteries should be changed before they are completely empty and in any case every 12 months if they last that long (as preventative to guard against this happening).

N.B. Although any AA alkaline battery brand can be used, some are better than others. We recommend Energizer batteries as they have good power storage and claim they are more resistant against leaking.



3.5 Where to obtain spares

All spare parts can be obtained from the manufacturer of the gas appliance the model of the appliance must be given so the gas valve can be correctly rated in the factory

3.6 Where can i find more information

From the gas fire manufacturer website and youtube when searching for TESC gas control.

