



L-Flame

Trouble shooting if error message 'Fail Safe triggered' or other error messages are being displayed:

Firmware L-Flame Pump Station V2.25 or newer and L-Flame Flame Head V2.20 or newer. Older versions may differ in detail with regard to the displays. In the first versions, only error codes were displayed.

1. Pump Station

If a fault occurs in the Pump Station, the system is always put into a safe state, called Fail Safe. This ensures that no damage can occur to the device and that there is as little danger as possible from the devices.

When the Pump Station goes into a safe state, the following happens:

- The pressure accumulators of the Flame Heads are drained and depressurized, provided the fuel tank is not overfilled.
- The internal system of the Pump Station is depressurized, provided the fuel tank is not overfilled.
- The device displays 'Fail Safe triggered' and a more detailed and very important error message.
- The device must be switched off and on again to end the safe state.
- If the error occurs again, the device enters Fail Safe again.

1.1. Timeout Pump Duration (formerly error code 1):

This is being displayed one after another:

Fail Safe
triggered!

Timeout Pump
Duration

Battery fully
charged?

See user manual
how to proceed!

↑ = Pump out
Tank

The programmed pressure cannot be reached within a certain time. The pumps have been switched off to prevent damage to the battery and the pumps.

Please check:

- Is there enough fuel in the tank?
- Is the battery fully charged? The power consumption of the pumps is very high!
- Charge the Pump Station battery whenever possible.
- A full battery charge takes at least approx. 14 hours. Charge the battery fully before every show. One battery charge is sufficient to pressurize approx. five times the tank volume and pump it to the heads.

If the battery is too empty, you can also hear this in the pump noise. The pumps then struggle to reach the pressure and run at a lower speed.

1.2. Internal pressure loss! Leakage? (formerly error code 2):

This is being displayed one after another:

Fail Safe
triggered!

Int. pressure
loss! Leakage?

See user manual
how to proceed!

↑ = Pump out
Tank

There was an implausible pressure loss in the Pump Station.

You need to do:

- Check for damaged hoses and connections.
- Check whether there are any leaks.
- If in doubt, stop operating the devices.
- You can switch off the leakage monitoring, but this is not recommended for safety reasons.
- If you switch off the leakage monitoring and the pressure cannot be kept stable, if there is no consumption, there is probably a defect in the form of a leak. Send the device to the manufacturer for repair if the problem cannot be rectified.

Particularly with relatively new device, it has happened that a production-related metal chip has come loose and caused a pressure loss at a non-return valve, for example. Filters prevent the entry of foreign objects from outside.

1.3. Tank overflow, lower sensor (formerly error code 3):

This is being displayed one after another:

Fail Safe
triggered!

Tank overflow,
upper sensor

See user manual
how to proceed!

↑ = Pump out
Tank

Please check:

- Is the tank too full?
- Has the device been moved or tilted so that the fuel in the tank sloshed to the side? This can trigger the overflow sensor.

Make sure that the Pump Station is not moved or tilted and that it is level.

Make sure that there is not too much fuel in the tank.

Do not fill the tank if the system is under pressure. This can result in the tank may become too full when the pressure is discharged.

In this state, it is possible to pump out the tank. Please follow the user manual in this case.

1.4. Tank overflow, upper sensor (formerly error code 4):

This is being displayed one after another:

Fail Safe
triggered!

Tank overflow,
upper sensor

See user manual
how to proceed!

↑ = Pump out
Tank

Please check:

- Is the tank too full?
- Has the device been moved or tilted so that the fuel in the tank sloshed to the side? This can trigger the overflow sensor.

Make sure that the Pump Station is not moved or tilted and that it is level.

Make sure that there is not too much fuel in the tank.

Do not fill the tank if the system is under pressure. This can result in the tank may become too full when the pressure is discharged.

In this state, it is possible to pump out the tank. Please follow the user manual in this case.

1.5. Fuel in drain tray detected (formerly error code 5):

This is being displayed one after another:

Fail Safe
triggered!

Fuel in drain
tray detected!

See user manual
how to proceed!

↑ = Pump out
Tank

You need to do:

- Stop using the device.
- Check for leaks.
- To drain the fuel in the drip tray, you can unscrew the two front housing feet. The threaded holes serve as a drain opening.
- Send the device to the manufacturer for repair.

1.6. Emergency Off contact open (formerly error code 4):

This is being displayed one after another:

Fail Safe
triggered!

Emergency Off
contact open!

See user manual
how to proceed!

The device has detected an open contact at the emergency stop input. For safety reasons the safe state has been triggered. The flame heads are no longer supplied with power in order to ensure safety.

You need to do:

- Connect your emergency stop switch here. Unlock this when safe operation is guaranteed and only then switch the device on.
- For non-critical operating phases, you can plug in the jumper plug instead of the emergency stop switch.

2. Flame Head

2.1. Pressure loss in hose and head:

This is being displayed one after another:

Fail Safe Cond.
Error code 1

Pressure loss in
hose and head!

Leakage?

The Flame Heads monitor the hose to which they are connected and their internal system for implausible pressure losses. Such an event has been detected.

This needs to be done:

- Check for damaged hoses and connections.
- Inspect for leaks.
- If in doubt, stop operating the devices.
- You can switch off the leakage monitoring in the Flame Heads, but this is not recommended for safety reasons.
- If you switch off the leakage monitoring and the pressure cannot be kept stable, if there is no consumption, there is probably a defect in the sense of a leakage. Send the device to the manufacturer for repair if the problem cannot be eliminated.

2.1 Ignition terminated, minimum pressure reached

Ign. terminated!
Min. Pressure!

The Flame Heads monitor the pressure before and during flame generation. If this pressure is too low, a lot of fallout occurs. To prevent this, the Flame Head purposefully switches off the flame generation.

Please check:

- Is a sufficiently high pressure set at the pump station? If the pressure is too low, this leads to fallout and shutdowns.
- If you see this error message, it is usually because you have overloaded the system by triggering it too long and too often. The pumps were then no longer able to pressurize enough fuel to the required level and deliver it to the flame heads.
- Also check whether the hoses and connections are in order.
- Inspect whether there are any leaks.
- If in doubt, you may no longer use the head and the hose.

2.2 Message 'No system pressure'

```
Fire CH:      XYZ  
No system press.
```

No flame was generated because there is no system pressure.

If you see this message, please check the following:

- Is the Pump Station tank sufficiently full?
- Is the pressure control at the Pump Station switched on?
- Does the Pump Station display a plausible value for the actual pressure?
- Are the hose and the data line connected correctly?

2.3 Message 'Ignition terminated!, Ignition Coil Failure'

```
Ign. terminated!  
Ign. Coil Fail.
```

The device measures the energy consumption of the ignition coils. If this is very low and therefore implausible, an error message is displayed if monitoring is switched on.

This function is a new feature. Previously, the user had the option of switching the function on and off. As there were some unjustified deactivations, it was decided not to release the function in newer firmware for the time being until we have more data on meaningful deactivation criteria. If you find a menu item for deactivation in the menu, you can switch off this monitoring function at any time.

2.4 Message 'Ignition terminated!, No flame detected'

```
Ign. terminated!  
No flame detect.
```

This message is displayed if the flame monitoring is switched on and the optical flame monitoring in the flame head has not detected a flame.

Please check:

- Does the flame burn well and intensely when triggered?
- Is there sufficient system pressure?
- Is the measuring window (the small glass window in the LCD housing) clean, dry and free of grease?

In heavy rain, you may have to switch off the flame sensor system to enable operation. In this case, be particularly careful and monitor the devices very carefully. You should switch the flame sensor back on when conditions permit.

If problems persist, please contact us for repair or troubleshooting.

2.5 Message 'Ignition terminated!, Device tilted!'

```
Ign. terminated!  
Device tilted!
```

The tilt angle was out of tolerance. Please follow the instructions in the operating manual. Set the desired tilt angle and the tolerance correctly.

Strong shocks or vibrations can cause the inclination to be measured incorrectly. In such cases, you must switch off the tilt sensor. In this case, you must monitor the devices very closely to ensure that they are correctly mounted or correctly positioned. However, you should switch the tilt sensor back on again if circumstances permit.

A very narrow tolerance can easily lead to shutdowns. Therefore, check whether you can increase the tolerance slightly in your application.

2.6 Message 'Fire Channel: XYZ, No system pressure'

```
Fire CH:      XYZ  
No system press.
```

A flame cannot and must not be generated because there is insufficient system pressure. The flame head is therefore blocking flame generation.

Please check:

- Is the pump station tank sufficiently full?
- Is the pressure control on the pump station switched on?
- Does the pump station display a plausible value for the actual pressure?
- Are the hose and the data line connected correctly?

If none of these solutions works for you, we will be happy to help you by phone or e-mail.

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