

TGAES Frequently Asked Questions

What is the TGAES gas detector?

The TGAES is an open path infrared detector for combustible gases. There are two components, the receiver and the transmitter. The Transmitter is a flashing Xenon lamp that ensures communication with the receiver. The distance between the receiver and transmitter can be up to 200 meters. When the receiver and transmitter are aligned, any gas cloud that passes in the line of path of the aligned TGAES will be detected and reported as a concentration of LEL *meters.

How can the TGAES be aligned?

The TGAES can be aligned via RS485 and the alignment software and via HART using a HART Communicator.

What are the alignment procedures?

The detailed alignment procedures can be found in the operation manual of the TGAES. A detail explanation of each alignment procedure can be found there. If there are any questions, contact ESP Safety's technical support team.

What are the recommendations for TGAES installations?

The installation of the TGAES will be determined on the type of gases present at the facility. For lighter than air gases, a TGAES-Methane is recommended, and installation should be above the possible location of gas leaks. For heavier than air gases, a TGAES-Propane is recommended, and the installation should be about 18 to 24 inches above the ground.

What is the warranty of the TGAES?

The factory warranty for the TGAES is 3 years from date shipped.

How to avoid condensation inside the lens of the transmitter and receiver?

The TGAES terminal boards are properly sealed, however, the wiring conduit entries can be a source for condensation if not properly sealed. Using the proper stainless-steel plugs and also adding a sealer such as Teflon tape on the NPT threads will help eliminate the ingress of any water that may cause the condensation inside the receiver and transmitter.

Does the TGAES have any heating elements to avoid condensation?

Yes, the TGAES has internal heaters that will automatically activate when the preset temperature is reached. The heaters will be activated to avoid any ice build up on the lens or condensation forming in the lens, which can block the beam and affect the signal levels.

How long can something or someone block the path of the TGAES before the TGAES blocked fault alarm is activated?

The TGAES can be blocked for 15 seconds before declaring a Fault blocking alarm. If something or someone stays in front of the TGAES blocking the signal for more than 15 seconds, then the TGAES will alarm that something is blocking the signal. Once the path is cleared, the TGAES will return to normal conditions after 15 seconds.

What conditions can be interpreted when the TGAES is in Fault mode?

The TGAES can be in fault mode, when the TGAES is out of alignment, something is blocking the path, signal saturation-signal levels are too high, no signal is being received from the transmitter due to a non-flashing lamp.

For alignment fault, perform the alignment procedure with the acceptable signal level range of 40-80%. If the alignment is correct, but the signal level reach 100% then the transmitter will need an aperture plate to reduce the light intensity of the flashing source. Install an aperture plate on the transmitter and re-align to get the signal level 40-80%.

If something is blocking the line of sight between the receiver and transmitter, remove what may be blocking the line of sight.

If the transmitter is not flashing, ensure that it is receiving 24VDC from the power supply. If the transmitter is not flashing when the received input voltage of 24VDC is verified, contact the factory.

Does the TAGES needs to be calibrated in the field?

No, the TGAES open path gas detector is only calibrated at the factory. The TGAES can be tested using a glass test filter that simulates a gas concentration to check the response of the TGAES.

How to test the TGAES in the field using the glass test filter?

The operating manual has a detailed description for testing the TGAES using the glass test filter. The procedure consists of setting the receiver in testing mode by activating it using the magnetic wand, then placing the glass test filter in front of the receiver lens. The receiver will then detect a concentration in LEL*meters which will increase proportional to the analog current of 4-20mA range for the range of the TGAES of 0-5LEL*meters. Once the response has been verified, the glass test filter is removed from the receiver lens and the magnetic wand is used again to return the TGAES to normal operating mode.

What if the mA current signal is not received in control room, but the mA output at the field device is outputting the correct value?

If the device in the field is sourcing the correct mA output value, but the input controller or PLC is not sensing the analog signal, then current isolator may need to be added in the controller for the signal to be received. The TGAES is sourcing current.

Do the receiver and transmitter need independent power supplies?

The receiver and transmitter are installed at a distance. Each one of them is powered by 24VDC individually.

Do the TGAES receiver and transmitter need junction boxes?

No, the TGAES receiver and transmitter have the terminals inside of the devices and no not need additional junction boxes.