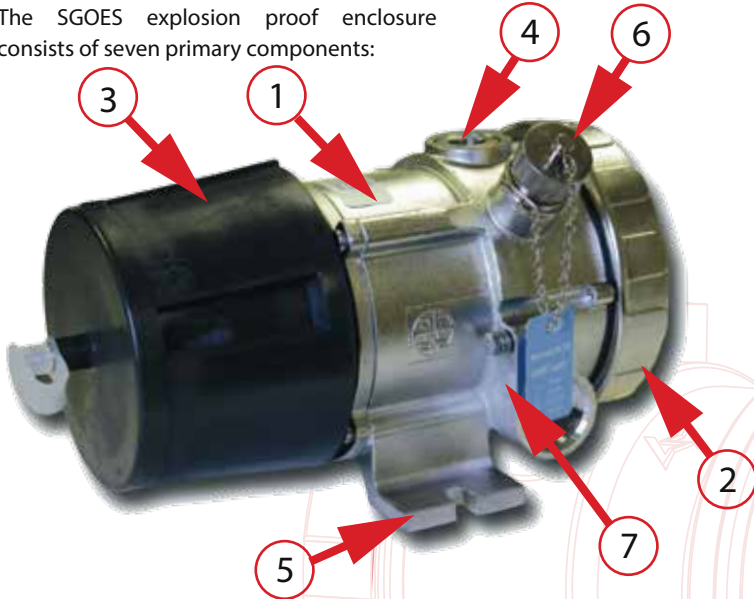


## SGOES ENCLOSURE

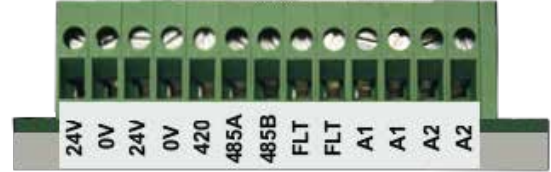
The SGOES explosion proof enclosure consists of seven primary components:



1. Detector housing
2. Threaded rear cover
3. Removable baffled weatherproof protective cover
4. Tri-color status LED indicator
5. Integral mounting bracket
6. HART communication port
7. Earth ground connection point

## WIRING TERMINAL IDENTIFICATION

Identification and description of wiring terminations on the SGOES terminal block:



Terminal No	Label	Description
1	24V	+24V DC (DC power input)
2	0V	System Ground
3	24V	+24V DC (DC power input)
4	0V	System Ground (common)
5	420	+4-20mA (current output signal)
6	485A	RS-485 A (Modbus RTU output signal)
7	485B	RS-485 B (Modbus RTU output signal)
8	FLT	Fault alarm relay, pin 1 (NORMALLY CLOSED when energized. NORMALLY OPEN at Fault or when de-energized)
9	FLT	Fault alarm relay, pin 2 (NORMALLY CLOSED when energized. NORMALLY OPEN at Fault or when de-energized)
10	A1	Alarm Relay 1, pin 1 (NORMALLY OPEN)
11	A1	Alarm Relay 1, pin 2 (NORMALLY OPEN)
12	A2	Alarm Relay 2, pin 1 (NORMALLY OPEN)
13	A1	Alarm Relay 2, pin 2 (NORMALLY OPEN)

## INSTALLATION

**STEP 1:** (Optional) Securely mount detector using the supplied hardware.  
**Detector must be oriented horizontally.**



**STEP 2:** Remove one explosion proof conduit plug using the supplied M16 hex wrench.



**STEP 3:** Remove the threaded rear cover exposing the wiring terminal block



**STEP 4:** Attach conduit gland (user supplied) to 3/4" threaded opening on detector body. Adapt as necessary to user's conduit size, using standard industry practices.



**STEP 5:** Wire as necessary for user's system configuration. Refer to Wiring Terminal Identification chart (above).



**STEP 6:** Re-attach the threaded rear cover



## NON-INVASIVE MAGNETIC WAND CALIBRATION

Non-invasive, field calibration of the SGOES detector is possible with the use of a magnetic calibration wand, which is included with every SGOES shipment. This is a convenient method of re-establishing the zero setpoint of the detector without removing the unit from the field.

**Magnetic field calibration can only be performed with the same calibration gas (type and concentration) used to establish the factory settings for the detector. Standard gases used to establish factory setting for the SGOES detectors are methane and propane. Prior to magnetic field calibration, determine the proper calibration gas and concentration. To change calibration gas type or revise the detection setpoints, refer to SGOES Operation Manual.**

### REQUIRED EQUIPMENT FOR NON-INVASIVE MAGNETIC CALIBRATION

- 1/4" dia flexible tubing
- ESP Safety zero gas and span gas (please follow proper disposal methods for cannisters)
- ESP Safety magnetic calibration wand
- Calibration cup (labeled 'For Calibration Only')



## NON-INVASIVE MAGNETIC WAND CALIBRATION PROCEDURE

**STEP 1:** Replace the standard weatherproof protective cover with the calibration cup. Secure one end of the flexible tubing to the calibration cup and the other to the ZERO gas cannister.



*The magnetic switch is located on the right side (when facing the front) of the detector housing, just to the left of the ESP logo*

**STEP 2:** Apply the ESP supplied magnetic calibration wand to the ESP Safety logo on the detector housing until the LED status light appears FLASHING GREEN. This indicates that the detector is in calibration mode and that all output signals are blocked. Remove calibration wand.



Open the valve and apply the zero gas at a rate no more than 0.5 l/min. Apply gas for a minimum of 1 minute.

**STEP 3:** Apply the magnetic wand to the ESP logo. The LED status light will appear FLASHING RED. This indicates that zero calibration is completed.



Close zero gas valve. Remove calibration wand.

**STEP 4:** Replace ZERO gas with CALIBRATION GAS (span gas). Open valve and apply the calibration gas for 2 MINUTES at a rate of no more than 0.5 l/min.



Apply the magnetic wand to the ESP logo. The LED status light will appear SOLID RED. This indicates that span calibration is completed.

Close calibration gas valve. Remove calibration wand.

**STEP 5:** Remove the calibration cup from the SGOES detector. After approximately 1 minute, the status LED light will appear FLASHING GREEN



**STEP 6:** Apply the magnetic wand to the ESP logo and remove.

The LED status light will appear SOLID GREEN. This indicates that the SGOES detector is now in operational mode and that the output signals are enabled. Replace the weatherproof protective cover on the detector.

