Quickstart Guide

GASMAX II + GDS-IR Gas Monitor

GDS Corp
Gas and Flame Detection

INSTALLATION

IMPORTANT - Before installing the GASMAX II + GDS-IR, make sure there are no toxic or combustible gases present. Declassify the area if necessary.

Factors such as air movement by fans, prevailing winds, convection, gas density, emission sources and environmental variables should be taken into account when determining sensor location. As with all sensors, the GASMAX II + GDS-IR should be protected from falling or directed water, shock, vibration and dirt.

The GDS-IR sensor may be mounted either horizontally or vertically (preferred). If mounted horizontally, make sure the GDS-IR is protected from dripping water.

Use conduit and installation practices approved for the area classification. When installed correctly, the GASMAX II + GDS-IR is certified for use in areas rated Class 1, Div 1, Groups B, C & D.

POWER & 4-20mA WIRING

The GASMAX II power supply board is attached to the inside of the explosion-proof housing (see Figure 1).

Connect the +DC power wire to TB2 pin 1. Connect the –DC power to TB2 pin 4. DC voltage range is 18 to 30 VDC.

The 4-20mA output signal is available at TB2 pin 3. If an optional toxic sensor is also connected to the GASMAX II, the toxic sensor 4-20mA output is available on TB2 pin 2.

Optional Relay / RS-485 DIGITAL WIRING

The optional GASMAX II Alarm Relay / MODBUS interface board is attached to the back of the GASMAX II display assembly.

RS-485 MODBUS wiring should be attached to TB2 pins 1 & 2. Attach the signal shield wire to TB2 pin 3. **NOTE**: RS-485 is polarity-sensitive and the wires on pins 1 & 2 may need to be swapped for proper operation. If wiring in a “daisy chain”, terminals 4 & 5 are available for outgoing RS-485 wiring.

If necessary, select Jumper 1 (J1) position “A” to enable the RS-485 termination resistor. This is typically done on the device furthest from the RS-485 master controller.

Wiring for the three alarm relays is available on TB1. The normally open, common and normally closed contacts are rated at 5A / 125VAC. Inductive loads should be protected by a reverse biased diode or other transient suppression device.

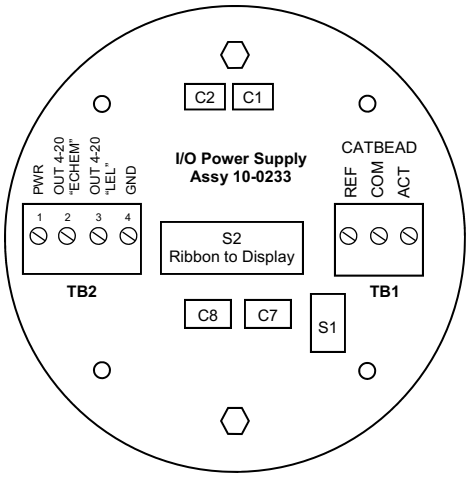

Fig 1. GASMAX II Power Supply Board

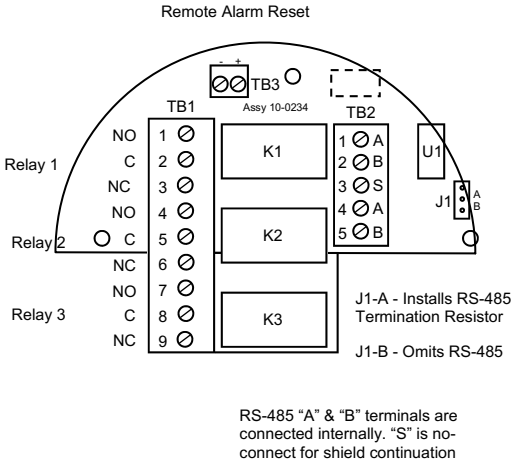

Fig 2. GASMAX II Alarm / MODBUS Board

INITIAL STARTUP & CALIBRATION

Apply power to the GASMAX II + GDS-IR and allow the instrument to stabilize for at least one (1) hour.

IMPORTANT - Be sure there are no hydrocarbon gases present during the IR Zero procedure. If necessary, apply a flow of nitrogen or known 'zero air' to the Cal Gas Inlet (See Fig 3.).

Step 1: Setting IR Zero on the GDS-IR

Open the GASMAX II enclosure cover and loosen the two thumbscrews that hold the display board in place. While holding the display in one hand, PRESS and HOLD the **IR Zero** switch for 12 to 15 seconds, but not more than 20 seconds. If the GASMAX II Marker option is turned on, the GASMAX II display will momentarily show the message "IR ZERO" when the GDS-IR output drops to 2.2mA to indicate a successful zero setting. Replace the display assembly and tighten the thumbscrews.

Step 2: Calibrating the GASMAX to the GDS-IR

Hold a magnetic wand over the DN / CAL button on the lower left side of the GASMAX II display. When the CAL? Message appears, confirm by holding the wand over the EDIT key. Follow the instructions that appear on the GASMAX II display to fully calibrate the GASMAX + GDS-IR by applying zero and span gas to the sensor.

CLEANING & MAINTENANCE

Periodically open and inspect the of the hydrophobic filter by removing the Outer Barrel Assembly.

The hydrophobic filter is a Teflon-coated stainless steel mesh that keeps moisture and particulates out of the optical path. A setscrew holds the filter to the GDS-IR housing. Compressed air can be used to clean the filter of dust and moisture.

To inspect or clean the optical path, remove the hydrophobic filter by unscrewing the setscrew at the bottom of the filter assembly. The filter will then slide off, revealing the optical waveguide assembly.

The waveguide and waveguide collar can be removed by inserting rigid instruments (Allen wrenches) into the holes of the waveguide and collar. Turning the waveguide and collar in opposite directions will loosen the waveguide allowing the collar to be screwed down onto the waveguide until both can be removed from the GDS-IR housing. Clean the two sapphire windows with a lint-free cloth and reassemble the unit.

Always perform an IR zero procedure as described above if the unit is physically moved or disassembled.

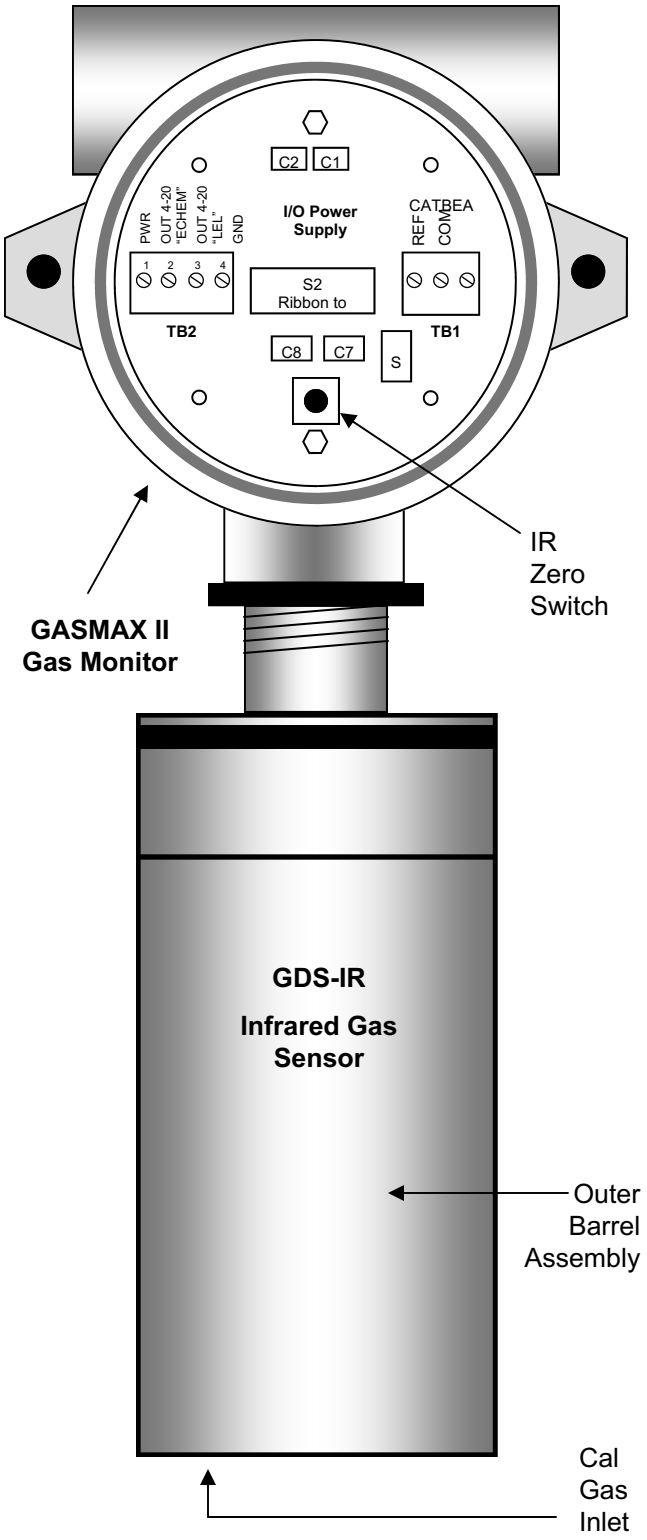

Fig 3. GASMAX II + GDS-IR