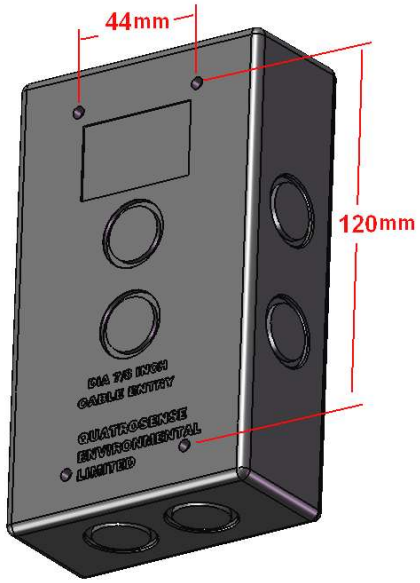
REVISIONS						
ECN	REV.	DESCRIPTION	DATE	DRAW	CHECK	APPROVED
1260	A	Initial Release	2024/10/21	XY	XY	XY



SPECIFICATION

INPUT POWER:
+24VDC nominal, range: 18 to 30VDC 0.3A DC Total Max.
~24VAC nominal, range: 18 to 24VAC 50/60HZ 0.3A AC Total Max.
(AC must not be grounded)

FUSE:
F2 on Main Board: Polyswitch 750mA
Polyswitch device resets after the fault is cleared and power to the circuit is removed

SENSOR:
Electrochemical
Real-time Supervision test and diagnose with end-of-life notification.
When the sensor has reached the end of its life, fault "SENSOR FAIL" will be reported and displayed on the LCD

OUTPUT SIGNAL:
RS-485 with OPTIMUX PROTOCOL AND MODBUS PROTOCOL
4-20mA Analog Output, 1-5VDC, 2-10VDC Output
3X SPDT RELAYS: 1.0A MAX. @30VDC (RESISTIVE LOAD)
0.3A MAX. @125VAC (RESISTIVE LOAD)

ENCLOSURE:
IP 66 & NEMA 4, 4X, 12 & 13

OPERATING TEMPERATURE:
-20°C to 40°C

AMBIENT HUMIDITY:
5% TO 95% RH (NON- CONDENSING)

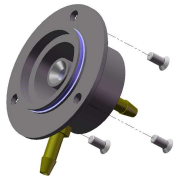
STORAGE TEMPERATURE:
0°C to 20°C

SIZE: 150mm X 90mm X 65mm

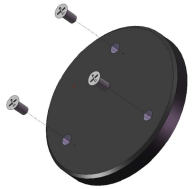
WEIGHT: LESS THAN 0.5lbs

Option Accessories:

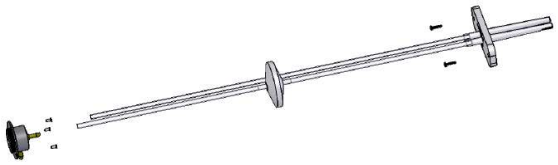
*Option Accessories are not included in Q5 or B5 Standard Package.



Pump-thru & Cal Cap Kit
SKU#: 85930-006-005



Splash Guard Kit
SKU#: 85930-007-005



Duct Mount Adapter
Kit: 85930-040-000

USB-RS485 Converter Kit: 85930-004-000

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± .5 degrees BEND ± .5 degrees TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	DRAWN	XY	2024/10/21
			CHECKED	XY	2024/10/21
			ENG APPR.	XY	2024/10/21
			MFG APPR.		
			Q.A.		
			COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

Greystone Energy Systems Inc.

TITLE:
Q5C, GES
INSTALLATION DRAWING

SIZE	DWG. NO.	REV
B	85950-202-005	A

SCALE: 1:8 | WEIGHT: | SHEET 1 OF 7

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-

Factory Calibration and Default Settings

This Q5C CO transmitter has been calibrated in our facilities according to the manufacturer's procedures.

- SPAN:
  - Q5C-CO-250P : 0 – 250 ppm CO
  - Q5C-CO-1000P : 0 – 1000 ppm CO
- CAL GAS:
  - 100 ppm CO balanced with air

The Q5C default settings:

- Password: 4321
- Address: 3
- Protocol: RS-485 OptoMux 4800bps baud rate
- LCD Backlight: Auto

- Alarm Settings:

Alarm#	Input	On Concentration	Off Concentration	Output Trigger
Alarm1	Instant	30ppm	25ppm	Relay1
Alarm2	Instant	50ppm	40ppm	Relay1, Relay2
Alarm3	Instant	100ppm	95ppm	Relay1,2,3, Buzzer1
Alarm4	Fault	---	---	Relay3, Buzzer3
Alarm5/6/7/8	Disabled			

- Relay & Buzzer Settings:

Relay#	Normally Energized	Latch	On Delay	Off Delay	Style
Relay1	NO	NO	5 seconds	5 seconds	Normal Relay
Relay2	NO	NO	5 seconds	5 seconds	Normal Relay
Relay3	NO	NO	5 seconds	5 seconds	Normal Relay
Buzzer1/2/3	Disabled				

- Analog Output Settings:

Output	Input	Concentration at 4mA or 1V	Q5C-CO-250P Concentration at 20mA or 5V	Q5C-CO-1000P Concentration at 20mA or 5V
4-20mA	Instant	0ppm	250ppm	1000ppm
1-5VDC	Instant	0ppm	250ppm	1000ppm

*Note: Each setting can be modified in Q5C Menu
*Note: Per UL standard 2075, this Q5C sensitivity limits are superior to the standard sensitivity requirements defined in UL2075.
Tested with Sentry IT Controller Model 5000-XX-IT.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	XY	
			CHECKED	XY	
			ENG APPR.	XY	
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.	XY	
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

Greystone Energy Systems Inc.

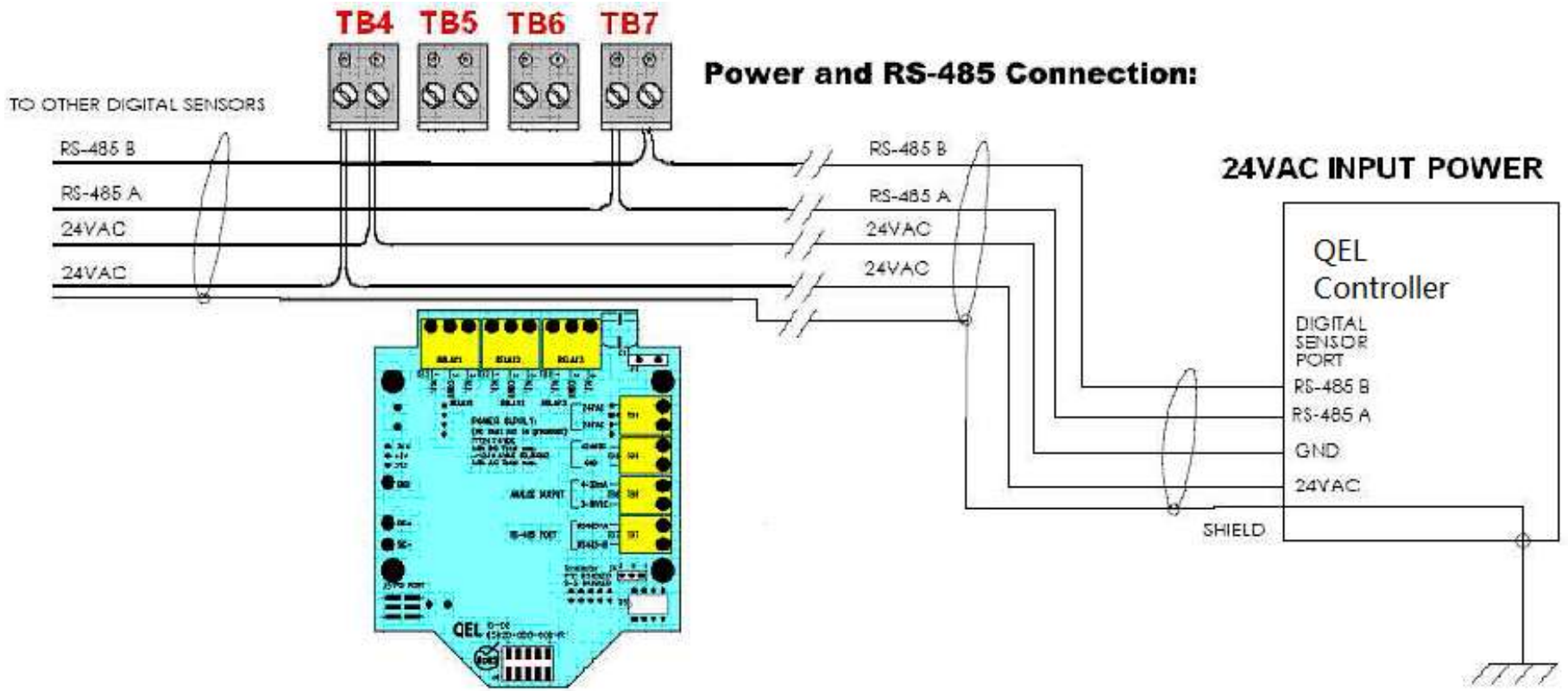
TITLE:
Q5C, GES
INSTALLATION DRAWING

SIZE	DWG. NO.	REV
B	85950-202-005	A

SCALE: 1:2 | WEIGHT: | SHEET 2 OF 7

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-

Power and RS-485 Connection for Q5C:



Q5C MAIN BOARD

NOTE:
1. GROUND THE SHIELD IN CONTROLLER SIDE
2. GROUND ON ONE END ONLY

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	XY	
			CHECKED	XY	
			ENG APPR.	XY	
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

Greystone Energy Systems Inc.

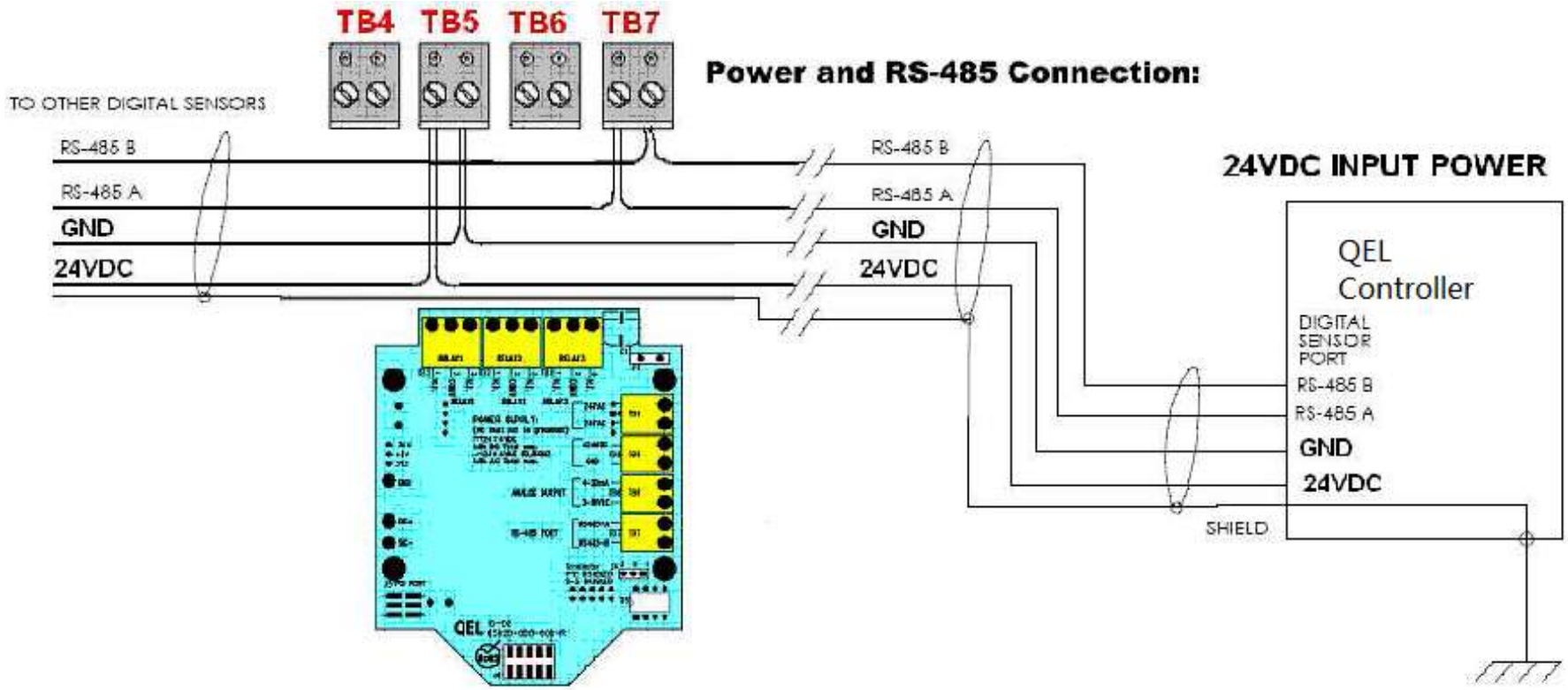
TITLE:
Q5C, GES
INSTALLATION DRAWING

SIZE	DWG. NO.	REV
B	85950-202-005	A

SCALE: 1:2 | SHEET 3 OF 7

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-

Power and RS-485 Connection for Q5C:



Q5C MAIN BOARD

NOTE:
1. GROUND THE SHIELD IN CONTROLLER SIDE
2. GROUND ON ONE END ONLY

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	XY	
			CHECKED	XY	
			ENG APPR.	XY	
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.	XY	
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

Greystone Energy Systems Inc.

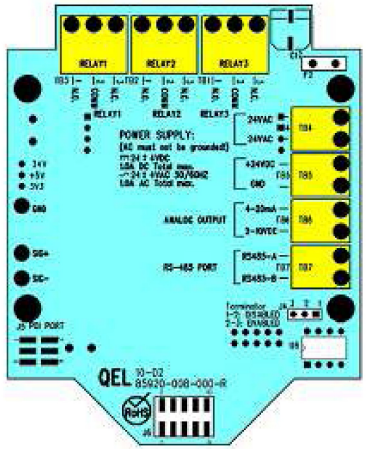
TITLE:
Q5C, GES
Installation Drawing

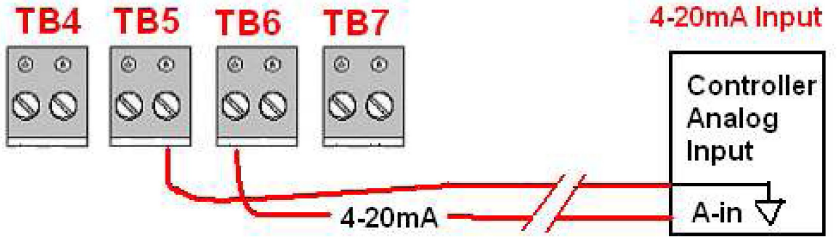
SIZE	DWG. NO.	REV
B	85950-202-005	A

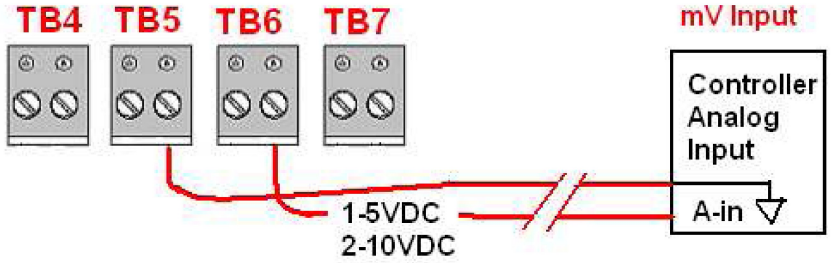
SCALE: 1:2	WEIGHT:	SHEET 4 OF 7

4-20mA and VDC Output for Q5C:

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-







Q5C provides one channel 4-20 milliamp analog output and 1-5VDC or 2-10VDC analog output . The maximum output impedance is 600 ohms for 4-20mA output. The maximum current is 10 mA for VDC output.

Test point SIG+ and SIG- are used to measure the current online when the Q5 is working in the field.

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

NEXT ASSY | USED ON

APPLICATION | DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	XY	
CHECKED	XY	
ENG APPR.	XY	
MFG APPR.		
Q.A.		

COMMENTS:

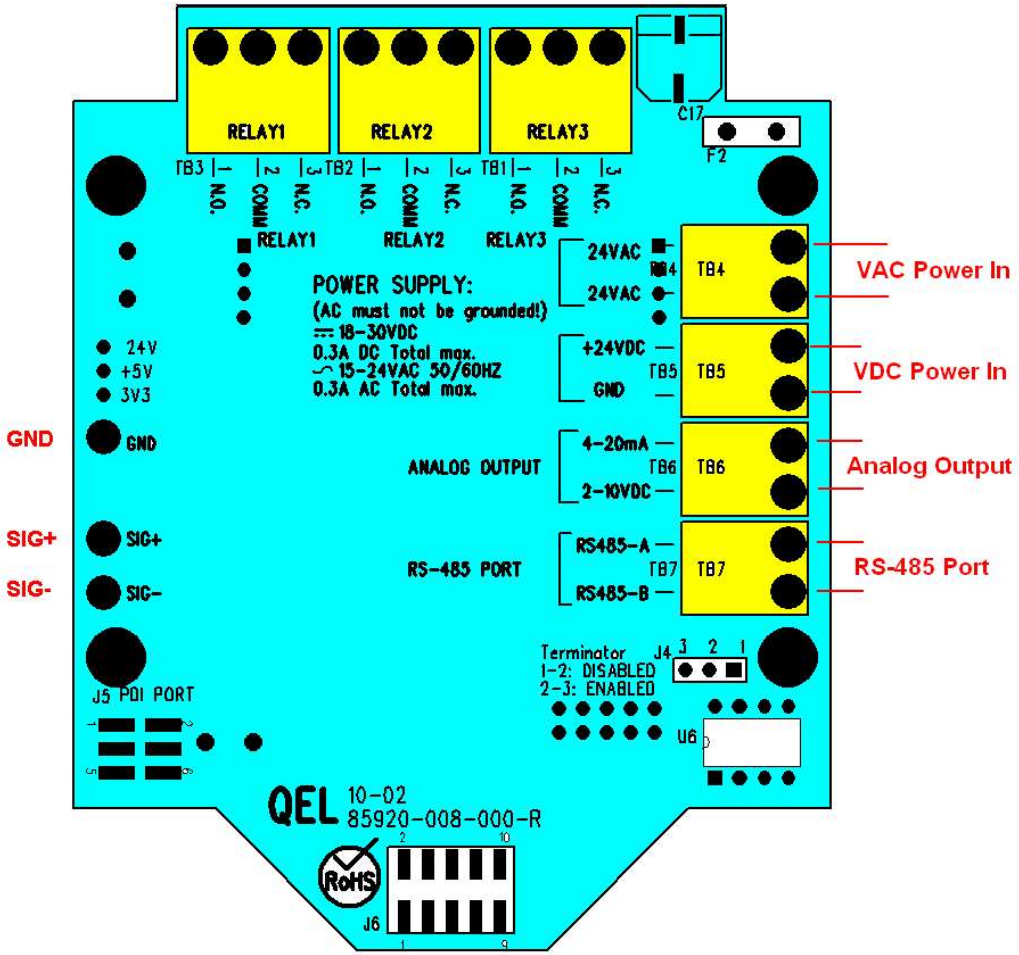
Greystone Energy Systems Inc.

TITLE:

Q5C, GES
INSTALLATION DRAWING

SIZE	DWG. NO.	REV
B	85950-202-005	A

SCALE: 1:2 | SHEET 5 OF 7



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-

Twisted Pair?

RS-485 is designed to be a balanced system. The signal on one wire is ideally the exact opposite of the signal on the second wire. In other words, if one wire is transmitting a high, the other wire will be transmitting a low, and vice versa. Although RS-485 can be successfully transmitted using multiple types of media, it should be used with wiring commonly called "twisted pair."

Terminator Enable/Disable?

The terminator on each end of the RS485 loop is designed to match the electrical impedance characteristic of the twisted pair loop, and will prevent signal echoes from corrupting the data on the line. The terminator should be enabled on BOTH ends of the RS485 loop. Short and medium length modbus/485 loops can operate without the terminating resistor. Longer runs may require the terminating resistors. But adding terminator dramatically increases power consumption.

Sensor Location:

Several factors should be considered when selecting locations to install sensors. The following general suggestions should be considered to assure the detection of the target gas. Select the most suitable location for each sensor.

1. Air Currents: If there are fans, winds, or others sources of air movement, gases may tend to rise to collect in certain areas of a facility. The local air currents should be assessed to aid in selecting the sensor location. In outdoor situations considerations such as prevailing winds should be accounted for. Air convection can often be more important in determining gas concentrated areas than factors of Vapor Density.
2. Vapor Density: For the target gas heavier than air. Detecting location should be 9 - 18 inch (0.23m to 0.46m) above the floor.
3. Gas Emission Sources: As a rule, at least one sensor should be located in close proximity to each point where a leak is likely to occur. This is particularly important when a liquid having a low volatility is monitored.
4. Environmental Factors: Designed to rugged outdoor use consider the following in selecting locations. Install sensors where they will be protected from wind, dust, snow, water, vibration and shock.

Note:

- Avoid running communication wires or sensor input wires next to AC power wires or the relay output wires. These can be sources of noise that can affect signal quality.
- The Q5C has full wave rectifier (TB4) and half wave rectifier (TB5) on board. You will damage devices if you mix half wave and full wave rectifiers on the same AC source. Use extreme caution when sharing a common AC source. Sharing a common DC source is less problematic.
- When the Q5C input power is AC, the 24VAC must not be grounded. A dedicated floating 24VAC may be needed if other nodes on the network are grounded, otherwise DC power supply is recommended.

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
NEXT ASSY | USED ON
APPLICATION | DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	XY	
CHECKED	XY	
ENG APPR.	XY	
MFG APPR.		
Q.A.		

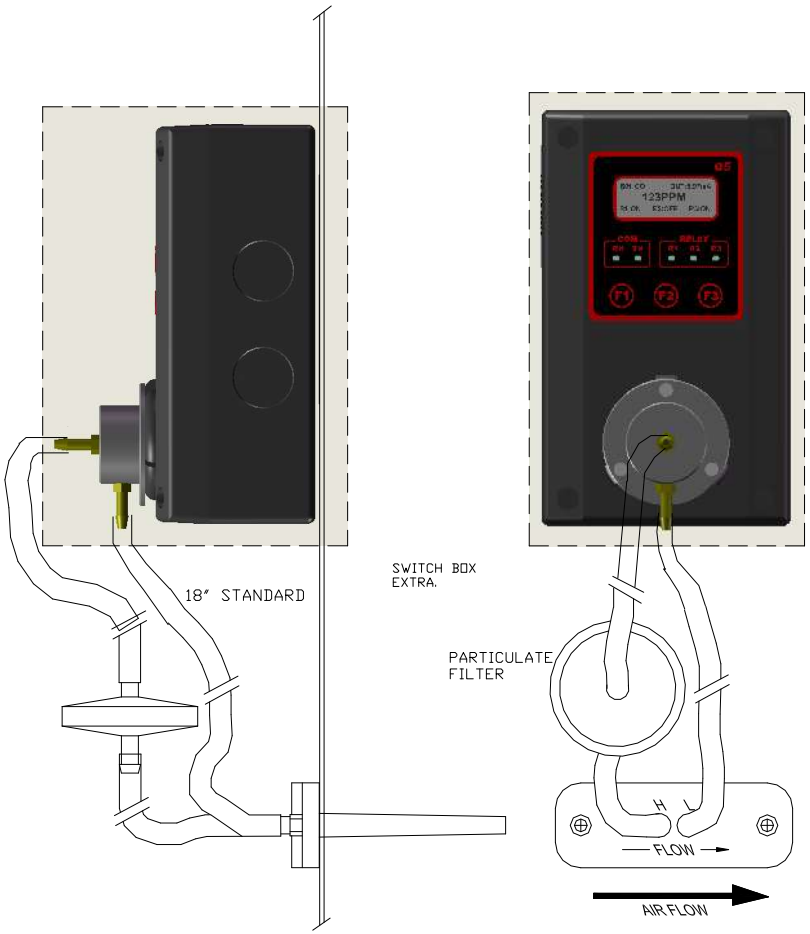
COMMENTS:

Greystone Energy Systems Inc.

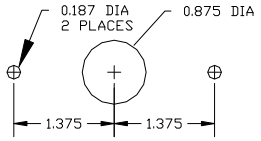
TITLE:
Q5C, GES
INSTALLATION DRAWING

SIZE	DWG. NO.	REV
B	85950-202-005	A

SCALE: 1:2 | SHEET 6 OF 7



DUCT MOUNTING OPTION



CUTOUT INFORMATION
FOR FLOW SENSOR

NOTE: GAS SAMPLING OCCURS WHEN AIR FLOW ACROSS THE THE TWO TUBES CAUSES DIFFERENTIAL PRESSURE. THIS METHOD WILL NOT WORK IN STATIC AIR SAMPLING.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	XY	
			CHECKED	XY	
			ENG APPR.	XY	
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.	XY	
		MATERIAL	COMMENTS:		
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

Greystone Energy Systems Inc.

TITLE:

Q5C, GES

INSTALLATION DRAWING

SIZE	DWG. NO.	REV
B	85950-202-005	A

SCALE: 1:2	WEIGHT:	SHEET 7 OF 7