

8 7 6 5 4 3 2 1

REVISIONS						
ECN	REV.	DESCRIPTION	DATE	DRAW	CHECK	APPROVED
924	A	Initial Release	2010/02/25	XY	XY	XY
929	B	Update Duct Mount Kit	2010/08/23	XY	XY	XY



SPECIFICATION

INPUT POWER:
 +24VDC nominal, range: 18 to 30VDC 0.3A DC Total Max.
 ~24VAC nominal, range: 15 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:
 Combustible gases: Catalytic
 Toxic gases and Oxygen: Electrochemical

OUTPUT SIGNAL:
 RS-485 with OPTIMUX PROTOCOL AND MODBUS PROTOCOL
 AVAILABLE CONTROLLER: M-CONTROLLER or Q4 CONTROLLER
 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:
 -40°C to 70°C, depends on sensor specification

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

STORAGE TEMPERATURE:
 0°C to 20°C, depends on sensor specification

SIZE:
 150mm X 90mm X 65mm

WEIGHT:
 LESS THAN 0.5lbs

Option Accessories: *Option Accessories are not included in Q5 Standard Package.



Pump-thru & Cal Cap Kit
SKU#: 85930-006-000

Splash Guard Kit
SKU#: 85930-007-000

Duct Mount Adapter
Kit: 85930-040-000



Q-View & USB-RS485 Converter Kit: 85930-004-000

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Quatrosense Environmental Ltd TITLE: Q5 INSTALLATION DRAWING	
DIMENSIONS ARE IN INCHES		DRAWN	XY		2010/02/25
TOLERANCES:		CHECKED	XY		2010/02/25
FRACTIONAL: ± 1/32		ENG APPR.	XY		2010/02/25
ANGULAR:		MFG APPR.			
MACH ± .5 degrees BEND ± TWO PLACE DECIMAL ± .02		Q.A.			
THREE PLACE DECIMAL ± .010		COMMENTS:			
INTERPRET GEOMETRIC TOLERANCING PER:					
MATERIAL:					
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			
SIZE	DWG. NO.	REV			
B	85950-002-000	B			
SCALE: 1:8	WEIGHT:	SHEET 1 OF 5			



8 7 6 5 4 3 2 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet I	-	-

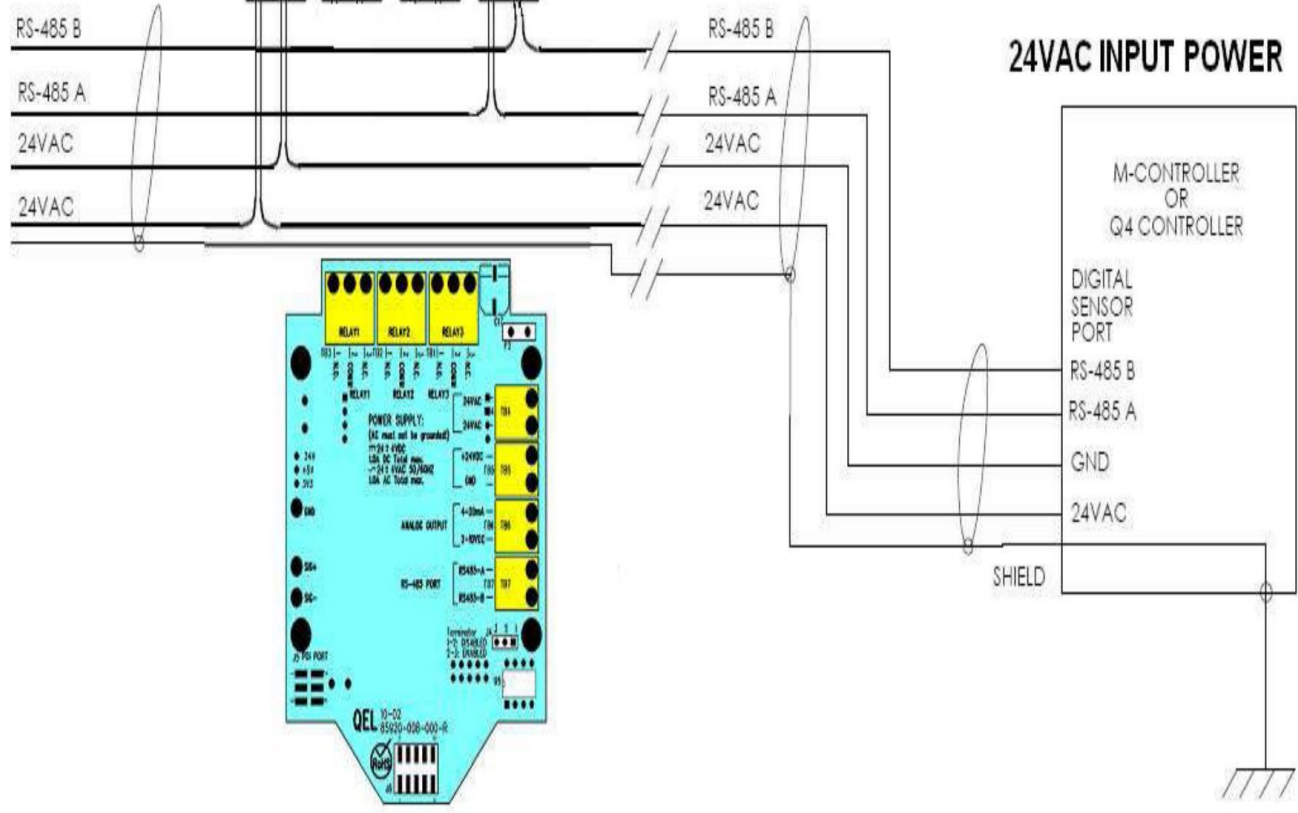
Power and RS-485 Connection:

Q5 MAIN BOARD

TB4 TB5 TB6 TB7

Power and RS-485 Connection:

TO OTHER DIGITAL SENSORS



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

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APPLICATION		DO NOT SCALE DRAWING			SCALE: 1:2 SHEET 2 OF 5	

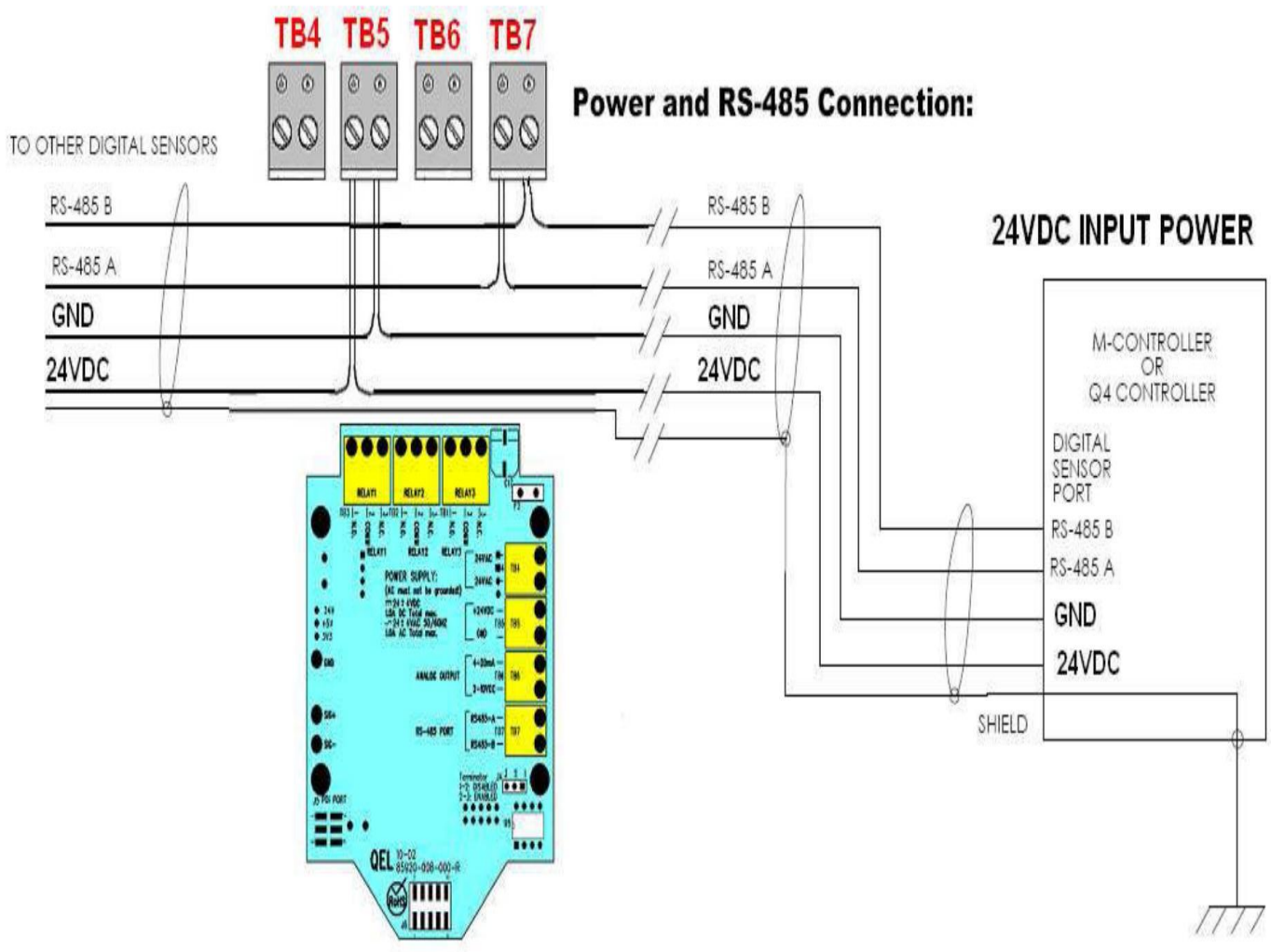


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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-

Power and RS-485 Connection:

Q5 MAIN BOARD



- NOTE:
- GROUND THE SHIELD IN CONTROLLER SIDE
 - GROUND ON ONE END ONLY

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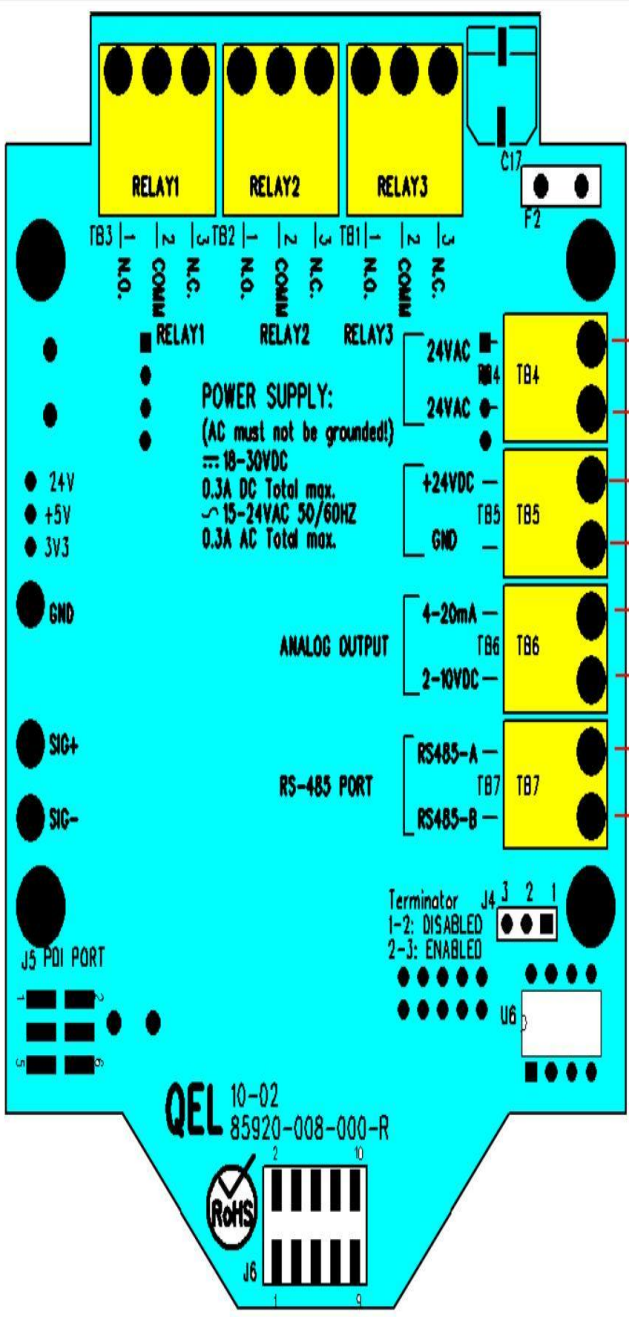
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		MATERIAL				
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APPLICATION	DO NOT SCALE DRAWING				SCALE: 1:2 WEIGHT: SHEET 3 OF 5	

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REVISIONS				
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-	-	See Sheet1	-	-



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.

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."

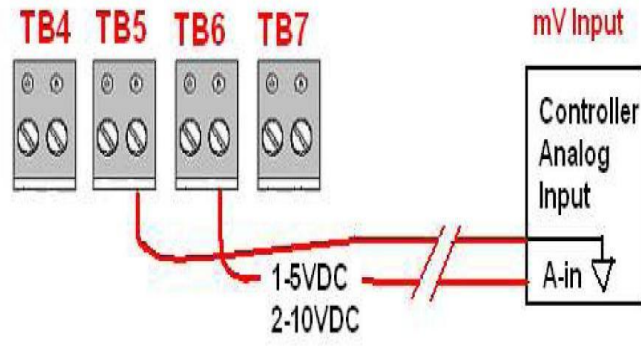
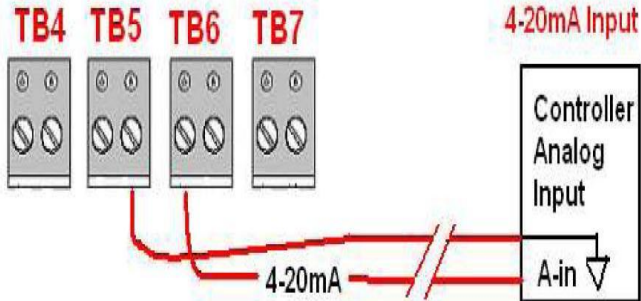
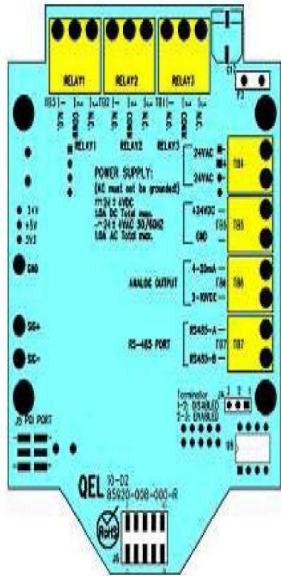
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		TWO PLACE DECIMAL ±		COMMENTS:		SIZE DWG. NO. REV B 85950-002-000 B	
		THREE PLACE DECIMAL ±		MATERIAL			
		INTERPRET GEOMETRIC TOLERANCING PER:		NEXT ASSY USED ON FINISH		SCALE: 1:2 SHEET 4 OF 5	
		APPLICATION DO NOT SCALE DRAWING					



4-20mA and VDC Output:

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



Q5 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.

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NEXT ASSY	USED ON	FINISH				
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SIZE	DWG. NO.	REV				
B	85950-002-000	B				
SCALE: 1:2		SHEET 5 OF 5				

