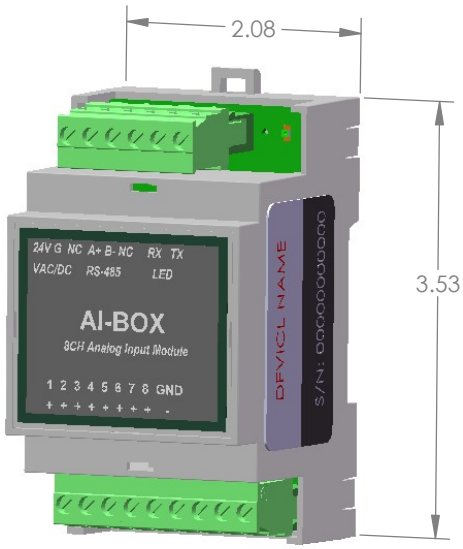


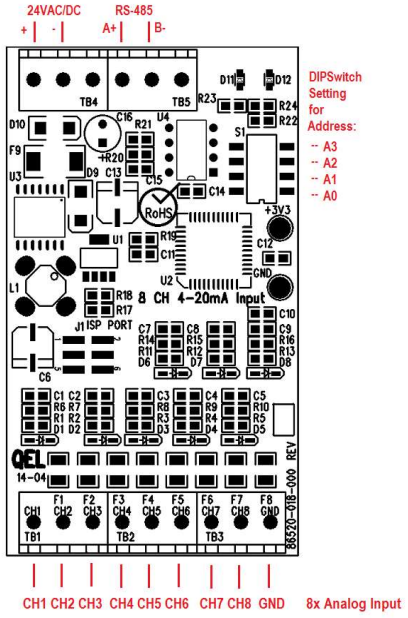
GENERAL:

The AI-Box Model is 12-bit analog input modules designed for use with the Q-Controller control system. The modules provide a means of high-density signal measurement for data-acquisition applications. The AI-Box module accepts 8 channels 4-20 mA process signals.

The AI-Box and other IO-Box modules connect and communicate via a RS-485 2-wire connection to the Q-Controller. The Q-Controller supports any combination of the IO Box, the AI-Box can be up to 16 modules, allowing a total of 128 4-20mA analog signals to be monitored via a single Q-Controller.

All AI-Box configuration information is strored in Q-Controller and the 4-20mA calibration data is stored locally within the module, so replacement modules do not need to be configured and calibrated.

The AI-Box' high density packaging, removable terminal block and DIN rail mounting saves time and panel space. The module snaps easily onto standard top hat (T) profile DIN rail.



Module Address	Dip Switch Setting				
	A0	A1	A2	A3	
0	OFF	OFF	OFF	OFF	
1	ON	OFF	OFF	OFF	
2	OFF	ON	OFF	OFF	
3	ON	ON	OFF	OFF	
4	OFF	OFF	ON	OFF	
5	ON	OFF	ON	OFF	
6	OFF	ON	ON	OFF	
7	ON	ON	ON	OFF	
8	OFF	OFF	OFF	ON	
9	ON	OFF	OFF	ON	
10	OFF	ON	OFF	ON	
11	ON	ON	OFF	ON	
12	OFF	OFF	ON	ON	
13	ON	OFF	ON	ON	
14	OFF	ON	ON	ON	
15	ON	ON	ON	ON	

REVISIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
1256	A	FIRST RELEASE	2024/10/07	XY

Specification:	
Fuse	F9 : Polyswitch 750mA Polyswitch device resets after the fault is cleared and power to the circuit is removed
Power Supply	Voltage: 24VDC nominal, range 18 to 30VDC 24VAC nominal, range 15 to 24VAC 50/60HZ Note: Input Power is half-wave rectifier circuit, it can be either floating or grounded. 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. The AI-Box can share the same AC or DC power supply with Q-Controller, as Q-Controller is half-wave rectifier inside. Current: max. 0.75 A (fuse protected) Actual running current < 0.1A
Address	Address can be defined from 0 to 15 with the four dipswitch A0, A1, A2 and A3 See left table for address setup Factory Default address is 0 with A0=OFF, A1=OFF, A2=OFF, A3=OFF
Panel Indicators	TX/RX status RS-485 port TX/RX Status for Q-Controller Network

NEXT ASSY	USED ON	UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	XY	24/10/07
			CHECKED		
			ENG APPR.		
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
		FINISH			
APPLICATION		DO NOT SCALE DRAWING			

Greystone Energy Systems Inc.

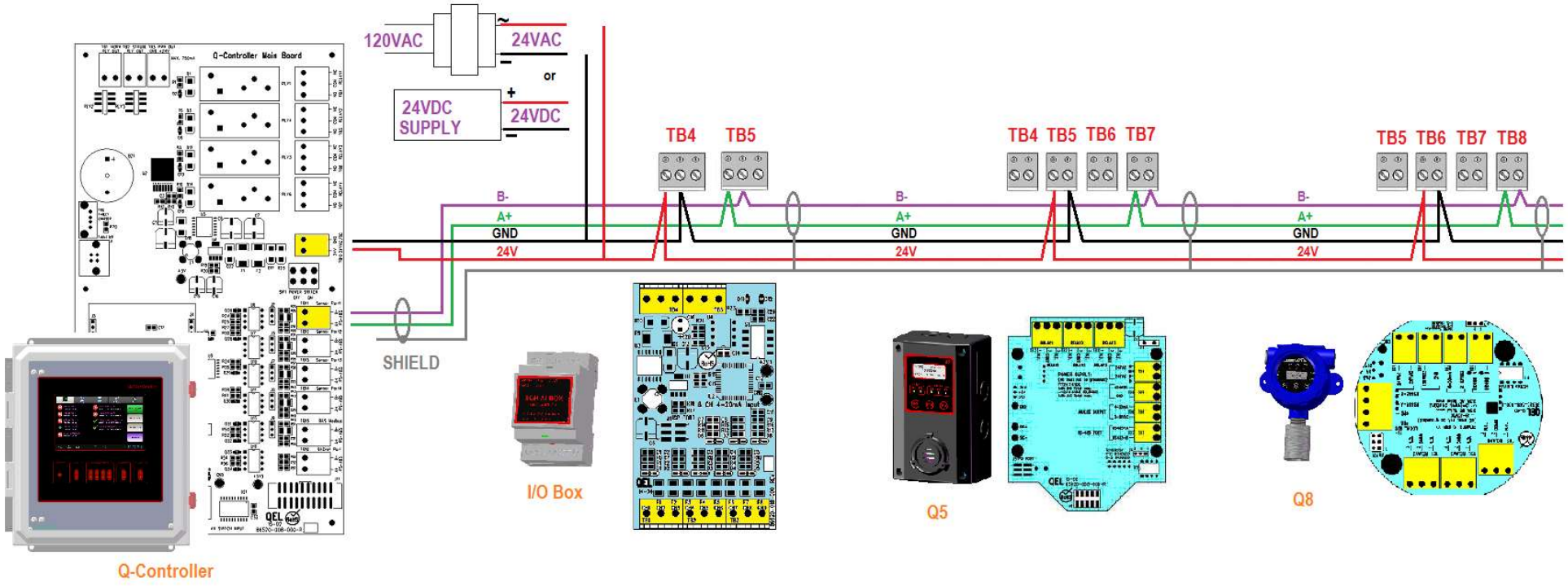
TITLE:
AI-BOX, GES
Installation Drawing

SIZE	DWG. NO.	REV
B	86550-003-005	A

SCALE: 1:2 | WEIGHT: | SHEET 1 OF 3

Recommend Connection for New Installations

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



Note:
1. The power supply can be 24VAC or DC as every device uses a half-wave rectifier in the drawing
2. The power negative may be grounded or floating
3. Don't mix full wave rectifiers device with this system
4. RS-485 cable should wired from one sensor to another without tees or stub. Power cable does not matter
5. Before power up, the polarity of the 24VAC power supply should be checked carefully, reversing polarity on the network will cause the RS-485 driver chips blow up
6. The I/O Box in the drawing can be AI-Box, AO-Box, BI-Box or BO-Box

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

Greystone Energy Systems Inc.

TITLE:

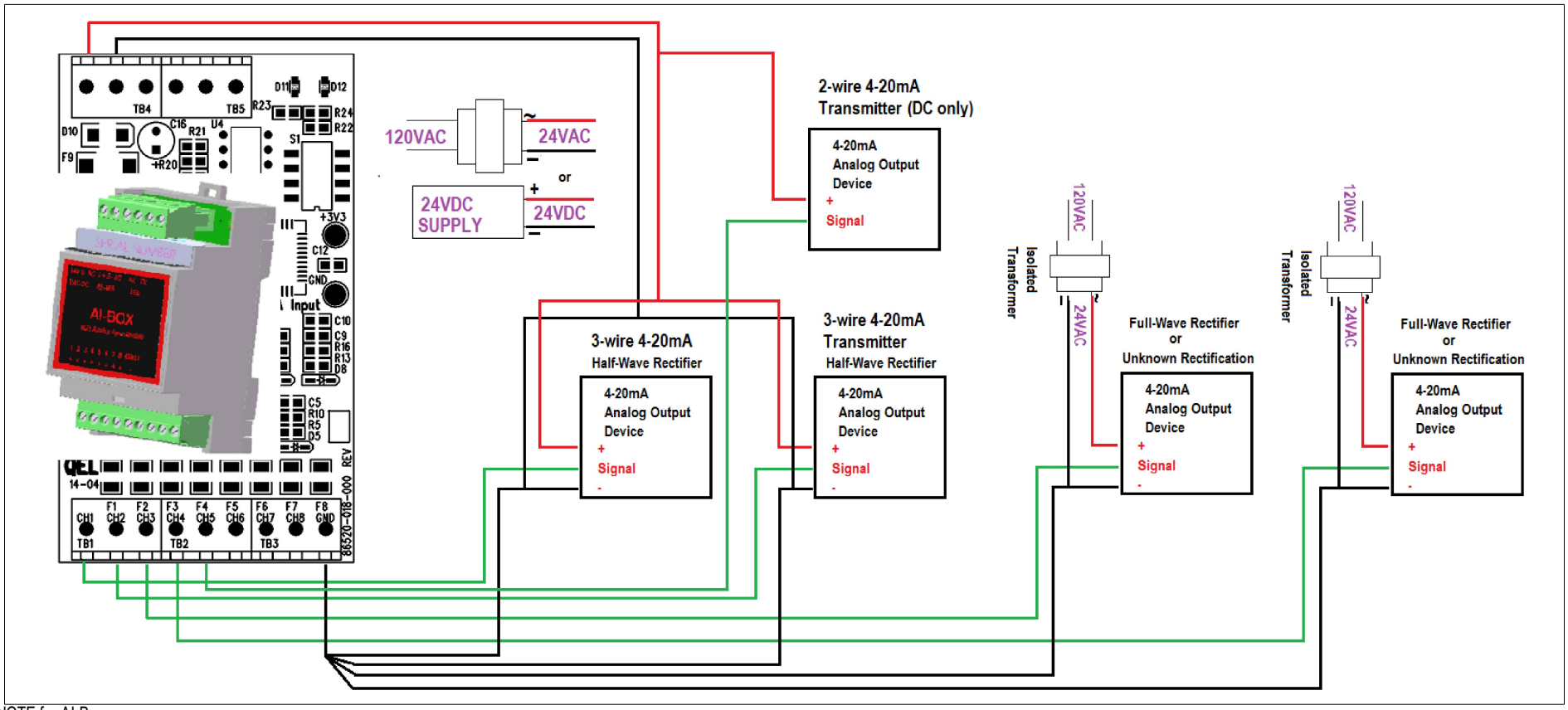
AI-Box, GES Installation Drawing

SIZE	DWG. NO.	REV
B	86550-003-005	A

SCALE: 1:4 | 1 | SHEET 2 OF 3

AI-BOX Connection

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



NOTE for AI-Box:

- The AI-Box is non-isolated devices with a half-wave rectifier on the 24VAC/DC power input terminal. Therefore, to prevent equipment damage, multiple devices that are powered by a common 24VAC transformer must use common device power connections (e.g.24VAC input power to other device power inputs, and ground to other device grounds), or dedicated isolated transformers must be provided for each non-isolated device.
- The AI-Box 24VAC/DC input power ground and analog input signal returns are common.
- If it is known that the connected analog device is half-wave rectified, it can share the same AC power supply with the AI-Box
- If the rectification of the other device is unknown, it is recommended that a separate transformer is used to power other device.

NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED:

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

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

	NAME	DATE
DRAWN		
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

Greystone Energy Systems Inc.

TITLE:

AI-Box, GES
Installation Drawing

SIZE	DWG. NO.	REV
B	86550-003-005	A

SCALE: 1:2	WEIGHT:	SHEET 3 OF 3