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## 2.0 Control Panel

The 'Control Panel' housing is a standard IP 65 rated Electrical cabinet mounted on 42x42 mm Unistrut legs.

All hydraulic and electrical entries are at the base of the cabinet



OP1-Push and hold RED button for 2 seconds to close valve(s)

OP2-Push and hold GREEN button for 5 seconds to open valve(s)

## 2.1 In Detail

On activation, OP1, the hydraulic pump will start in order to close the valve; this will be audible for approximately 16 seconds. In addition the strobe beacon will also activate, and remain in its 'alarm' state until OP2 is carried out.

When activating the open sequence, OP2, the hydraulic pump will again run for approximately 16 seconds.

The strobe beacon will de-activate after the cycle is complete

## 3.0 Inside the Control Panel

All Control panels will see a standard layout. This entails a Micro hydraulic plant in the centre of the panel and room for 2 x12V Battery on the lower shelf of the enclosure.

All system isolators, processor and switching outputs are located in the upper section of the cabinet

### 3.1 In Detail

#### The Hydraulic Pump

The 24v Hydraulic power pack has a maximum pressure of 150 Bar with pre-set safety relief with a flow of between 0.56 and 0.63 ccl per minute, (depending on cylinder size)

#### PLC

Is a Seimens industrial standard PLC upgradable to allow flexibility of power supply, and client programme requirement

#### 2 x 12V 17 ah Batteries

The batteries ultimately power the control panel. Whether your system is mains or solar powered, the battery is trickle fed, which then goes on to powering your system.

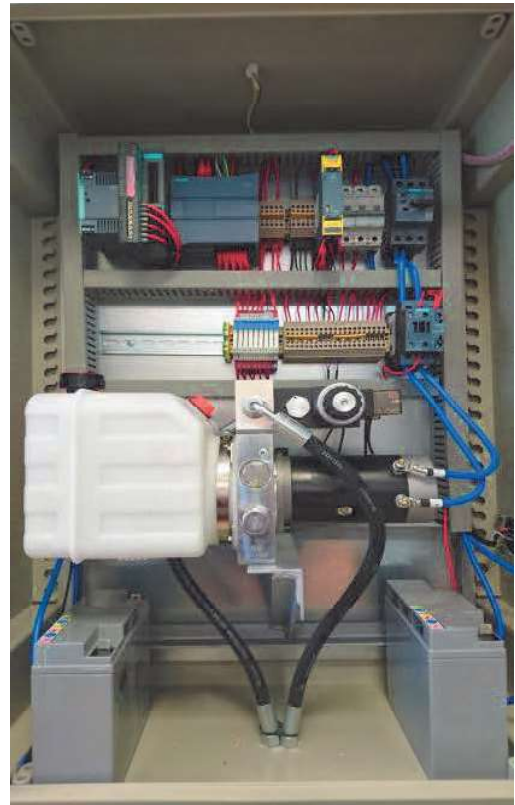
Size is dependant on energy reserve required

#### Hydraulic Hose

The hydraulic hose is quarter inch bore, 2 wire construction rated to 400 Bar.

#### Hydraulic Oil

The oil used is a non toxic, bio-degradable oil. Maximum content 10ltr



## 3.0 Troubleshoot

Following the OP1 sequence, the red push button will have no functions until after OP2 has been performed. Similarly, the green push button will have no function until after OP1 has been performed. - Simply put, you cannot close a valve(s) which is already closed, and you cannot open a valve(s) which is already open.

The battery has a life span dependant on usage of your system. In extreme circumstances the battery may need replacing. LED's may still illuminate when the battery is very low.

Regular testing and maintenance will mitigate this fault.

### **Things to check for should a fault occur;**

**Oil leaks** – check all fittings where the hose mates with a component. In addition check along the hydraulic hose where possible to establish any leaks.

**Debris** – check that the CheckValve, is the bore of the valve completely clear of debris.

**Battery** – Check the battery, it may need charging, carrying a spare is best practice.

**PLC**— In a resting state the only input visable should be positional indicator (input I0.2, Valve Shut or input I0.3, Valve Open) any other inputs illuminated indicate a closure request which override the ability to open the valve.

### **3.0 Troubleshoot Cont'd**

The Hydraulic pump will be set to its optimum pressure of 150 bar. This will operate and recycle the oil back to the tank by lifting its relief should the ram not reach its full positional stroke at the end of its operational cycle, this will continue until the programme times out (cycle time dependant on size of valve) Should this occur, contact your service engineer.

LED information is detailed in section **5.0**

### **3.1 Maintenance**

The Valve should be physically inspected at least once every twelve months

This should include a physical examination of the valve's integrity and seal's

Inspection of the cabinet and components within

Check / modify / upgrade software as required

Carry out full functionality checks

Inspect batteries and hydraulic oil quality..change if required

## 4.0 Checkvalve

The check valve and mechanical components are constructed entirely of stainless steel to cope with its environment

The only exception is the operating cylinder which is constructed of high grade steel with chromium plated steel rod (Stainless steel is an option if required)

### 4.1 As Installed Images

#### 595mm Valve



### 4.1 As Installed Images, Cont'd



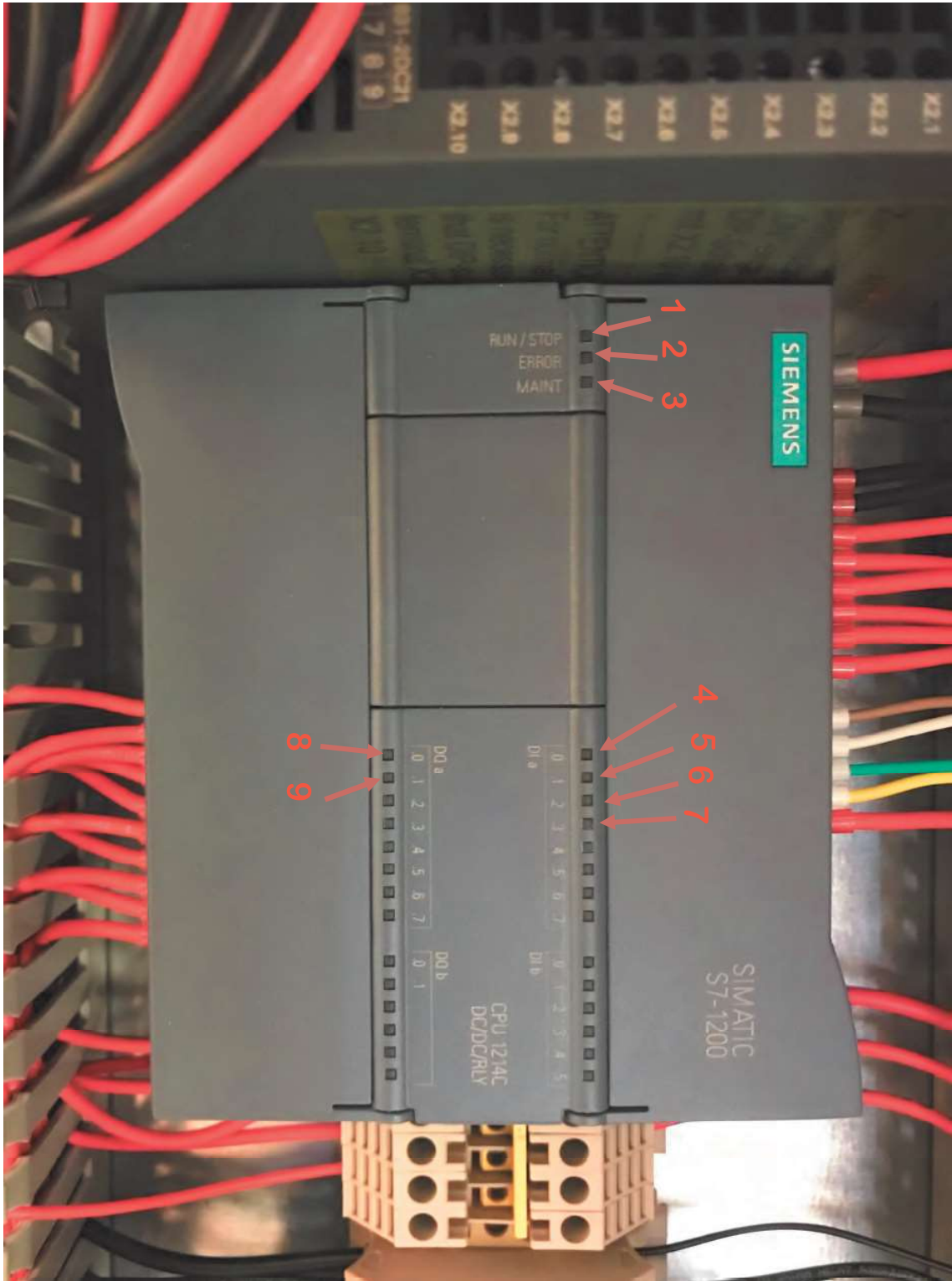
225mm Valve

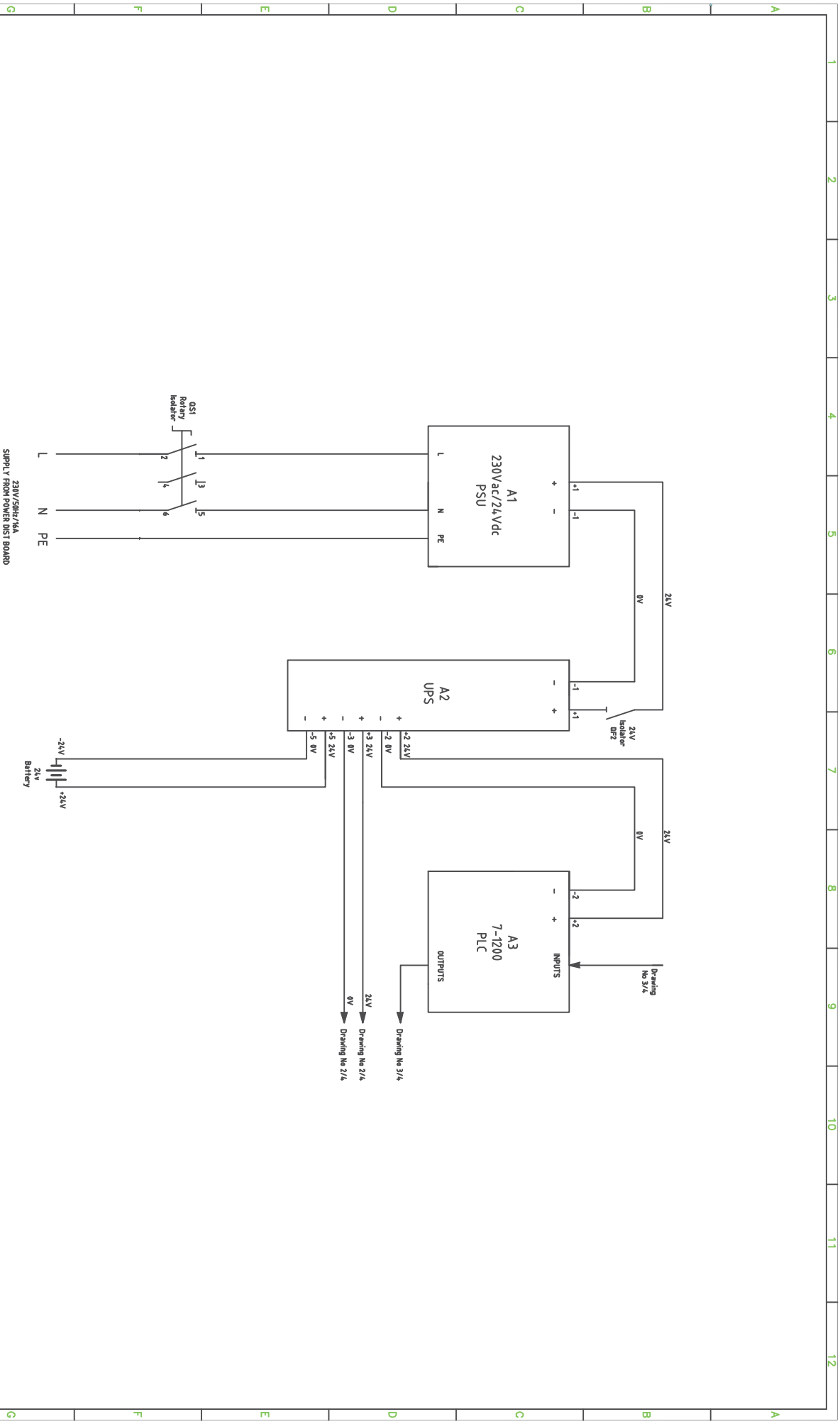
## 5.0 PLC LED Description (Refer to 5.1)

LED	Indicator	Function
1	RUN/ STOP	Indicates whether the PLC is in normal RUN mode or is Stopped
2	ERROR	Indicates if the PLC is in ERROR
3	MAINT	Indicates the PLC is in programme mode
4	Input 0	Indicates if the “Close” button is providing a permanent Input
5	Input 1	Indicates if the “Open” button is providing a permanent input
6	Input 2	Indicates if the valve shut limit switch is active
7	Input 3	Indicates if the valve open limit switch is active
8	Output 0	Indicates the Hydraulic pump has been called for to “Close” the valve
9	Output 1	Indicates the Hydraulic pump has been called for to “Open” the valve



## 5.1 PLC



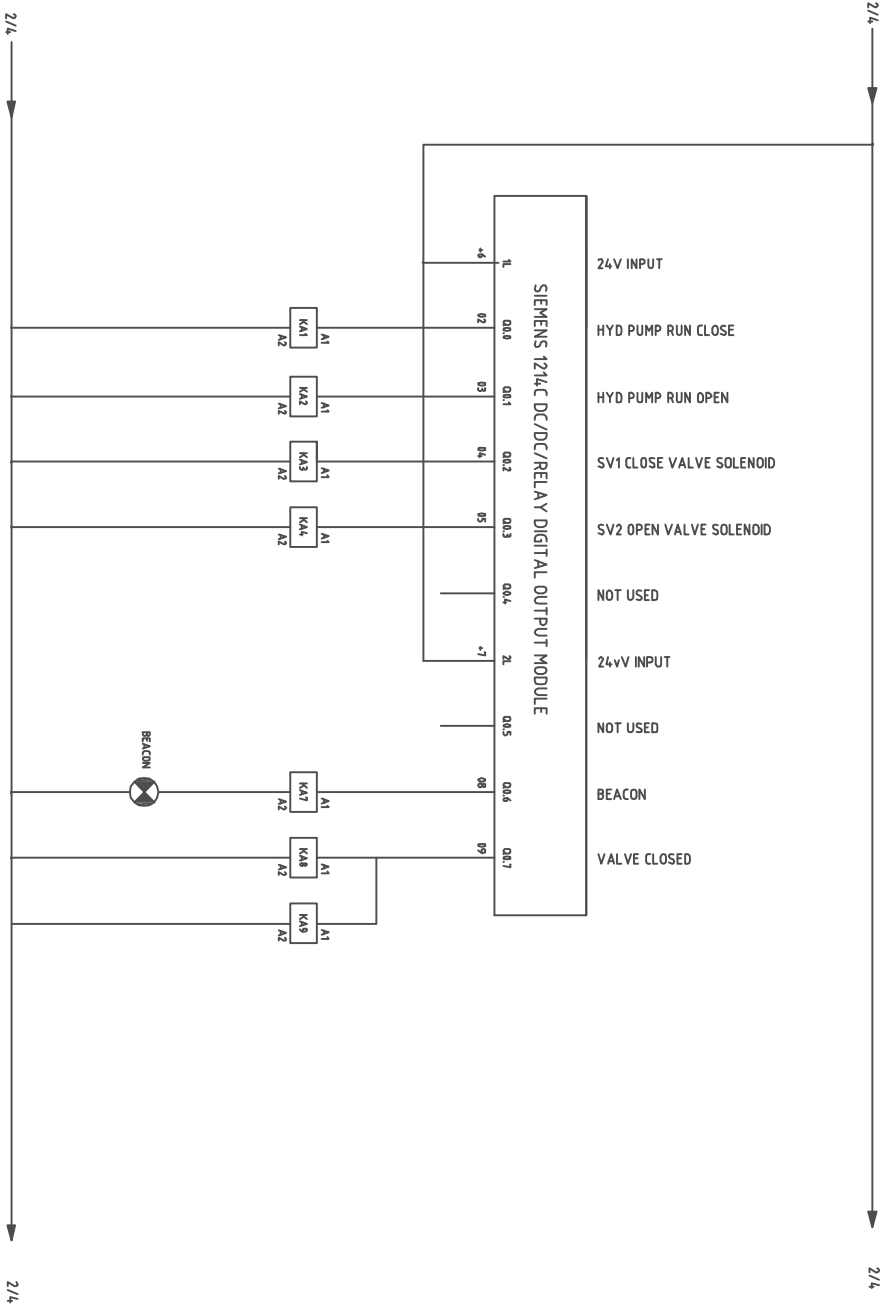


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**Cable Schematic**

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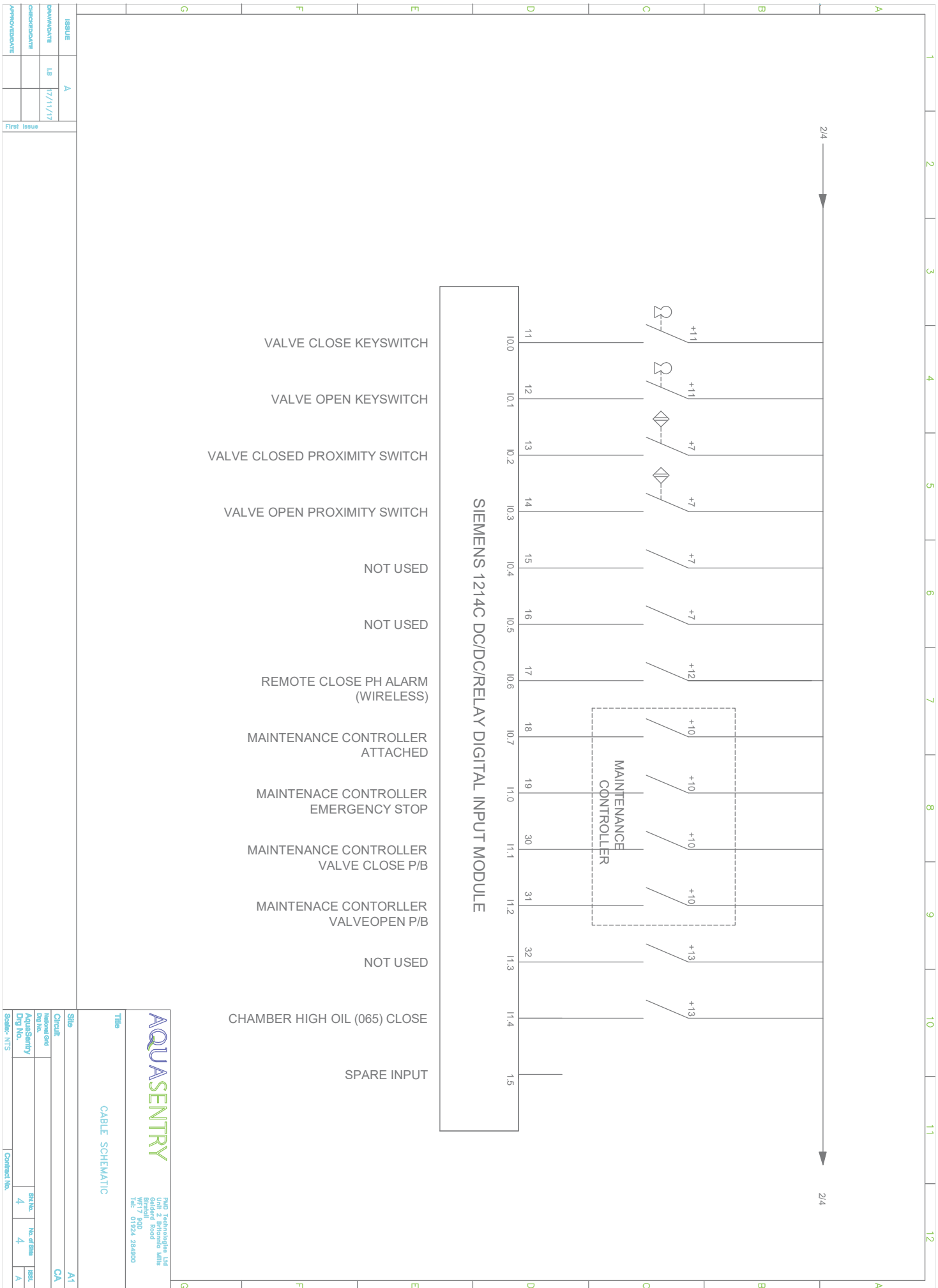
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**CABLE SCHEMATIC**

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First Issue

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**Circle** CA1

**Revision** 4

**Quantity** 4

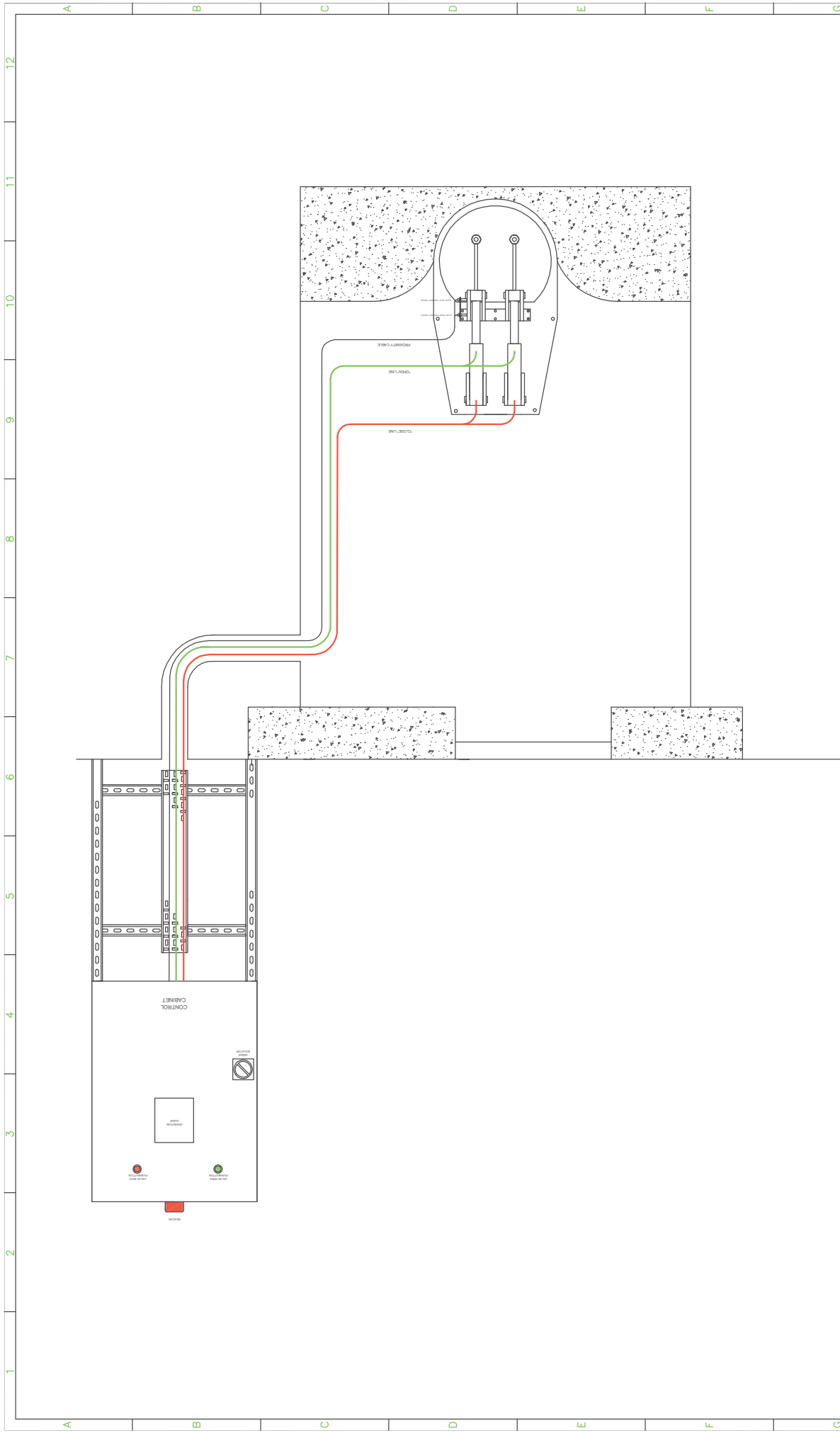
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**Title** CABLE SCHEMATIC



**AQUASENTRY**

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Title		General Installation Layout	
Site	A1		
Circuit	CAD		
Revision			
Appr. No.	1	No. of Sites	1
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