

ValvApp™ Worksheet



This worksheet is intended for the configuration of ValvApps™ used in the VC-22D Valve Controller. From the information provided below, Cla-Val will determine whether a standard ValvApp™ should be used or if a custom ValvApp™ is required. Additionally, this worksheet acts as a check list during commissioning to verify all parameters have been correctly configured in the VC-22D Valve Controller. Once this worksheet is completed, please return to your Cla-Val representative for approval. If a custom ValvApp is required and approved, a custom wiring diagram and ValvApp™ will be created and emailed to you. Please verify all *Required fields have been filled out prior to submittal.

Information				Configuration:				
*Project Name		*Today's Date						
*Cla-Val Representative		Project Completion Date						
Control Valve Model Number (if known)		Customer Approval Signature						
Valve Regulation (If more than 2 PID's are required, specify in logic on page 2)								
PID 1 - Valve Regulation		*Solenoid Config		PID 2 - Valve Regulation		PID Selection Mode		
*Control Type		*Signal Loss		Control Type		Signal Loss		
Deadband (+/-)		Ramping		Deadband (+/-)		Ramping		
DP Metering (133 Valve)								
DP Metering		Pressure Measurement		P1+P2 DPT		Output		
Size		Body Style		Seat		Units		
						Output Scaling		
Totalizer								
Totalizer		Reset		Units		Output		
						Output Scaling		
Analog Inputs (4-20mA) 6 Available								
*Analog Input #1 (Typically reserved for control setpoint signal)				Scaling Signal Powered by Controller				
Name		Units		4mA =		20mA =		
						Decimal		
*Analog Input #2 (Typically reserved for control feedback signal)				Scaling Signal Powered by Controller				
Name		Units		4mA =		20mA =		
						Decimal		
Analog Input #3				Scaling Signal Powered by Controller				
Name		Units		4mA =		20mA =		
						Decimal		
Analog Input #4				Scaling Signal Powered by Controller				
Name		Units		4mA =		20mA =		
						Decimal		
Analog Input #5				Scaling Signal Powered by Controller				
Name		Units		4mA =		20mA =		
						Decimal		
Analog Input #6				Scaling Signal Powered by Controller				
Name		Units		4mA =		20mA =		
						Decimal		
Digital Inputs 6 Available								
Digital Input 1 Name			Digital Input 2 Name			Digital Input 3 Name		
Purpose			Purpose			Purpose		
Digital Input 4 Name			Digital Input 5 Name			Digital Input 6 Name		
Purpose			Purpose			Purpose		

Analog Outputs (4-20mA) *Note: Analog Outputs are sourced with controller power.*

Analog Output #1		Scaling		
Name	Units	4mA =	20mA =	Decimal
Analog Output #2		Scaling		
Name	Units	4mA =	20mA =	Decimal
Analog Output #3		Scaling		
Name	Units	4mA =	20mA =	Decimal
Analog Output #4		Scaling		
Name	Units	4mA =	20mA =	Decimal

Solenoid Outputs	
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Solenoid Output #1 (SO1)		Solenoid Output #2 (SO2)	
Name		Name	
Default: Closing Solenoid		Default: Opening Solenoid	

Note: SO1 and SO2 are a powered solid state output typically reserved for solenoids used on a 131 or 133 series valve. The output can be configured as PWM (default) or Discrete ON/OFF. If configured as discrete, a value of 0 represents an open circuit, and 1 a closed circuit.

[illegible]

Relay Output #1 (RO1) *Relay Output #2 (RO2)* **Note:** RO1 and RO2 are configured as dry contact mechanical relays typically used for alarms. These outputs are configured as Discrete ON/OFF, a value of 0 represents an open circuit, and 1 a closed circuit.

Actions/Alarms

Action #1	
Name	Describe
Additional Comments	
Action #2	
Name	Describe
Additional Comments	
Action #3	
Name	Describe
Additional Comments	
Action #4	
Name	Describe
Additional Comments	

Communication

GSM/GPRS	Modbus TCP/IP	Modbus RTU (RS485/RS232)	Note: See <i>ModBus specification page</i> for register mapping and implementation. Refer to manual for more details.
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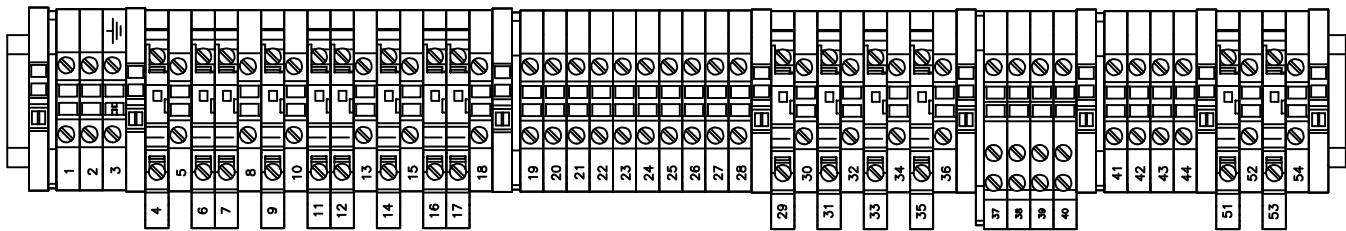
***Control Logic** (Please specify all control logic using sketches, diagrams, etc. Attach additional sheets if necessary)

* This is only to give an idea of where wires will be landed. Does not account for number of wires and Loop or Field powered. Please refer to **Electrical Wiring** section of VC-22D IOM for help wiring loop or field powered devices.



*Please refer to individual I/O sensor documents for correct wiring. This is only to give an idea of where wires will be landed. Does not account for number of wires and Loop or Field powered.

****Optional I/O does not need to be landed for App to function. To add functionality or additional I/O, contact Cla-Val rep.**



Terminal numbers and assignments only apply to panels manufactured after 11/1/2022.

CUSTOMER CONNECTIONS	
TERM	DESCRIPTION
POWER SUPPLY	
1 ; (L)	120-240 VAC/50-60 HZ
2 ; (N)	
3 ; GROUND	
ANALOG INPUTS 4-20MA	
4 ; AI1+	
5 ; AI1-	
6 ; PO1	
7 ; AI2+	
8 ; AI2-	
9 ; AI3+	
10 ; AI3-	
11 ; PO2	
12 ; AI4+	
13 ; AI4-	
14 ; AI5+	
15 ; AI5-	
16 ; PO3	
17 ; AI6+	
18 ; AI6-	
DIGITAL INPUTS (USE WITH DRY CONTACT ONLY)	
19 ; DI1+	
20 ; DI1-	
21 ; DI2+	
22 ; DI2-	
23 ; DI4+	
24 ; DI4-	
25 ; DI5+	
26 ; DI5-	

CUSTOMER CONNECTIONS	
TERM	DESCRIPTION
DIGITAL INPUTS (USE WITH DRY CONTACT ONLY) CONT'D	
27 ; DI6+	
28 ; DI6-	
ANALOG OUTPUTS 4-20MA	
29 ; AO1+	
30 ; AO1-	
31 ; AO2+	
32 ; AO2-	
33 ; AO3+	
34 ; AO3-	
35 ; AO4+	
36 ; AO4-	
SOLENOID OUTPUTS 24 VDC	
37 ; SO1+ (24VDC)	
38 ; SO1- (0VDC)	
39 ; SO2+ (24VDC)	
40 ; SO2- (0VDC)	
DIGITAL OUTPUTS (OPEN/CLOSES DRY CONTACT)	
41 ; RO1.1	
42 ; RO1.2	
43 ; RO2.1	
44 ; RO2.2	
SPARE 24 VDC OUTPUTS	
51	24 VDC
52	0 VDC
53	24 VDC
54	0 VDC

Land DC Solenoids here

Cla-Val VC-22D Modbus Addresses						
Project Name:						
Date:						
Modbus	Input	Description	Data Type	Access	I/O Mapping	Comments
40007 Bit 0		Analog Input Modbus Override	Bit	Write	N/A	Overrides 4-20mA AI1 Input to use Modbus Address 43000/43001
40007 Bit 1		Analog Input Modbus Override	Bit	Write	N/A	Overrides 4-20mA AI2 Input to use Modbus Address 43002/43003
40007 Bit 2		Analog Input Modbus Override	Bit	Write	N/A	Overrides 4-20mA AI3 Input to use Modbus Address 43004/43005
40007 Bit 3		Analog Input Modbus Override	Bit	Write	N/A	Overrides 4-20mA AI4 Input to use Modbus Address 43006/43007
40007 Bit 4		Analog Input Modbus Override	Bit	Write	N/A	Overrides 4-20mA AI5 Input to use Modbus Address 43008/43009
40007 Bit 5		Analog Input Modbus Override	Bit	Write	N/A	Overrides 4-20mA AI6 Input to use Modbus Address 43010/43011
40008 Bit 0		Digital Input Modbus Override	Bit	Write	N/A	Overrides Hardwire DI1 Input to use Modbus Address 41000
40008 Bit 1		Digital Input Modbus Override	Bit	Write	N/A	Overrides Hardwire DI2 Input to use Modbus Address 41001
40008 Bit 2		Digital Input Modbus Override	Bit	Write	N/A	Overrides Hardwire DI3 Input to use Modbus Address 41002
40008 Bit 3		Digital Input Modbus Override	Bit	Write	N/A	Overrides Hardwire DI4 Input to use Modbus Address 41003
40008 Bit 4		Digital Input Modbus Override	Bit	Write	N/A	Overrides Hardwire DI5 Input to use Modbus Address 41004
40008 Bit 5		Digital Input Modbus Override	Bit	Write	N/A	Overrides Hardwire DI6 Input to use Modbus Address 41005
41000		Digital Input	Word	Read/Write	DI1	Register Holds/Reads DI1 Value
41001		Digital Input	Word	Read/Write	DI2	Register Holds/Reads DI2 Value
41002		Digital Input	Word	Read/Write	DI3	Register Holds/Reads DI3 Value
41003		Digital Input	Word	Read/Write	DI4	Register Holds/Reads DI4 Value
41004		Digital Input	Word	Read/Write	DI5	Register Holds/Reads DI5 Value
41005		Digital Input	Word	Read/Write	DI6	Register Holds/Reads DI6 Value
41006		Digital Output	Word	Read	S01	Monitory Purposes (Optional)
41007		Digital Output	Word	Read	S02	Monitory Purposes (Optional)
41008		Digital Output	Word	Read	R01	Monitory Purposes (Optional)
41009		Digital Output	Word	Read	R02	Monitory Purposes (Optional)
43000/43001		Analog Input	Int 32	Read/Write	AI1	Register Holds/Reads AI1 Value x100 for Two Implied Decimals
43002/43003		Analog Input	Int 32	Read/Write	AI2	Register Holds/Reads AI2 Value x100 for Two Implied Decimals
43004/43005		Analog Input	Int 32	Read/Write	AI3	Register Holds/Reads AI3 Value x100 for Two Implied Decimals
43006/43007		Analog Input	Int 32	Read/Write	AI4	Register Holds/Reads AI4 Value x100 for Two Implied Decimals
43008/43009		Analog Input	Int 32	Read/Write	AI5	Register Holds/Reads AI5 Value x100 for Two Implied Decimals
43010/43011		Analog Input	Int 32	Read/Write	AI6	Register Holds/Reads AI6 Value x100 for Two Implied Decimals
43036/43037		Analog Output	Int 32	Read	AO1	Monitory Purposes (Optional) - Register Holds AO1 Value x100 for Two Implied Decimals
43038/43039		Analog Output	Int 32	Read	AO2	Monitory Purposes (Optional) - Register Holds AO2 Value x100 for Two Implied Decimals
43040/43041		Analog Output	Int 32	Read	AO3	Monitory Purposes (Optional) - Register Holds AO3 Value x100 for Two Implied Decimals
43042/43043		Analog Output	Int 32	Read	AO4	Monitory Purposes (Optional) - Register Holds AO4 Value x100 for Two Implied Decimals

***Additional ModBus information can be found in the manual.