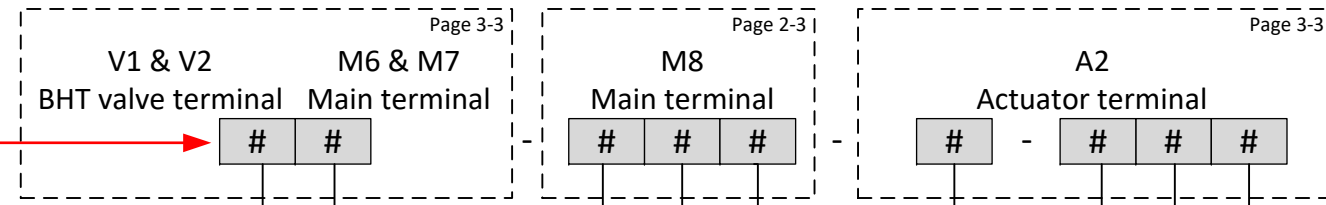
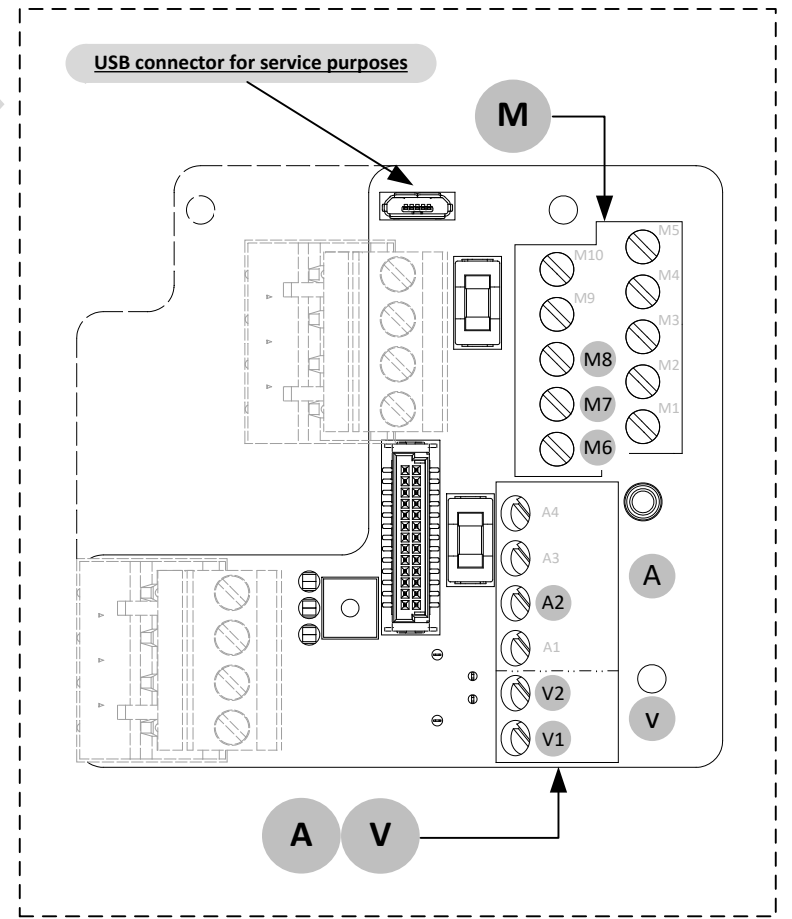


The label shown is for illustration purposes only and may vary on actual products.



Terminal Connections



Code	Actuator terminal (A2)
0	Disabled, Bronkhorst actuator output
1	Enabled, Bronkhorst actuator output

Controller mode	Code
Controller disabled (meter only)	0
Controller enabled, analog setpoint	A
Controller enabled, digital setpoint	D

Integrated Comm. Mode	Code
RS232 – ProPar (default)	A
RS485 – FLOW-BUS	B
RS485 – Modbus RTU	C
RS485 – Modbus ASCII	D

Code	Type	Code	Range	Code	Linked parameter
0	Disabled	0	0 Vdc	0	-
A	Voltage output	0	0-5 Vdc	A	Alarm
		1	0-10 Vdc	B	Batch counter
		9	Custom	C	Control mode
B	Current output	0	0-20 mAdc	D	Density
		1	4-20 mAdc	E	Measure
		2	3.8-20.8 mAdc	F	Frequency
		9	Custom	I	IO switch status
		0	Remote parameter	P	Pressure
		1	Min alarm	S	Setpoint
C	Digital output	2	Max alarm	T	Temperature
		3	Min/max alarm	V	Controller output
		4	Counter limit reached	Z	Custom
		5	Enabled by setpoint		
		9	Custom		
D	Frequency output	9	Custom		
F	Pulse output	9	Custom		
		0	0-5 Vdc	C	Control mode
		1	0-10 Vdc	E	Measure (external sensor)
G	Voltage input * only on Main terminal M8	9	Custom	I	IO switch status
		0	0-20 mAdc	N	Calibration mode
		1	4-20 mAdc	R	Reset
H	Current input * only on Main terminal M8	9	Custom	S	Setpoint
		1	Counter reset	V	Actuator (Valve)
		2	Alarm reset	Z	Custom
I	Digital input	3	Close Valve		
		4	Counter reset/disable		
		5	Auto Zero		
		8	Purge Valve		
		9	Custom		

Preset Table

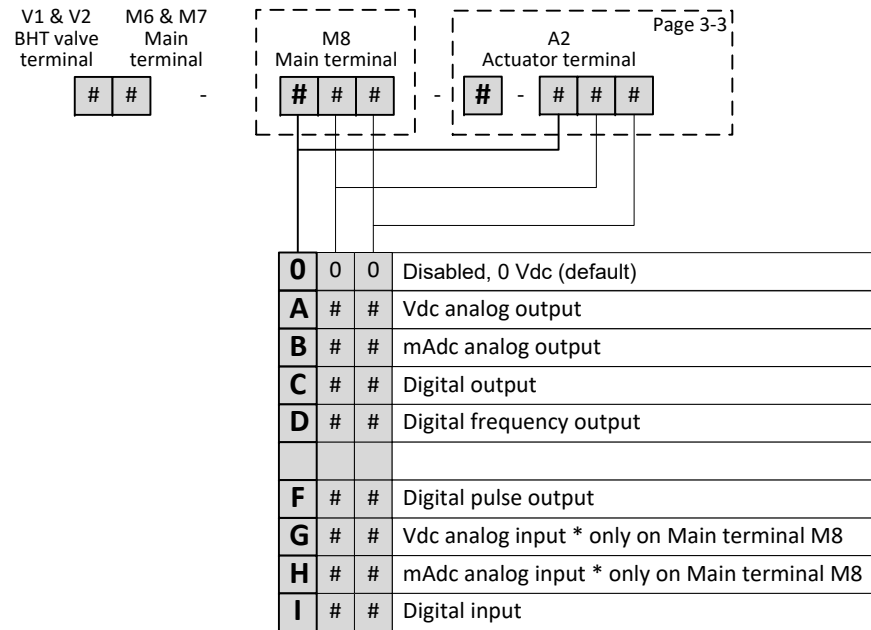
Type	Range	Par	Configurable input/output (M8 Main terminal & A2 Actuator terminal)
0	0	0	Disabled, 0 Vdc (default)
A	1	V	0-10 Vdc output, controller
B	1	V	4-20 mAdc output, controller
B	2	V	3.8-20.8 mAdc output (TEIP11/Badger), controller
C	3	A	Digital output, min/max alarm
C	4	A	Digital output, counter limit reached
C	5	S	Digital output, enabled by setpoint (for shut-off)
C	0	I	Digital output, high/low switch via remote parameter
D	9	E	Digital frequency output, measure
F	9	B	Digital pulse output, batch counter
I	3	C	Digital input, controller mode valve close
I	8	C	Digital input, controller mode valve purge
I	1	R	Digital input, reset counter
I	2	R	Digital input, reset alarm

Other settings on request.

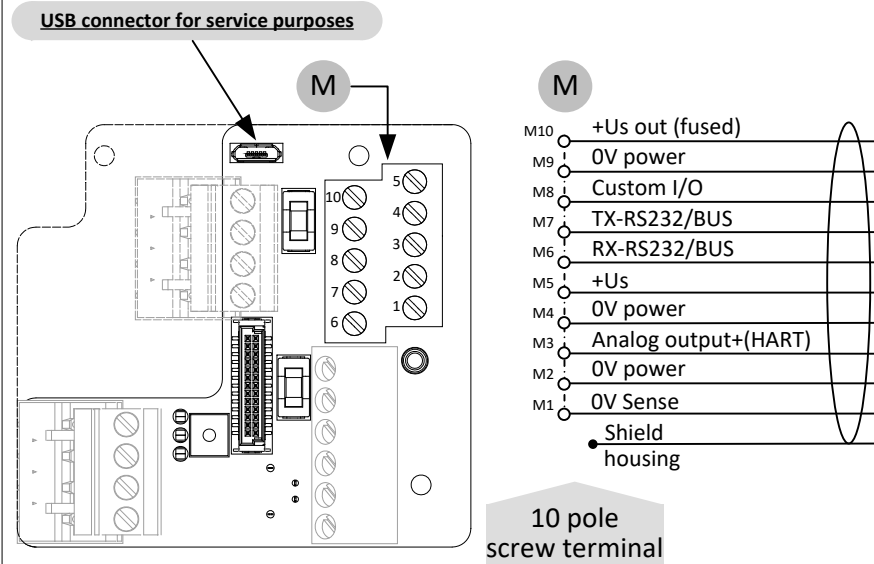
Check next page for Hook-up diagrams

Main terminal M8 / IO HOOK-UP DIAGRAMS

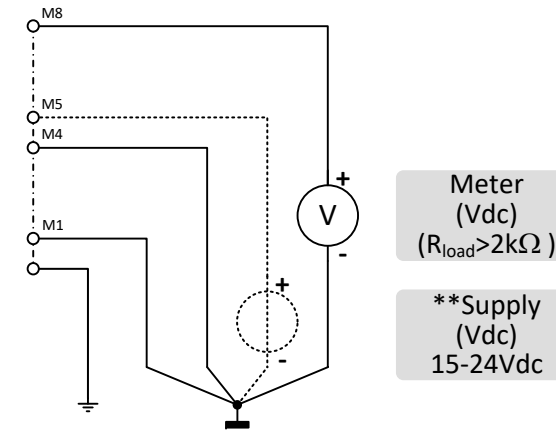
M8 MAIN TERMINAL & A2 ACTUATOR TERMINAL



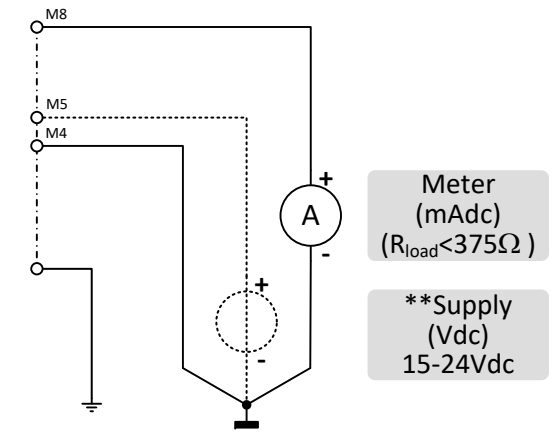
MAIN TERMINAL



A	0	#	0-5 Vdc analog output
	1	#	0-10 Vdc analog output
	9	#	custom Vdc analog output



B	0	#	0-20 mAdc analog output
	1	#	4-20 mAdc analog output
	2	#	3.8-20.8 mAdc output
	9	#	Custom mAdc analog output



POWER SUPPLY WARNING

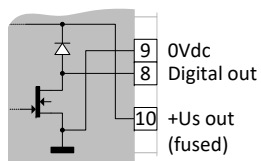
! ** Do not power the instrument simultaneously from two different power sources (e.g. bus connection and Main terminal connection). Doing so will damage the printed circuit board irreparably.

! When connecting the system to other devices, be sure that the integrity of the shielding is not affected. Do not use unshielded wire terminals.

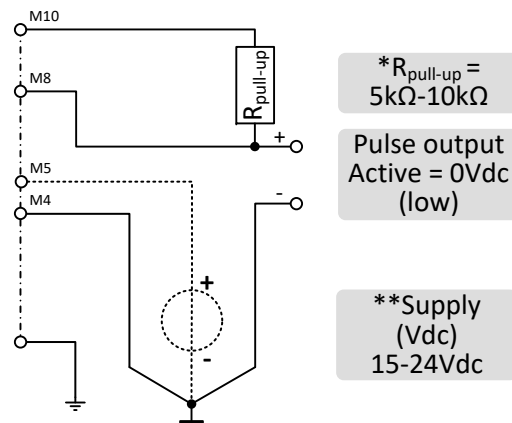
Note: 0V power (M4) and 0V sense (M1) should be separately connected to the 0Vdc terminal at the power supply for long cable compensation.

Note: In analog mode with 'mAdc' signals 0V sense (M1) does not need to be connected. The instrument's operation will not be effected in case 0Vdc sense is already hooked-up.

Internal setup digital output

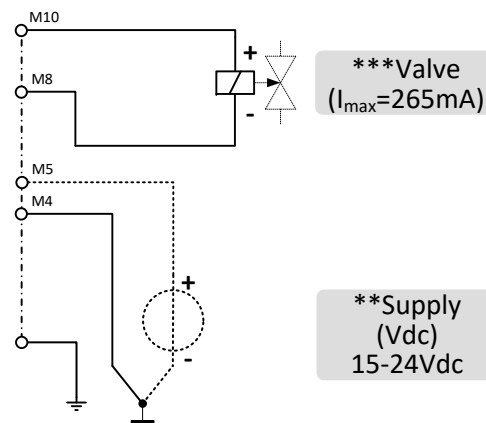


C	#	#	Digital output
D	#	#	Digital frequency output
F	#	#	Digital pulse output



Pulse Output

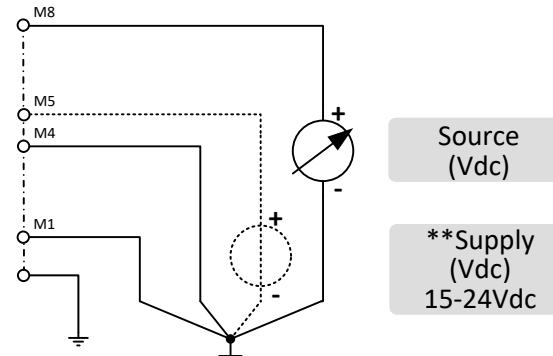
Note: * Use $R_{pull-up}$ (between 5k Ω and 10 k Ω) to create 15-24Vdc at Main terminal M8.



Shut-off Valve

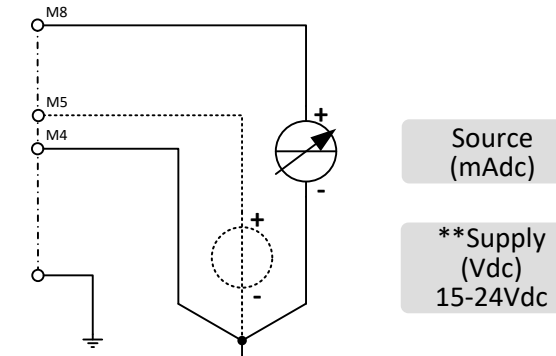
Note: *** For 15Vdc supply the minimal load is 60 Ω , for 24Vdc supply the minimal load is 90 Ω .

G	0	#	0-5 Vdc analog input
	1	#	0-10 Vdc analog input
	9	#	custom Vdc analog input



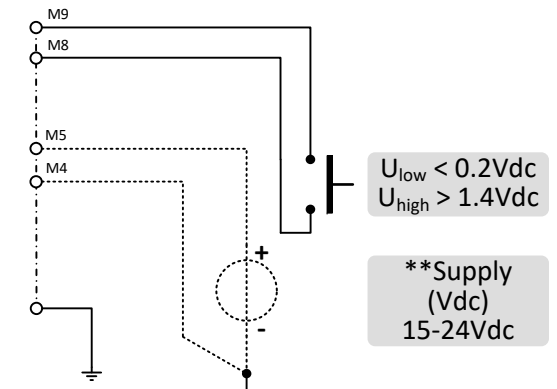
Note: 0V power (M4) and 0V sense (M1) should be separately connected to the 0V terminal at the power supply. (Impedance = 250k Ω)

H	0	#	0-20 mAdc analog input
	1	#	4-20 mAdc analog input
	9	#	Custom mAdc analog input



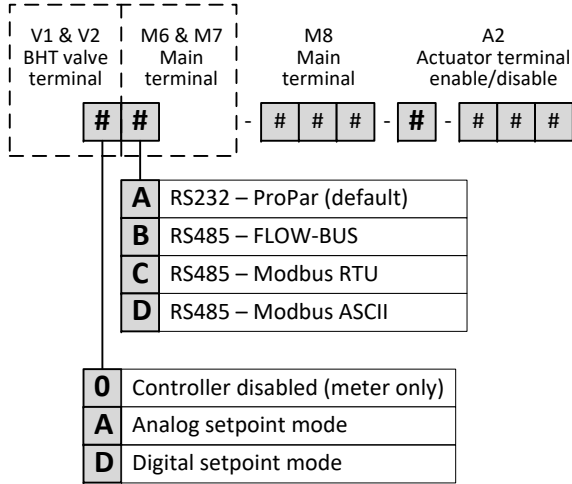
Note: In analog mode with 'mAdc' signals 0V sense (M1) does not need to be connected. The instrument's operation will not be effected in case 0Vdc sense is already hooked-up. (Impedance = 250 Ω)

I	#	#	Digital input
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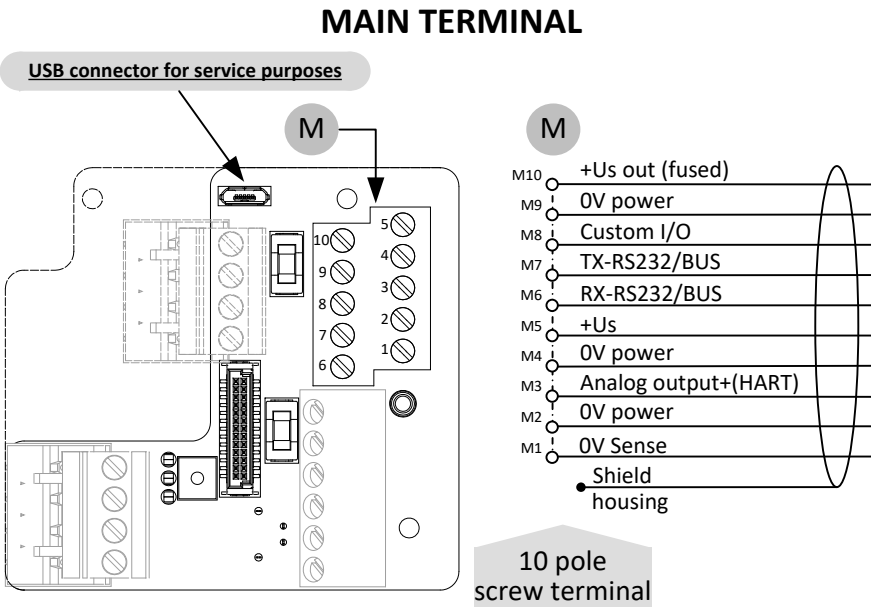


Main terminal M6 & M7 RS232/RS485 HOOK-UP DIAGRAMS

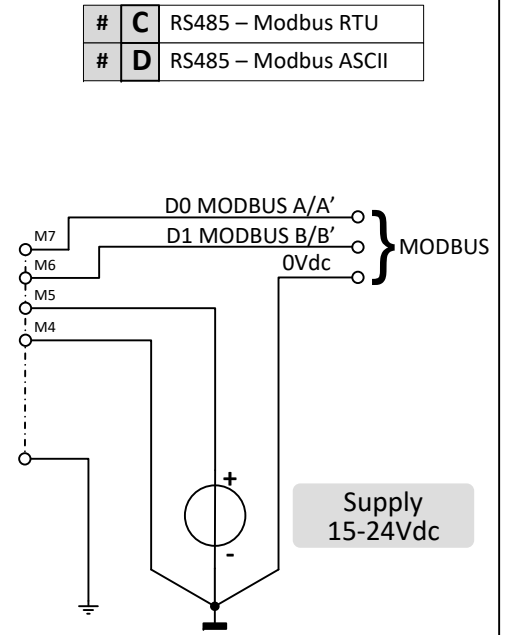
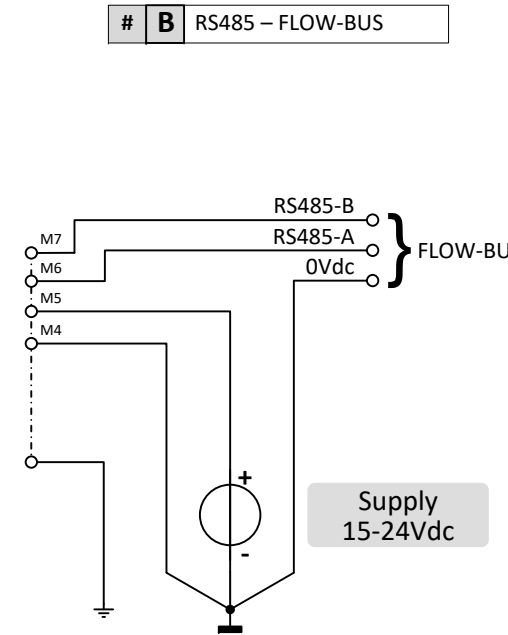
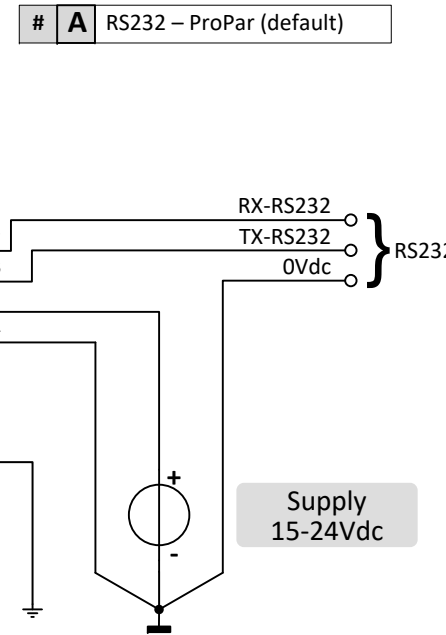
M6 & M7 MAIN TERMINAL BUS OPTIONS



Note:
When the instrument is configured for analog setpoint mode it is not possible to give a setpoint via FLOW-BUS or Modbus input on the main terminal.
To configure the instrument for digital operation, change parameter 'control mode'. See doc.nr. 9.17.120 for more details.

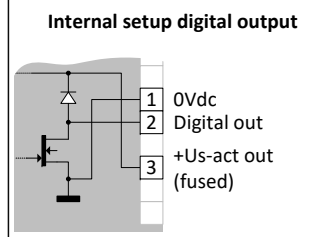
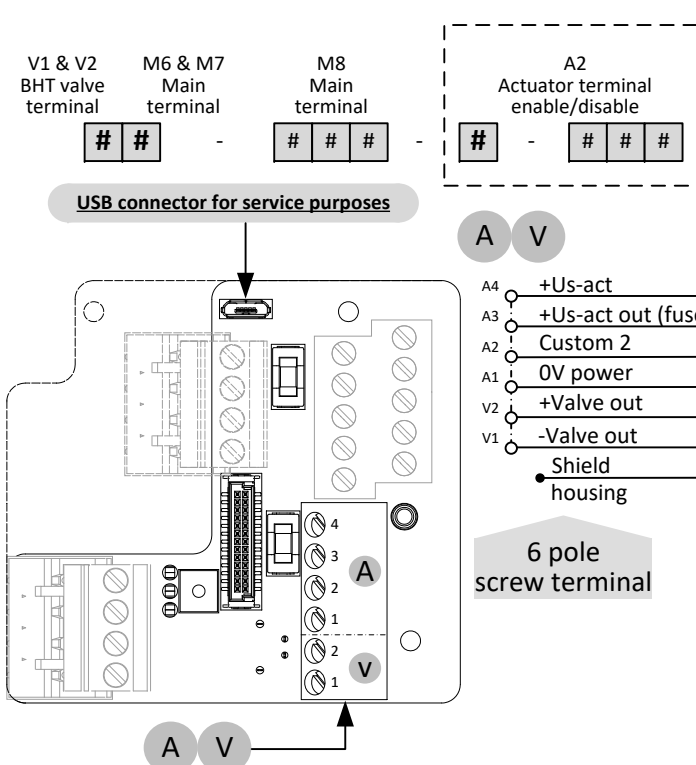


When connecting the system to other devices, be sure that the integrity of the shielding is not affected.
Do not use unshielded wire terminals.



Actuator A2 HOOK-UP DIAGRAM

A2 ACTUATOR / V1 & V2 BHT VALVE TERMINAL

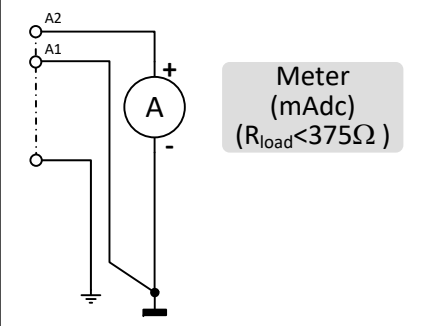
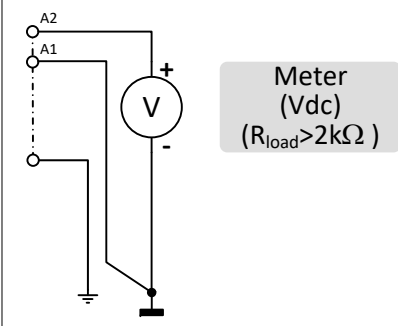
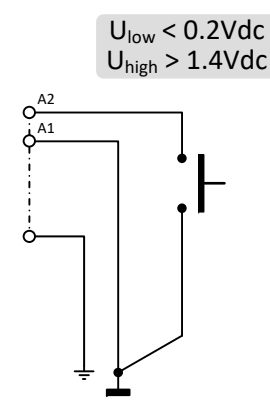
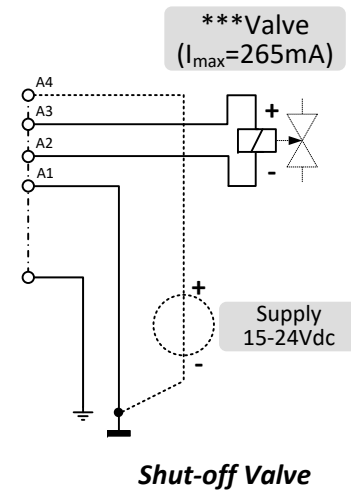
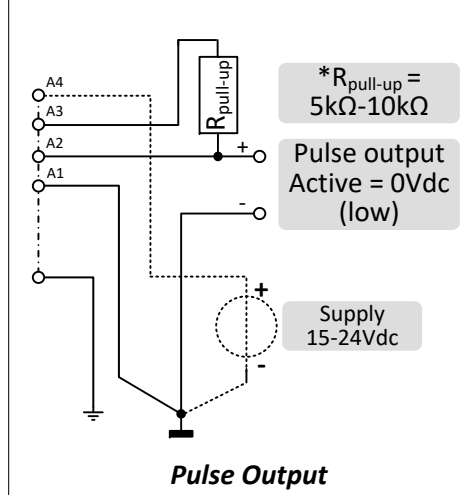


C	# #	Digital output
D	# #	Digital frequency output
F	# #	Digital pulse output

I	# #	Digital input
---	-----	---------------

A	0 #	0-5 Vdc analog output
A	1 #	0-10 Vdc analog output
A	9 #	custom Vdc analog output

B	0 #	0-20 mAdc analog output
B	1 #	4-20 mAdc analog output
B	2 #	3.8-20.8 mAdc output
B	9 #	Custom mAdc analog output



Note: * Use Rpull-up (between 5kΩ and 10 kΩ) to create 15-24Vdc at Main terminal M8.
Note: *** For 15Vdc supply the minimal Load is 60 Ω, for 24Vdc supply the minimal load is 90 Ω
Note: When using terminal A2 as digital output, an additional power supply must be connected to terminal A4. It is also possible to use connection **M10** +Us out (fused) from the main terminal.

When connecting the system to other devices, be sure that the integrity of the shielding is not affected.
Do not use unshielded wire terminals.

BHT valve terminal V1 & V2 HOOK-UP DIAGRAM

Bronkhorst (proportional) valve connection V1 & V2

