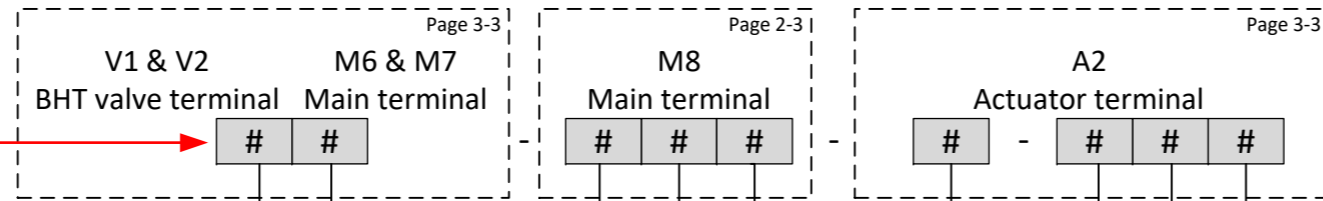
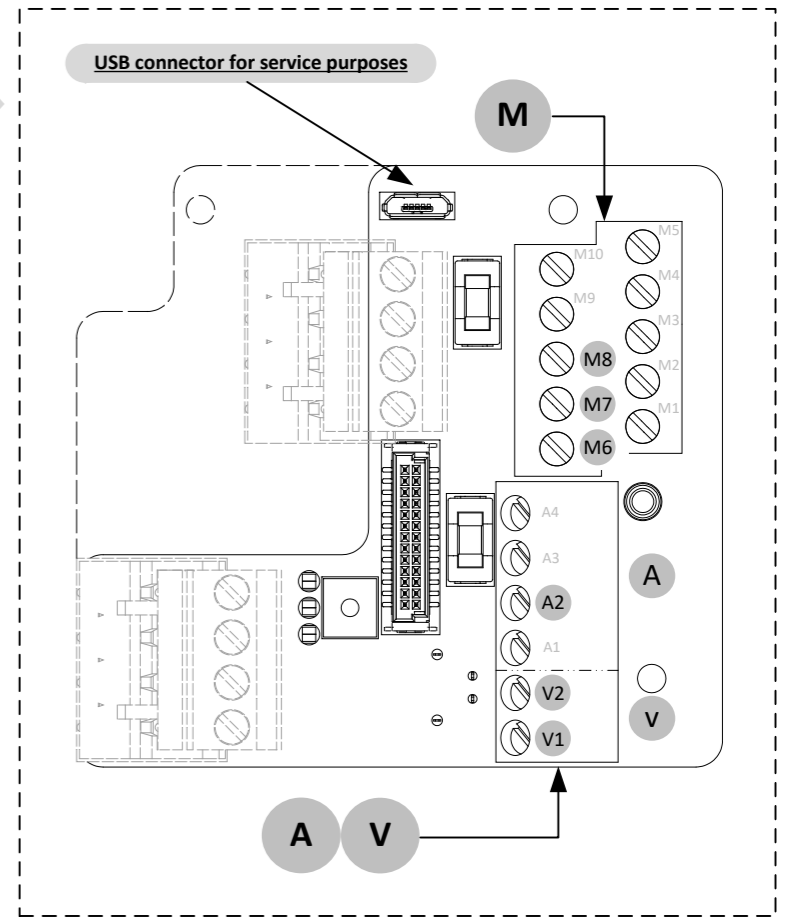


The label shown is for illustration purposes only and may vary on actual products.



Terminal Connections



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:		
		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)
I	Digital input	2	Alarm reset	Z	Custom
		3	Close Valve		
		4	Counter reset/disable		
		5	Auto Zero		
		8	Purge Valve		
		9	Custom		

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

Preset Table

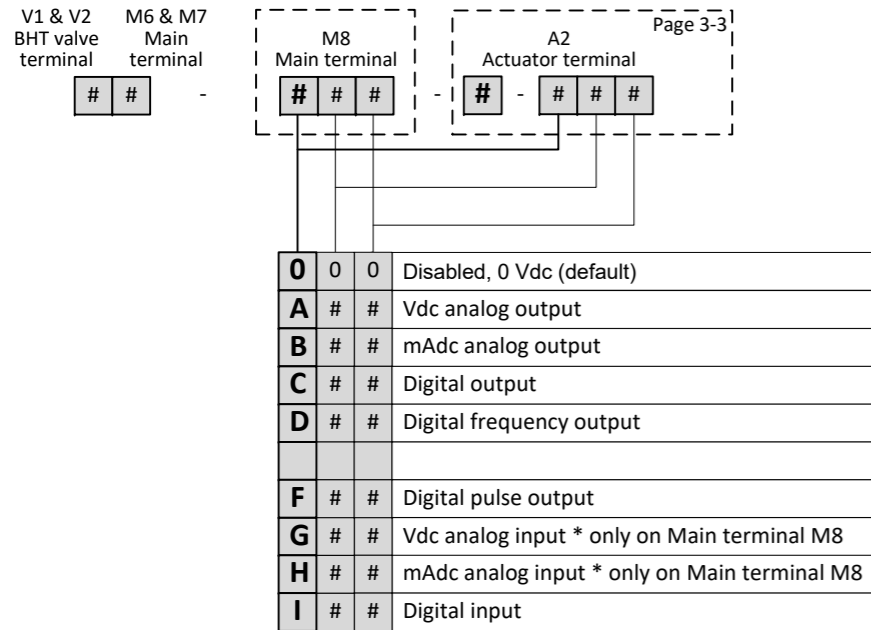
Type	Range	Par	Configurable input/output (M8 Main terminal & A2 Actuator terminal)
0	0	0	Disabled, 0 Vdc (default)
A	1	V	0-10 Vdc output, controller
B	1	V	4-20 mAdc output, controller
B	2	V	3.8-20.8 mAdc output (TEIP11/Badger), controller
C	3	A	Digital output, min/max alarm
C	4	A	Digital output, counter 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.

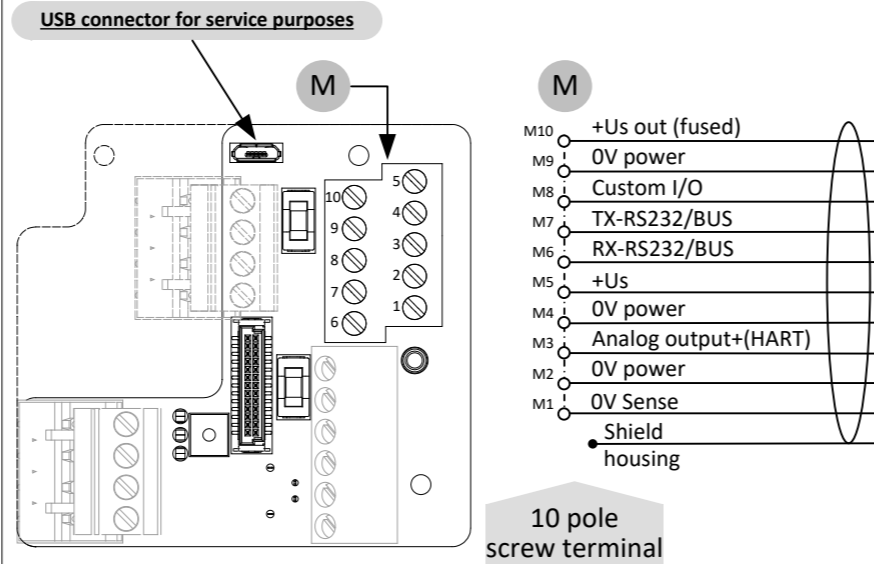
Check next page for Hook-up diagrams

Main terminal M8 / IO HOOK-UP DIAGRAMS

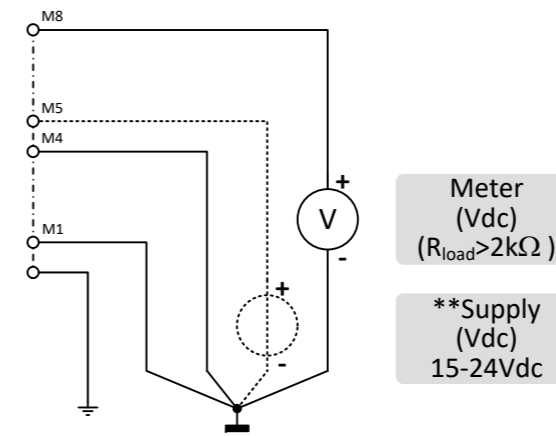
M8 MAIN TERMINAL & A2 ACTUATOR TERMINAL



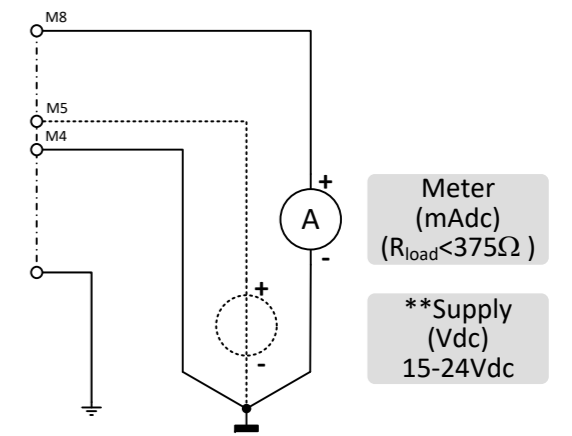
MAIN TERMINAL



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

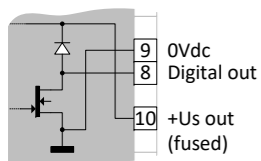
! ** Do not power the instrument simultaneously from two different power sources (e.g. bus connection and Main terminal connection). Doing so will damage the printed circuit board irreparably.

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

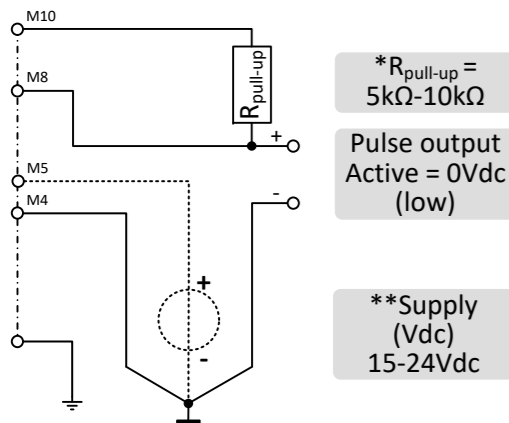
Note: 0V power (M4) and 0V sense (M1) should be separately connected to the 0Vdc terminal at the power supply for long cable compensation.

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

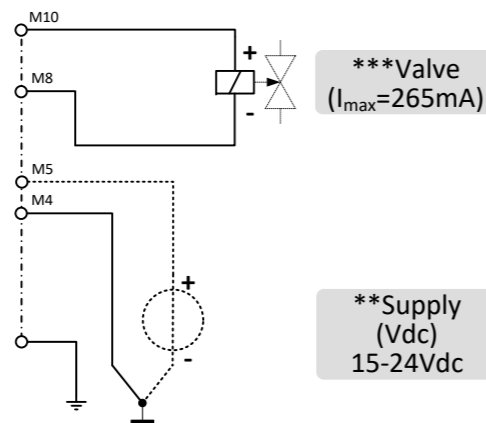


C	#	#	Digital output
D	#	#	Digital frequency output
F	#	#	Digital pulse output



Pulse Output

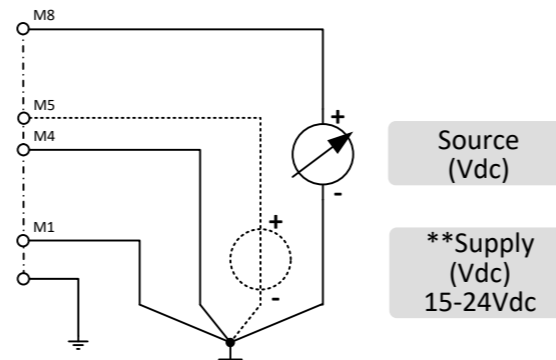
Note: * Use $R_{pull-up}$ (between 5k Ω and 10 k Ω) to create 15-24Vdc at Main terminal M8.



Shut-off Valve

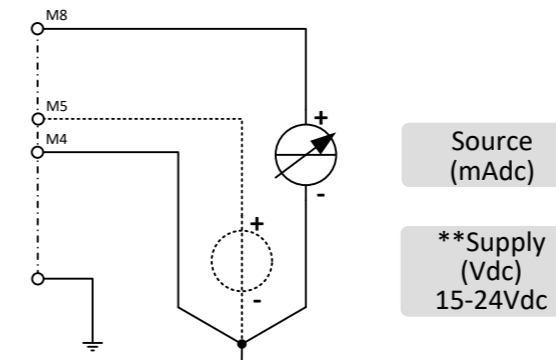
Note: *** For 15Vdc supply the minimal Load is 60 Ω , for 24Vdc supply the minimal Load is 90 Ω .

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



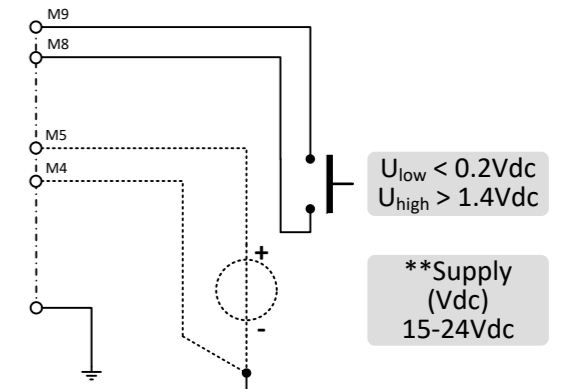
Note: 0V power (M4) and 0V sense (M1) should be separately connected to the 0V terminal at the power supply. (Impedance = 250k Ω)

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



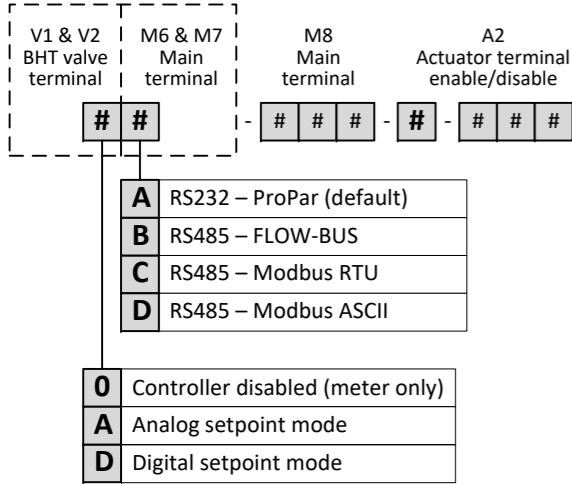
Note: In analog mode with 'mAdc' signals 0V sense (M1) does not need to be connected. The instrument's operation will not be effected in case 0Vdc sense is already hooked-up. (Impedance = 250 Ω)

I	#	#	Digital input
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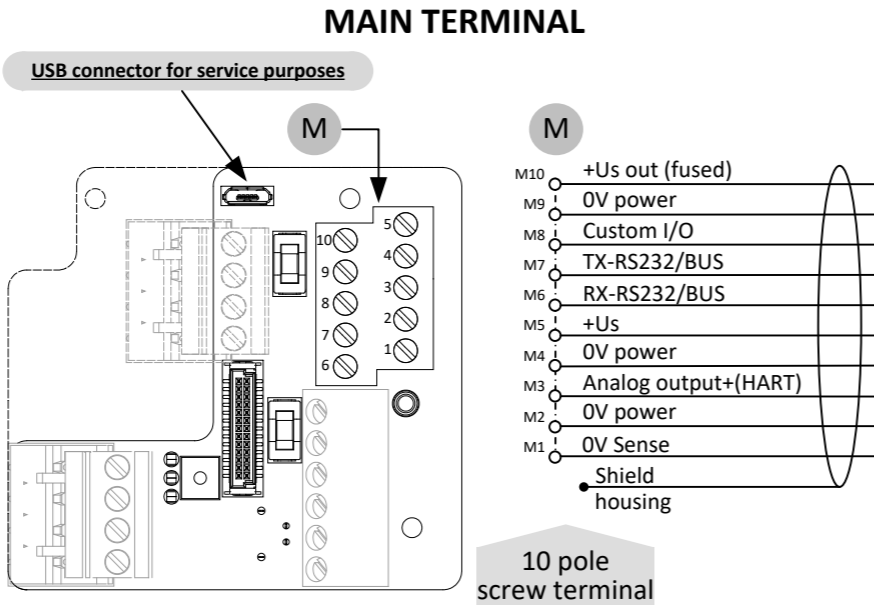


Main terminal M6 & M7 RS232/RS485 HOOK-UP DIAGRAMS

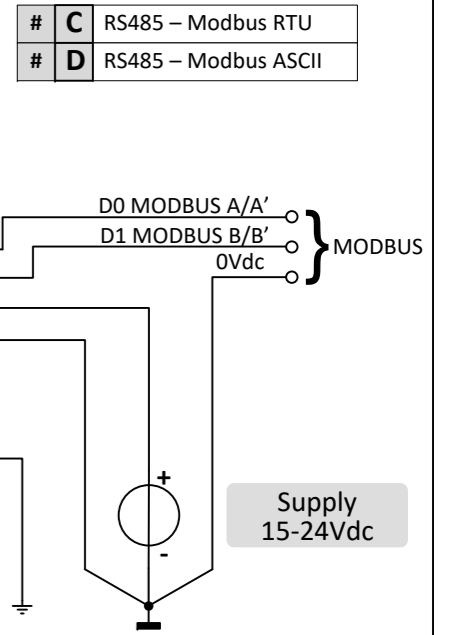
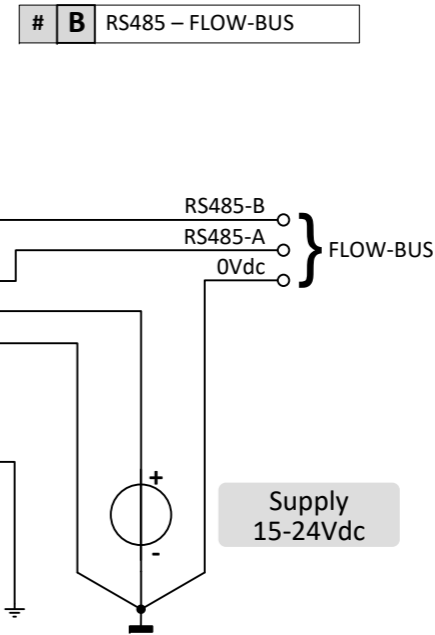
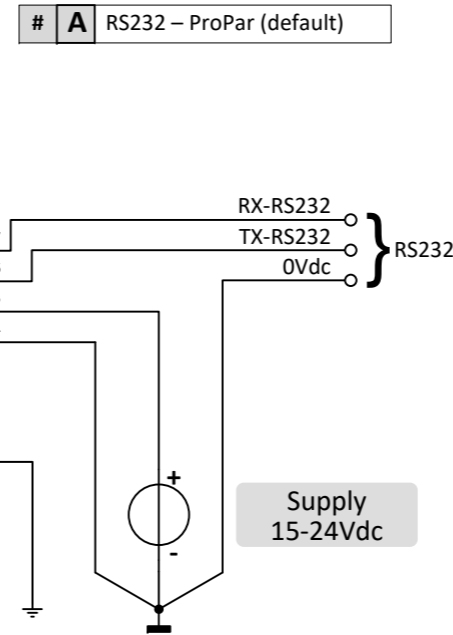
M6 & M7 MAIN TERMINAL BUS OPTIONS



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.

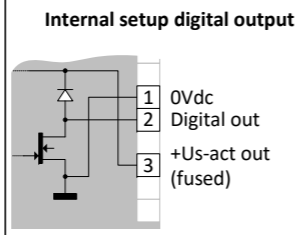
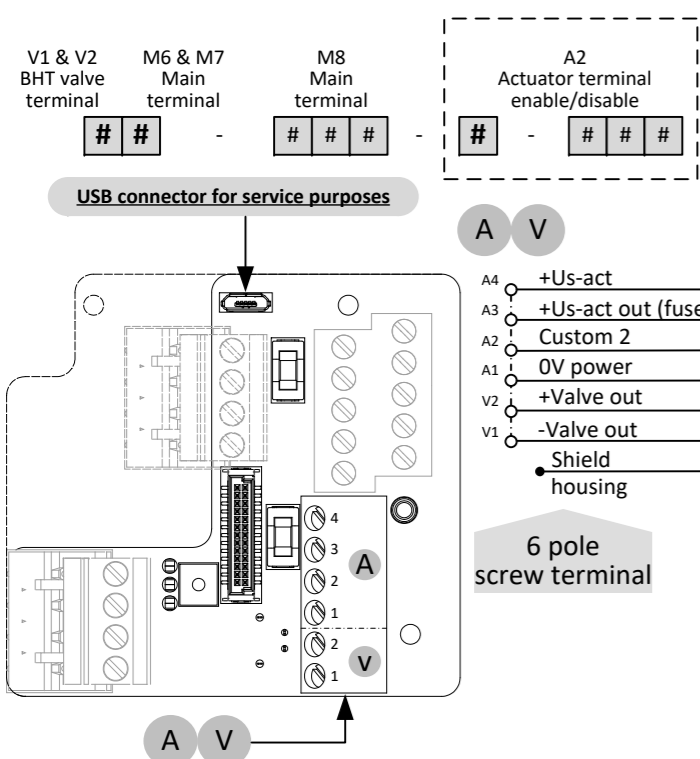


⚠ When connecting the system to other devices, be sure that the integrity of the shielding is not affected.
Do not use unshielded wire terminals.



Actuator A2 HOOK-UP DIAGRAM

A2 ACTUATOR / V1 & V2 BHT VALVE TERMINAL

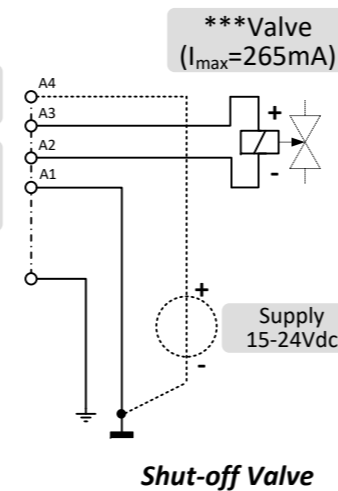
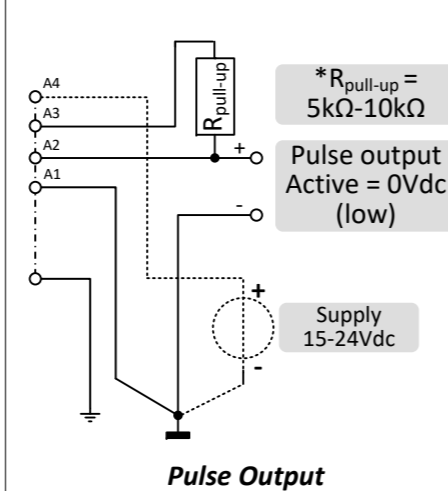


C	#	#	Digital output
D	#	#	Digital frequency output
F	#	#	Digital pulse output

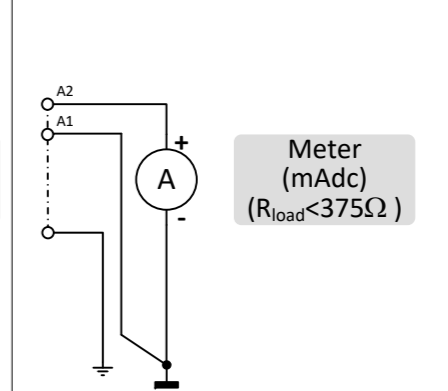
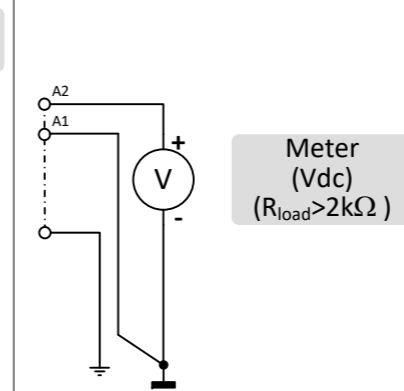
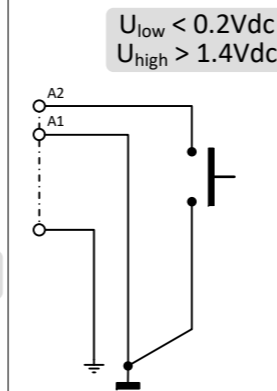
I	#	#	Digital input
---	---	---	---------------

A	0	#	0-5 Vdc analog output
	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



Note: * Use R_{pull-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.



Note: This output has no long cable compensation.

⚠ 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

Valve (I_{max}=265mA)