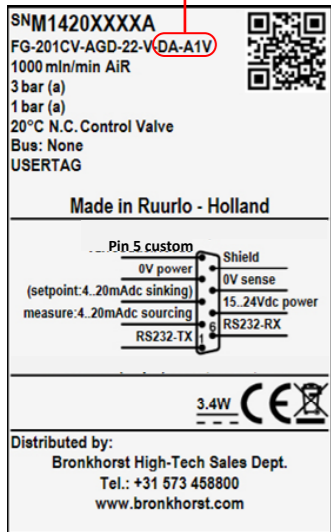


MBC3



Controller mode	Code
Controller disabled (meter only)	0
Analog setpoint	A
Digital setpoint	D

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



Check table below for Hook-up diagrams

The labels shown are for illustration purposes only and may vary on actual products.

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	
		E	PWM output	9	Custom	
		F	Pulse output	9	Custom	
		9	Custom			
G	Voltage input	0	0-5 Vdc	C	Control mode	
		1	0-10 Vdc	E	Measure (external sensor)	
		9	Custom	I	IO switch status	
H	Current input	0	0-20 mAdc	N	Calibration mode	
		1	4-20 mAdc	P	Pressure	
		9	Custom	R	Reset	
I	Digital input	1	Counter reset	S	Setpoint	
		2	Alarm reset	V	Actuator (Valve)	
		3	Close Valve	Z	Custom	
		4	Counter reset/disable			
		5	Auto Zero			
		8	Purge Valve			
		9	Custom			

Preset Table

Type	Range	Par	Configurable input/output (pin 5)
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
H	1	P	Ext. pressure sensor input; 4-20mAdc for pressure compensation*
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.

\* FG-xxx series only

Check next page for Hook-up diagrams

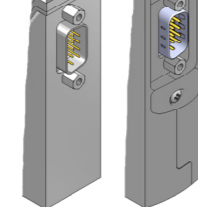
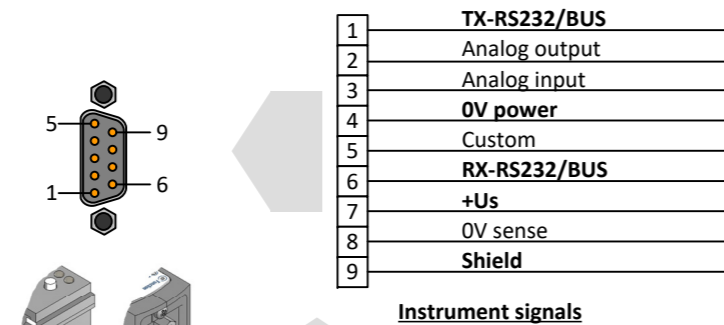
#### PIN 1&6, RS232/RS485 HOOK-UP DIAGRAMS

##### PIN 1&6 BUS OPTIONS

Pin 1&6	Pin 5
# #	# # #
A	RS232 – ProPar (default)
B	RS485 – FLOW-BUS
C	RS485 – Modbus RTU
D	RS485 – Modbus ASCII
0	Controller disabled (meter only)
A	Analog setpoint mode
D	Digital setpoint mode

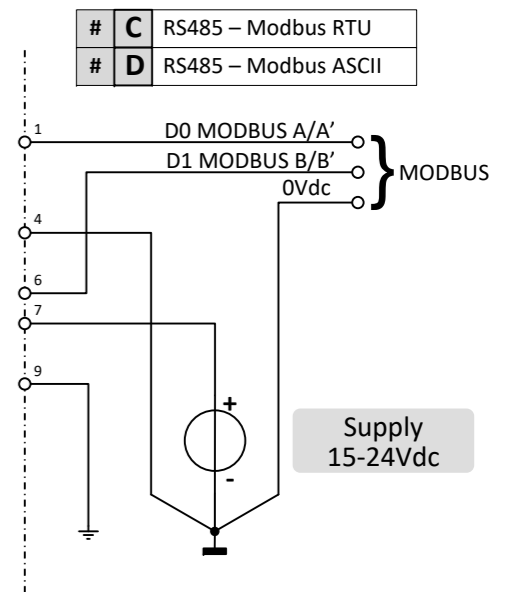
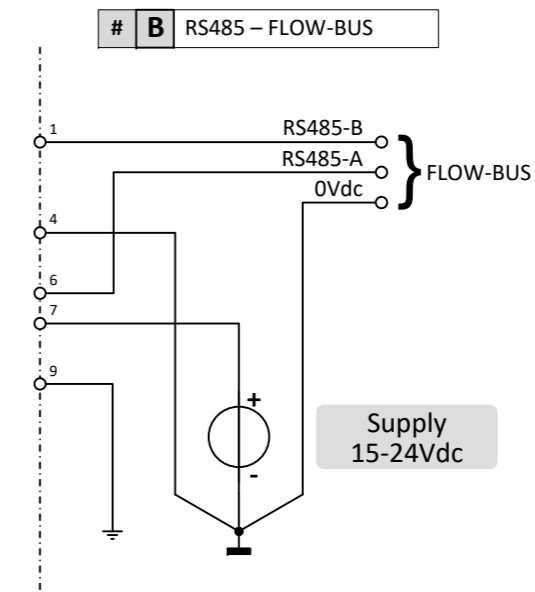
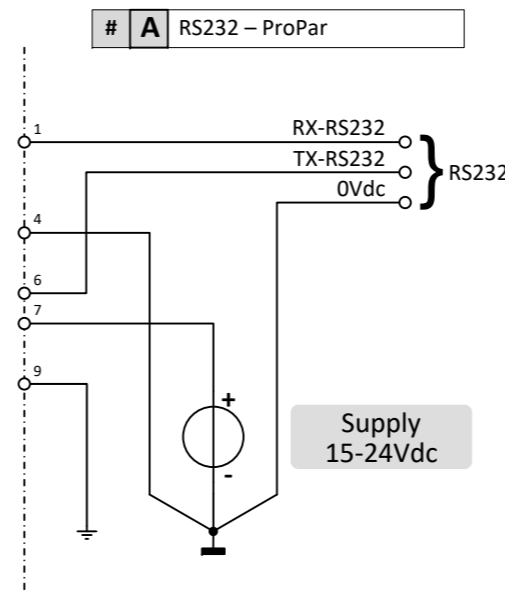
Note:  
When the instrument is configured for analog setpoint mode it is not possible to give a setpoint via FLOW-BUS or Modbus input on the D-sub connector.  
To configure the instrument for digital operation, change parameter 'control mode'. See doc.nr. 9.17.023 for more details.

##### PIN CONNECTIONS



9 pin D-Sub Connector chassis part male

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

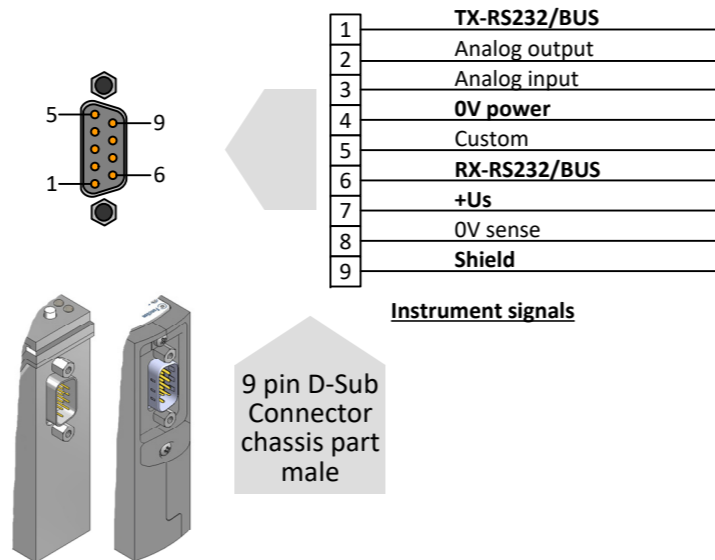


#### PIN 5, IO HOOK-UP DIAGRAMS

#### PIN 5 IO OPTIONS

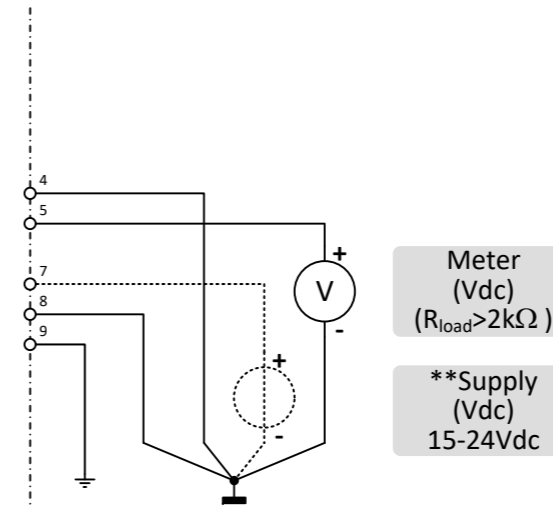
Pin 1&6	Pin 5	Function
0 0	0 0	Disabled, 0Vdc (default)
A # #	# #	Vdc analog output
B # #	# #	mAdc analog output
C # #	# #	Digital output
D # #	# #	Digital frequency output
E # #	# #	Digital PWM output
F # #	# #	Digital pulse output
G # #	# #	Vdc analog input
H # #	# #	mAdc analog input
I # #	# #	Digital input

#### PIN CONNECTIONS



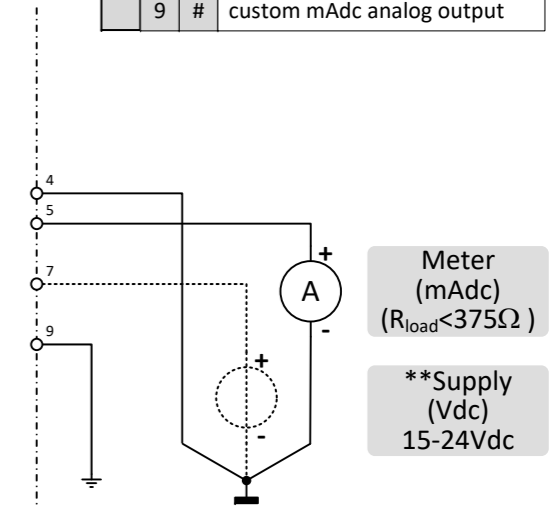
When connecting the system to other devices, be sure that the integrity of the shielding is not affected. Do not use unshielded wire terminals.

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



Note: 0Vdc power (pin 4) and 0Vdc sense (pin 8) should be separately connected to the 0Vdc terminal at the power supply

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



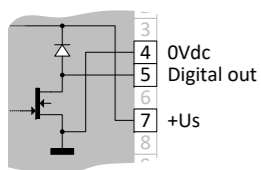
Note: In analog mode with 'mAdc' signals 0Vdc sense (pin 8) does not need to be connected. The instrument's operation will not be effected in case 0Vdc sense is already hooked-up

#### POWER SUPPLY WARNING

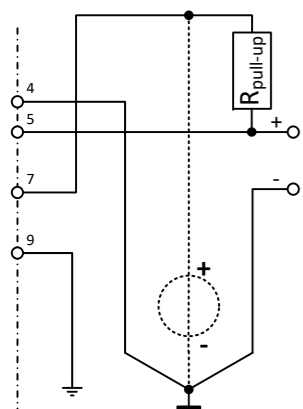


\*\* Use only SUB-D 9 or FLOW-BUS/Modbus/DeviceNet connector to power the device. Wrong powering could damage the device. Please refer the corresponding manual for the right power connection!

#### Internal setup digital output



C	D	E	F	Function
C # #	D # #	E # #	F # #	Digital output
C # #	D # #	E # #	F # #	Digital frequency output
C # #	D # #	E # #	F # #	Digital PWM output
C # #	D # #	E # #	F # #	Digital pulse output

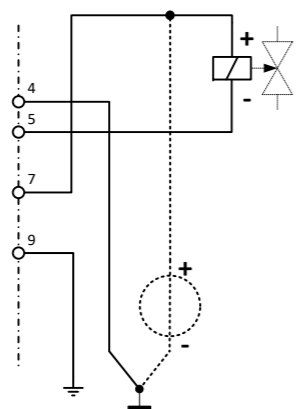


\*  $R_{pull-up} = 5k\Omega - 10k\Omega$

Pulse output Active = 0Vdc (low)

\*\*Supply (Vdc) 15-24Vdc

Pulse Output



Valve ( $I_{max} = 265mA$ )

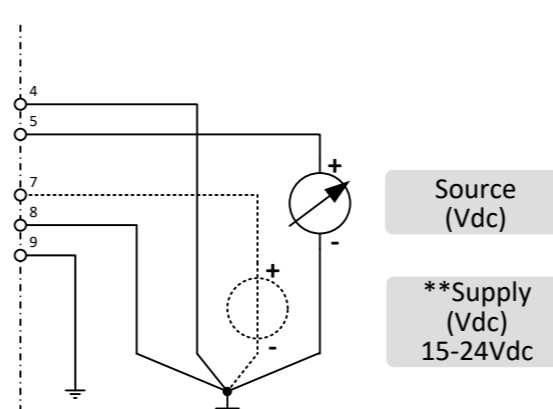
\*\*Supply (Vdc) 15-24Vdc

Shut-off Valve

\* Use  $R_{pull-up}$  (between 5k $\Omega$  and 10 k $\Omega$ ) to create 15-24Vdc at pin 5

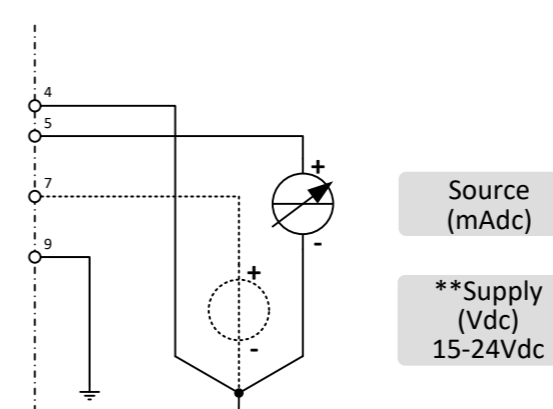
Note: For 15Vdc supply the minimal load is 60  $\Omega$ , for 24Vdc supply the minimal load is 90  $\Omega$

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



Note: 0Vdc power (pin 4) and 0Vdc sense (pin 8) should be separately connected to the 0V terminal at the power supply.

H	0 #	1 #	9 #	Function
	0 #	1 #	9 #	0-20 mAdc analog input
	0 #	1 #	9 #	4-20 mAdc analog input
	0 #	1 #	9 #	custom mAdc analog input



Note: In analog mode with 'mAdc' signals 0Vdc sense (pin 8) does not need to be connected. The instrument's operation will not be effected in case 0Vdc sense is already hooked-up.

I	# #	Function
I # #	# #	Digital input

