

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

Pin 1&6      Pin 5

| 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    |

| 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            |   |              |
|      |                | 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             | R                         | Reset             |   |              |
|      |                | 9    | Custom                | S                         | Setpoint          |   |              |
| I    | Digital input  | 1    | Counter reset         | V                         | Actuator (Valve)  |   |              |
|      |                | 2    | Alarm reset           | Z                         | Custom            |   |              |
|      |                | 3    | Close Valve           |                           |                   |   |              |
|      |                | 4    | Counter reset/disable |                           |                   |   |              |
|      |                | 5    | Auto Zero             |                           |                   |   |              |
|      |                | 8    | Purge Valve           |                           |                   |   |              |
|      |                | 9    | Custom                |                           |                   |   |              |

| 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                  |
| 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 table below for Hook-up diagrams

Preset Table

Check next page for Hook-up diagrams

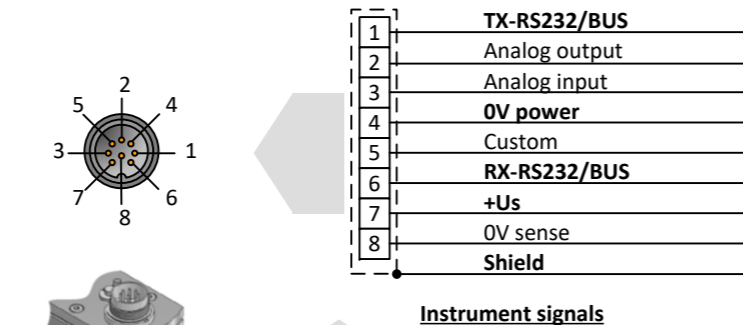
#### PIN 1&6, RS232/RS485 HOOK-UP DIAGRAMS

#### PIN 1&6 BUS OPTIONS

| Code | Option                           |
|------|----------------------------------|
| 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            |

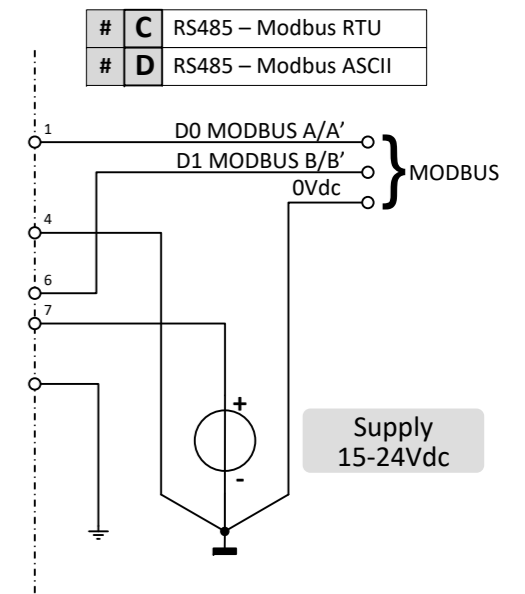
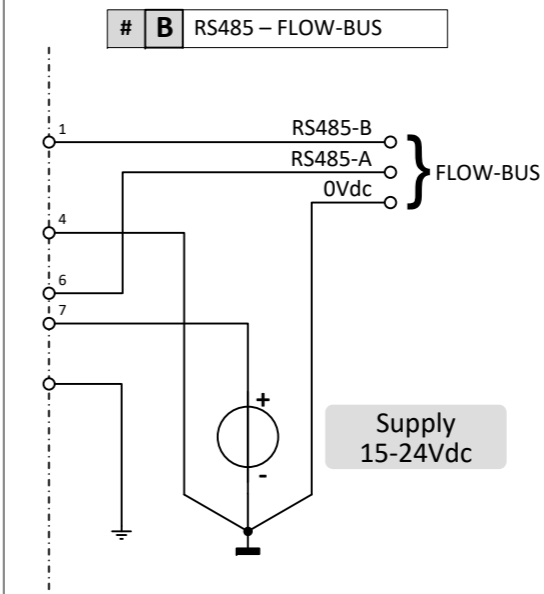
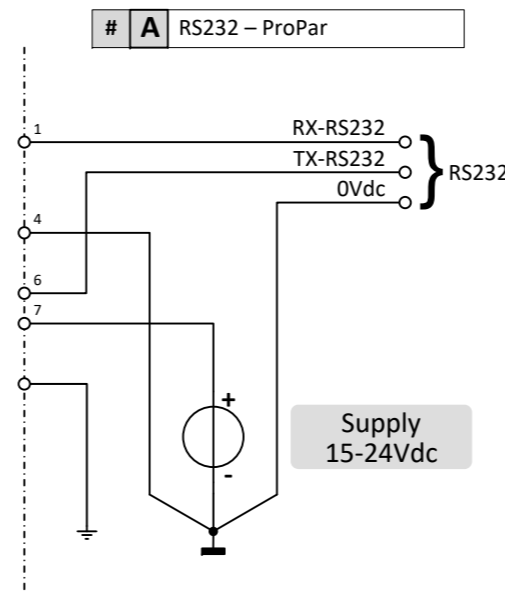
Note: When the instrument is configured for analog setpoint mode it is not possible to give a setpoint via FLOW-BUS or Modbus input on the 8DIN connector. To configure the instrument for digital operation, change parameter 'control mode'. See doc.nr. 9.17.023 for more details.

#### PIN CONNECTIONS



8DIN 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.

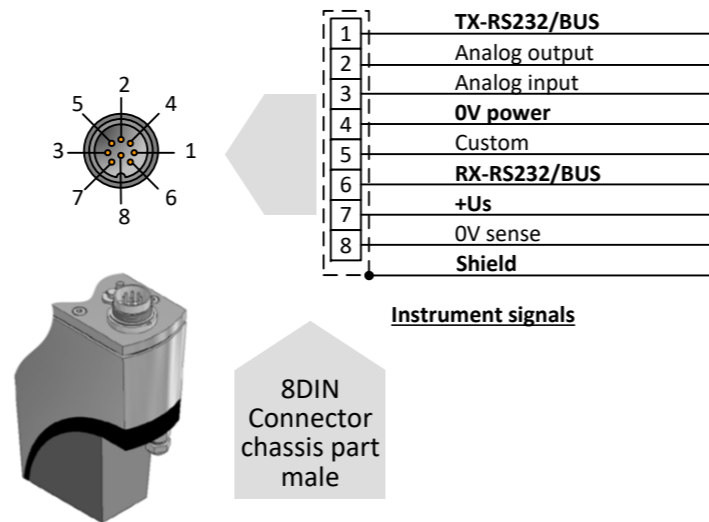


#### PIN 5, IO HOOK-UP DIAGRAMS

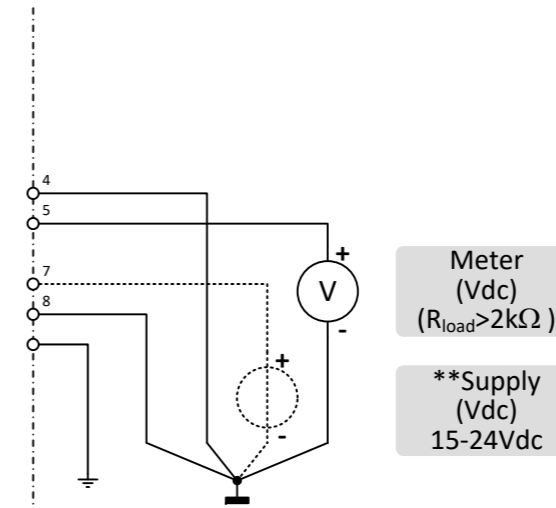
#### PIN 5 IO OPTIONS

| Pin 1&6 | Pin 5 | Function                  |
|---------|-------|---------------------------|
| 0 0     | 0 0   | Disabled, 0 Vdc (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

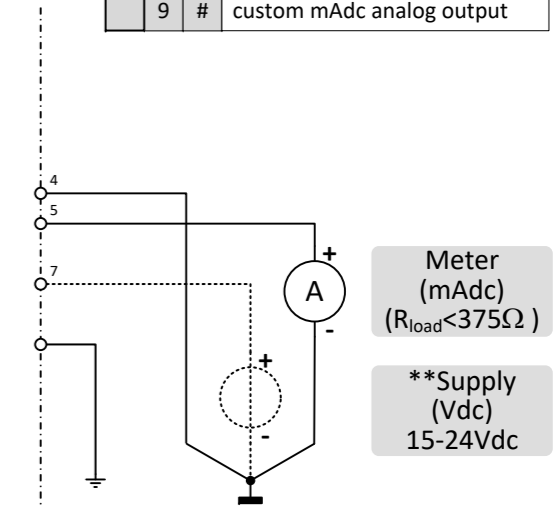


| A | 0 | # | Function                 |
|---|---|---|--------------------------|
|   | 0 | # | 0-5 Vdc analog output    |
|   | 1 | # | 0-10 Vdc analog output   |
|   | 9 | # | custom Vdc analog output |



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

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

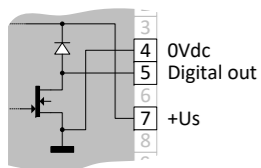


\*\* Use only 8-pin DIN or FLOW-BUS/Modbus/DeviceNet connector to power the device. Wrong powering could damage the device. Please refer the corresponding manual for the right power connection!

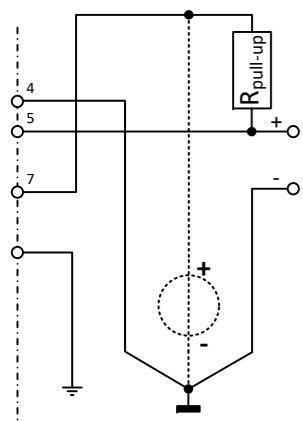


When connecting the system to other devices, be sure that the integrity of the shielding is not affected. Do not use unshielded wire terminals.

#### Internal setup digital output



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



\*  $R_{pull-up} = 5k\Omega - 10k\Omega$   
Pulse output  
Active = 0Vdc (low)

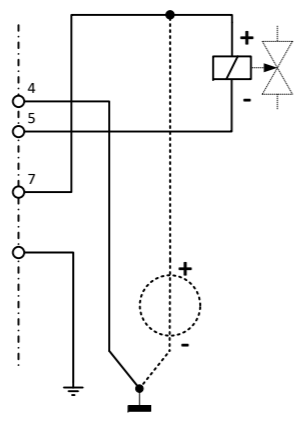
\*\*Supply (Vdc) 15-24Vdc

#### Pulse Output

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

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

Note:  
Digital output is not available for instruments with Class I Div 2 certificate.

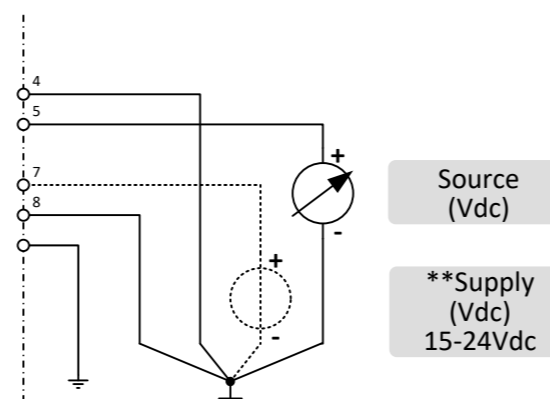


Valve  
( $I_{max} = 265mA$ )

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

#### Shut-off Valve

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

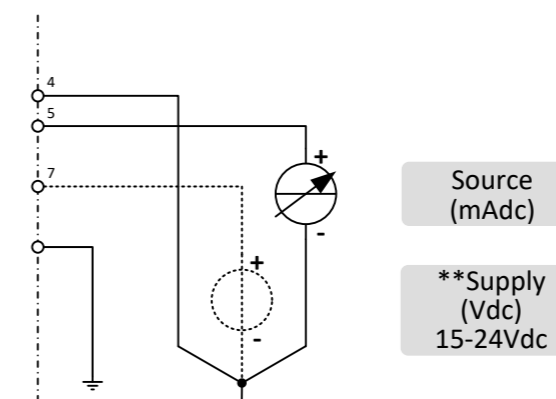


Source (Vdc)

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

Note:  
0Vdc power (pin 4) and 0Vdc sense (pin 8) should be separately connected to the 0V terminal at the power supply. (Impedance = 250kΩ)

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

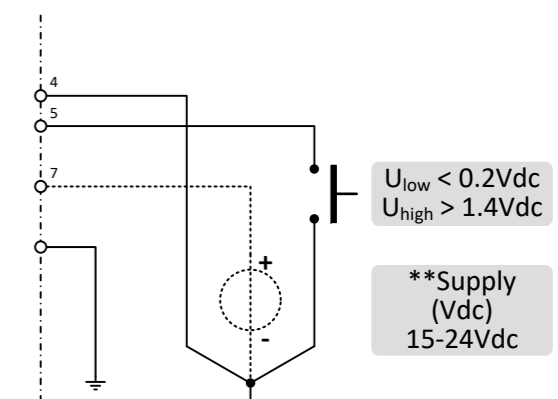


Source (mAdc)

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

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. (Impedance = 250Ω)

| I | # | # | Function      |
|---|---|---|---------------|
| I | # | # | Digital input |



$U_{low} < 0.2Vdc$   
 $U_{high} > 1.4Vdc$

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