

Pressure Sensor RS485-Modbus RTU Output

- [USER GUIDE FOR PRESSURE SENSOR RS485-MODBUS RTU OUTPUT](#)

USER GUIDE FOR PRESSURE SENSOR RS485-MODBUS RTU OUTPUT

JUN-2020

This document is applied for the following products

1. Pressure Sensor RS485-Modbus RTU Output

PRESSURE SENSOR RS485-MODBUS RTU OUTPUT RS485-PPS



GAUGE PRESSURE
ABSOLUTE PRESSURE

RANGE : -1 .. + 35 BARG
OVER PRESSURE : 1.5X
ACCURACY : 0.5% OF SPAN
WORKING TEMPERATURE : -10 .. +80 oC

RS485-PPS-H1.PNG

2. Specification

| | |
|--------------------------|--|
| Sensing Technology | Advanced PIEZO/Capacitance technology |
| Measuring range | Select from -1 .. + 35 bar Gage/Absolute/Sealed Gage |
| Over pressure protection | 1.5 x Span |
| Accuracy | 0.5% of span |
| Stability | < 0.3% span/year |

| | |
|---------------------|--|
| Wetted parts | 304SS/316SS |
| Measuring Fluids | Any fluid which is workable with materials 304SS/316SS |
| Working temperature | -10 .. + 80 oC |
| Process connection | Standard G1/4 or Others (consult factory) |
| RS485 output | Default address: 1, baudrate: 9600, parity: none, data: 8 bit, stop bit: 1 |
| Power supply | 9..36VDC |
| Consumption | 5mA @ 12VDC supply |

3. Product Pictures

PRODUCT PACKAGE



RS485-PPS-H5.PNG

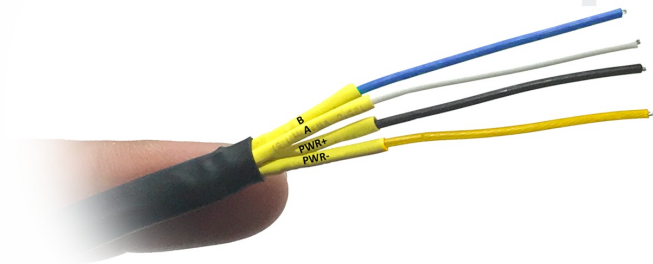
4. Wiring

Please wiring as shown below:

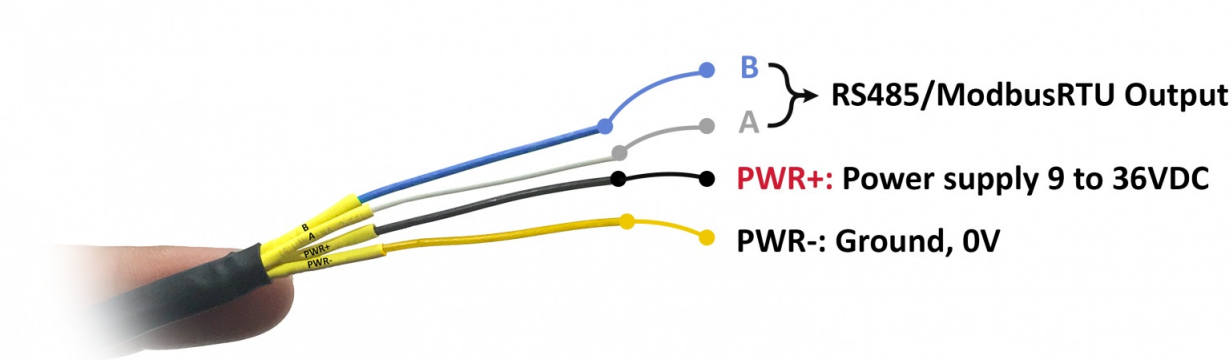
WIRING

FLYING LEADS

| Wire color | Connection |
|------------|------------|
| Black | PWR+ |
| Yellow | PWR- |
| White | A |
| Blue | B |



RS485-PPS-H8.PNG



Memmap resgisters:

| Modbus Register (Decimal) | Modbus Register (Hex) | Function Code (Read) | Function Code (Write) | # of Registers | Range | Default | Format | Property | Comment |
|---------------------------|-----------------------|----------------------|-----------------------|----------------|-------|---------|--------|----------|---------|
| 0 | 0 | 3 | | 2 | | | string | Read | |
| 2 | 2 | 3 | | 4 | | | string | Read | |
| 6 | 6 | 3 | | 2 | | | string | Read | |

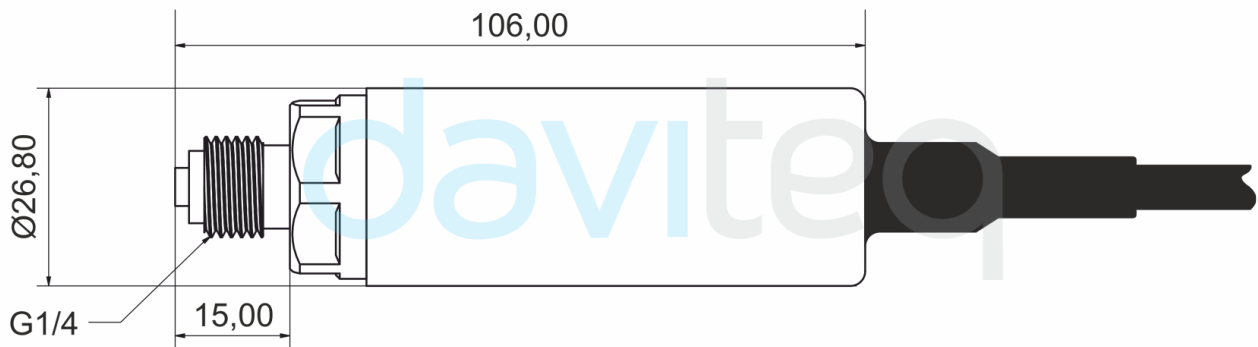
| | | | | | | | | | |
|-----|-----|---|----|---|----------------|---|--------|------------|--|
| 8 | 8 | 3 | | 1 | 10, 30, 60, 99 | | uint16 | Read | Battery level, only 04 levels: 10%, 30%, 60% and 99% (full). When 10% ==> should replace the battery |
| 9 | 9 | 3 | | 2 | 0..100% | | float | Read | Value from pressure process sensor. This value is parameter 1 of a wireless sensor node |
| 11 | B | 3 | | 1 | | | uint16 | Read | Hi-Byte is error code, Lo-Byte is sensor type |
| 12 | C | 3 | | 2 | | | float | Read | Value from pressure process sensor. This value is parameter 2 of a wireless sensor node |
| 14 | E | 3 | | 1 | | | uint8 | Read | Hi-Byte is Logic status of parameter 1, Lo-Byte is Logic status of parameter 2 |
| 15 | F | 3 | | 2 | | | uint32 | Read | Total time when Hi-Byte of Logic status = 1 |
| 17 | 11 | 3 | | 2 | | | uint32 | Read | Total time when Hi-Byte of Logic status = 0 |
| 19 | 13 | 3 | | 2 | | | uint32 | Read | Counter value when Hi-Byte of Logic status changes from 0 to 1 |
| 21 | 15 | 3 | | 2 | | | uint32 | Read | Counter value when Hi-Byte of Logic status changes from 1 to 0 |
| 23 | 17 | 3 | | 2 | | | uint32 | Read | Total time when Lo-Byte of Logic status = 1 |
| 25 | 19 | 3 | | 2 | | | uint32 | Read | Total time when Lo-Byte of Logic status = 0 |
| 27 | 1B | 3 | | 2 | | | uint32 | Read | Counter value when Lo-Byte of Logic status changes from 0 to 1 |
| 29 | 1D | 3 | | 2 | | | uint32 | Read | Counter value when Lo-Byte of Logic status changes from 1 to 0 |
| 256 | 100 | 3 | 16 | 1 | 1-247 | 1 | uint16 | Read/Write | Modbus address of device |
| 257 | 101 | 3 | 16 | 1 | 0-1 | 0 | uint16 | Read/Write | Baudrate: 0: 9600, 1: 19200 |
| 258 | 102 | 3 | 16 | 1 | 0-2 | 0 | uint16 | Read/Write | Parity: 0: none, 1: odd, 2: even |

| | | | | | | | | | |
|-----|-----|---|----|----|--|---|-------|------------|--|
| 259 | 103 | 3 | 16 | 21 | | | | | |
| 280 | 118 | 3 | 16 | 2 | | 1 | float | Read/Write | Scale value of parameter_1 = (a1 * Raw sensor value of parameter_1) + b1. For sensor value scale |
| 282 | 11A | 3 | 16 | 2 | | 0 | float | Read/Write | Scale value of parameter_1 = (a1 * Raw sensor value of parameter_1) + b1. For sensor value scale |
| 284 | 11C | 3 | 16 | 2 | | 1 | float | Read/Write | Scale value of parameter_2 = (a2 * Raw sensor value of parameter_2) + b2. For sensor value scale |
| 286 | 11E | 3 | 16 | 2 | | 0 | float | Read/Write | Scale value of parameter_2 = (a2 * Raw sensor value of parameter_2) + b2. For sensor value scale |
| 288 | 120 | 3 | 16 | 2 | | | float | Read/Write | |
| 290 | 122 | 3 | 16 | 2 | | | float | Read/Write | High threshold value for parameter 1 |
| 292 | 124 | 3 | 16 | 2 | | | float | Read/Write | Low threshold value for parameter 1 |
| 294 | 126 | 3 | 16 | 2 | | | float | Read/Write | High threshold value for parameter 2 |
| 296 | 128 | 3 | 16 | 2 | | | float | Read/Write | Low threshold value for parameter 2 |

5. Dimensions

DIMENSION DRAWINGS

Unit(mm)



RS485-PPS-H7.PNG

6. Applications

PRESSURE SENSOR RS485-MODBUS RTU OUTPUT RS485-PPS

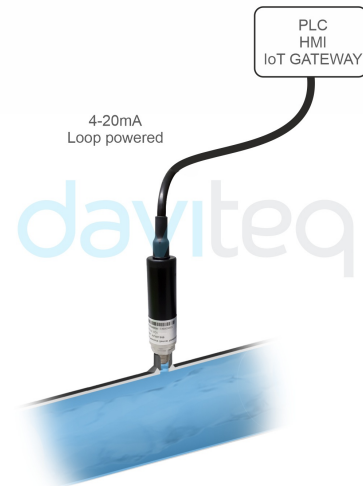


GAUGE PRESSURE ABSOLUTE PRESSURE

RANGE : -1 .. + 35 BARG
OVER PRESSURE : 1.5X
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RS485-PPS-H1.PNG

PRESSURE MEASUREMENT IN WATER PIPE ...



RS485-PPS-H2.PNG

CONNECT WITH IoT GATEWAY



RS485-PPS-H3.PNG

CONNECT WITH WIRELESS TRANSMITTER



RS485-PPS-H4.PNG

7. Support contacts

Manufacturer
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daviteq

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