

# pro<sup>sense</sup>® Digital Pressure Switch / Transmitter



## Overview

- Precision digital pressure switch/transmitter with 2 meter cable
- Two digital outputs (NPN or PNP) which may be set individually and a 4-20 mA analog output
- Two vacuum to pressure ranges (-14.5 to 14.5 and -14.5 psi to 145 psi)
- Air, non-corrosive/non-flammable gases only
- Three operation modes: Easy, Window and Hysteresis
- 3-color digital LCD display
- 6 pressure unit conversions
- Lockable keypad
- Unit parameters are easily copied to other units
- Selectable response times to eliminate output chattering
- Fast zero reset
- Optional panel mount and bracket kits
- 2-year warranty



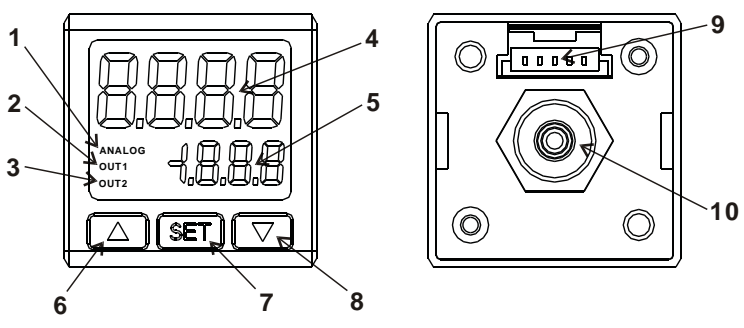
E157382

| ProSense QPS Digital Pressure Switch / Transmitter |   |         |         |       |
|--|---|---------|---------|-------|
| Part Number  | Description   | Pcs/Pkg | Wt (lb) | Price |
| QPSL-AP-42   | Digital pressure switch/transmitter -14.5 to 14.5 psi, 2 PNP out, 4-20 mA out, cable included | 1       | 0.24    | <-->  |
| QPSL-AN-42   | Digital pressure switch/transmitter -14.5 to 14.5 psi, 2 NPN out, 4-20 mA out, cable included | 1       | 0.24    | <-->  |
| QPSH-AP-42   | Digital pressure switch/transmitter -14.5 to 145 psi, 2 PNP out, 4-20 mA out, cable included  | 1       | 0.24    | <-->  |
| QPSH-AN-42   | Digital pressure switch/transmitter -14.5 to 145 psi, 2 NPN out, 4-20 mA out, cable included  | 1       | 0.24    | <-->  |

| ProSense QPS Digital Pressure Switch / Transmitter Specifications |   |  |                  |            |
|---|---|--|------------------|------------|
| Model   | QPSL-AP-42  | QPSL-AN-42   | QPSH-AP-42       | QPSH-AN-42 |
| Pressure Range  | -14.5 to +14.5psi   |  | -14.5 to +145psi |            |
| Maximum Pressure (Proof)  | 29psi   |  | 217psi           |            |
| Maximum Vacuum  | -14.5psi  |  |                  |            |
| Pressure Accuracy   | ± 3% of full scale  |  |                  |            |
| Temperature Influence @ 25°C                                      | ± 2% of full scale  |  |                  |            |
| Fluid Measured  | Air, Non-corrosive gas, Non-flammable gas   |  |                  |            |
| Input Power   | 10.8 to 26.4 VDC  |  |                  |            |
| Power Consumption   | 260mA maximum   |  |                  |            |
| Digital Outputs   | Output Type   | 2-PNP  | 2-NPN            | 2-PNP      |
|   | Max Current   | 100mA  |                  |            |
|   | Response Time   | 2ms, 4ms, 10ms, 30ms, 50ms, 100ms, 250ms, 500ms, 1,000ms, 5,000ms selectable |                  |            |
|   | Residual Voltage  | 1.5 VDC  |                  |            |
| Analog Outputs  | Output Type   | 4-20mA   |                  |            |
|   | Output Load Resistance  | 400Ω   |                  |            |
|   | Linear Accuracy   | < ± 2% of full scale   |                  |            |
| Process Connection  | 1/8" NPT outer / M5 inner bore (Nickel Plated Brass)  |  |                  |            |
| Cable   | Included with each unit, 2 meter (6.6 feet), 5 conductor, 26AWG, PVC jacket, and 50 mm pigtail leads<br>Replacement cable : QPS-CBL |  |                  |            |
| IP Rating   | IP 40   |  |                  |            |
| Case Materials  | Case = ABS Plastic, Lens = Polycarbonate  |  |                  |            |
| Shock Immunity  | 10 - 500Hz, 10mm 3 axes for 2 hours   |  |                  |            |
| Vibration Immunity  | Max. 100m / s <sup>2</sup> 3 axes 6 directions, 3 times each  |  |                  |            |
| Operating Temperature   | 0°C to +50°C (32°F to 122°F)  |  |                  |            |
| Storage Temperature   | -20°C to +65°C (-4°F to 149°F)  |  |                  |            |
| Altitude  | < 2,000m  |  |                  |            |
| Ambient Humidity  | 35% to 80% (non-condensing)   |  |                  |            |
| Approvals   | cULus (E157382), CE, RoHS   |  |                  |            |

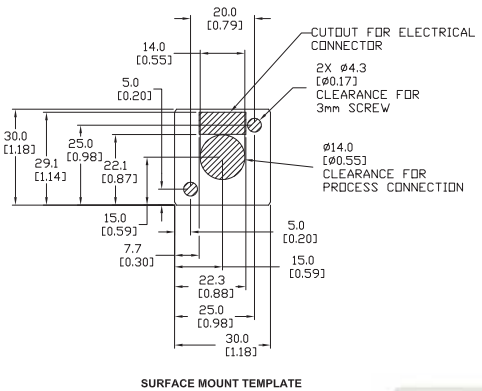
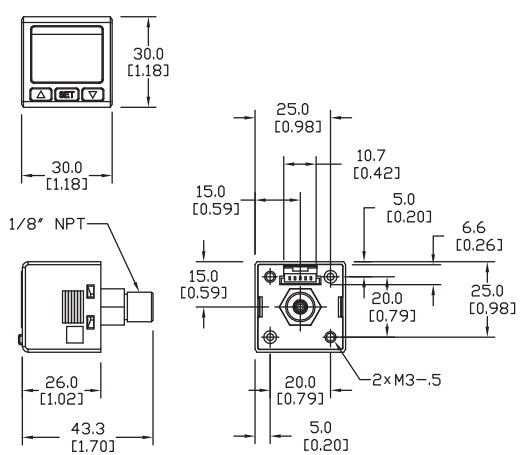
# pro<sup>sense</sup> Digital Pressure Switch / Transmitter

- Company Information
- Systems Overview
- Programmable Controllers
- Field I/O
- Software
- C-more & other HMI
- Drives
- Soft Starters
- Motors & Gearbox
- Steppers/ Servos
- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors
- Pressure Sensors
- Temperature Sensors
- Pushbuttons/ Lights
- Process
- Relays/ Timers
- Comm.
- Terminal Blocks & Wiring
- Power
- Circuit Protection
- Enclosures
- Tools
- Pneumatics
- Safety
- Appendix
- Product Index
- Part # Index

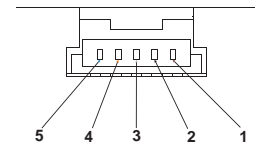


## Display, Keypad, Connections

## Dimensions mm [inches]



## Cable Connection Terminals



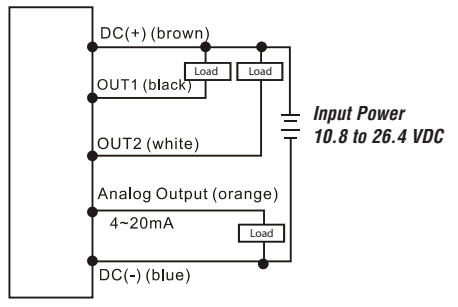
- 1 - Positive power supply input (brown)
- 2 - Digital output 1 signal (black)
- 3 - Digital output 2 signal (white)
- 4 - Analog output signal (orange)
- 5 - Negative power supply input (blue)



## Wiring

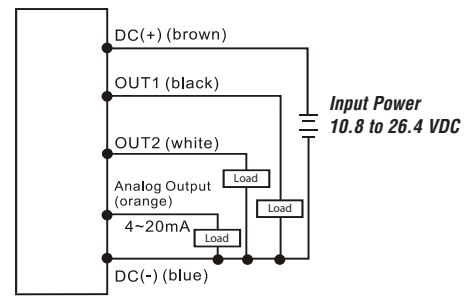
**QPSL-AN-42**  
**QPSH-AN-42**

Outputs:  
 NPN discrete  
 4-20mA analog



**QPSL-AP-42**  
**QPSH-AP-42**

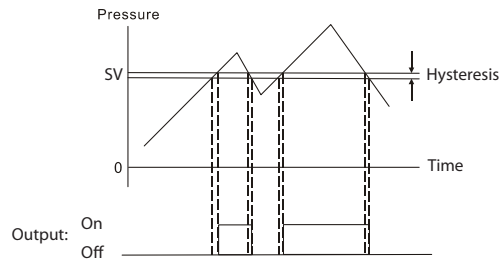
Outputs:  
 PNP discrete  
 4-20mA analog



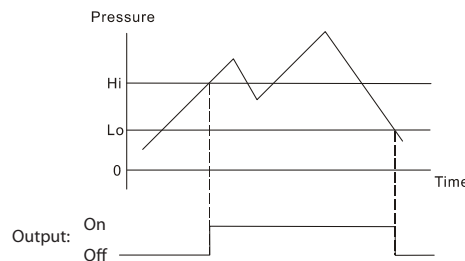
# pro<sup>o</sup>sense<sup>®</sup> Digital Pressure Switch / Transmitter

## Operating Modes:

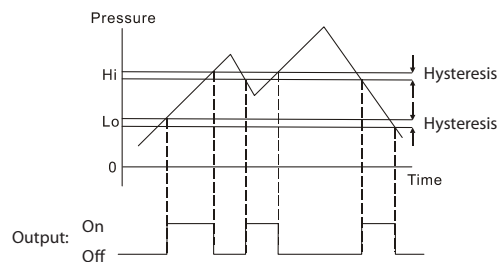
**Easy Mode:** When the measured pressure is greater than pressure setpoint plus the hysteresis setting ( $SV + \text{hysteresis}$ ), the output will change state. When the measured pressure is less than the pressure setpoint ( $< SV$ ), the output will change state. Each digital output can be individually set.



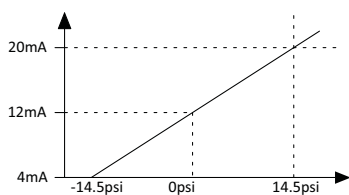
**Hysteresis Mode:** When the measured pressure is greater than the Hi setpoint, the output will change state. When the measured pressure is less than the Lo setpoint, the output will change state. Each digital output can be individually set.



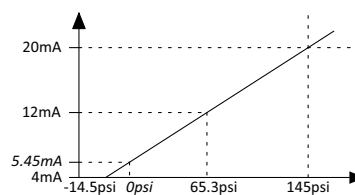
**Window Mode:** The output will change state when the measured pressure increases to the Lo setpoint plus the hysteresis setting ( $Lo + \text{hysteresis}$ ) and will change state again when the pressure increases to the Hi setpoint plus the hysteresis setting ( $Hi + \text{hysteresis}$ ). When the pressure decreases to the Hi setpoint the output will change state and will change state again when the pressure decreases to the Lo setpoint.



**Analog Output (4-20mA):** The analog output is directly proportional to the process pressure over the full range of the device. For example if the process pressure is 0 psi the 4-20 mA output of a QPSL will be approximately 12 mA or for the QPSH the pressure at 12 mA would be 65.3 psi and for 0 psi the output would be 5.45mA. The analog output is enabled as the factory default. It can be disabled with the "Analog Output Enable" parameter in Pro Setup Mode.



QPSL-xx-42



QPSH-xx-42

# proSense® Digital Pressure Switch / Transmitter Accessories

| ProSense QPS Digital Pressure Switch / Transmitter Accessories |   |         |         |       |
|--|---|---------|---------|-------|
| Part Number  | Description   | Pcs/Pkg | Wt (lb) | Price |
| <b>QPS-PMK</b>   | Panel mount kit for QPS series  | 1       | 0.1     | <---> |
| <b>QPS-FMK</b>   | Bracket mount kit for QPS series  | 1       | 0.1     | <---> |
| <b>QPS-CBL</b>   | Replacement cable for QPS series digital pressure switch and transmitter, 2 meters (6.6 feet) | 1       | 0.1     | <---> |



**QPS-PMK**



**QPS-FMK**

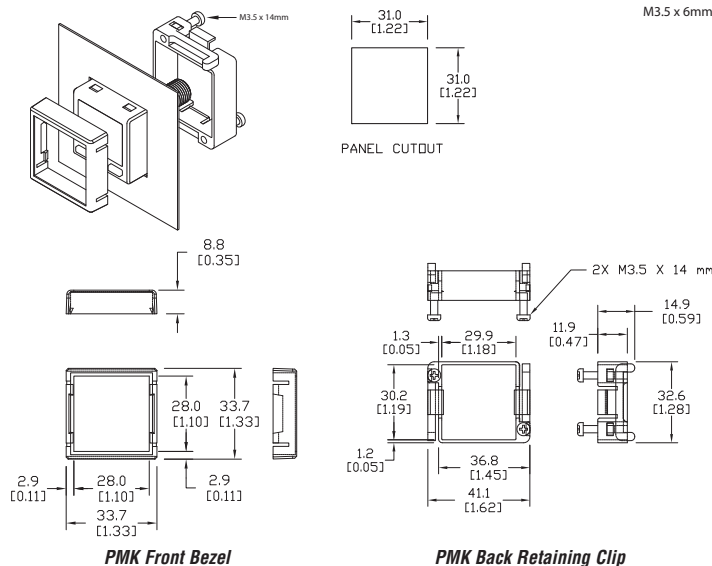


**QPS-CBL**

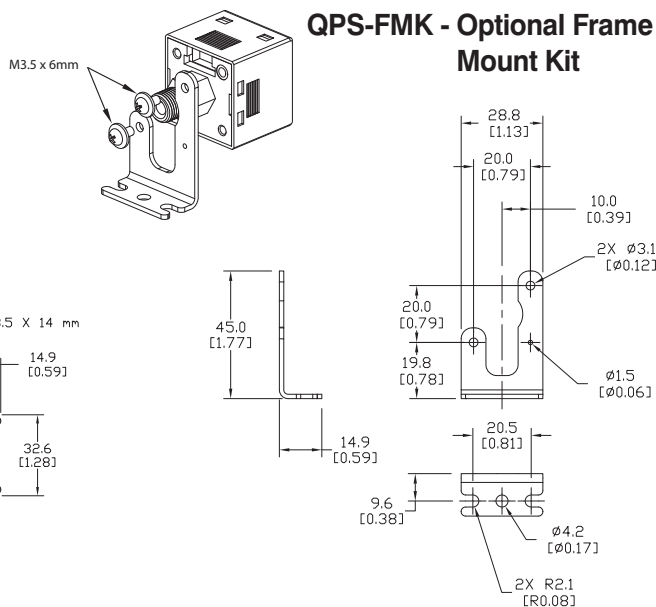
## Dimensions

mm [inches]

### QPS-PMK - Optional Panel Mount Kit

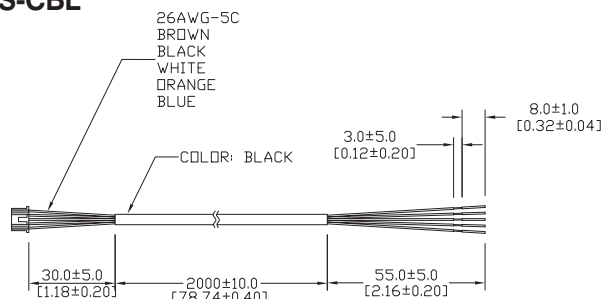


### QPS-FMK - Optional Frame Mount Kit



**Note: See the NITRA Pneumatics section for Push-to-Connect fittings and tubing**

### QPS-CBL



**Note: Cable included with each QPS series switch/transmitter**

# Reliable process measurement for less - ProSense® Pressure Sensors

prosense®

## Digital Pressure Switch/Transmitter QPS Series Features

all models  
**\$69.00**



- Precision digital pressure switch/transmitter with 2 meter cable
- Two digital outputs (NPN or PNP) which may be set individually and a 4-20 mA analog output
- Two vacuum to pressure ranges (-14.5 to 14.5 and -14.5 psi to 145 psi)
- Air, non-corrosive/non-flammable gases only
- Three operation modes: Easy, Window and Hysteresis
- 3-color digital LCD display
- 6 pressure unit conversions
- Lockable keypad
- Unit parameters are easily copied to other units
- Selectable response times to eliminate output chattering
- Fast zero reset
- Optional panel mount and bracket kits
- 2-year warranty



## Pressure and Vacuum Transmitters PTD25 Series Features

all models  
**\$125.00**



- Ceramic sensing element provides high burst/overpressure protection
- Pressure ranges up to 5000 psi
- Output options: 4-20 mA or 0-10 V
- M12 quick-disconnect signal cable connection
- Flexible film circuit results in excellent shock and vibration resistance
- Robust stainless steel housing
- 3-year warranty



## Electronic Pressure Switch PSD25 Series Features

all models  
**\$89.00**



- Compact pressure switch features simple setup using mechanical adjustment dials
- Extremely durable housing with 316 stainless steel process connection
- No moving parts ensure long-term stability without setpoint drift
- Pressure ranges up to 5800 psi
- LEDs indicate switching and operating status
- Complementary switching outputs (N.O./N.C.), DC
- Easy set-up dials
- Vibration and shock-resistant



## Mechanical Dial Pressure Gauges with 1.5", 2.0" and 2.5" Diameter Dials

starting at  
**\$5.75**

- Available in durable steel or stainless steel cases and in either dry or liquid filled models. (Liquid filled gauges dampen the effects of vibration and pulsations).
- Brass wetted parts are suitable for air, oil, or water pressure gauge applications.
- Stainless steel wetted parts are available for use in pressure gauge applications for corrosive materials.
- Dual marked gauge dial faces (psi/kPa or inHg/kPa) are available in pressure ranges from vacuum up to 6000 psi.
- 5 year warranty