

# prosense® 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 psig to 145 psig)
- 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

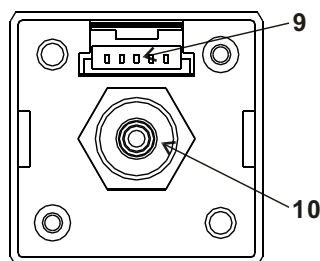
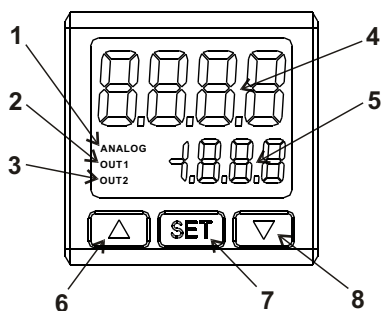
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
<b>QPSL-AP-42</b>	Digital pressure switch/transmitter -14.5 to 14.5 psig, 2 PNP out, 4-20 mA out, cable included	1	0.24	\$113.00
<b>QPSL-AN-42</b>	Digital pressure switch/transmitter -14.5 to 14.5 psig, 2 NPN out, 4-20 mA out, cable included	1	0.24	\$113.00
<b>QPSH-AP-42</b>	Digital pressure switch/transmitter -14.5 to 145 psig, 2 PNP out, 4-20 mA out, cable included	1	0.24	\$113.00
<b>QPSH-AN-42</b>	Digital pressure switch/transmitter -14.5 to 145 psig, 2 NPN out, 4-20 mA out, cable included	1	0.24	\$113.00

## 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 +14.5 psig		-14.5 to +145 psig	
Maximum Pressure (Proof)		29 psig		217 psig	
Maximum Vacuum		-14.5 psig			
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	2-NPN
	Maximum 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	4-20 mA			
	Maximum 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 50mm pigtail leads Replacement cable : QPS-CBL			
IP Rating		IP 40			
Case Materials		Case = ABS Plastic, Lens = Polycarbonate			
Shock Immunity		10 ~ 500 Hz, 10mm 3 axes for 2 hours			
Vibration Immunity		Max. 100m / s2 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			

# prosense® Digital Pressure Switch / Transmitter

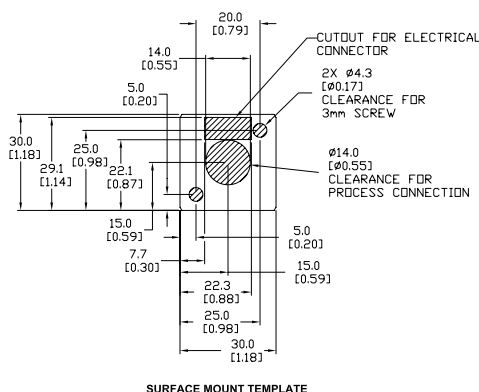
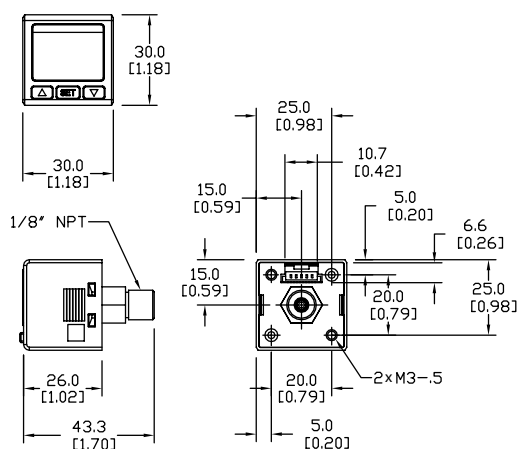
## Display, Keypad, Connections



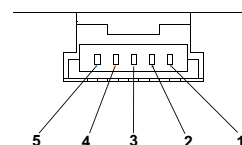
- 1 - Analog output indicator
- 2 - Digital output 1 indicator
- 3 - Digital output 2 indicator
- 4 - Pressure Value (PV)/parameter display (8 mm digits)
- 5 - Setpoint Value (SV)/setup item display (4 mm digits)
- 6 - Increment UP button
- 7 - SET or Enter button
- 8 - Decrement DOWN button
- 9 - Cable connection
- 10 - Pressure connection

## Dimensions

mm [inches]



## Cable Connection Terminals



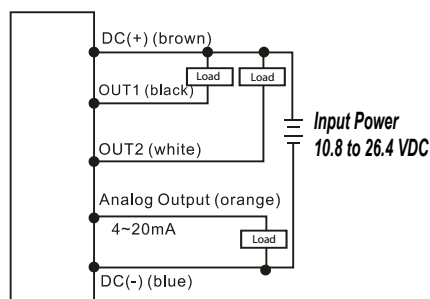
- 1 - Positive power supply input (brown)
- 2 - Digital output 1 signal (black)
- 3 - Digital output 2 signal (white)
- 4 - Analog output signal (orange)
- 5 - Negative power supply input (blue)

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

## Wiring

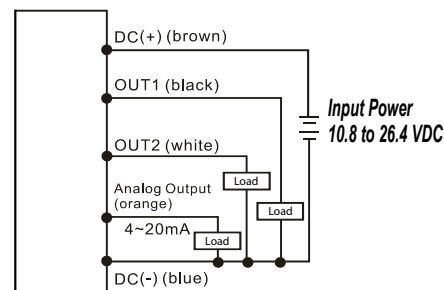
### QPSL-AN-42 QPSH-AN-42

Outputs:  
NPN discrete  
4-20mA analog



### QPSL-AP-42 QPSH-AP-42

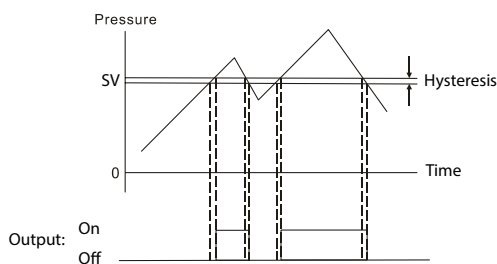
Outputs:  
PNP discrete  
4-20mA analog



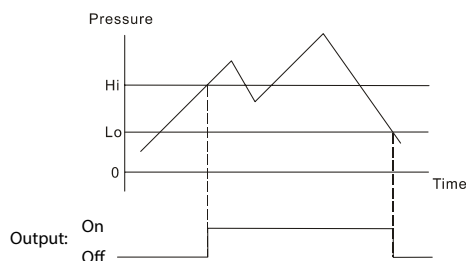
# prosense® Digital Pressure Switch / Transmitter

## Operating Modes:

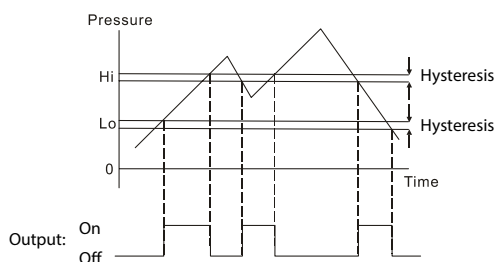
**Easy Mode:** When the measured pressure is greater than pressure setpoint plus the hysteresis setting ( $SV + \text{hysteresis}$ ), the output will change state. When the measured pressure is less than the pressure setpoint ( $<SV$ ), the output will change state. Each digital output can be individually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



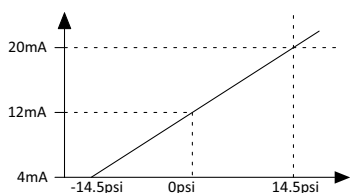
**Hysteresis Mode:** When the measured pressure is greater than the Hi setpoint, the output will change state. When the measured pressure is less than the Lo setpoint, the output will change state. Each digital output can be individually set.



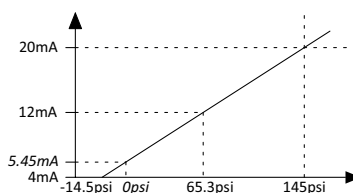
**Window Mode:** The output will change state when the measured pressure increases to the Lo setpoint plus the hysteresis setting ( $Lo + \text{hysteresis}$ ) and will change state again when the pressure increases to the Hi setpoint plus the hysteresis setting ( $Hi + \text{hysteresis}$ ). When the 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 psig 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 psig and for 0 psig 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

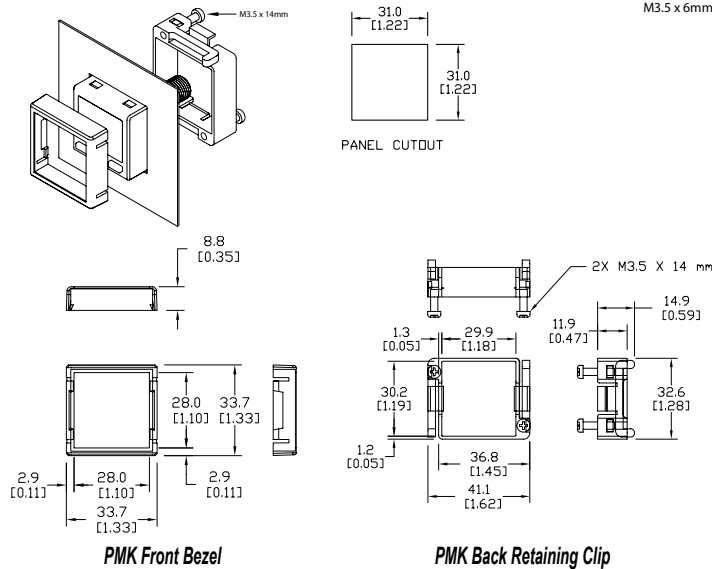
ProSense QPS Digital Pressure Switch / Transmitter Accessories				
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
<b>QPS-PMK</b>	Panel mount kit for QPS series	1	0.1	\$2.50
<b>QPS-FMK</b>	Bracket mount kit for QPS series	1	0.1	\$2.50
<b>QPS-CBL</b>	Replacement cable for QPS series digital pressure switch and transmitter, 2 meters (6.6 feet)	1	0.1	\$37.50

**QPS-PMK****QPS-FMK****QPS-CBL**

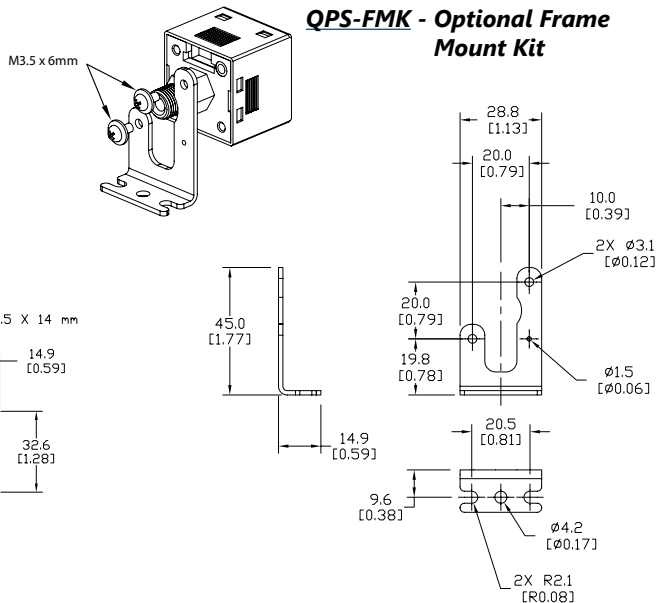
## Dimensions

mm [inches]

### QPS-PMK - Optional Panel Mount Kit

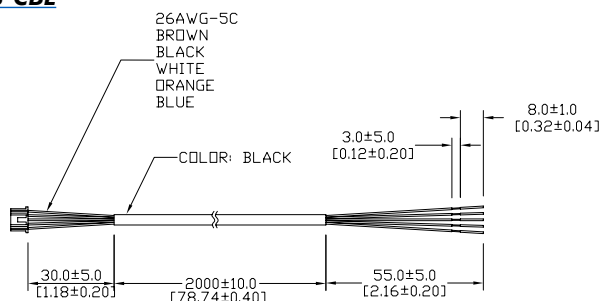


### QPS-FMK - Optional Frame Mount Kit



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

### QPS-CBL



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