

# Solid State Vacuum Switches

## Miniature, precision control

### VSX(L, N, P) Series



Switches, shown with optional adapters and quick disconnect

Vaccon's miniature solid state vacuum switches provide a switched output and can be easily mounted to Vaccon's Mid Series vacuum pumps at the factory or field installed.

**Note:** Both the set-point and hysteresis are adjustable and include an LED indicator.

**VSXL:** Designed for use in low voltage circuits that require a digital output signal. The VSXL will output a high voltage when sensing vacuum levels lower than the set point, and a low voltage when sensing vacuum levels higher than the set point. A 2.2K ohm resistor is used as the high voltage pull up resistor.

**VSXN:** Designed for use in low voltage, ground side switched circuits typical of those found in PLC based applications.

**VSXP:** Designed for use in low voltage, high side switched circuits typical of those found in PLC based applications.

#### Ideal Applications:

- Part present detection
- Pick and place
- End-of-Arm tooling/Robotic assembly
- Material handling
- Process control
- Manifold mount

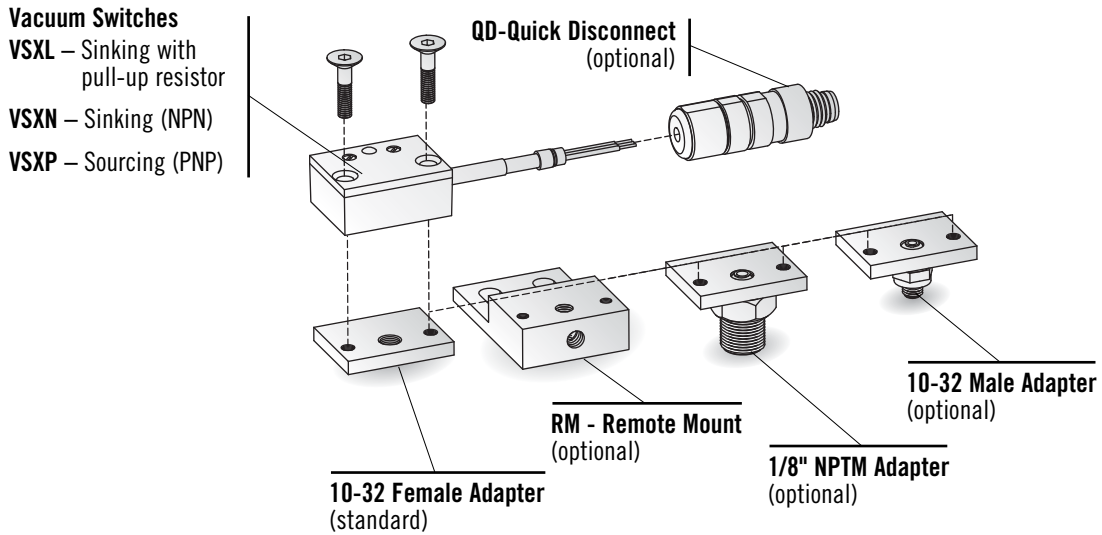
#### Features/Benefits

- Compact – placed at point of use for accurate reading and quick response time
- Lightweight – ideal for End-of-Arm Tooling, robotic end effectors
- Independent hysteresis adjustment – to meet application requirements
- Precision Control – offers field-adjustable set-point for the full vacuum range
- Reliable LED for visual confirmation – easy set-up
- Mountable to both Vaccon and non-Vaccon vacuum pumps
- RoHS compliant and meets EMC standards

#### Vacuum Switch Options:

- Choice of output – L, NPN, and PNP Series
- Remote mount
- Male port adapters 10-32 or 1/8" NPT
- 10' [3m] leads
- Electrical quick disconnects

## VSX (L, N, P) Switch Configurations and Options:



### How to Specify:

P/N	Vacuum Switch
VSXL	Adj. Mini Vacuum Switch – Sinking with Pull-up Resistor
VSXN	Adj. Mini Vacuum Switch – NPN
VSXP	Adj. Mini Vacuum Switch – PNP

**VSXN - RM - QD**

P/N	Switch
QD	Quick Disconnect

P/N	Adapter Options
	10-32 Female Adapter (Std)
RM	Remote Mount
32	10-32 Male Adapter
18	1/8" NPTM Adapter
10	10' [3m] Leads



### On-line Configurator and CAD Drawings @ [www.vaccon.com](http://www.vaccon.com)

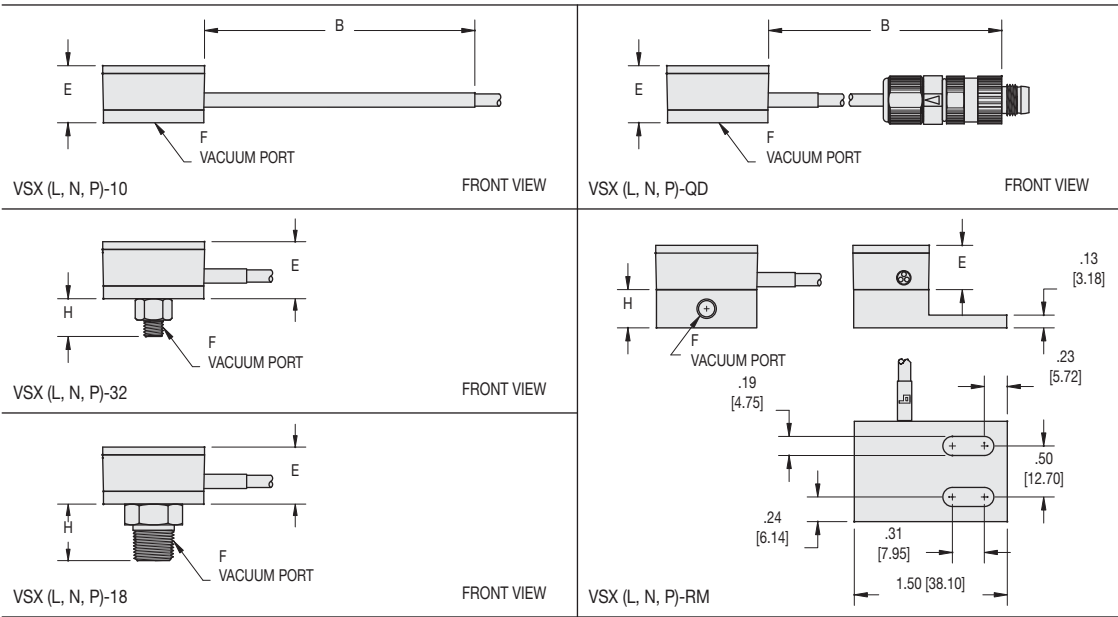
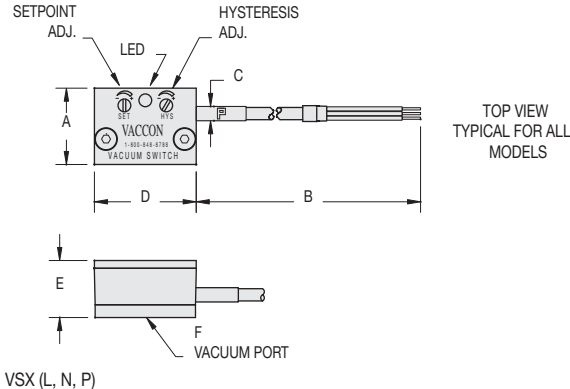
New powerful design tool saves you time by configuring the pump you need on-line. When complete, simply download the CAD drawing in any one of 13 different CAD formats and insert it right into your design.

**Get the pump you need, in the format you like!**

## Solid State Vacuum Switch: VSX (L, N, P)

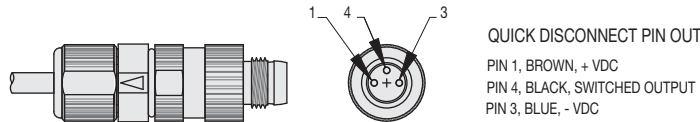
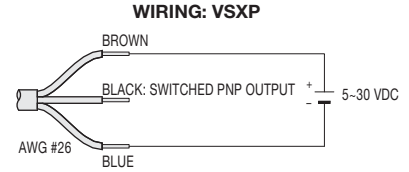
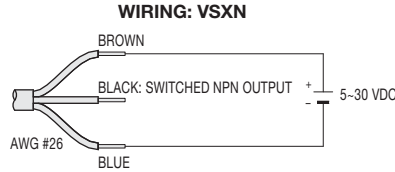
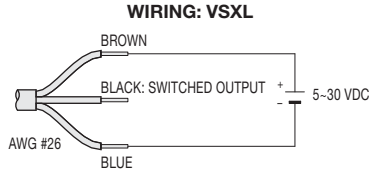
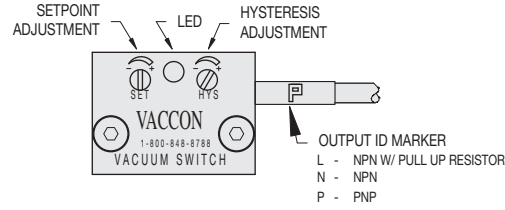


Standard VSXL (N, P)



Model #	Dimensions								Weight
	A	B	C	D	E	F	H		
VSX (L, N, P)	in.	24.00	0.12	1.00	0.56	10-32 F	N/A	0.6 oz	
	mm	[609.6]						[17g]	
VSX (L, N, P)-10	in.	120.00	0.12	1.00	0.56	10-32 F	N/A	1.5 oz	
	mm	[3084.0]						[43g]	
VSX (L, N, P)-32	in.	0.75	24.00	0.12	1.00	10-32 M	0.46	0.7 oz	
	mm							[19.1]	[3.0]
VSX (L, N, P)-18	in.	0.75	24.00	0.12	1.00	1/8 NPT M	0.55	1.0 oz	
	mm							[19.1]	[3.0]
VSX (L, N, P)-QD	in.	0.75	24.00	0.12	1.00	10-32 F	N/A	1.2 oz	
	mm							[19.1]	[3.0]
VSX (L, N, P)-RM	in.	0.75	24.00	0.12	1.00	10-32 F	0.37	1.1 oz	
	mm							[19.1]	[3.0]

## Wiring Schematic for VSX (L, N, P)



### VSX (L, N, P) Specifications:

	VSXL	VSXN	VSXP
<b>Rated Vacuum Range:</b>	0.5" to 30" Hg [-34 mbar to -1015 mbar]		
<b>Proof Pressure:</b>	45 PSI [3.1 bar]		
<b>Burst Pressure:</b>	75 PSI [5.2 bar]		
<b>Media:</b>	Non-Corrosive, Dry Gases		
<b>Supply Voltage:</b>	5 to 30 VDC		
<b>Current Consumption:</b>	20 mA Max.		
<b>Sensing/Switching Material:</b>	Single Crystal Silicon		
<b>Output:</b>	Switched - Sinking w/Pull-up	Switched - Sinking (NPN)	Switched - Sourcing (PNP)
<b>Electrical Connection:</b>	3 Wire - 26 AWG - 2' (.6m), Optional 3 pin, M8 Quick Disconnect		
<b>Hysteresis:</b>	Adjustable - 0-15% Full Scale		
<b>Response Time:</b>	2 ms		
<b>Circuit Protection:</b>	NONE		
<b>Max. Switch Voltage Load:</b>	N/A	24 VDC	24 VDC
<b>Max. Switched Current Load:</b>	N/A	100 mA	100 mA
<b>Linearity:</b>	+/- 0.5% Full Scale		
<b>Thermal Error:</b>	+/- 7% Full Scale / 212°F Max. (100°C)		
<b>Thermal Compensation:</b>	NONE		
<b>Display:</b>	Single Red LED		
<b>Switch Indication:</b>	Red LED ON (Switched Output ON)		
<b>IP Protection:</b>	IP00		
<b>Operating Temperature:</b>	-40°F to 150°F [-40°C to 65°C]		
<b>Operating Humidity:</b>	35 to 85% RH (No Condensation)		
<b>Mechanical Life:</b>	100,000,000 Cycles		
<b>Construction:</b>	Glass filed ABS/Aluminum/Buna		
<b>Fitting/Connection:</b>	10-32 Female Standard, Optional 10-32 Male, 1/8" NPT Male, Face Seal Mount		
<b>Weight:</b>	0.6 oz [17g]		
<b>Safety and Environmental Compliance:</b>	RoHS		