

# Solid State Vacuum Sensors

Miniature, precision control

## VSSA, VSSV Series



*Vacuum Sensors shown with optional adapters and quick disconnect*

Vaccon's electronic vacuum sensors provide continuous voltage or current output proportional to the system vacuum. These sensors are available as a 4-20mA, or 0-5VDC output devices

***Because sensors provide a constant signal, system design may be reconfigured with software changes rather than mechanical adjustment typical of a switch.***

Solid state sensors can be assembled directly onto all Vaccon Mid Series vacuum pumps at the factory or in the field.

### Vacuum Sensor Options:

- Remote mount
- Male ports adapters 10-32 or 1/8" NPT
- 10' [3m] leads
- Electrical quick disconnects

### Ideal Applications:

- Robotic control
- Part present detection
- Monitoring vacuum
- Manifold mount

### Features/Benefits

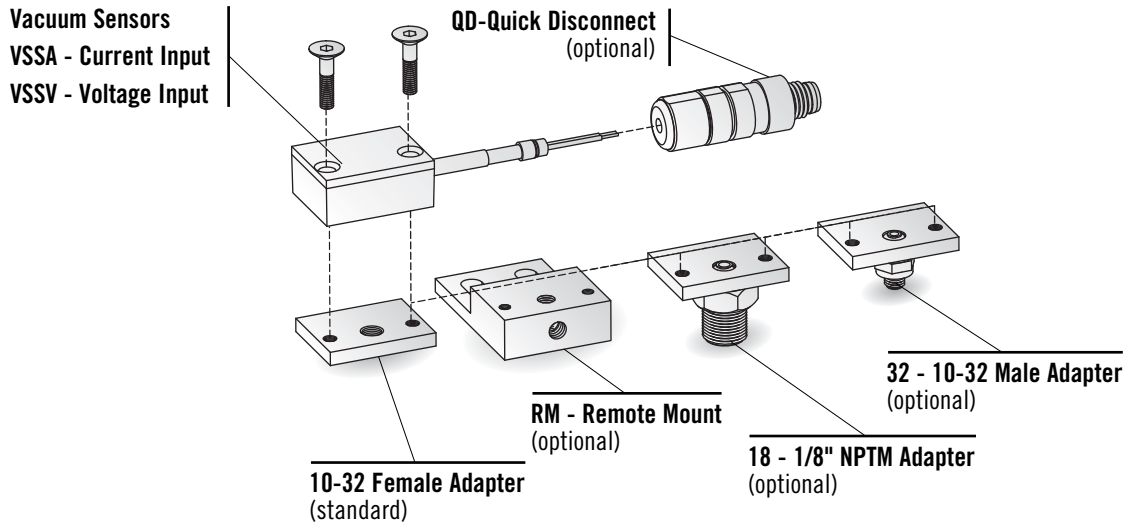
- Compact – placed at point of use for accurate reading and quick response
- Lightweight – 1 oz [28.35g] – ideal for End-of-Arm Tooling
- Accurate and repeatable
- RoHS compliant and meets EMC standards

### Standard Vacuum Sensors:

**VSSA:** Designed to interface with a Current-input module of a PLC and provides an analog current output proportional to the pressure level present at the sensor.

**VSSV:** Designed to interface with a Voltage-input module of a PLC and provides an analog voltage output proportional to the pressure level present at the sensor.

## VSSA, VSSV Vacuum Sensor Configurations and Options:



### How to Specify:

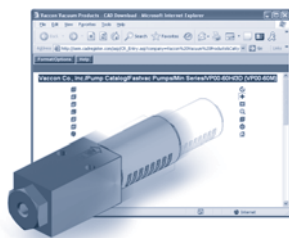
P/N	Vacuum Sensor
VSSA	Adj. Mini Vacuum Sensor – Current Input
VSSV	Adj. Mini Vacuum Sensor – Voltage Input

**VSSA - 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

**Note:** When ordering vacuum sensor attached to a Vaccon vacuum pump, please order pump number and sensor part number i.e. VP20-150H-VSSA

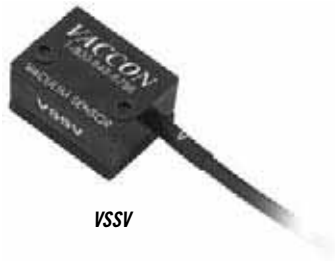


### On-line Configurator and CAD Drawings @ [www.vaccon.com](http://www.vaccon.com)

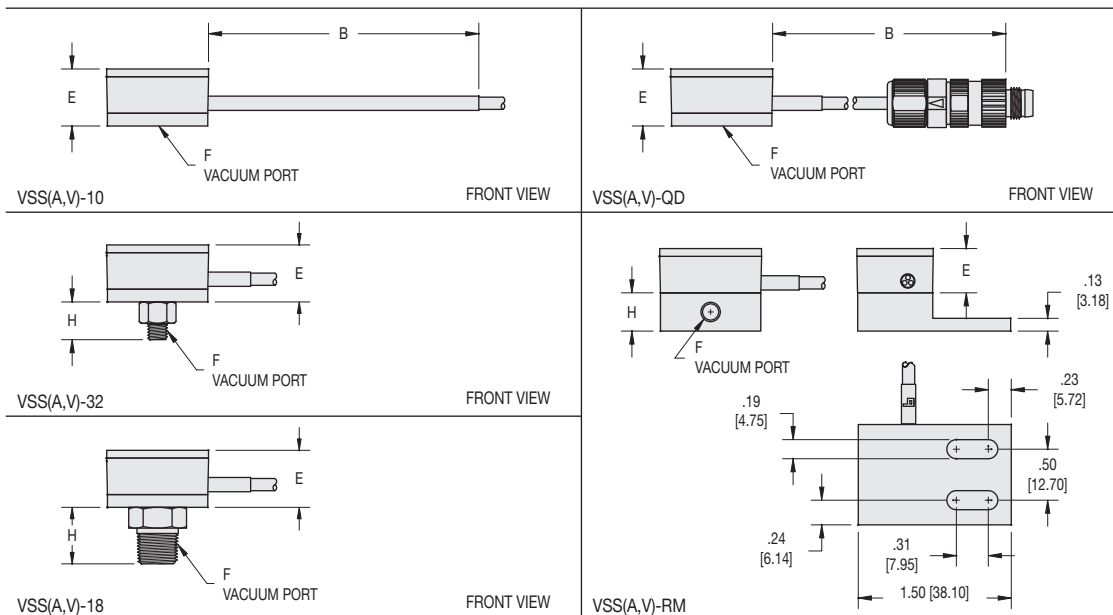
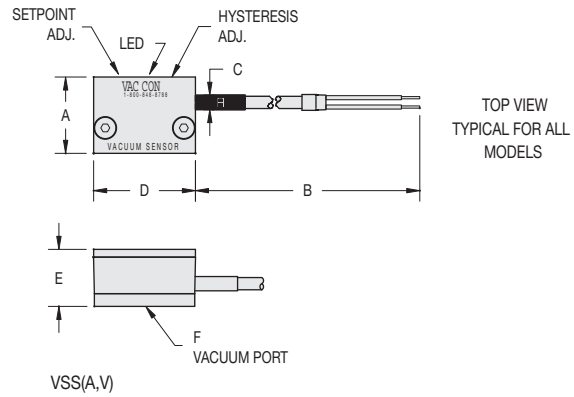
New powerful design tool saves you time by configuring the pump you need on-line. When complete, simply download the CAD drawing in any one of 13 different CAD formats and insert it right into your design.

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

## Solid State Vacuum Sensors: VSSA, VSSV

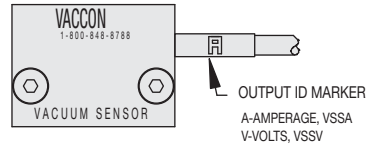


VSSV

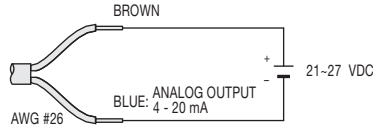


Model #	Dimensions		A	B	C	D	E	F	H	Weight
	in.	mm								
VSS (A, V)	in.		0.75 [19.1]	24.00	0.12 [3.0]	1.00 [25.4]	0.56 [14.2]	10-32 F	N/A	0.6 oz
	mm			[609.6]						1.1 oz
VSS (A, V)-10	in.		0.75 [19.1]	120.00	0.12 [3.0]	1.00 [25.4]	0.56 [14.2]	10-32 F	N/A	1.5 oz
	mm			[3084.0]						[43g]
VSS (A, V)-32	in.		0.75 [19.1]	24.00	0.12 [3.0]	1.00 [25.4]	0.56 [14.2]	10-32 M	0.46	0.7 oz
	mm							[11.7]	[20g]	
VSS (A, V)-18	in.		0.75 [19.1]	24.00	0.12 [3.0]	1.00 [25.4]	0.56 [14.2]	1/8 NPT M	0.55	1.0 oz
	mm							[14.0]	[28g]	
VSS (A, V)-QD	in.		0.75 [19.1]	24.00	0.12 [3.0]	1.00 [25.4]	0.56 [14.2]	10-32 F	N/A	1.2 oz
	mm									[34g]
VSS (A, V)-RM	in.		0.75 [19.1]	24.00	0.12 [3.0]	1.00 [25.4]	0.44	10-32 F	0.37	1.1 oz
	mm								[11.2]	[9.4]

## Wiring Schematic for VSS (A, V)



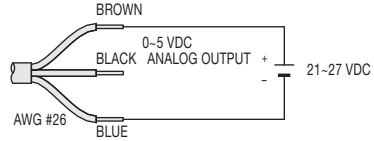
### WIRING: VSSA



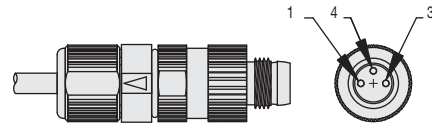
QUICK DISCONNECT PIN OUT  
 PIN 1, BROWN, + VDC  
 PIN 3, BLUE, - VDC, ANALOG OUTPUT



### WIRING: VSSV



QUICK DISCONNECT PIN OUT  
 PIN 1, BROWN, + VDC  
 PIN 4, BLACK, ANALOG OUTPUT  
 PIN 3, BLUE, - VDC



## VSS (A, V) Solid State Vacuum Sensor Specifications:

	VSSA	VSSV
Rated Vacuum Range:	0.5" to 30 Hg [-34 mbar to -1015 mbar]	
Proof Pressure:	45 PSI [3.1 bar]	
Burst Pressure:	75 PSI [5.2 bar]	
Media:	Non-Corrosive, Dry Gases	
Supply Voltage:	21 to 27 VDC	
Current Consumption:	20 mA Max.	
Sensing/Switching Material:	Single Crystal Silicon	
Output:	4-20 mA	0-5 VDC
Electrical Connection:	2 Wire - 26 AWG - 2' [0.6m], Optional 3 pin, M8 Quick Disconnect	3 Wire - 26 AWG - 2' [0.6m], Optional 3 pin, M8 Quick Disconnect
Circuit Protection:	NONE	
Linearity:	+/- 0.5% Full Scale	
Thermal Error:	+/- 7% Full Scale/212°F Max. [100°C]	
Thermal Compensation:	None	
Display:	None	
IP Protection:	IP00	
Operating Temperature:	-40°F to 150°F [-40°C to 65°C]	
Operating Humidity:	35 to 85% RH (No Condensation)	
Construction:	Glass filed ABS/Aluminum/Buna	
Fitting/Connection:	10-32 Female Standard, Optional 10-32 Male, 1/8" NPT Male, Face Seal Mount	
Weight:	0.6 oz [17g]	
Safety and Environmental Compliance:	RoHS	