



# UNIQUE VACUUM SOLUTIONS

## Diaphragm Vacuum Gauge DVG-1S



Accuracy : 0.75% of reading

Repeatability : 0.1% of reading

Range :0.1 to 1333 mbar / 0 .1 to 1000 Torr

### Advantages:

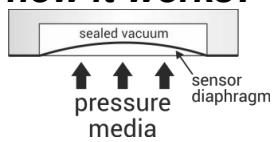
- Ceramic diaphragm sensor with excellent chemical resistance.
- Programmable current output 4-20mA.
- Programmable Voltage output 0-10V DC.
- Has built in temperature compensation circuit.
- Robust SS316 design.
- IP67 enclosure for harsh environment.
- Optional SSR available for setpoint outputs.

### Applications:

- PVD coating
- Mass spectrometers.
- Electron microscope.
- Fore-line vacuum.
- Freeze drying.
- Sterilisation process.
- Load lock systems.
- Vacuum furnaces.

*With the high accuracy and tested repeatability standards of this DVG-1S sensor, this is the best cost effective replacement solution for conventional capacitance manometers with measurement from 1333 down to 0.1 mbar.*

### How it works?



The DVG-1S is based on a ceramic aluminum oxide sensor diaphragm that converts the applied pressure to an electric signal. The sensor element is a dry cell diaphragm design.

### Measurement performance

These DVG-1S transmitters are calibrated and compensated for ambient temperature drifts. This DVG-1S comes with standard factory calibration certificate, we also provide calibration certificates traceable to standards as optional.

### Analog and digital options

The DVG-1S is available with industry standard analog 4-20 mA current output or 0-10 VDC voltage output. The analog output can be scaled and configured using our interface software.

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#57, 8<sup>th</sup> cross, 1<sup>st</sup> B cross, Doddanna Industrial Estate, Vishwaneedam post, near Peenya 2<sup>nd</sup> stage, Bangalore-560091.

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# UNIQUE VACUUM SOLUTIONS

## TECHNICAL DATA

MODEL	DVG-1S
SPECIFICATIONS	
	Measuring range : 3 decades Accuracy of reading : 0.75% of reading Accuracy of full-scale : +/- 0.1 % BFSL Repeatability : 0.1% of reading Thermal drift (offset, base: 22 °C) : +/- 0.01%/°C of full-scale (from +10 to +50°C) Output signal (Voltage version) : 0-10 VDC (Programmable scaling) Output resolution (Voltage version) : 16 bit / 150 µV Output signal (Current version) : 4-20 mA (Programmable scaling) Output resolution (Current version) : 16 bit / 244 nA Solid-state relay contact rating (optional) : 250 mA, 50 VDC / VAC peak
Environmental conditions for operation	Operating ambient temperature : -40 to +100 °C Media temperature at flange : -40 to +125 °C Storage ambient temperature : -40 to +125 °C Maximum media pressure : 2000 mbar / 1500 Torr Burst media pressure : 3000 mbar / 2250 Torr Mounting position : Any Protection rating, EN 60529/A2:2013 : IP67, IP65 Humidity, IEC 68-2-38 : 98%, non-condensing
Power supply	Supply voltage : 12-30 VDC Power consumption (voltage version) : 240 mW (max) Power consumption (current version) : 600 mW (max) Reverse polarity protection : Yes Overvoltage protection : Yes Internal fuse : 100 mA (thermal recoverable)
Materials	Enclosure : SS 1.4404 / AISI 316L Electrical connector DIN 175301-803A : PA Nylon Electrical connector M12 IEC 61076-2-101 : PA Nylon, Nickel plated Zinc alloy Process connection (media wetted) : SS 1.4404 / AISI 316L Sensor diaphragm (media wetted) : Ceramic Al <sub>2</sub> O <sub>3</sub> 96% Sealing (media wetted) : FKM (Viton®) or optional FFKM Process leak tightness (ISO 27895:2009) : <1·10 <sup>-9</sup> mbar·l/sec.

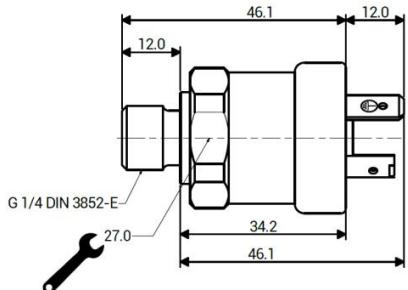
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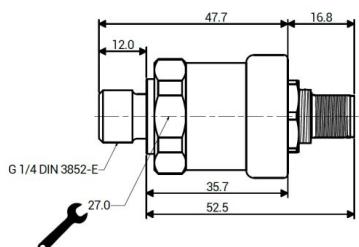


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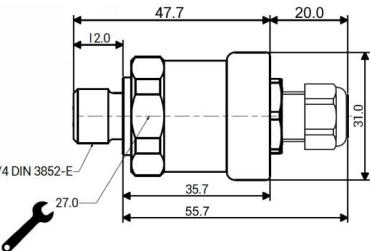
## Dimensions (in mm)



3 pin + PE DIN EN 175301 -803 A  
flying leads



4 pin M12 connector IEC 61076-2-101



With fixed cable and

## Ordering Information:

CVG-1-	1	0	1	1	0	1	1	1
Process connection								
DIN 3852-E, G $\frac{1}{4}$ " A	1							
DN16KF	8							
Range								
0 ... 200 mbar	0	2						
0 ... 500 mbar	0	5						
0 ... 1000 mbar	0	6						
0 ... 200 Torr	1	2						
0 ... 500 Torr	1	5						
0 ... 1000 Torr	1	6						
Sensor type								
Gauge			1					
Absolute			2					
Connection								
M12 x 1, 4 pin	1							
DIN175301-803 Form A	2							
Cable 1 meter (3.3 feet)	3							
Cable 3 meter (9.9 feet)	4							
Cable 5 meter (16.4 feet)	5							
M12 x 1, 4 p. + mating connector	6							
DIN175301-803 Form A + mating connector	7							
Setpoints								
None	0							
On/Off Solid State Relay	1							
Digital interface								
S4-Connect™	1							
Analog Output								
0-10 VDC linear	1							
0-5 VDC linear	2							
1-10 VDC linear	3							
4-20 mA linear	4							
1-5 VDC linear	5							
1-6 VDC linear	6							
0.5-4.5 VDC linear	7							



# UNIQUE VACUUM SOLUTIONS

## Digital Vacuum Gauge DVG-100A



1000mbar to 0  
760mm of Hg to 0



### ABSOLUTE VACUUM MEASUREMENT

The UVS **DVG 100A** Vacuum Gauge Controller displays vacuum pressure as measured from a transmitter tube. The **Model DVG 100A** unit covers the range from 1000 mbar to 0 OR 760 mm of Hg to 0, and controls relay with independent set point.

#### TECHNICAL SPECIFICATIONS

MODULE	DVG - 100A
<b>Number of sensor channels</b>	ONE
<b>Measuring Range</b>	<b>1000 mbar to 0 / 760 mm of Hg to 0</b>
<b>Resolution</b>	1 mbar / 1 mm of Hg
<b>Accuracy @ 25 °C</b>	±0.75 % of the reading
<b>Units of Display</b>	m.Bar and mm of Hg, unit selection from front panel
<b>Temp. Range</b>	+2 to +50 deg. Celsius
<b>VAC. Display</b>	4-digit bright red LED, 14 mm high
<b>Process control set points</b>	one
<b>Process Control Relays</b>	One relay output, potential free contacts; available through 6 pin metal shell connector on the rear panel
<b>Nonvolatile Memory</b>	Only for set points
<b>Operating Voltage</b>	universal power supply, input voltages from <b>90 ~ 264VAC</b> 50/60 Hz
<b>Mounting</b>	1/4 DIN 92 x 92 mm (3.62" x 3.62")
<b>Environmental Considerations</b>	not for use with explosive or corrosive gases
<b>End fittings for the sensor</b>	Standard KF-10, 1/4" BSP male thread let.
<b>Sensor cable length</b>	Available in lengths of 2 mtrs, 5 mtrs, 8 mtrs.
<b>Overall dimension</b>	96mm X 96mm X 110mm

#### Features at a Glance

- Space saving rugged design- 1/8 DIN console ■ Space saving rugged design- 1/8 DIN console ■
- Mounts in any orientation ■ brass body measuring cell with metal-sealed feed through

#### Applications

- Controlling high vacuum systems ■ Fore vacuum pressure monitoring ■ Safety circuits in vacuum systems ■ General vacuum measurement & control in the fine and rough vacuum range.

#### Calibration:

Unique Vacuum Solutions offers a convenient recalibration service to help users of vacuum measurement pirani/ thermocouple/ full range gauges to maintain all of their vacuum gauges in Certified and peak condition, regardless of the original manufacturer. All makes of vacuum gauges can also be calibrated / repaired if required. The calibration certificates are available only on request at additional cost. Pl contact before ordering.

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