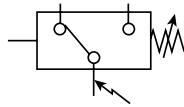


MVS-201



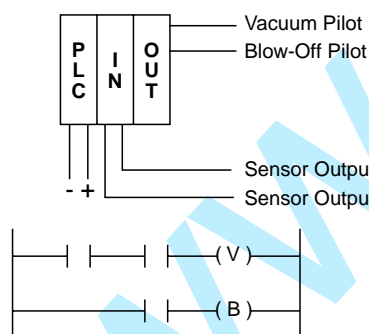
The MVS-201 is a winning combination with the MC2, CVR-2, and CVK vacuum generators. The MVS-201 automatically provides an output signal for the blow-off function without the need of an additional output from the PLC. Begin the vacuum cycle with an input signal from the PLC to the "201" sensor. The "201" sensor has one output NPN or PNP for vacuum confirmation and a control output that interfaces directly with the blow-off release pilot valve. With programmable time control features and a special chip driver, the sensor automatically activates the blow-off release when the

Features

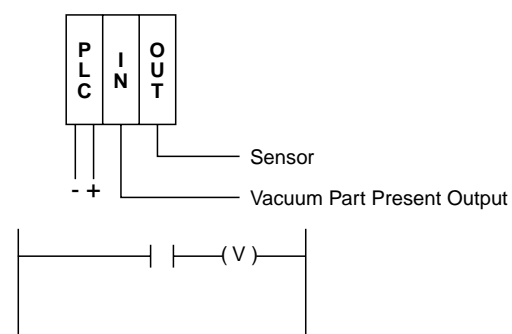
- **Pressure Range:**
Compound Pressure -1 to 5 bar
- **Time Controlled Sensor**
- **Intelligent Simple 4-wire System**
- **Eliminate I/O for Release Valve**
- **2 Functions with One Rung of Code**
- **Automatic Timer (0-9,9 sec.) Function by Sensor Control Driver for Vacuum Generating and Release Valves**
- **Peak Value Preventative Maintenance Confirmation**
- **Response Time Less Than 2 Milliseconds**
- **CE Rated**

vacuum signal from the PLC is discontinued. This eliminates, THE PREVIOUSLY REQUIRED, PLC output to activate the blow-off release. This new technology eliminates PLC output requirements by 50% and reduces installation to a simple 4 wire system by wiring the sensor only. There are 3 modes of operation for various applications. The output response time of the sensor is less than 2,5 msec. Peak limit prevention maintenance feature is automatically recorded internally.

Basic PLC System



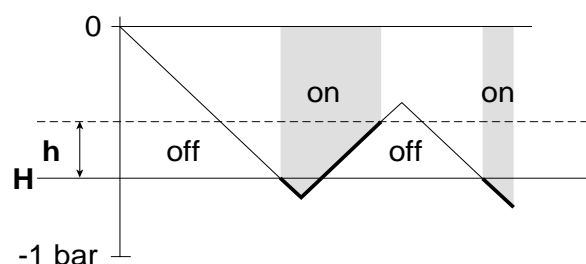
PLC System with 201 Sensor



Output Modes

The MVS-201 Series Sensor has one independent NPN or PNP open collector output signal. The Switch Output Mode has a switch point programmed by the user at a specific pressure. The Hysteresis Range (**h**) adjustment controls the output signal 0 to 100% below the Switch Point (**H**).

Switch Output



Model Number

MVS - 201 - PCP

Specifications

Pressure Range	Compound (R)
Units of Measure Display Resolution	kPa: 1
Media	Non-Lubricated Air and Non-Corrosive Gases
Proof Pressure	6 bar
Operating Temperature	0 to 50 °C
Storage Temperature	-10 to 60 °C
Humidity	35 to 85% RH
Electrical Connection	C: 4-Pin, M8 Connector
Power Supply	10,8 to 30 VDC, Ripple Vp-p 10% Max., Reverse Voltage Protection
Display	3-Digit, 7-Segment LED
Resolution & Units of Measure	kPa: 1, bar: 0,01, kgf/cm ² : 0,01, PSI: 0,1
Display Frequency	5 Hz
Circuit	NPN (Sinking), PNP (Sourcing) Open Collector Transistor
Digital Output	Individually Selectable N.O. or N.C., max 125 mA, 30 V, with Overcurrent Protection
Mode	OP1, OP2, OP3 Hysteresis: 0 to 100% of Switch Point
Response Time	< 2 ms
Repeatability	± 0,3% F.S.
Thermal Error	± 0,2% F.S. in Temperature Range 0 to 50 °C
General Protection	IP40, CE Rating EMC-EN55011 Class B, EN50082-1
Current Consumption	< 45 mA, < 25 mA When Utilizing Screen Saver Option
Spike Protection	350 Vp, 1, µs
Dielectric Strength	1000 VAC 1 min.
Insulation Resistance	> 100 Mohms at 500 VDC
Vibration Resistance	10 to 55 Hz, 1,5 mm, XYZ, 2 hrs.
Shock Resistance	10 G, XYZ
Material	Body: Polycarbonate
Mass	48 g

Wiring Diagram

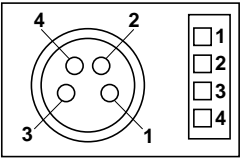
M8 Pin #

- 1 Brown: 24 VDC
- 2 White: Input; PNP (24 VDC)
- 3 Blue: 0 VDC
- 4 Black: PNP Open Collector Output

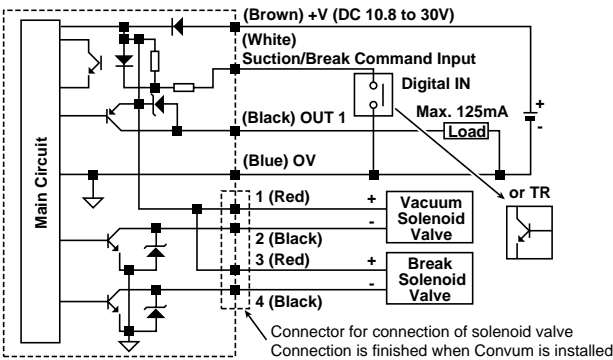
201 Pin #

- 1 Red: Vacuum Solenoid Valve + V
- 2 Black: Gnd
- 3 Red: Break Solenoid Valve + V
- 4 Black: Gnd

Sensor Male
Pin Out



Internal Circuit



PNP Sourcing

⚠ Cautions

The MVS-201 Pressure Sensor is designed to monitor pressure and is not a safety measure to prevent accidents.
The compatibility of the sensor is the responsibility of the designer of the system and specifications.

Operating Environment

- Parker / Convum Sensors have not been investigated for explosion-proof construction in hazardous environments.
- Do not use with flammable gases, liquids, or in hazardous environments.
- Avoid installing the sensor in locations where excessive voltage surges could damage or affect the performance of the sensor.

Operations

- Dedicate a power supply of 10,8 to 30 VDC to the sensor and set the ripple to Vp-p10% or less. Avoid excessive voltage. Avoid voltage surges.
- A small amount of internal voltage drop is possible. Ensure the power supply minus any internal voltage drop exceeds the operating load.
- Verify the operating media is compatible with the specified sensor. Check the chemical make-up, operating temperatures, and maximum pressure ranges of the system before installing.
- Installation of air dryer system is recommended to remove moisture.

Installation

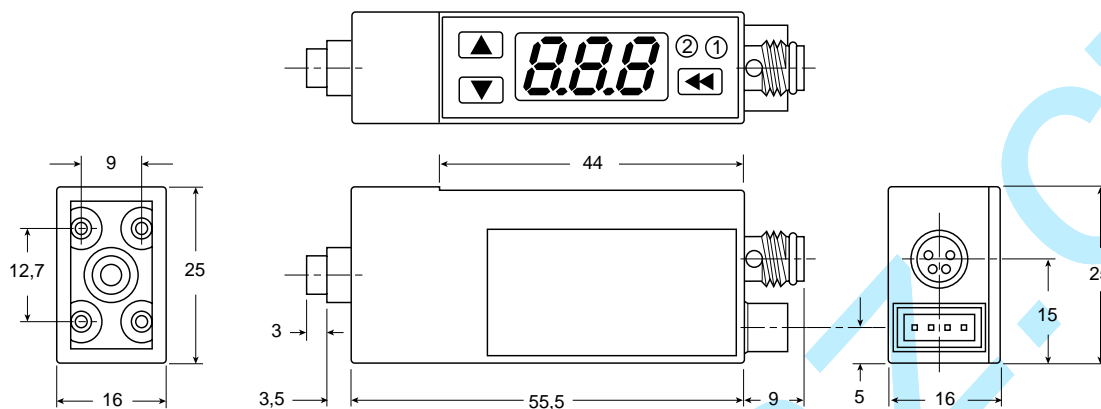
- Never insert an object into the pressure port other than an appropriate fluid connector.
- Avoid short-circuiting the sensor. Connect the brown lead to V+ and blue lead to 0 V.
- Do not connect the output lead wires (black / white) to the power supply.
- Outputs not being used should be trimmed and insulated.

Error Messages

Display	Description	Solutions
Err	Zero Reset Error 3% of F.S.	Reset Zero Below
Er1	System Error (Internal)	Contact Factory
CE1	Over current of Output 1	Load current exceeds
FFF -FF	Applied pressure exceeds pressure range	Apply pressures with the rating of the sensor

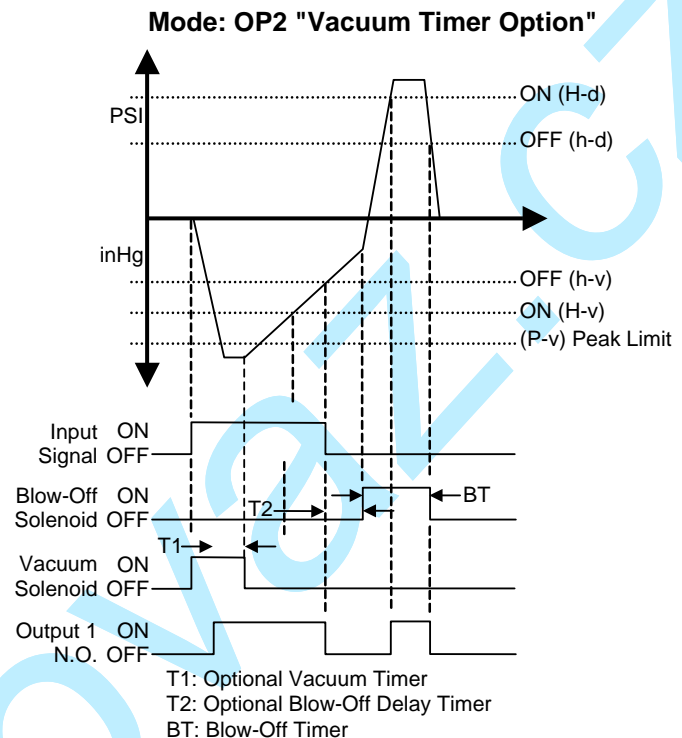
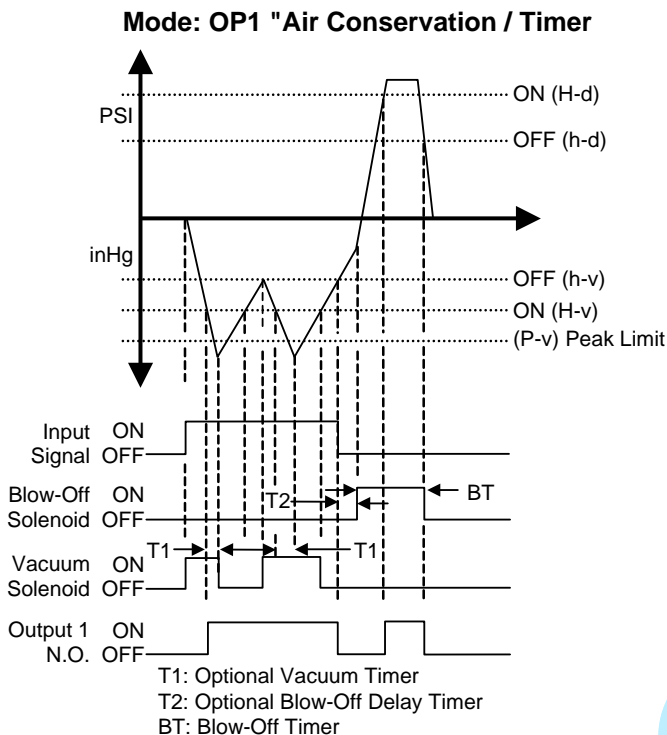
Dimensions

M8, 4-Pin



Operating Modes

Description of operation modes and terms on page 180.



Timer Mode OP1

"Air Conservation / Vacuum Valve Timer"

This Vacuum valve control with the use of timing features conserves air consumption via the vacuum generator non-return check valve and sensor hysteresis function. Vacuum time (**t1**) can be used to control the vacuum valve for a specific length of time (0,0-9,9 sec.) after output 1 vacuum level is reached. The vacuum timing function (**t1**) will remove the signal from the sensor to the vacuum valve allowing the generator check valve system to conserve air consumption and vacuum. The vacuum valve will re-open for the same length of time (**t1**) when the pressure level drops to the hysteresis setting (**h-v**). The operation will continue until the input signal is stopped. Optional delay timer between vacuum / blow-off (**t2**) and blow-off (**bt**) timer is available. After selecting **OP1**, set **bt**, **t1**, and **t2** values by using arrow "UP" and "DOWN" keys. To bypass any of these timing function operations, simply enter 0,00 seconds and the sensor will automatically proceed to the next function.

Timer Mode OP2

"Vacuum Valve Timer"

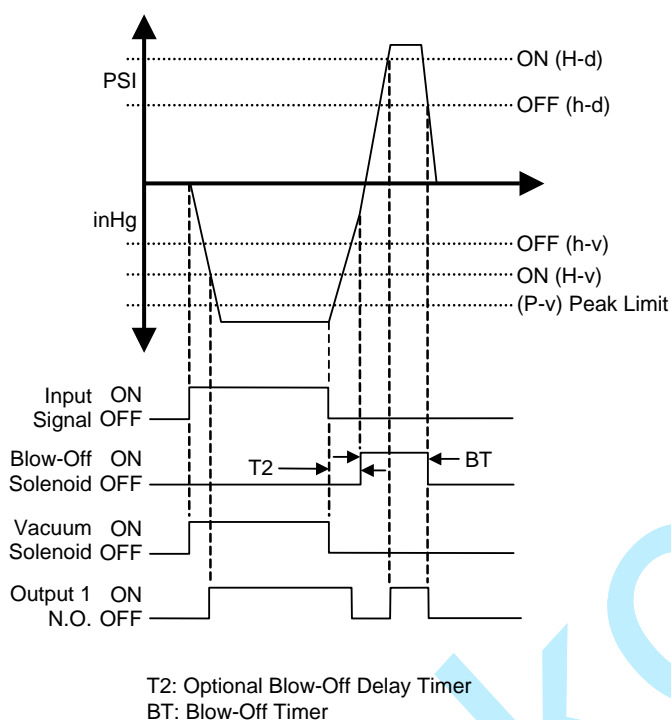
This mode is ideal for use with CONVUM generators without check valves. Vacuum timer (**t1**) can be used to control the vacuum for a specific length of time (0,00 – 9,9 sec.) after output 1 is reached. Optional delay timer between vacuum / blow-off (**t2**) and blow-off (**bt**) timer is available. After selecting **OP2**, set **bt**, **t1**, and **t2** values by using arrow "UP" and "DOWN" keys. To bypass any of these timing function operations, simply enter 0,00 seconds and the sensor will automatically proceed to the next function.

Operating Modes

Description of operation modes and terms on page 180.

Mode: OP3 "Signal Controlled Vacuum"

H-V / H-d: Switchpoints
h-v / h-d: Switchpoints
P-V: Peak Value



Timer Mode OP3

"Signal Controlled Vacuum"

The vacuum timer option (**t1**) is omitted and the PLC controls the input signal time for the vacuum operation. The delay timer between vacuum / blow-off (**t2**) and the blow-off (**bt**) timers are still available. After selecting **OP3**, set **bt** and **t2** values by using arrow "UP" and "DOWN" keys. To bypass any of these timing function operations, simply enter 0,00 seconds and the sensor will automatically proceed to the next function.

Additional Sensor Features

(Available in All Operating Modes)

Screen Saver Function

(**SaV**) appears on display. This reduces current consumption by 20 mA and will activate after 10 seconds.

Peak Value Level

(**p-u**) appears on display. The sensor records this value for preventative maintenance issues. If this value is not reached the sensor will display an error message (**ALP**) indicating leaks or wear in the system.

Vacuum Level Response Time

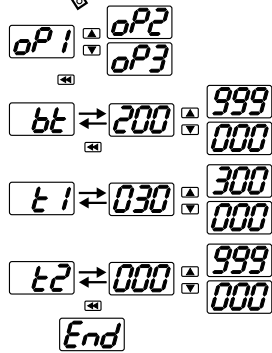
(**ut**) appears on the display. The sensor records the time (sec) to reach Output 1 and will display an error message (**ALV**) indicating Output 1 has not been reached within the acceptable time (sec) set by the user.

Blow-off Time

(**dt**) appears on the display. The sensor records the time (sec) to complete blow-off cycle and will display an error message (**ALD**) indicating (**dt**) has not reacting within the acceptable time (sec) set by the user.

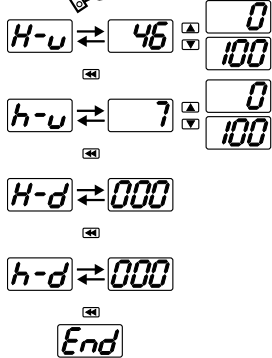
1 Press 1x

Operating Mode 1

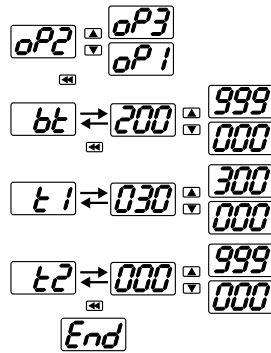


2

Switch Output

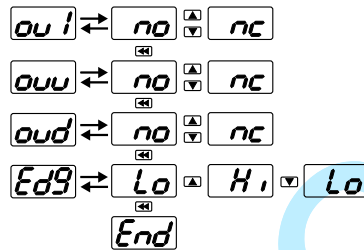


Operating Mode 2

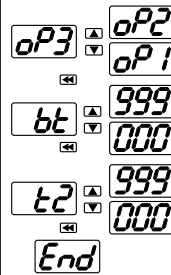


3

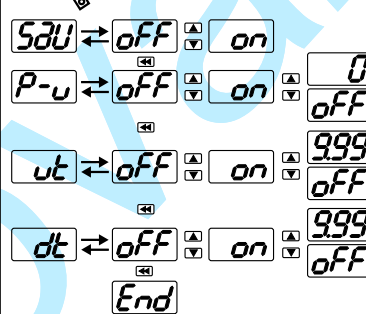
Outmode Open or Closed



Operating Mode 3



4



Programming Symbols Legend

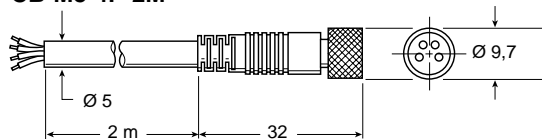
op1	Operation 1: Air Conservation / Timer
op2	Operation 2: Vacuum Timer Option
op3	Operation 3: Signal Controlled Vacuum
bt	Blow-Off Timer
t1	Controlled Vacuum Signal with Timer
t2	Blow-Off Activation Timer
Hu	Switch Output Value
hu	Switch Output Hysteresis Value
Hd	Blow-off Output Value
hd	Blow-off Output Hysteresis Value
ALP	Error Message - Peak Vacuum Level
ALu	Error Message - Vacuum Response Time

ALd	Error Message - Blow-off Time
ou1	Output 1
ouu	Vacuum Valve (Leave NO)
oud	Blow-off Release Valve (Leave NO)
Sdu	Screen Saver Function
P-u	Peak Vacuum Level Recorder
u.t	Vacuum Response Time Recorder
dt	Blow-Off Time Recorder
no	Normally Open
nc	Normally Closed
Ed9	Low or High Signal to Vacuum Valve

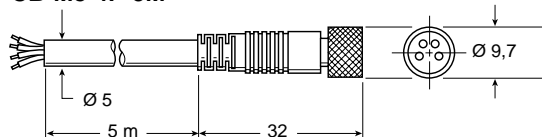
Accessories

M8 Cables for Sensor

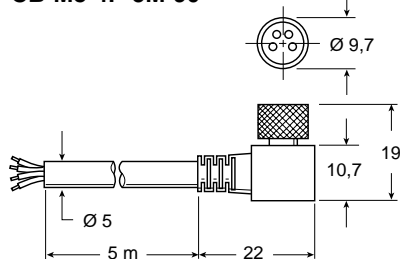
CB-M8-4P-2M



CB-M8-4P-5M



CB-M8-4P-5M-90

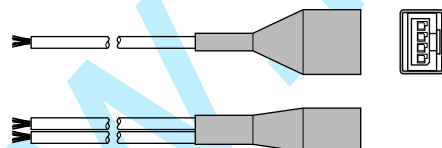


MVS-201

(Connects Sensor to Vacuum & Blow-off Release Pilot Valves)

For CVK

CVK-D201G



For MC2

MC2-C201G

