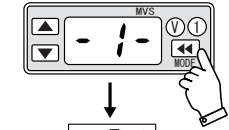


1. Suction mode and timer setting

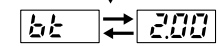


Press the **MODE** key once and wait for 3 seconds after having released it.

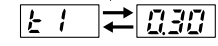
「Suction mode」

- oP1** : Suction mode 1 (ON by timer : suction maintained by the timer)
- oP2** : Suction mode 2 (OFF by timer : vacuum solenoid valve OFF after expiration of timer)
- oP3** : Suction mode 3 (ON : vacuum solenoid valve kept ON)

Select a suction mode with the **MODE** key and set it with the **MODE** key.



Select a desired value for "bt" with the **MODE** key and set it with the **MODE** key.



Select a desired value for "t1" with the **MODE** key and set it with the **MODE** key.



Select a desired value for "t2" with the **MODE** key and set it with the **MODE** key.

End

1. 「Blow-off time」bt

This sets a time during which to keep the blow-off solenoid valve ON in response to the blow-off command signal. It can be set between 0.00 and 9.99 seconds. Beyond 9.99 seconds, "At" (automatic) is displayed. If "At" is set, Blow-off solenoid valve turns off synchronously with the activation (ON) of OUT1 at the time of blow-off. ("bt" is common to all suction modes.)

2. 「Delay time 1」t1

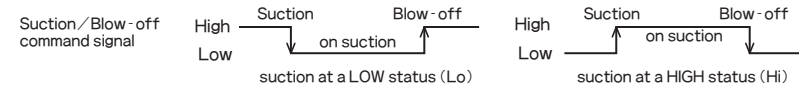
This sets a delay time from the activation (ON) of OUT1 to the deactivation (OFF) of vacuum solenoid valve after vacuum has reached the set point during suction. This can be set between 0.00 to 9.99 seconds. ("t1" can be set when the suction mode is 1 or 2.)

3. 「Delay time 2」t2

This sets a delay time from the detection of blow-off command signal to the activation (ON) of blow-off solenoid valve. It can be set between 0.00 to 9.99 seconds. ("t2" is common to all suction modes.)

Suction/Blow-off command signal timing chart

Suction is started at the HIGH (supply voltage or open) to LOW (0V) trailing edge of start-up/down command signal. Maintain the low level during suction. Blow-off is carried out at the low to-high leading edge. It is also to reverse logic of a Suction/Blow-off command signal. In this case a suction operation is actuated at a start-up from LOW to HIGH, and a blow-off operation at a start-down from HIGH to LOW.

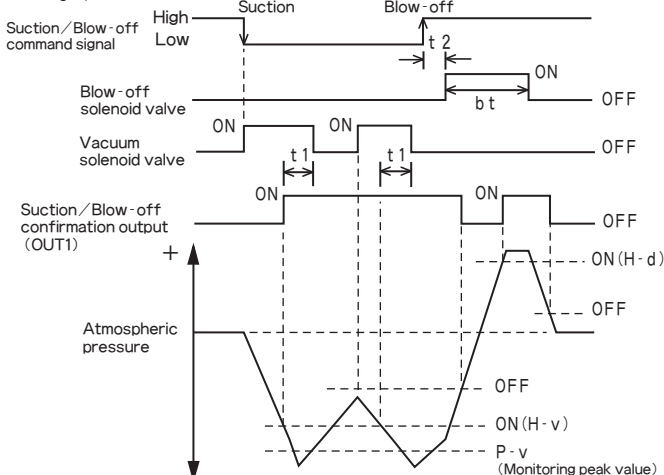


The last-end digit of a decimal point on LED display lights up during suction indicated by Suction/Blow-off command signal. Green LED is lit when vacuum solenoid valve is ON.

Operation example of suction mode 1 (to maintain suction by timer)

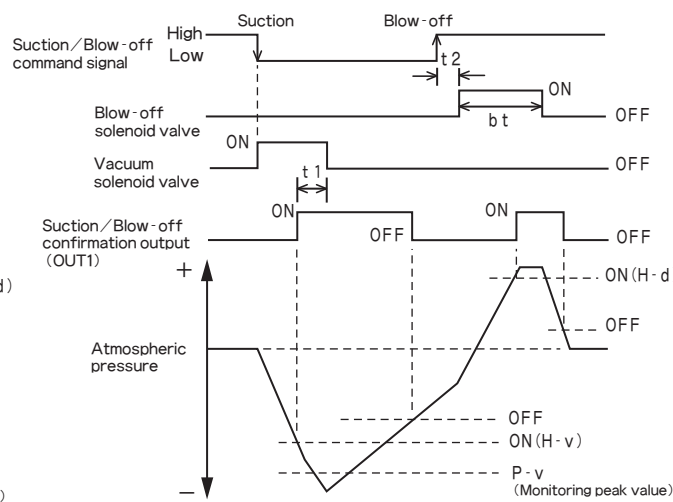
Suction command signal turns on the vacuum solenoid valve to generate vacuum so that suction can be started. Once OUT1 becomes ON upon reaching the preset vacuum, the solenoid valve turns off after an elapse of "t1." Thereafter, vacuum decreases, causing the vacuum solenoid valve to turn on again prior to the deactivation (OFF) of OUT1 to maintain the vacuum.

(Vacuum solenoid valve subsequently turns on/off repeatedly.)
 Blow-off command signal turns off the vacuum solenoid valve first and after an elapse of "t2," turns on the blow-off solenoid valve which remains ON during a period of "bt."



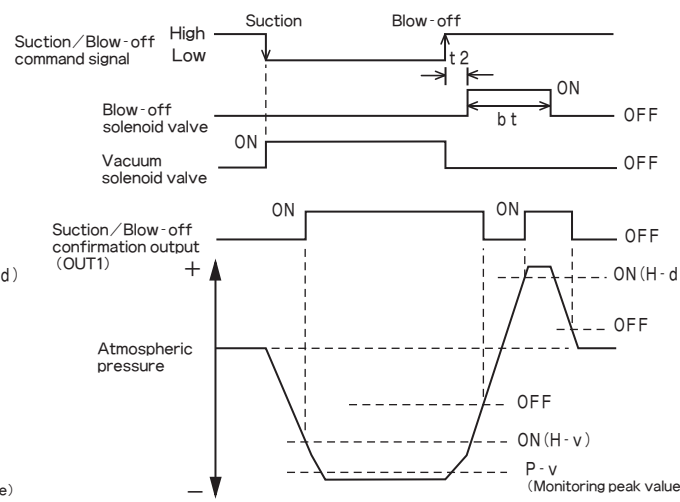
Operation example of suction mode 2 (to turn off the vacuum solenoid valve after expiration of timer)

Suction command signal turns on the vacuum solenoid valve to generate vacuum so that suction can be started. Once OUT1 becomes ON upon reaching the preset vacuum, the vacuum solenoid valve turns off after an elapse of "t1." Thereafter, vacuum decreases, but the vacuum solenoid valve does not turn on again even after the deactivation (OFF) of OUT1. Blow-off command signal turns off the vacuum solenoid valve first and after an elapse of "t2," turns on the blow-off solenoid valve which remains ON during a period of "bt."

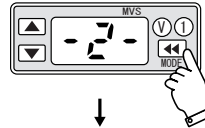


Operation example of suction mode 3 (to keep vacuum solenoid valve ON)

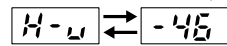
Suction command signal turns on the vacuum solenoid valve to generate vacuum so that suction can be started. Upon reaching the preset vacuum, OUT1 becomes ON. Vacuum solenoid valve remains ON regardless of the status of OUT1. Blow-off command signal turns off the vacuum solenoid valve first and after an elapse of "t2," turns on the blow-off solenoid valve which remains ON during a period of "bt."



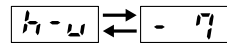
2. Suction/Blow-off confirmation output (OUT1) setting



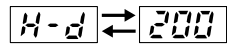
Press the **MODE** key twice and wait for 3 seconds after having released it.



Select a desired value for "h-v" at which to drive on OUT1 during suction, using the **MODE** key and set it with the **MODE** key.



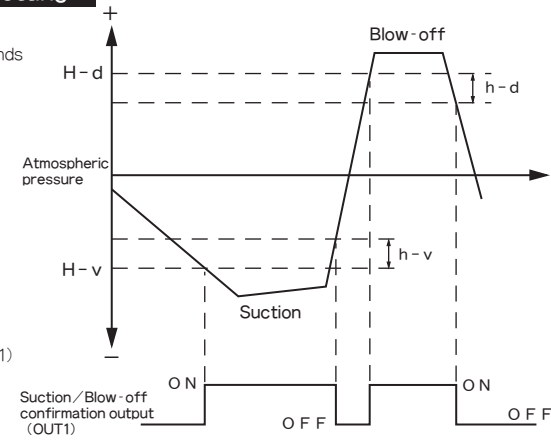
Select a desired value for hysteresis range "h-v" during suction, using the **MODE** key and set it with the **MODE** key.



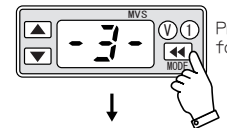
Select a desired value for "H-d" at which to drive on OUT1 during blow-off, using the **MODE** key and set it with the **MODE** key. Note 1)

End

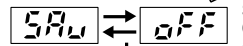
Note 1) With "H-d" set at OFF (beyond the upper limit), OUT1 outputs no signal during blow-off.
 Note 2) With "H-d" set at OFF, h-d cannot be set.



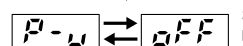
3. Energy saving mode, monitoring peak value, Suction/Blow-off reach time setting



Press the **MODE** key three times and wait for 3 seconds after having released it.



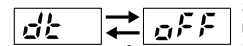
Select the energy saving mode between ON and OFF using the **MODE** key and set it with the **MODE** key.



Select a desired value for monitoring peak value "P-v" using the **MODE** key and set it with the **MODE** key.



Select a desired value for suction reach time "vt" using the **MODE** key and set it with the **MODE** key.



Select a desired value for blow-off reach time "dt" using the **MODE** key and set it with the **MODE** key.

End

1. 「Energy saving mode」

With this mode set at ON, ten-second absence of key operation, puts out LED display and reduces current consumption. The display can be restored by pressing any key.

2. 「Monitoring peak value」: P-v

In the case of the inability of vacuum to exceed the "P-v" during suction, "ALP" is displayed intermittently to warn of decreased vacuum due to the deterioration of pad or the like. This warning display can be cleared by pressing any key. "P-v" can be set within a range of H-v to the lower limit. With this value set at OFF, peak monitoring is not executed.

3. 「Suction reach time」: vt

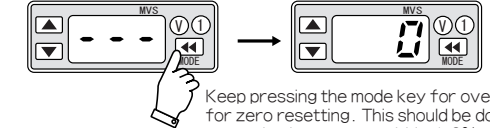
If OUT1 does not become ON within the preset "vt" after the activation (ON) of vacuum solenoid valve, "ALV" is displayed intermittently to warn of decreased vacuum.

4. 「Blow-off reach time」: dt

If OUT1 does not become ON within the preset "dt" after the activation (ON) of blow-off solenoid valve, "ALd" is displayed intermittently to warn of decreased blow-off pressure.

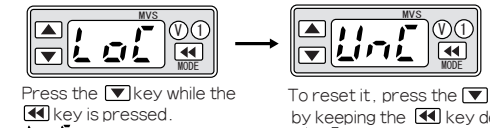
Both "vt" and "dt" can be set between 0.00 (OFF) and 9.99 seconds. If they are set at OFF, time monitoring is not performed. "ALV" and "ALd" displays are automatically cleared by the next Suction/Blow-off command. They can also be cleared by pressing any key.

4. Zero resetting



Keep pressing the mode key for over 3 seconds for zero resetting. This should be done under atmospheric pressure within ± 3% of F.S.

5. Security lock setting and resetting



Press the **MODE** key while the **MODE** key is pressed. **LoL** is displayed to inhibit further key operation.



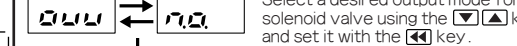
To reset it, press the **MODE** key again by keeping the **MODE** key depressed. **LoL** is displayed to release the security lock.

6. Output mode and pressure unit setting

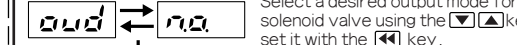
Press the **MODE** key while the **MODE** key is pressed.



Select a desired output mode for OUT1, using the **MODE** key and set it with the **MODE** key.



Select a desired output mode for vacuum solenoid valve using the **MODE** key and set it with the **MODE** key.



Select a desired output mode for blow-off solenoid valve using the **MODE** key and set it with the **MODE** key.



Select a desired logic of a suction/blow-off command signal with the **MODE** key and set it with the **MODE** key.

End

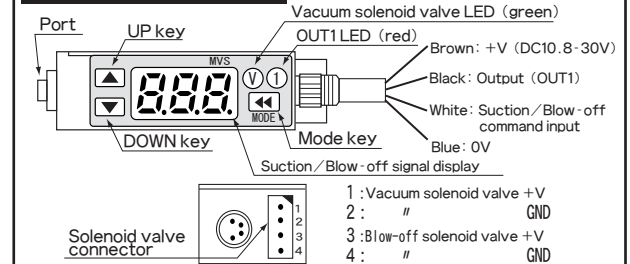
Output mode	Suction/Blow-off command signal
na Normal open (normally, non-current supplied)	Lo suction from HIGH to LOW
nc Normal close (normally, current supplied)	Hi suction from LOW to HIGH

7. Alarm list

Code	Alarm Name	Cause	Countermeasure
EE1	OUT1 overcurrent	Output current exceeding 125 mA	Check the load.
Err	Zero reset error	Zero resetting at over 3% of F.S.	Release atmospheric air during zero resetting.
Erl	System error	Internal failure	

FFF	Rated range full	Pressure beyond the range
-FF	Back pressure full scale	Pressure beyond the back pressure range

8. Names and functions



9. Specifications and model

MVS-201-XC		Output type
Model	MVS-201-XC	N: NPN P: PNP
Applicable fluid	Noncorrosive gas	
Pressure range	-101 ~ 500 kPa	
Display resolution	1 kPa	
Repeatability	Within ± 0.3% of F.S. and ± 1 digit	
Response time	2.5msec	
Specific output	NPN or PNP open collector output at 1 point (max. 125 mA)	
Solenoid valve output	NPN transistor output at 2 points (max. 250 mA)	
Supply voltage	DC10.8-30V, Ripple (Vp-p) 10% or less Note 1)	

Note 1) It must be consistent with the solenoid valve drive voltage.