



8-17

## Proportional digital damper actuator

### GDA-20PD / 40PD



#### Summary

GDA-20PD / 40PD, by Direct-coupling, is used for HVAC as digital damper actuator to open/close by proportional input signal.

- GDA-20PD / 40PD (A) : input signal 0~10VDC / output signal 0~10VDC
- GDA-20PD / 40PD (B) : input signal 4~20mA
- GDA-20PD / 40PD (C) : input signal 2~10VDC



#### Use

- GDA-20PD : Norminal stroke 20Nm / 4.6m<sup>2</sup> damper size available to the Max.
- GDA-40PD : Norminal stroke - 40Nm / 8m<sup>2</sup> damper size available to the Max.
- For air-circulation and HVAC to operate damper
- To open and close(ON/OFF) damper
- For outside air-damper, Ventilation, circulation damper



#### Function

- Direction change available with DIP S/W for CW or CCW
- LCD display for the open position of damper by "%"
- (Reversed mounting position to be modified by DIP S/W)
- "0°" or "90°" movement in normal power supply
- Stop at the current position when power-off



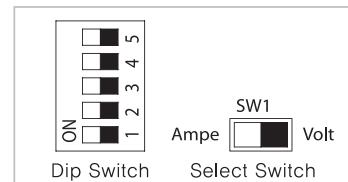
#### Technical data

	GDA-20PD	GDA-40PD
Display of opening position	Digital LCD display (0 ~ 100 %)	
power supply	24VAC ±10% 50/60HZ	
Consumption power	Operation / 5VA(4.5W), 2.9W usually	Operation / 5.5VA(5W), 2.9W usually
Operation type	0~10VDC, 2~10VDC, 4~20mA	
Norminal force	20Nm	40Nm
Angle of rotation	90° / Max. 95° ±2°	
Turning direction		
Operation time for 90°		
Ambient Temp		
Ambient humidity	5 ~ 95%RH	
	35dB	
	IP54 (EN60529)	
	1.5kg	1.5kg



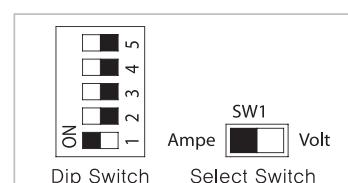
## Input Signal Converting Method

### 1. Input Signal Converting [DIP-1, SW1 operation]



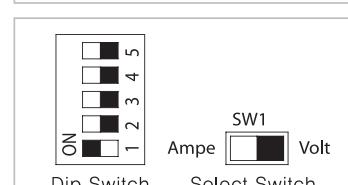
► 0-10V DC

For input signal 0 ~ 10VDC, alter "Select Switch" to "Volt" side and Dip switch No. 1 to "OFF"(right side)



► 4-20mA DC

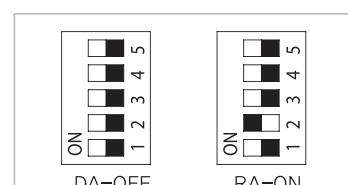
For input signal 4 ~ 20mA DC, alter "Select Switch" to "Ampe" side and Dip switch No. 1 to "ON"(left side)



► 2-10V DC

For input signal 2 ~ 10VDC, alter "Select Switch" to "Volt" side and Dip switch No. 1 to "ON"(left side)

### 2. DA(forward Direct Acting) and RA(Reverse Acting) converting[DIP-2]



In DA mode, damper shaft(rod) rotates CCW("0", ⌂) with input signal 0(2)VDC or 4mA. Alter Dip Switch No. 2 to "OFF"(right side)

In RA mode, damper shaft(rod) rotates CW("1", ⌃) with input signal 0(2)VDC or 4mA. Alter Dip Switch No. 2 to "ON"(left side)

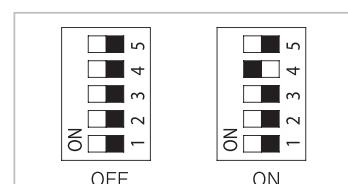
### 3. LCD digital display converting[DIP-3]



Factory setting is DIP-3 to "OFF" side.

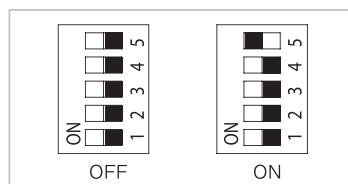
Alter DIP-3 to "ON"(left side) to display digital number of LCD rightly in reversed mounting.

### 4. Converting with input signal off[DIP-4]



"OFF"(right side) : "CLOSE" position of damper with input signal off  
"ON"(left side) : stop at the current position with input signal off  
(only available with 4 ~ 20mA and 2 ~ 10VDC)

### 5. Auto-Setting Converting[DIP-5]



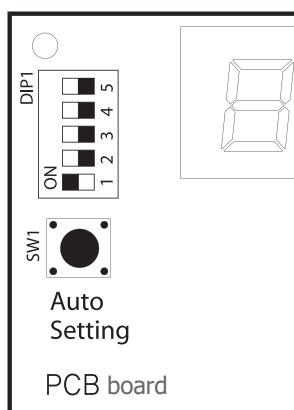
※ Except GDA-40PD

"OFF"(right side) : "Auto-setting" to be performed when installation or restarting after power-off

"ON"(left side) : re-start "Auto-setting" automatically after power-off  
(required in mounting on high position)

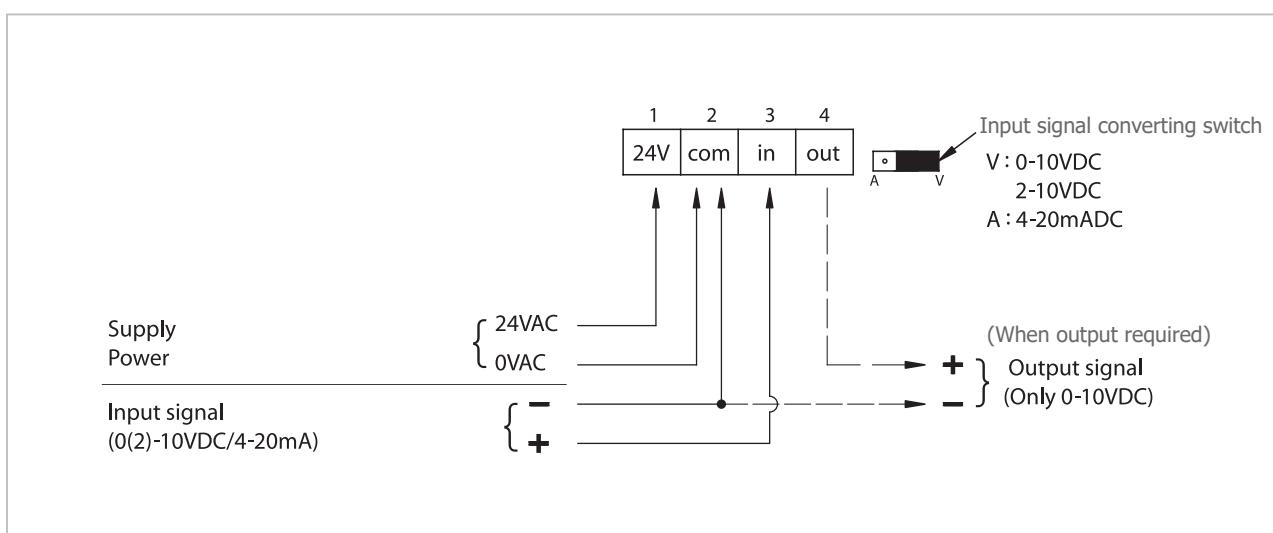
※ 5min for "Auto-setting"

## Auto-setting(to be performed after installation)



1. Check the position of OPEN/CLOSE after mounting actuator onto damper
2. Connect the wire of power with terminal block of PCB  
- wire 24VAC not to be entangled with COM of terminal block
3. Start "Auto-setting" by pressing the button(SW1) on PCB for 3 ~ 5 sec.  
Complete "Auto-setting" by pressing its button again at required position up to 90°
4. "Auto-setting" is completed at CLOSE position in DA MODE  
- In RA MODE, it is finalized at OPEN position  
※ 2 actuators incompatible with 1 axis of damper  
※ GDA-40PD : "Auto-setting" in the factory  
(factory setting, user's setting prohibited)

## Wiring Diagram



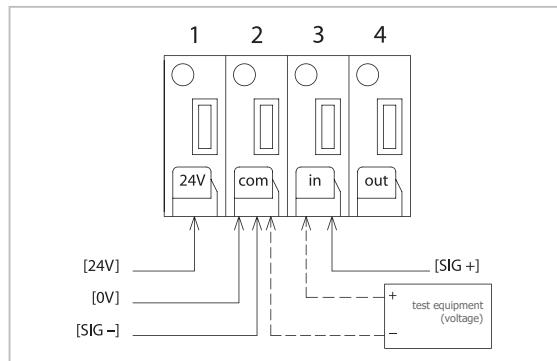
Note) available up to 6 actuators connecting in parallel(Slave actuator)

## Mounting Notes

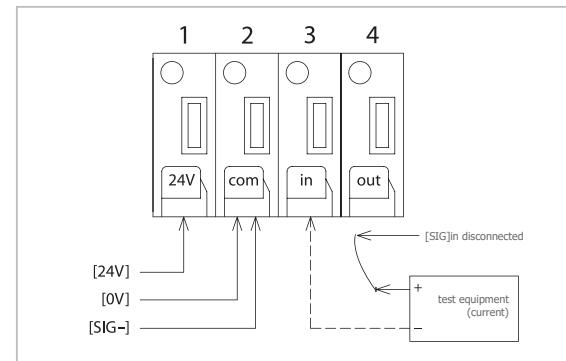
- Bracket must be used to mount actuator directly onto damper with bracket pin right on the angle of actuator
- Mounting location must be proper to dial-setting on the front side of actuator and to cable connection
- Manual operation : For the accurate switching location of on/off damper operation, press the button of manual operation and adjust the shaft adapter and position indicator  
(Do not supply the electric power when manual operation)

**Check Points At Breakdown**

1. Check 24VAC power supply at terminal block with test equipment
2. Check input signal setting of actuator(refer to input signal converting switch)

**▶ Input signal 0(2) ~ 10 VDC**

Test  
with [+] connected to [SIG] of terminal block and  
[-] connected to [COM] of terminal block

**▶ Input signal 4 ~ 20mA**

Test after disconnecting [SIG]in  
with [-] connected to [in] of terminal block and  
[+] connected to [SIG] of terminal block

**Dimensions**