

INSTRUCTIONS FOR

CHANGING VENTILATOR REGULATION

INTO VAV

CORRIGO CONTROLLER

Basic

FGT010, FGT015, FGT022

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1. General about VAV kit

The VAV (Variable Air Volume) kit is used for VAV fan control of AHU (Air Handling Unit). VAV kit is the easiest way to change fan control from Constant Air Volume (CAV) into VAV.

Kit include: 2 pcs of pressure sensor, 2 pcs of pressure outlet, 4m of tube, 8m of electrical cable, 4 pcs of screw.

Pressure sensors max working range is 0-1250 Pa.

2. Warnings



Danger

- Make sure that the mains supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections must be carried out by an authorized installer and in accordance with local rules and regulations.
- Beware of sharp edges during mounting.

3. Mounting external pressure sensor

The pressure sensors need to be mounted near supply air duct and extract air duct and must be connected to electric cabinet to external connection terminal block.

External supply duct sensor (A3) pressure hose " + " it's need to be connected in supply duct and " - " is surrounding pressure.

External extract duct sensor (A4) pressure hose " - " it's need to be connected in extract duct and " + " is surrounding pressure.

Both pressure sensors can be mounted on front side where is electrical cabinet "marked with large orange rectangle" or they can be mount separately on each duct "marked with small red rectangles".

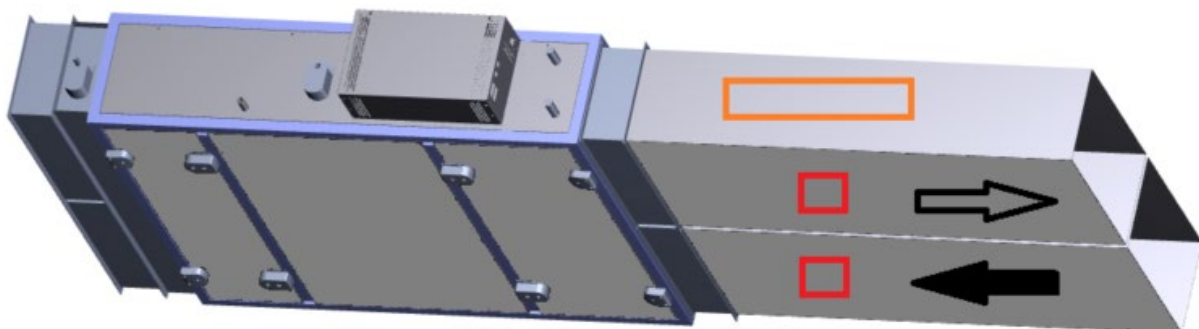
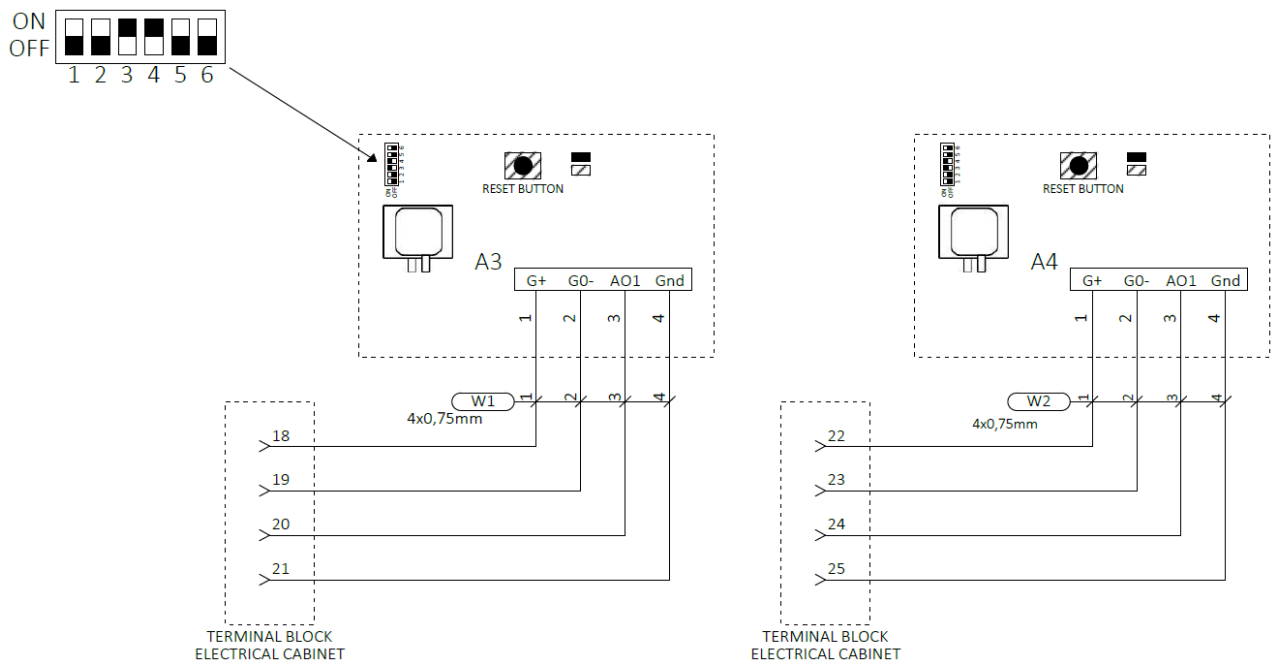


Fig 1: VAV external sensor installation

Table 1:Symbol description

Symbol	Description
	Supply air
	Extract air

4. Wiring external pressure sensors



DIP-switch	Parameter	Key pattern	Parameter setting
1	Output function	OFF	0...10 V *
		ON	4...20 mA
2, 3 and 4	Pressure range	2 = OFF, 3 = OFF, 4 = OFF	Range 1 *
		2 = ON, 3 = OFF, 4 = OFF	Range 2
		2 = OFF, 3 = ON, 4 = OFF	Range 3
		2 = ON, 3 = ON, 4 = OFF	Range 4
		2 = OFF, 3 = OFF, 4 = ON	Range 5
		2 = ON, 3 = OFF, 4 = ON	Range 6
		2 = OFF, 3 = ON, 4 = ON	Range 7
		2 = ON, 3 = ON, 4 = ON	Not used in this version
5 and 6	Damping time factor	5 = OFF, 6 = OFF	1 s *
		5 = ON, 6 = OFF	2 s
		5 = OFF, 6 = ON	4 s
		5 = ON, 6 = ON	8 s

Table 1

* Factory setting

Output (Pa)	Pressure range	1250 Pa sensor
	Range 1	0...50
	Range 2	0...100
	Range 3	0...300
	Range 4	0...500
	Range 5	0...700
	Range 6	0...1000
	Range 7	0...1250

5. Search for Admin access

Put yourself on the first screen:



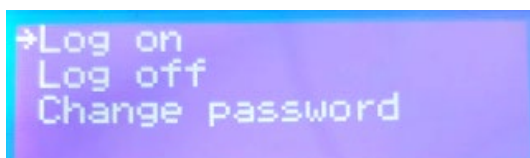
Press DOWN key button to enter the menu:



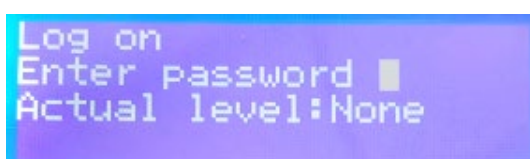
Press DOWN key button (4x) to access the menu "Access rights":



Press RIGHT key button:



Press RIGHT key button:



Press the OK button to position yourself on "Enter password". Please enter the password "1111". For entering the password press UP key (2x) for value 1. Press RIGHT key for next position and repeat the process for the password "1111":

```
Log on
Enter password 1111
Actual level:None
```

Press OK button and you will be logged in as "Admin":

```
Log on
Enter password ****
Actual level:Admin
```

6. Search for analog input menu

```
Log on
Enter password ****
Actual level: Admin
```

Press LEFT key (2x) to get to the menu:

```
Manual/Auto
Settings
Configuration
→Access rights
```

Press UP key button to position yourself on the menu "Configuration":

```
Manual/Auto
Settings
→Configuration
Access rights
```

Press RIGHT key button:

```
→Inputs/Outputs
Sensor settings
Control function
Fan control
```

Press RIGHT key button:

```
→AI
AI exp3
AI exp4
DI
```

Press DOWN key button:

```
AI
→AI exp3
AI exp4
DI
```

Press RIGHT key button:

```
Pressure A exp3
Sign:Filtguard1
Raw value: 0.0
Compensation: 0.0Pa↓
```

Press DOWN key button:

```
Pressure B exp3 ↑
Sign:SAF pressure
Raw value: 0.0
Compensation: 0.0Pa
```

Press OK and DOWN (3x), to choose "SAF extra press" and OK (2x):

```
Pressure B exp3 ↑
Sign:SAF extra press
Raw value: 0.0
Compensation: 0.0Pa
```

Press LEFT key button:

```
AI
→AI exp3
AI exp4
DI
```

Press DOWN key button:

```
AI
AI exp3
→AI exp4
DI
```

Press RIGHT key button:

```
Pressure A exp4
Sign:Filtguard2
Raw value: 0.0
Compensation: 0.0Pa↓
```

Press DOWN key button:

```
Pressure B exp4 ↑
Sign:EAF pressure
Raw value: 0.0
Compensation: 0.0Pa
```

Press OK and DOWN key (3x), to choose "EAF extra press" and press OK (2x):

```
Pressure B exp4 ↑
Sign:EAF extra press
Raw value: 0.0
Compensation: 0.0Pa
```

Press LEFT key button:

```
AI
AI exp3
→AI exp4
DI
```


Press UP key button (2x) to come on menu "AI":

```

⇒AI
AI exp3
AI exp4
DI
    
```

Press RIGHT key button:

```

AI1 :
Sign:Supply temp
Raw value: 16.3
Compensation: 0.0 ↓
    
```

Press DOWN key button to come on "AI2":

```

AI2 :                               ↑
Sign:Not used
Raw value: 20.5
Compensation: 0.0 ↓
    
```

Press OK and DOWN key (8x) to choose "SAF pressure" and press OK (2x):

```

AI2 :                               ↑
Sign:SAF pressure
Raw value: 20.5
Compensation: 0.0 ↓
    
```

Press DOWN key button to come on menu "AI3":

```

AI3 :                               ↑
Sign:Not used
Raw value: NaN
Compensation: 0.0 ↓
    
```

Press OK and DOWN key button (9x) and OK (2x), to choose "EAF pressure":

```

AI3 :                               ↑
Sign:EAF pressure
Raw value: NaN
Compensation: 0.0 ↓
    
```

Press LEFT key button (2x):

```

⇒Inputs/Outputs
  Sensor settings
  Control function
  Fan control
    
```

Press DOWN key button (3x):

```
Sensor settings
Control function
→Fan control
Extra sequence Y4
```

Press RIGHT key button:

```
Fan control
Flow control ->
↓
```

Press OK and UP key button to choose "Pressure control" and press OK:

```
Fan control
Pressure control
↓
```

IMPORTANT!

Shut down AHU for at least 30 seconds so that controller will recognize changes!

7. Range measurement of VAV external Presigo sensors

```
Fan control
Pressure control
↓
```

Press LEFT key button:

```
Sensor settings
Control function
→Fan control
Extra sequence Y4
```

Press UP key button (2x):

```
Inputs/Outputs
→Sensor settings
Control function
Fan control
```

Press RIGHT key button:

```
SAF pressure at
0.0V: 0.0 Pa
10.0V: 2500.0Pa
Filter factor: 0.2 ↓
```

Now change the value of max range. In our case is now set on 2500Pa and we need to change it to the value which you choose with dip settings of Presigo sensor. In chapter 4, we set it on 1250Pa, so also we need to change it here!

So in our case you press OK (2x) to put yourself on 2500. Change the value to 1250 with UP-DOWN button and press OK (4x)

```
SAF pressure at
0.0V: 0.0 Pa
10.0V: 1250.0Pa
Filter factor: 0.2 ↓
```

Press DOWN key button to come on menu "EAF pressure":

```
EAF pressure at ↑
0.0V: 0.0 Pa
10.0V: 2500.0Pa
Filter factor: 0.2 ↓
```

And repeat process:

```
EAF pressure at ↑  
0.0V: 0.0 Pa  
10.0V: 1250.0Pa  
Filter factor: 0.2 ↓
```

8. Pressure set point

```
EAF pressure at      ↑
 0.0V: 0.0 Pa
10.0V: 1250.0Pa
Filter factor: 0.2 ↓
```

Press LEFT (2x):

```
Manual/Auto
Settings
→Configuration
Access rights
```

Press UP key button (4x) to come on menu "Air control":

```
Temperature
→Air control
Time settings
Manual/Auto
```

Press RIGHT key button:

```
Pressure ctrl SAF
Actual: 0 Pa
Setp: 500 Pa ->
↓
```

Now you have menu in which you can change set point of pressure regulation. In picture above there is written "SAF", this is for supply duct. Picture below in marked in red "EAF" is for extract duct. Currently you are position on "SAF" menu and if you press DOWN button you will come on "EAF":

```
Pressure ctrl EAF ↑
Actual: 0 Pa
Setp: 500 Pa ->
```

9. Example of change set point of pressure

Example for supply pressure sensor (SAF):

```
Pressure ctrl SAF
Actual: 0      Pa
Setp: 500     Pa ->
              ↓
```

Press RIGHT key button:

```
Pressure ctrl SAF
Setp 1/1: 500  Pa
Setp 1/2: 250  Pa
              ↓
```

Press OK button so that you put yourself on "Setp 1/1" and with buttons UP-DOWN change value. With RIGHT-LEFT button, you change decimal place. Press OK button and you will be now positioned on "Setp 1/2". If you press OK button again then you finish setting for set point of supply (SAF) pressure regulation.

The same process is with "EAF" pressure regulation.