DF405_V5 Universal Display (panel mounting)

Can be used and is developed for almost every sensor.
As well frequency as an analog output of the sensor can be used as input for the display.
The display shows the actual flow. This can be changed into the total flow by a reset.
Through the LED you can see whether the display indicates rate or total.

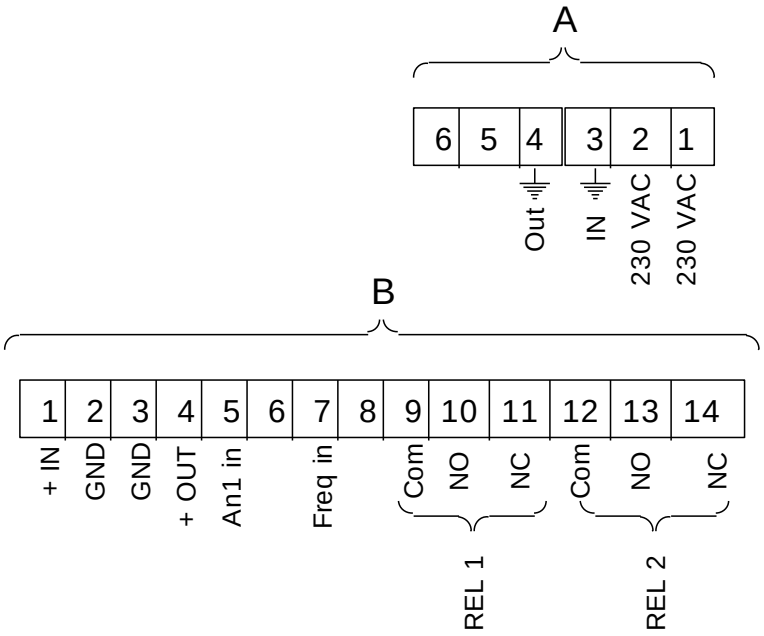
The incoming signal can be scaled in the DF405, so that the customer can adjust (or calibrate) the instrument in place.

The DF405 has two independent potential free contacts.

Technical specification

Supply voltage in	:	230 VAC / 50Hz or 24 VDC
Current consumption	:	230 VAC ⇒ max 70 mA
	:	24 VDC ⇒ max 650 mA
Supply voltage out	:	24 VDC < 5VA
Dimension	:	96 x 96 x 120 mm
Display	:	LED 8 digits, 7 segment
Color	:	green
Character height	:	7mm
Accuracy	:	0,1% of the calibrated flowrange
Input signal	:	- 0 – 5V
	:	- 0 – 10V
	:	- 0 – 20 mA
	:	- 4 – 20 mA
	:	- Frequency
Volumetric units	:	- m^3/h
	:	- l/h
	:	- l/min
	:	- m/s
	:	- option
Output	:	- display : - rate (actual flow) - total (total flow) (resetable)
Relays	:	two free to program and independent of each other 230 VAC – 6A

Wiring diagram



Block A

1 = 230VAC Power supply in
2 = 230VAC Power supply in
3 = ⏚ (ground) in } if
4 = ⏚ (ground) out } necessary
5 =
6 =

Block B

1 = Power 24 VDC + in
2 = Power 24 VCC - in
3 = 24 VDC – out } power
4 = 24 VDC + out } sensor
5 = Analog + in
6 =
7 = Frequency in
8 =

9 = Relay 1 } C(ommon)
10 = Relay 1 } N(ormally) O(pen)
11 = Relay 1 } N(ormally) C(losed)

12 = Relay 2 } C(ommon)
13 = Relay 2 } N(ormally) O(pen)
14 = Relay 2 } N(ormally) C(losed)

Installation

1. Connect the power supply 230 VAC
A1 = blue
A2 = brown
A3 = ground in } if
A4 = ground out } necessary
or
B1 = 24 VDC +
B2 = 24 VDC –

2. **Sensors**: a) Frequency sensors
b) Analog sensors

a) **Frequency sensors**
B3 = 24 VDC -
B4 = 24 VDC +
B7 = Π signal in

b) **Analog sensors**

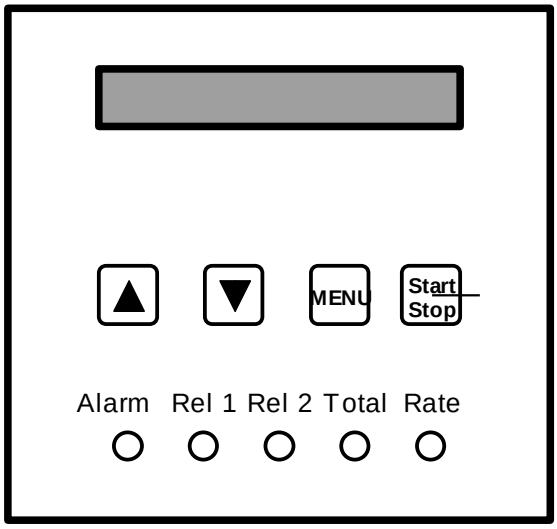
3 wire system	2 wire system
B3 = 24 VDC -	
B4 = 24 VDC +	B4 = 24 VDC +
B5 = mA (V) signal	B5 = mA signal

2 analog sensors can be connected (B5 and B6)

3. **Relays (2x)**

B9 = C(ommon)	relay 1
B10 = N(ormally) O(pen)	relay 1
B11 = N(ormally) C(losed)	relay 1
B12 = C(ommon)	relay 2
B13 = N(ormally) O(pen)	relay 2
B14 = N(ormally) C(losed)	relay 2

Display (working principle)



1. Connect the power supply (230 VAC or 24 VDC)
2. Connect the used sensor. Sensor with analog output or frequency.
3. As soon as the power supply is connected, the display shows:
   0.00
   and the red LED by Rate lights up.
4. Push the button S(tart) / S(top) and the display shows:
   INEL
5. Push the button M(enu) and the display shows:
   INPUT
6. Push again on S/S and the display shows:
   IN 0 - 20
   Up ▲
   IN 4 - 20
   Up ▲
   IN 0 - 5
   Up ▲
   IN 0 – 10
   Up ▲
   IN freq
7. As soon as you have the right input signal push the button S/S.
   The display shows:
   EENHEID
8. Activate with the button S/S.
9. The display shows:
   m^3/h

10. Push the Up button ▲. The following possibilities are shown.
    m^3/h
    Up ▲
    l/h
    Up ▲
    l/m
    Up ▲
    m/s
    Up ▲
    option
    Up ▲
    m^3/h
11. Confirm your choice by pushing the S/S button.
12. The display shows:
    SCAL ANA
13. Analog signal, give in the maximum value of 20 mA.
    By frequency the PPL value (pulse pro liter) is given in.
    See the list attached (PPL value is different for each diameter)
14. Push the button S/S and the display shows:
    INPUT
15. Push the button M and the display shows:
    RELAY 1
16. Confirm with the button S/S. The display shows:
    0000800.0, with the cursor on the last position (blinking).
    The cursor can be moved by pushing the Menu button.
    Give in the wanted value and confirm this with de button S/S.
    The display shows:
    RELAY 1
17. Push the button Menu and the display shows:
    RELAY 2
18. Confirm this with the button S/S and the display shows:
    0000400.0
    The cursor can be moved with the Menu button.
19. Give in the value wanted and confirm this with S/S. The display shows:
    RELAY 2
20. Push again on the Menu button and the display shows:
    INEL
21. Push the S/S button and the system will be activated with the values given in.
22. The display shows 000 and the red LED Rate is burning.
23. To get from actual flow to total flow push the button Menu one time..
24. To reset the total flow, if the red LED by total is burning, push the Up button one time .
25. If you want a total reset, the power supply of the display must be taken off.
    By reconnecting the power supply you have to push on the Up button.

Schematic Program