

420_E_man Rev. 0 del 07.10.2005

M.M.T. srl Capralba (Italy) www.mmtitalia.com

Threshold switch series 420
INSTRUCTION MANUAL - English

Thank you for purchasing 420 series threshold switch.
 Before using the device, please read carefully this manual, and keep it in a safe place, for future use

1 - Description

The devices of the series 420 are threshold level switch, used with the continuous level transmitters of the series 44X, and with the power supply of the series 410 and 411.

2 - Technical characteristics

- dimensions are in millimeters:

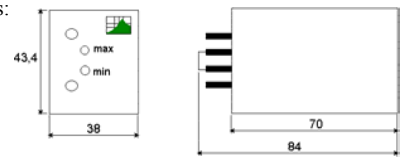


Fig.1

- Front led lamps: green: power supply
red: switch status
- Contact: in exchange - 5 A - 230V a.c.
- Absorption: 5 VA
- Minimum level setting
- Maximum level setting
- Weight: 220 g
- Protection grade: IP40
- Working temperature : -20 +60°C
- Input signal: 4 ÷ 20 mA
- Power supply: 24 or 110 or 230 V a.c.

3 - Example of generic operation

Sonda 44X

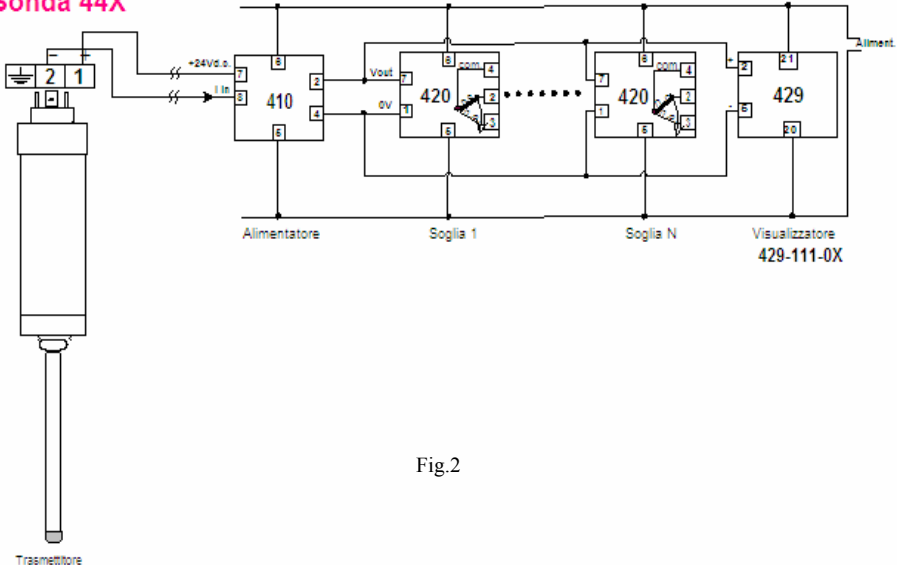


Fig.2

420_E_man Rev. 0 del 07.10.2005

There are possible 4 types of different operation, according to the order codes.

Cod. 420-000-0X

Filling: the pump stops when the level of the material overcomes the height set with the MAX frontal regulation; and it starts again when the level of the material goes down under the level set with the MIN frontal regulation (normal operation with 2 regulations)

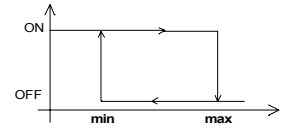


Fig.3

Cod. 420-001-0X

Emptying: The pump starts when the level of the material overcomes the height set with the MAX frontal regulation and stops when the level of the material goes down under the height set with the MIN frontal regulation (inverse operation with 2 regulations).

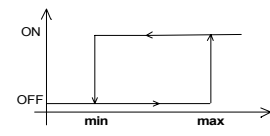


Fig.4

It is possible to choose among the 2 ways of operation, through an inside jumper, as from the following diagram:

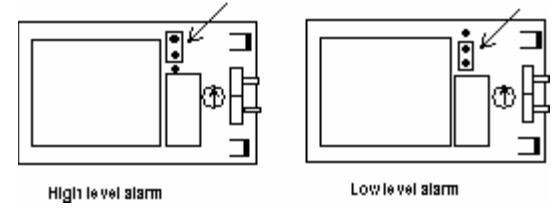


Fig.5

Cod. 420-002-0X

High level alarm : The alarm is ON when the level of the material overcomes the height set with the MAX frontal regulation; and is OFF again when the level of the material goes down under this height set (normal operation with the only MAX regulation).

For a safety positive alarm in the preceding electrical diagram (Fig.2), move on the clamp #2 the wire that goes to the clamp #3.

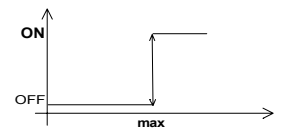


Fig.6



420_E_man Rev. 0 del 07.10.2005

Cod. 420-003-0X

Low level alarm: The alarm is ON when the level of the material goes down under the height set with the MAX frontal regulation and is OFF when the level of the material goes above such height set (inverse operation with the only MAX regulation).

For a safety positive alarm in the preceding electrical diagram (Fig.2), move on the clamp #2 the wire that goes to the clamp #3.

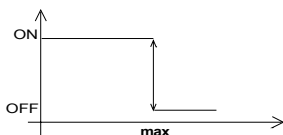


Fig.7

4 - Installation and use

- **Before to power the device, be sure that the power supply voltage is equal to the value indicated on the labels of the device, between -10% and +5%.**
- **Use only sockets made according security regulations.**
- With correct power supply, the green frontal led must be on; the red frontal led, goes ON when the internal relay is excited for overcoming of the height from the checked level.
- The connection with the transmitter and with the power supply, can be made with cables not screened, with section higher than 1 mmq. The cables must not be canalize together with power cables. The cables can be long up to 20 meters.
- Never connect the inside relay to load with current higher than to 5A (AC1) and to voltage higher 230 V. a.c. 50/60 Hz.
- The 2 frontal regulations MAX and MIN are adjustable from 0% to 100%, and they correspond to the measure of level obtained by the transmitter series 40x. Filling, if MAX is set, for example to 75%, when the level of the material overcomes 75%, the internal relay to the device series 420 goes ON. If MIN is set, for example to 25%, when the level of the material goes down under 25%, the internal relay to the device series 420 goes OFF. Don't set up the MAX regulation lower than the MIN regulation: the device series 420 would not work in correctly.