



USER MANUAL

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GENERAL DESCRIPTION

The SIMPLE PILOT VALVES is the new generation of pilots box painted aluminium usable for controlling pneumatic valves.

The box can be provided from a minimum of 4 to a maximum of 12 pilots.

As an option, it can be provided with an heating system controlled by an internal thermostat, working at temperatures down 5°C. With the heating system the controlled is allowed working up to -40°C.

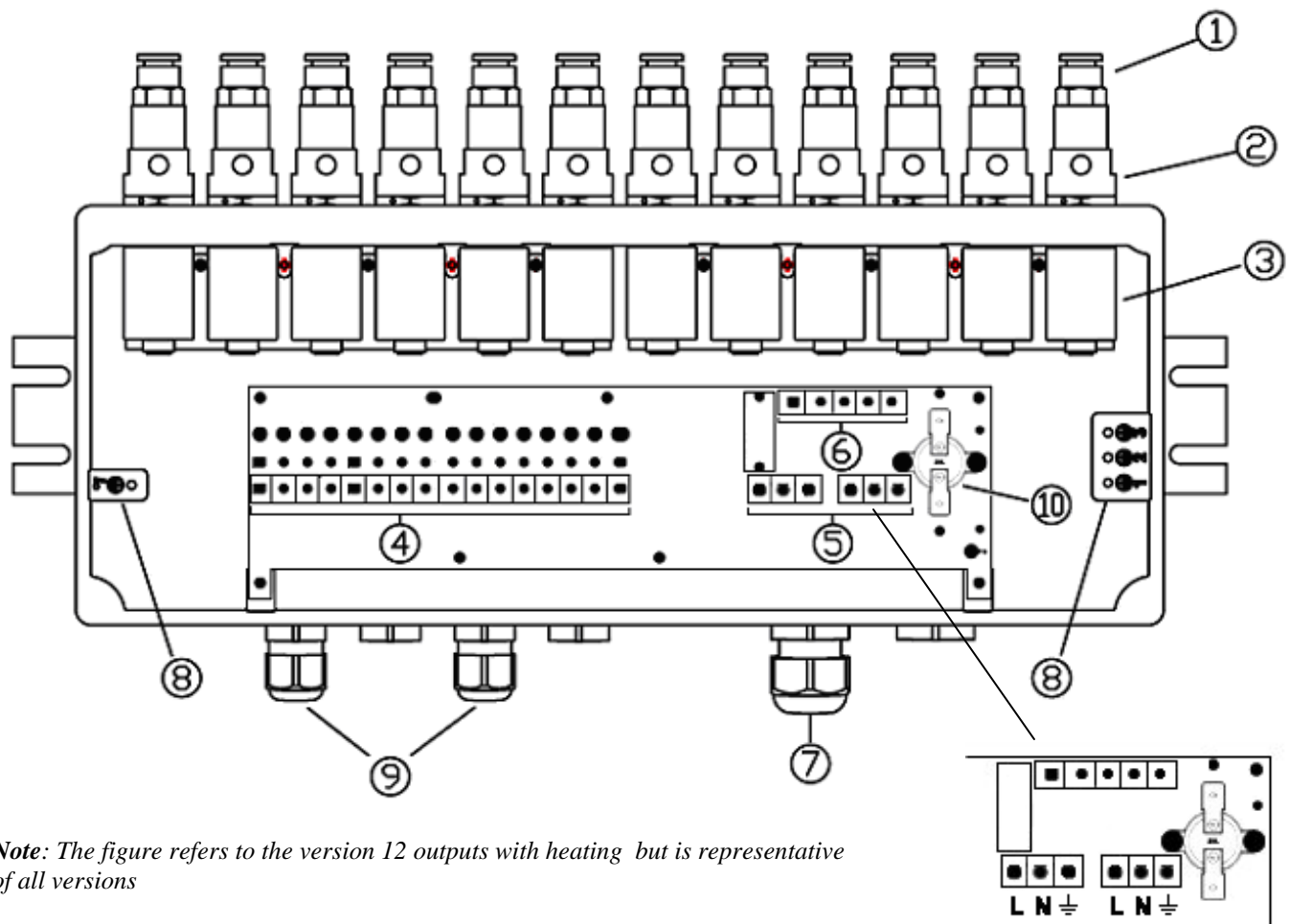
It is usually combined with an economizer *Ecomatic*: electrical impulses coming from the instrument command in sequence coils placed in the box and activate the pneumatic pilot. Each pilot is connected via Rilsan tube to the upper chamber of the valve of the tank and at each pulse commands the pneumatic valve.

This box are provided of M20 cable gland for the input power supply and of two M16 cable glands for output command.

It is possible to demand a greater number of cable glands or special cable glands, according to customer specification.

The modularity and versatility combined ECOMATIC - SIMPLE PILOT VALVES is the perfect solution for any type of filtration plant.

LAY-OUT



Note: The figure refers to the version 12 outputs with heating but is representative of all versions

Legend:

- | | |
|--|---|
| 1 - connection for Rilsan tube 6x8 straight (90° on demand) | 6 - terminal board for heating system |
| 2 - pilot for pneumatic valve | 7 - MD20 cable gland for heating system |
| 3 - coils for pilots command | 8 - heart connection |
| 4 - terminal board coil command | 9 - M16 cable gland for coil command |
| 5 - terminal board for heating power supply | 10 - thermostat controller for heater |

TECHNICAL FEATURES

Coil Voltage:	24Vdc 24Vac/50Hz 115Vac/50Hz 230Vac/50Hz
Electric connections:	Through screw terminal blocks. Use cable section.1.5 mm ² . Max length of the connection: 100 mt
Pneumatic connections:	Rilsan 6x8 tube. Max length of the connection: 5mt;
Fluid:	Air dried, filtered and oilless
Pressure:	min/max: 1,5÷8bar
Working temperature:	-10/80 °C
Protection:	IP 66, EN60529
Box material:	Cast aluminium, painted RAL 7001
Dimensions and weights	387 x 134 x 72 mm – 4,0 kg

FOR VERSIONS WITH HEATERS ONLY

Thermostat / Heater power supply:	230Vac/50Hz or 115Vac/50Hz (on demand);
Heater protection fuses:	16A Ultrafast
Working temperature	-40/+80 °C
Dimension and weights:	387 x 134 x 72mm - 5,1Kg
Ignition temperature thermostat:	< 5°C

FUNCTION

Make electrical connections according to the connection scheme shown in the paragraph on following pages.

Connect the pilot outputs to the pneumatic valves to control using Rilsan Tube 6x8, turn on the instrument and verify that the coils activate themselves according to sequence desired.

After checking all the electrical wiring and made the pneumatic connections, the system is ready for use: you can give pressure to the pneumatic valve you want to use.

**PRESSURE WARNING**

Each transaction on the SPV should be done only **AFTER removing the pressure** to the tank



The outputs of the SPV will drive the pneumatic valves according to the working time and pause time set on the Ecomatic. The discharge of air is done through a hole on the pilot.

**CAUTION**

Set **working times and pause** according to the characteristics of the cleaning plant (filter).

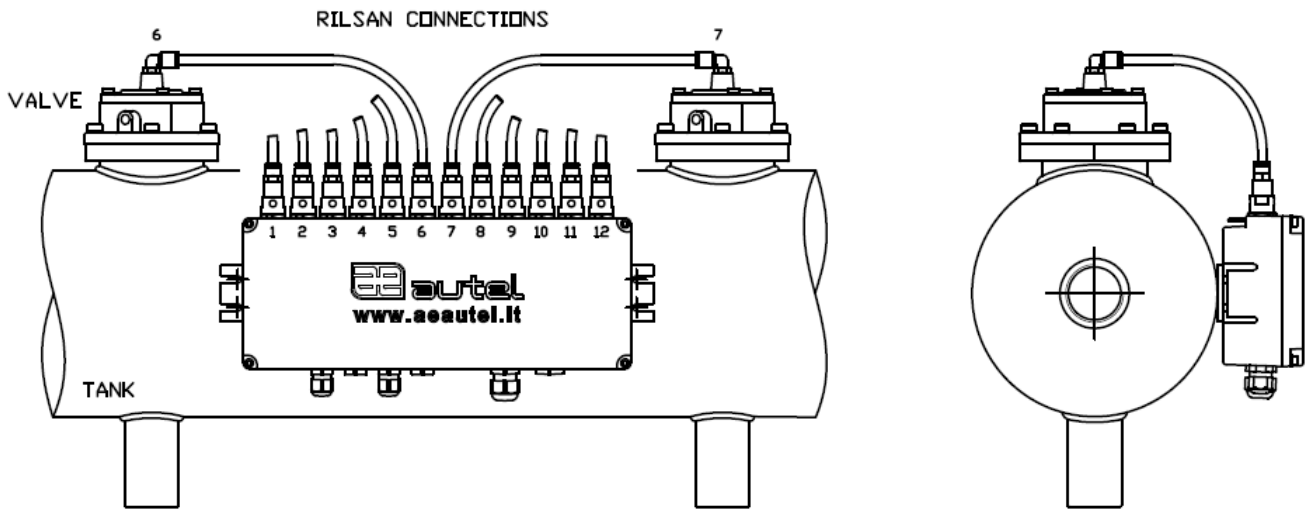
**HEAT WARNING**

The heating (optional) can have a high temperature, ensure that it has been cooled before any intervention



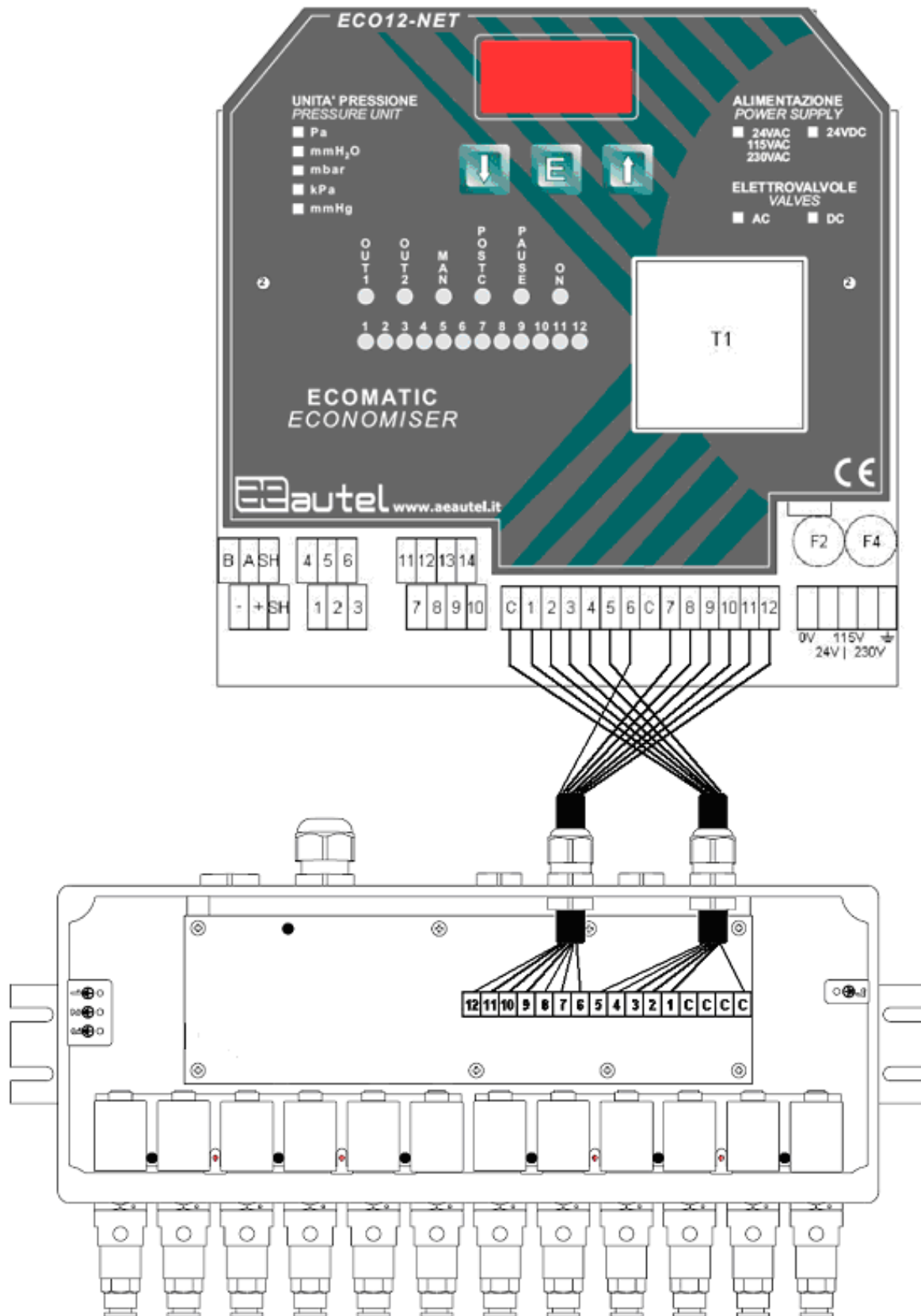
PNEUMATIC CONNECTION

Connect the output of pilots to the pneumatic valves as shown in the following figure:



Note: Be careful not to crush or strangle the Rilsan tube during the installation of the header tank on the filtration plant.

ELECTRIC CONNECTION



Note 1: The figure refers to the version 12 outputs but is representative of all versions

Note 2: The connection between Economizer's terminal and SPV is pin to pin

Connection terminal board

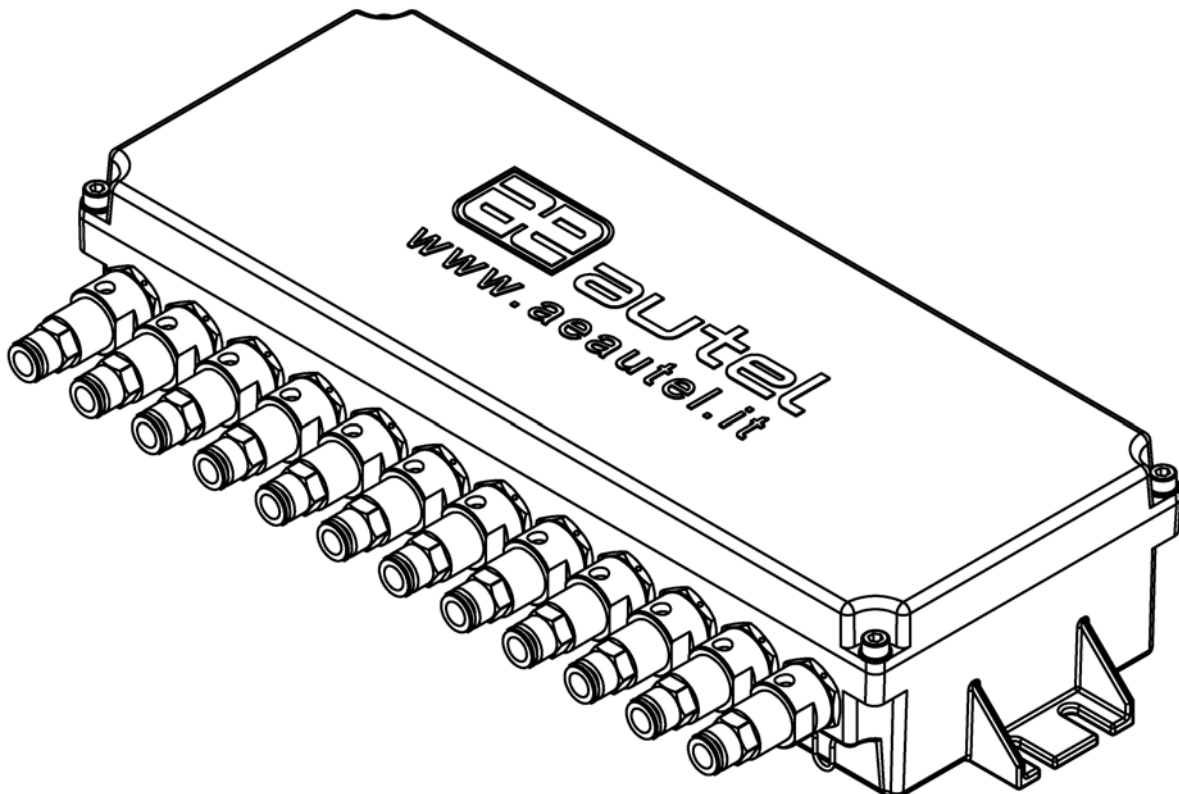
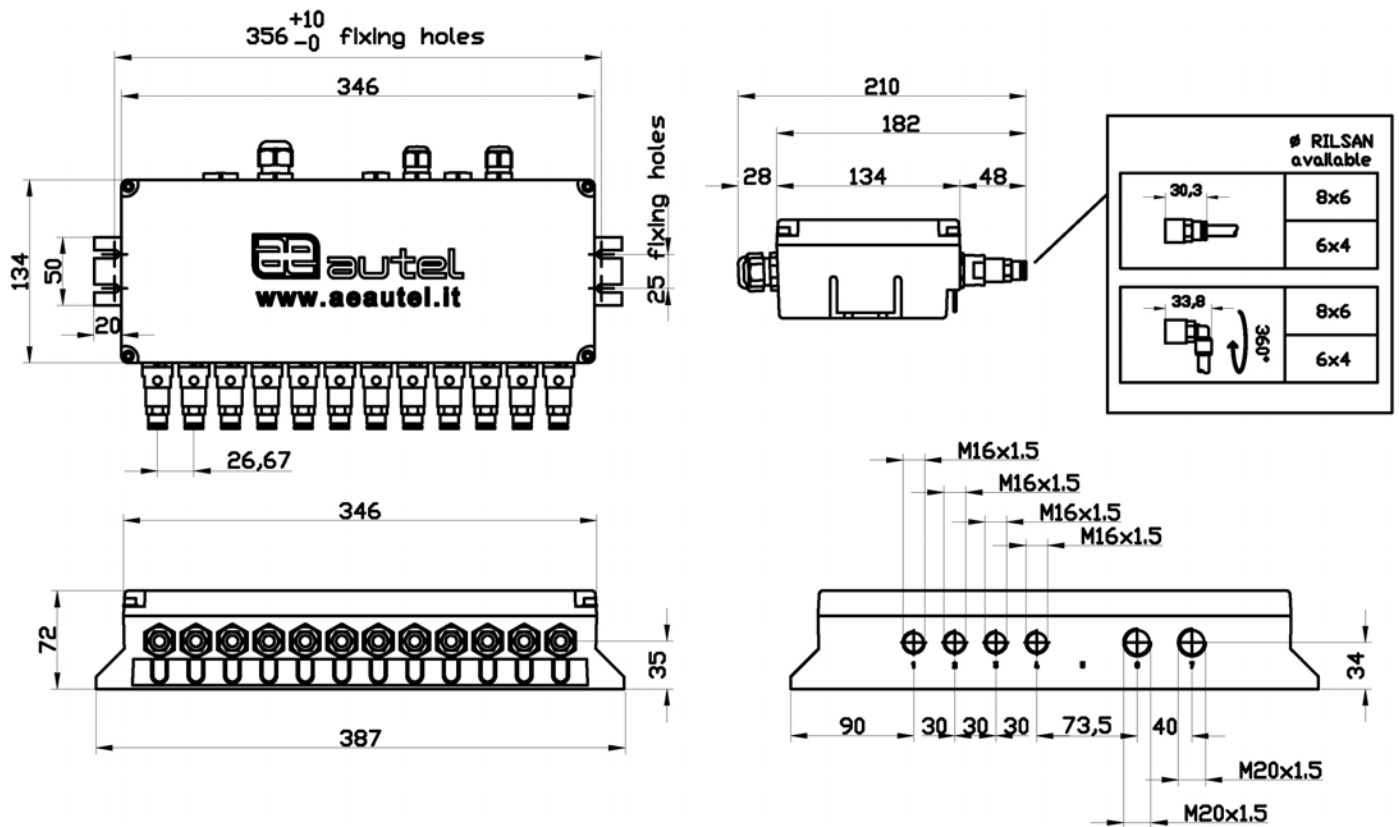
Nr	Description
C	Common terminal
1	Electropilot1
2	Electropilot 2
3	Electropilot 3
4	Electropilot 4
5	Electropilot 5
6	Electropilot 6
7	Electropilot 7
8	Electropilot 8
9	Electropilot 9
10	Electropilot 10
11	Electropilot 11
12	Electropilot 12



VOLTAGE WARNING
Before connecting or changing the wiring make sure that **tension**
had been removed to the ECOMATIC



DIMENSIONS AND ENCUMBRANCE



ATEX VERSION

The Simple Pilot Valves in *Atex* version is supplied with suitable cable glands *Atex* marked and it is certified in accordance with the European ATEX (94/9/EC) which means that has been designed and built to be used in environments that may occur in potentially explosive atmospheres due to dust or gas fuels.

The degree of protection used to prevent the dangers of the explosion is encoded in the CE-ATEX affixed on the box itself.

Of course, the importance of human being safety is essential and required by law that all persons involved (manufacturer of the device, the designer, installer, user, maintainer, etc.) are aware of obligations and comply with the procedures imposed.

In particular you must read this manual carefully and check that the characteristics specified by the manufacturer are adequate to the environmental characteristics in which the equipment will operate. It should read afterwards the instructions on the installation of the apparatus to its proper use during the operational life.

Each Simple Pilot Box is powered by Autel s.r.l delivered with a certificate of CE-ATEX, of this manual and a label in accordance with Directive 94/9/EC, which contains the ATEX marking.

The ATEX marking of this tool is:

Certification ATEX Zone 22 and 2 :

Simplifying we can say that this marking indicates that the instrument is expected to operate in environments in which an explosive atmosphere caused by dust (D = dust) or gases (G = gas) fuels that can occur rarely, and only for short time, during the operation (operation in the area 22 / Zone 2). The device is designed to provide a standard level of protection in terms of standard functioning (not considered failures). The method of protection used is "m" encapsulation.

SPECIAL WARNING FOR ATEX VERSION

The following is for the use of equipment in areas where it can occur a potentially explosive atmosphere

Precautions to prevent that certain sources of ignition become active:

- Anti- lightning measures are needed in the filtration plant where these devices are installed.
- There is a need for protections against the currents caused by lightning from nearby points.
- Any accessories (electrical and non electrical) used by the Customer to this product must comply with Directive 94/9/EC and have EC classification - Ex-compatible. Moreover, the accessories must be installed in accordance with the instructions provided by their manufacturer / supplier.

Installation

- In the mounting phase you must be careful not to forget extraneous items inside the box.
- In the mounting phase, in the danger zone you need to prevent the formation of sparks caused by friction of oxidizable substances, such as iron or steel
- When installing this equipment must be earthed using the electrical connector of the box. All external metal parts are earthed.
- The electrical wiring for power supply, the output contacts of the relay and the other inputs / outputs must be installed by using suitable cable gland, or connectors to the wall, that do not compromise the level of IP required for the stated container (IP65 min.)
- For all models it is always advisable to install outside the danger zone, “Zener” barriers on the power supply to limit the maximum energy of any sparks.

Maintenance

- If this equipment is installed in places where it is expected the deposit of layers of combustible dust, it is necessary to establish a maintenance plan with periodic cleaning of the layers of dust. The maximum allowable thickness of the layer of powder is a function of maximum surface temperature declared for this equipment (90 ° C), of the type of dust and of other environmental conditions.

Using

- plastic tubes (eg RILSAN) used to bring near the instrument the pressure to be measured, can be a source of static electricity, so you need to avoid the occurrence of chafing on the tubing.
- The designer and the end user must check that will not occur within the pipes connected to this device, excessively violent adiabatic compression that may lead to dangerous increases in temperature.
- Before opening the cover for access connections, you must disconnect the power supply. The electric charge stored in the capacitor circuit is exhausted in a few seconds (<10s). In the case of the temperature was abnormally high must first wait until it cooled down enough.