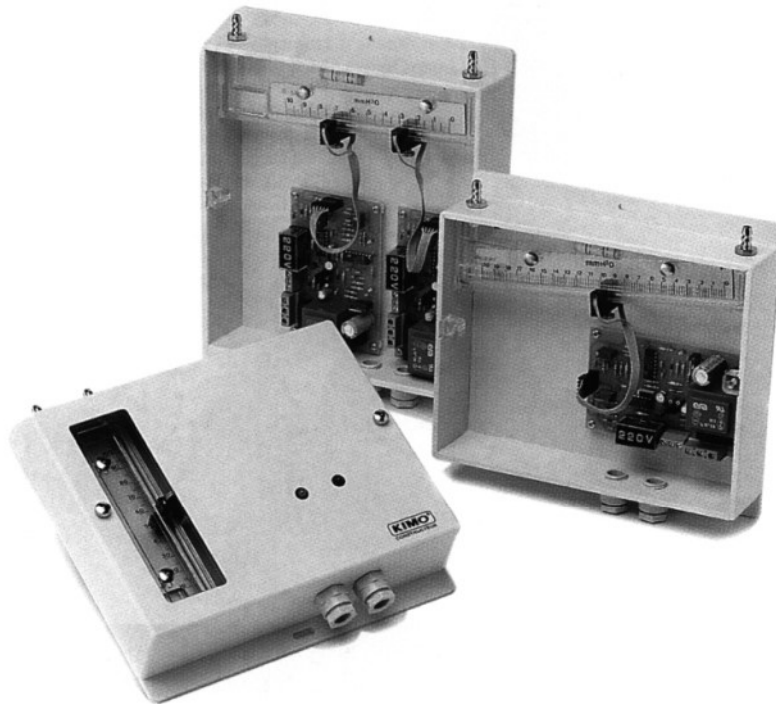


## **ECM** *Electric contact pressure controllers*



The **ECM** electric contact pressure controllers are the result of a long experience in the research and manufacture of measuring and control instruments. They are designed to combine the inherent reliability and accuracy of the liquid column manometer with electronic switching.

The KIMO **ECM** electric contact pressure controllers excel where it is necessary to monitor small variations in low pressures of air or gas.





## 1. Operation

The **ECM** can be fitted to a vertical or inclined manometer. The photo electric sensor is connected to a PCB by an optical fibre.

When energised the PCB generates an infra-red ray which travels along the optic fibre and through the manometer's liquid column. The PCB senses when the liquid column breaks the infra-red ray and operates the switch either making or breaking the contact depending on how it is set.

## 2. Checking operation

- The sensitivity of the photoelectric cursor is adjusted in the factory but we recommend that you check the operation (as described on page 3) and adjust this setting, if necessary, before you install the instrument.
- The instrument must be securely fixed to a wall or rigid bracket, independent of pipework or vibration.
- The instrument should be protected from adverse environments and heat sources.
- It is important to use the correct density manometer liquid AWS 10 or VOLT 1S depending on the model (consult us).

## 3. Manometric liquid

After fixing and levelling the **ECM** controller, unscrew the right hand connection (viewed from the front) and slowly pour the manometer fluid, using the spout on the bottle, up to the zero point on the scale.

Replace the connection. If necessary make fine adjustments to the zero point by moving the graduated scale. Connect the manometer to the pressure or vacuum source with clear tubing.

### REMARKS :

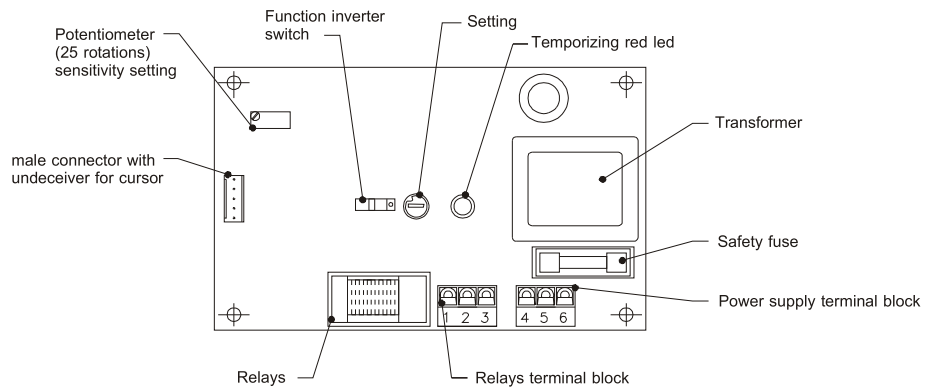
For a positive pressure (+) connect the tube to the left hand connection of a vertical manometer, and to the right hand connection of an inclined manometer. Make the opposite connections for vacuum.

For differential pressure measurement : connect the higher pressure (before the filter) to the manometer (+) connection and the lower pressure to the manometer (-) connection (after the filter).



## 4. Connection

**Fig. 1**



**Fig. 2**

**In 24 Vdc**

4 : +

5 : -

6 : NC

**In 230 Vac / 115 Vac**

4 : phase

5 : neutral

6 : earth

**In 24 Vac**

4 : Connection

5 : Connection

6 : NC

1- NC.

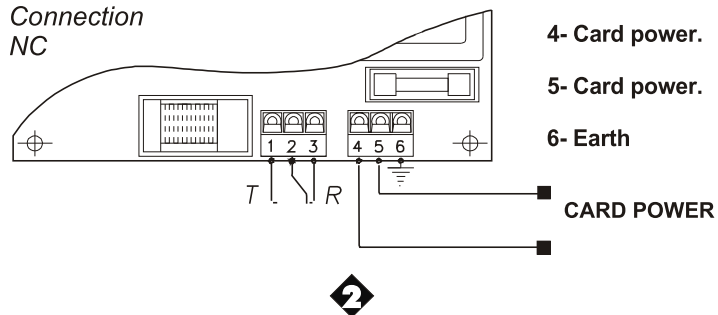
2- Common :220 V/3A.

3- NO.

4- Card power.

5- Card power.

6- Earth



## 5. Detection sensitivity setting

The detection sensitivity of the photoelectric cursor is adjusted in the factory. After filling the manometer, with the correct density manometer liquid, it is recommended that you check this setting before putting the unit into service.

### PROCEDURE :

Apply the voltage to the electronic card, but do not connect the relay. Turn the temporising potentiometer to zero (fully anti-clockwise) and put the function inverter switch to the "normal" position (fig 1 shows the switch in the "inverted" position). The unit can then be operated by tilting the unit to the right, causing the manometer liquid to pass the cursor.

When the voltage is applied, various things can happen :

- 1 Switching is OK, the sensitivity setting (adjusted in the factory) is in the center of its range (10 to 12 rotations). The unit is ready to put into service.
- 2 The red led is "on", the relay energised and there is no change when the manometer liquid passes the cursor. If the red led switches "off" and the relay de-energises when the inverter switch position is changed, this means that the cell is too powerful. Turn the setting potentiometer anti-clockwise, until the red led is switched off and then turn a further 5 rotations. Displace the manometer liquid past the cursor and ensure that there is a sure and repeated switching action.
- 3 The red led is "off", the relay is de-energised, there is no action when the manometer liquid passes the cursor. When the inverter switch is operated the led switches "on" and the relay energises, but there is no change when the manometer liquid passes the cursor. This means that the cell is not powerful enough. Make sure the liquid is past the cursor and then turn the potentiometer clockwise until the led and relay switch, then turn a further 5 rotations. Displace the manometer liquid past the cursor and ensure that there is a sure and repeated switching action.
- 4 When the voltage is applied the red led and relay flickers with no liquid covering the cursor. This means that the sensitivity is set too high, turn the potentiometer anti-clockwise approximately 4 or 5 rotations. Displace the manometer liquid past the cursor and ensure that there is a sure and repeated switching action.

**IMPORTANT :** Before carrying out the setting procedures above :

- Make sure the manometer is filled with liquid, up to its zero point.
- The temporising potentiometer is set to zero (fully anti-clockwise).
- Function inverter switch in logical position.
- The electronic card is powered and the relay disconnected.

## 6. Options

To avoid the manometer liquid being blown out, in the case of overpressurisation, the instrument can be fitted with **safety valve connections type 509** (consult us).

## 7. Services

The ECM does not need any regular service. We simply recommend that the manometer liquid is changed every year, to ensure that the photoelectric cell works properly.



**DISTRIBUTED BY:**



**Sedulitas**

PEOPLE | PASSION | PRECISION

WORLDCLASS INSTRUMENTATION & OHS MONITORING SOLUTIONS

[www.sedulitas.co.za](http://www.sedulitas.co.za)

[info@sedulitas.co.za](mailto:info@sedulitas.co.za)

+27 (0)82 551 4001

Ref. NT Ang - ECM - 12/06 A

**[www.kimo.fr](http://www.kimo.fr)**

**EXPORT DEPARTMENT**

Boulevard de Beaubourg - Emerainville - BP 48  
77312 MARNE LA VALLEE CEDEX 2

Tel : + 33.1.60.06.69.25 - Fax : + 33. 1.60.06.69.29

