



# INSTRUCTION MANUAL

NI-219E

Rev. 4

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**COMPLETION OF INSTRUCTION MANUAL NI-221E CONCERNING PRESSURE SWITCHES SERIES MAH/G, MWH/G, INSTRUCTION MANUAL NI-281E CONCERNING PRESSURE SWITCHES SERIES PCA-P/G AND PCS-P/G AND INSTRUCTION MANUAL NI-290E CONCERNING PRESSUSRE SWITCHES PXA\_P/G AND PXS\_P/G**

## 1. FOREWORD

Pressure switches series MAH/G, MWH/G, series PCA-P/G, PCS-P/G and series PXA-P/G, PXS-P/G feature a diaphragm sensor operated by a piston. Because of their particular principle of operation, the paragraph 5 of Instruction Manuals NI-221E, NI-281E and paragraph 6 of Instruction Manuals NI-290E, is to be completed as follows.

## 2. CALIBRATION

### 2.1 Foreword

First of all state:

- A - if the set point is to actuate either with INCREASING pressure or with DECREASING pressure;
- B - which are the values of: set point ( $P_i$ ), and, normal working pressure ( $P_w$ ).

**Note:** In case of INCREASING pressure, the set point  $P_i$  should be comprised between 40% and 90% of the adjustable range. In case of DECREASING pressure, the set point  $P_i$  should be comprised between 10% and 60% of the adjustable range.

### 2.2 Calibration with INCREASING pressure.

#### Rough adjustment.

Calibrate the pressure switch at the set point  $P_i$  by increasing pressure starting from atmospheric pressure.

#### Fine adjustment.

Once carried out the rough adjustment, calibrate the pressure switch at the set point  $P_i$  by increasing pressure starting from the normal working pressure  $P_w$ .

### 2.3 Calibration with DECREASING pressure.

#### Rough adjustment.

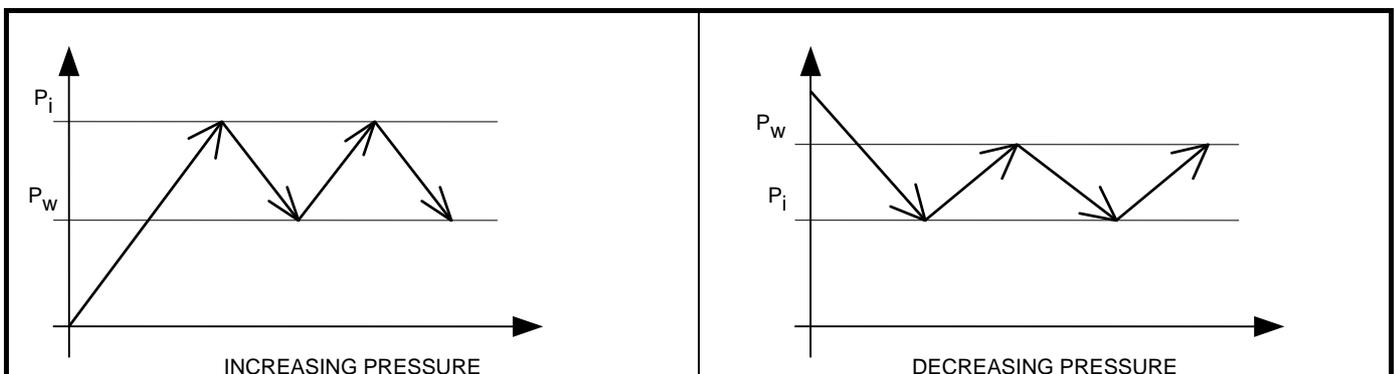
Calibrate the pressure switch at the set point  $P_i$  by decreasing pressure starting from full range pressure.

#### Fine adjustment.

Once carried out the rough adjustment, calibrate the pressure switch at the set point  $P_i$  by decreasing pressure starting from the normal working pressure  $P_w$ .

### 2.4 Remarks.

- The accuracy of set point calibration depends on both pressure switch repeatability and accuracy of pressure gauge used for calibration. Accuracy class and range of testing gauge are to be consistent with both the desired calibration accuracy and the pressure switch range.
- Check of set point repeatability shall be carried out by measuring three times the set point value  $P_i$  still with INCREASING or with DECREASING pressure always starting from the same pressure value (e.g.: three cycles  $P_w \rightarrow P_i \rightarrow P_w$ ).
- Change of pressure during cycles should be applied slowly in order to enable measurement of set point actuation value with enough accuracy.



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