

# PURE AIR MONITOR

## PAM 94PS

Type: PAM 94PS

Code: K1000 007-001

**PURE AIR MONITOR** is device to monitor purity of high pressure high purity gas intended to use for Weapons Systems and Detector cooling Applications.

The requirement on high purity is based on the fact that the gas is used for detector cooling by Joule Thomson coolers which are very sensitive to impurities especially like the moisture and CO2. Therefore some standards were established which govern this field like:

- DEF STAN 58-96
- DEF STAN 81-91 / Issue 1

In the table on the bottom of the page the **Maximum acceptable contamination levels for Pure Gases for Detector Cooling Applications** according the above mentioned standard are given.

The JT coolers need high purity gas because the impurities in gas froze on the nozzle and thus reduce the gas flow and consequently the cooling power. The excessive level of impurities is detected by this monitor. The monitor detects the gas flow change and due to calibration it can show if the gas still can be used for Detector cooling application or not.

The measurement is taken at 206,8bar (3000psi) constant pressure. The gas flow needed for the measurement is between 11,6 and 14,2 NI/min ( or 12,7 and 15,6 sl/min).

Typical measurement is taken over 3h period.

The PAM can be connected to high-pressure system with pressures up to 414bar (6000psi), which should be regulated to working pressure of 207bar. The working pressure for monitoring is 207 bar (3000psi).

Quality is shown on LED display (see G), via red yellow or green light showing the quality of gas.



Test	Property	Units	Limits	Method
1	Water vapour	ppm(v)	≤ 1.0	A.4 (see NOTES 1, 2, 3)
2	Carbon dioxide	ppm(v)	≤ 0.6	A.3(see NOTES 1, 3)
3	Methane	ppm(v)	≤ 9.0	A.3 (see NOTES 1, 3)
4	Other hydrocarbons (total)	ppm(v)	≤ 0.05	A.5 (see NOTES 1, 3)
5	Particulate matter	µm	≤ 5	A.7 (see NOTE 1)

**Technical data of PAM94PS**

Electric Power supply 12 VDC

Maximal air flow, at 3000 psig (206,84 bar) and ambient temperature of 20°C: 14,2±1,5NI/min

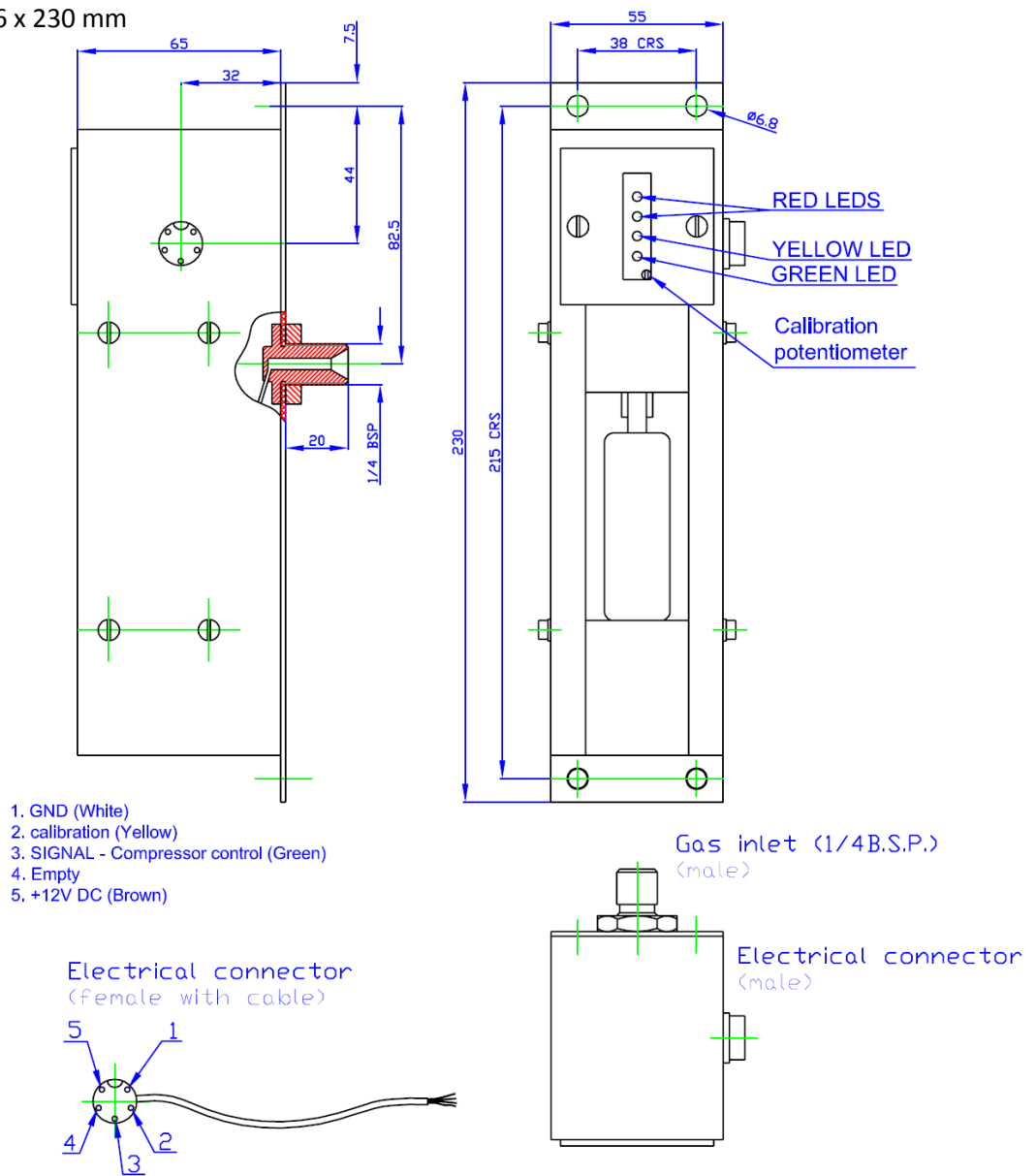
Possible options:

- signal transmission on distance (light or sound)
- automatic switch-off of the compressor in case of impurities in pressure system.

**Dimensions**

L x W x H = 57 x 66 x 230 mm

Weight: 930 gr.



1. GND (White)
2. calibration (Yellow)
3. SIGNAL - Compressor control (Green)
4. Empty
5. +12V DC (Brown)

Before use this PAM must be calibrated in accordance with eng. standard 104

Picture 1: Scheme of PAM connected to high pressure generator for gas quality monitoring