

## LOW PRESSURE

ANC4B (316) stainless steel or black anodised aluminium switchcase.

IP66/IP67 certified housing.

Calibrated adjustment scale.

Settings from 8 to 250 mBar.

Single or dual microswitch option.  
Adjustable deadband option.

Manual reset pushbutton option.

ATEX intrinsically safe version

CE II1G Ex ia IIC

T6 Tamb -50 to +78°C

T5 Tamb -50 to +93°C

T4 Tamb -50 to +128°C

## P1100 GUARDIAN ATEX Exia CERTIFIED & INDUSTRIAL LOW PRESSURE SWITCH



This range of switches employs a non-reinforced elastomer sensing element for settings between 8 and 250 mBar. A special feature of the Guardian switch is the wide selection of microswitches that can be fitted eg. single, dual adjustable dead band, high current DC switching options etc. Reliable and proven design concepts from our established range of switches have also been incorporated. This provides a very competitively priced, lightweight and durable sensor. For specification and introduction to the Guardian switch range please refer to pages 10 and 11.

ADJUSTMENT RANGE (MBAR)	ADJUSTMENT RANGE "WG	MAX WORKING PRESSURE (BAR)	DEADBAND (MBAR)	DIAPHRAGM CODE	SPRING CODE
50 - 250	20 - 100	7.0	10 - 30	S3	1
8 - 128	5 - 50	5.0	5 - 15	S4	1

### SPECIFICATION

**Wetted parts** : 316 St. steel

**Diaphragm** : Nitrile or Viton

**Process temperature limitations:**

Nitrile: -25 to +95°C

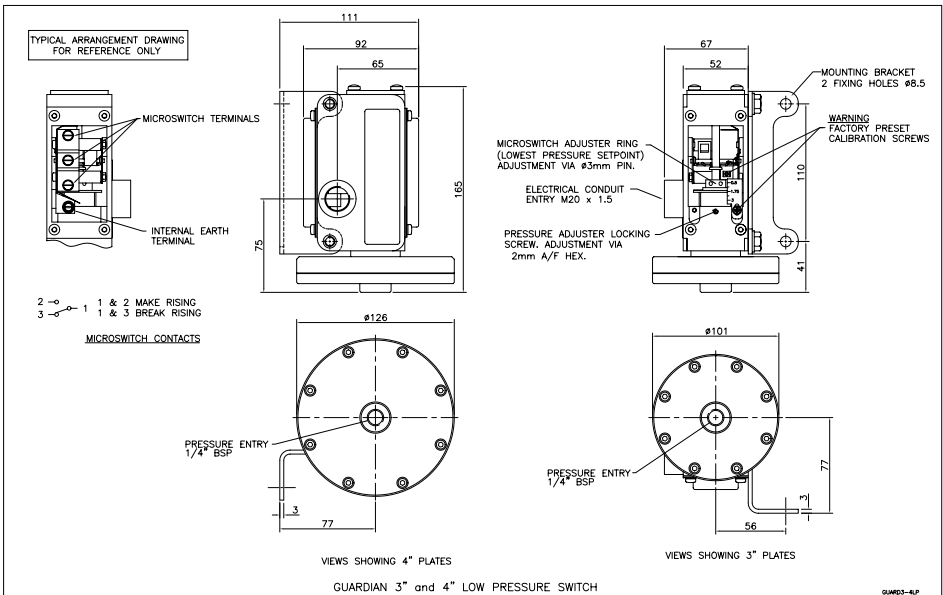
Viton: -10 to +150°C

**Process connection:** 1/4" BSP.P or NPT female

# PART NUMBER BREAKDOWN

P11 : STANDARD	DIAPHRAGM MATERIAL 8 = NITRILE 9 = VITON - STD	SPRING CODE PLEASE REFER TO RANGE TABLE	DIAPHRAGM CODE PLEASE REFER TO RANGE TABLE	MOUNTING BRACKETS
P 1 1 0 1 / 8 1 N S 3 1 / N X				
<b>MICROSWITCH OPTIONS</b> 01 = SINGLE SWITCH 02 = DUAL SWITCHES 03 = USE 01 04 = USE 02 05 = SINGLE FOR ATEX Exia 06 = DUAL FOR ATEX Exia	<b>ADJUSTER</b> N = STANDARD ADJUSTER A = SECONDARY ADJUSTER FOR DUAL SETTING AND ADJUSTABLE DEADBAND	<b>PROCESS CONNECTION TYPE</b> 1 = 1/4" BSP,P FEMALE 2 = 1/4" NPT FEMALE	<b>ELECTRICAL CONNECTION</b> X = M20 STANDARD	
<b>ADJUSTABLE DEADBAND</b> 07 = SINGLE SWITCH - STANDARD 08 = SINGLE SWITCH - FOR ATEX Exia	09 = MANUAL AND AUTO (RESET RISING) 0A = MANUAL AND AUTO (RESET FALLING) 0C = MANUAL RESET (RISING) 0D = MANUAL RESET (FALLING)	0E = DUAL HIGH CURRENT DC 0K = DPDT MICROSWITCH 0M = SINGLE HIGH CURRENT DC		

FOR STAINLESS STEEL SWITCHCASE PREFIX PART NUMBER WITH "S"



# GUARDIAN INDUSTRIAL & ATEX Exia SWITCHES

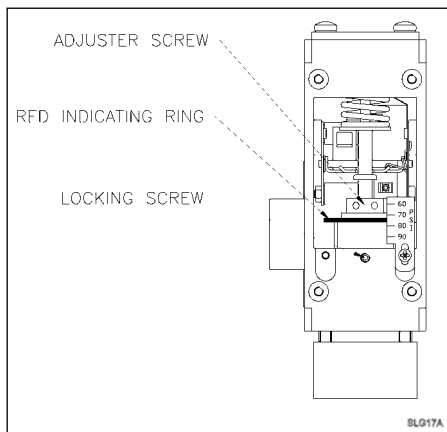
## INTRODUCTION

The Guardian **pressure, differential pressure, temperature, level and flow** switches are a part of our extensive range of specialist process sensors. They utilise the expertise gained from over 50 years experience of designing and manufacturing control devices for industrial, marine and hazardous area applications.

These switches are constructed with either a robust aluminium or stainless steel enclosure. The aluminium casting is black anodised and supplied with 316 stainless steel covers. The stainless steel case is a natural finish. Covers are gasketed and sealed to achieve an environmental seal to IP66 & IP67 standards. The internals utilise a unique mechanism designed by the engineers at PYROPRESS to produce a wide range, low switching differential and excellent repeatability. This combined with a variety of microswitches, mountings and sensor options has produced a switch range suitable for all weatherproof and intrinsically safe applications.

## CALIBRATION

The design features a simple form of calibration adjustment against a scale plate. This allows users to either order units with a specific setting, or stock a mid range setting and then calibrate to suit the application. Calibration is performed on the opposite side of the switch to the electrical connections, and can be set safely with the switch supply live. On removal of the adjustment cover a small grub screw can be loosened allowing the adjusting ring to be turned with a small Tommy bar or Allen key. The setting is read from the centre of the red indicating ring against the calibrated scale plate.



Calibration procedures for dual microswitches and adjustable switching differential switches are detailed on the operating and maintenance instructions supplied with each switch.

# TECHNICAL SPECIFICATION

**Switchcase and covers :** ANC4B 316 stainless steel switchcase with 316 stainless steel covers or black anodised aluminium switchcase and 316 stainless steel covers. Optional 304 stainless steel mounting bracket.

**Microswitch :** SPCO/SPDT. Options include single or twin switch assemblies for simultaneous or separately adjustable set points, adjustable switching differential, manual reset and noble metal contacts for use on intrinsically safe circuits.

## Microswitch rating

Standard microswitch : 6 Amps @ 480 V.AC  
: 10 Amps @ 250 V.AC & 125 V.AC  
: 5 Amps @ 30 V.DC & 0.5 Amps @ 125 V.DC  
Adjustable deadband and high : 10 Amps @ 250 V.AC or DC  
Current DC switching

**Electrical Connections :** Screwed terminals direct onto microswitch, suitable for cable up to 2.5 mm<sup>2</sup>. (Manual reset microswitch is supplied with 6BA solder tags).

**Electrical Conduit Entry :** M20 x 1.5 straight entry. Adaptors are available.

**Environmental Protection :** Switches have been tested and certified by an external test house to IP66 in accordance with BS EN 60529 : 1992. In addition further internal tests confirm that the switchcase meets the requirements of IP67.

**Vibration and shock parameters :** Switches were subjected to Lloyds Register Type Approval System Test Specification No.1 Clause 130 Vibration Test 142 and shock tested to BS EN 60068-2-27 : 1987.

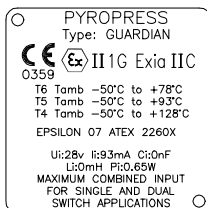
**Temperature Limitations:** Pressure, Vacuum and Differential Pressure.

**Process :** Diaphragm actuated unless otherwise stated -50 to +90°C (Nitrile) or -20 to +150°C (Viton). Piston actuated -40 to +120°C (Nitrile), or -20 to +150°C (Viton) or -60 to +150°C (PTFE). **Ambient :** -10 to +80 Deg.C.

**Storage :** -60 to +80°C. (For temp, level and flow refer to specific pages).

**Certification:** All switches are CE certified and marked in accordance with the following EU directives. Industrial : 2006/95/EC (Low Voltage Directive). Exia : 94/9/EC ATEX coded CE Ex II1G Exia IIC. CAT 1 (Zone 0) areas Special conditions for safe use. (Category 1, Zone 0) Aluminium may only be used when the ignition hazardous assessment shows that there is not risk of ignition from incensive, impact or abrasion sparks.

**Accuracy:** 1% @ 20°C.



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