

# RP2(Y) Pressure switches intrinsically safe

All industrial environments

Reduced overall dimensions

Good vibration resistance

Resistant to short duration overpressure

LCIE 03 ATEX 6160X

CE 0081



II M 1  
Ex ia I



II 1 G and D  
Ex ia IIC T6 or T5  
Ex iaD A20 T60°C or T75°C IP6X



II 2 D  
Ex tD A21 T60°C oder T75°C IP6X



Hazardous areas : 0,1, 2, 20, 21, 22

These pressure switches maintain a constant pressure around a chosen set value: regulator action. They trigger an alarm or safety system, when the pressure reaches a critical pre-set value.

## Important

Normal operation must be between 10% and 90% of the selected scale.  
The deadband values in the table overleaf are defined under these conditions.

All circuits must be equipped with a safety system protecting them against excess pressure.

Any pulsating circuit must be fitted with pulsation dampeners. Suitable separators must be used with incompatible process fluids.

## Technical Data (20°C)

<b>Fluids</b>	All fluids compatible with the measuring element from -40...150°C
<b>Operating ambient temperature</b>	From -30...70°C
<b>Storage temperature</b>	From -40...70°C
<b>Reproducibility</b>	±1% of F.S.
<b>Minimum deadband</b>	Depending on the type of microswitch used (see table overleaf)
<b>Conform to CE</b>	Low Voltage Directive DBT 73/23/CE Directive ATEX 94/9/CE (EN 60079-0, EN 60079-11, EN 61241-0, EN 61241-1, EN 61241-11)
<b>Protection class</b>	IP 66, NF EN 60529
<b>Weight</b>	0.960 kg

## Manufacturing

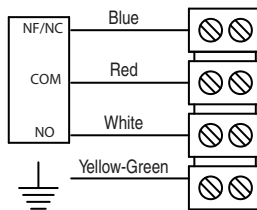
<b>Housing</b>	Plastic PA6, blue
<b>Body</b>	ZAMAK plated black
<b>Wall mounting</b>	2 CL M5 screws
<b>Earth connection</b>	Via internal terminal block
<b>Electrical connection</b>	Via internal terminal block with P.E. 9 for cables 5.5 to 8.5 mm dia
<b>Graduated scale</b>	Internal calibrated scale
<b>Pressure connection</b>	G 1/2
<b>Measuring element</b>	1.4404 s.s. (316L) diaphragm

## Adjustable ranges

Scale	Code	Max. P		MAXI FIXED DEADBAND	
		Permanent	Accidental	Gold contact	Tropicalized
				M at 10 % of scale	N at 90 % of scale
bar		bar		mbar	mbar
0 + 1	41	10	50	120	330
0 + 1.6	42			150	390
0 + 2.5	43			180	480
0 + 4	44			210	540
0 + 6	45			240	630
0 + 10	46			300	750
0 + 4	51	40	100	600	1320
0 + 6	52			750	1620
0 + 10	53			840	2010
0 + 16	54			960	2370
0 + 25	55			1050	2730
0 + 40	56			1140	3150
0 + 10	61	100	200	1500	3600
0 + 16	62			2100	3960
0 + 25	63			2700	5550
0 + 40	64			3300	7350
0 + 60	65			3900	9600
0 + 100	66			4500	13200

## Cable identification, current rating

### Cable identification



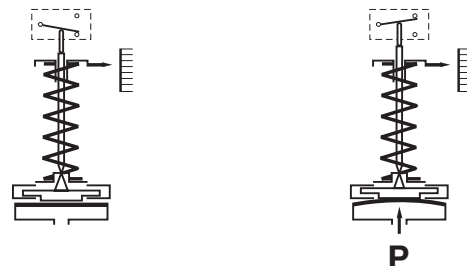
### Current rating

#### Microswitch type SPDT

M	Gold Contact Fixed deadband	10 mA min.; 50 mA max. 28 Vdc max.
N	Tropicalized Fixed deadband	0.1 A min.; 0,12 A max. 28 Vdc max.

## Operating principle

A flexible diaphragm actuates a microswitch by means of a piston. The set point is adjusted by means of a compressible spring installed in opposition.



## Regulation

Pressure of regulator type RP2(Y)  
LCIE 03 ATEX 6160X

CE 0081



IM 1  
Ex ia I



II 1 G and D  
Ex ia IIC T6 or T5



II 2 D Use without safety barrier certified for zone 21 or 22

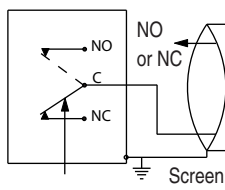
Dust IP6X	Gases
T° surface	Class
60°C	ambient T° -30... 55°C (T6)
75°C	ambient T° -30...70°C (T5)

The installation must be in accordance to  $U_{max}$  and  $I_{max}$

All necessary measures must be taken by the user, to avoid the calorific transfer from the fluid to the apparatus head increasing the head's temperature to such that it reaches the self-ignition temperature of the gas in which it is used.

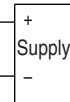
## Installation instructions

**Hazardous area**  
Area 0, 1, 2, 20, 21, 22



**Certified safety barrier**

**Non hazardous area**



$$U_{max} = 30 \text{ Vdc}$$

$$I_{max} = 66 \text{ mA}$$

$$P = 0,5 \text{ W}$$

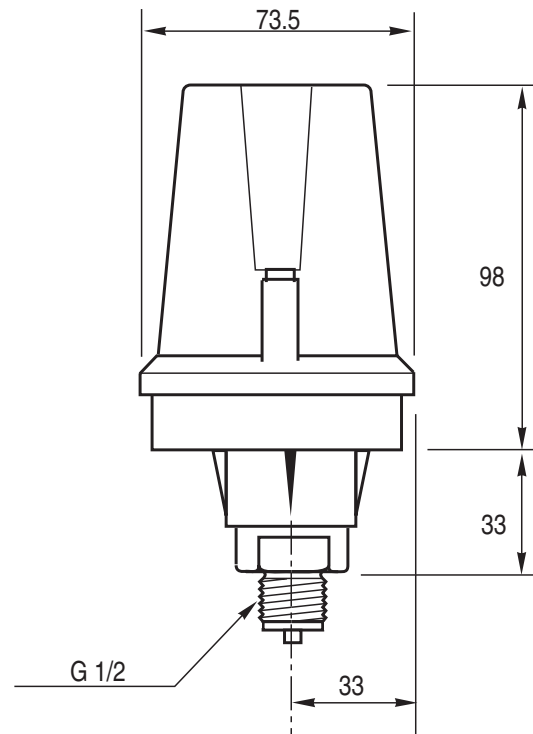
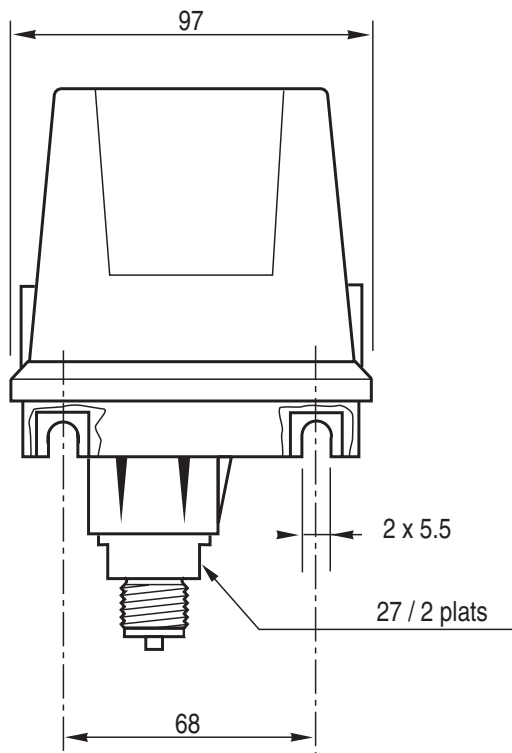
$$C_a > C_i + C_{cable}; L_a > L_i + L_{cable}$$

$$C_i = \text{Negligible}; L_i = \text{Negligible}$$

Don't forget the barrier's resistors in the determination of Rc1.

In area 0 or 20, the loop calculation of the association pressure switches with safety barrier must be approved by notified organism.

## Dimensions (mm)



## Options

Oxygen application **Code 0765**  
 Stainless steel tag plate and wire **Code 9941**  
 Connection on pipe 2 " dia. **Code 0407**  
 Adjustment of the set point **Code SETP**

## Ordering Details - RP2(Y)

		RP2Yxxxx			
<b>Model</b>	<b>1' digit</b>	R			
Pressure switch					
<b>Type</b>	<b>2'...3' digit</b>	P2			
P2					
<b>Type of protection</b>	<b>4' digit</b>	Y			
Intrinsically safe					
<b>Type of microswitch</b>	<b>5' digit</b>	M			
1 gold contact changeover switch					
1 tropicalized changeover switch		N			
<b>Hydraulic connection</b>	<b>6' digit</b>	3			
G 1/2 male (standard version)					
1/2 NPT male		6			
1/4 NPT female		8			
1/2 NPT female		N			
<b>Pressure range</b>	<b>7'...8' digit</b>				XX
See codes in table					

code	range in bar		
41	0	+	1
42	0	+	1.6
43	0	+	2.5
44	0	+	4
45	0	+	6
46	0	+	10
51	0	+	4
52	0	+	6
53	0	+	10
54	0	+	16
55	0	+	25
56	0	+	40
61	0	+	10
62	0	+	16
63	0	+	25
64	0	+	40
65	0	+	60
66	0	+	100

UK/01-2010 This data sheet may only be reproduced in full.