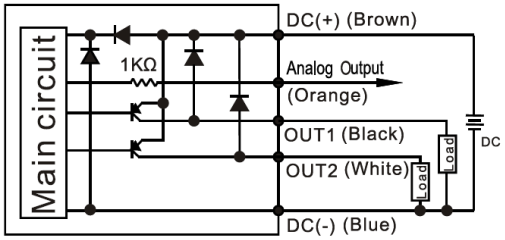
Series PRDA high precision digital/analogic switch

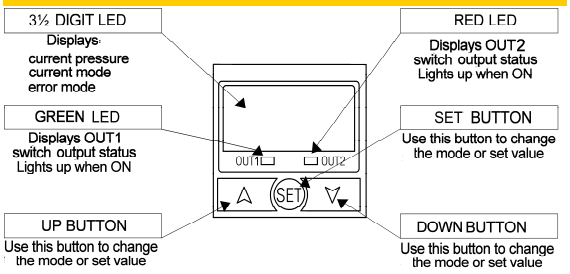
PRDA-INDEX

ELETTRIC CIRCUIT PNP

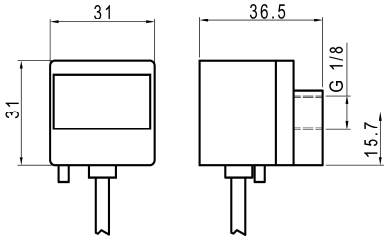
PNP OUTPUT



INTERFACE PRDA



DIMENSIONS AND WEIGHT

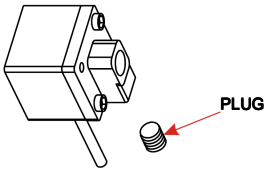


WEIGHT: 135g

SETTING

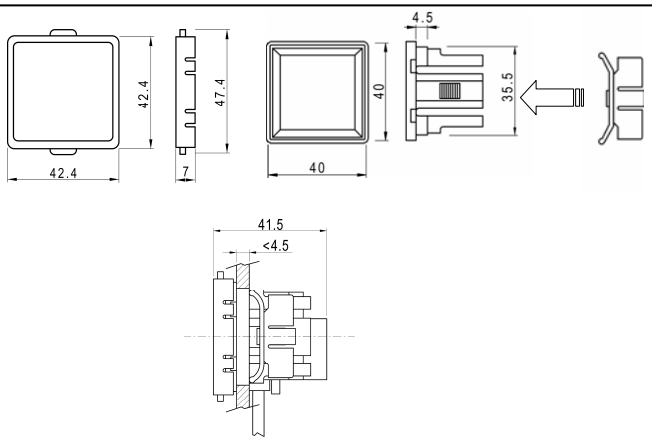
1. Pressure switch series PRDA has No. 2 input for pressure, select the more convenient one for the setting

2. Close not used input with the supplied plug. Use seals to prevent pressure leakages

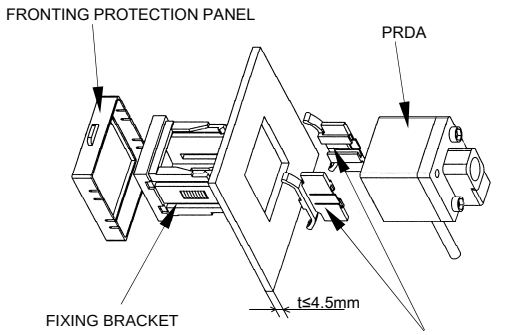


ACCESSORIES

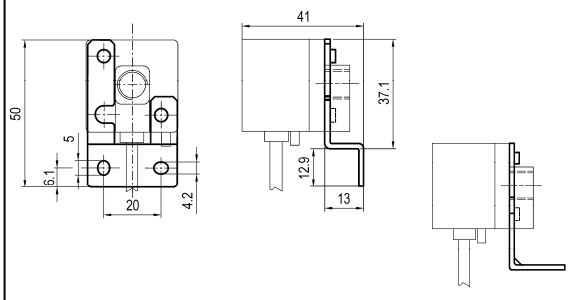
PROTECTION COVER AND PANEL MOUNTING SYSTEM SFPR



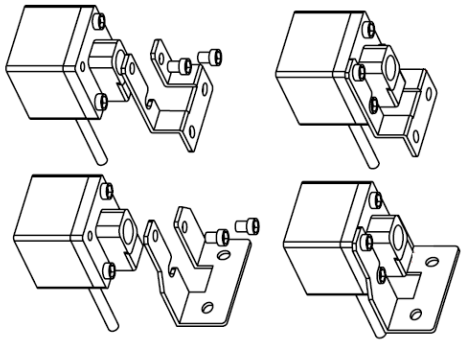
MOUNTING



FIXING BRACKETS STPR (PAIR)

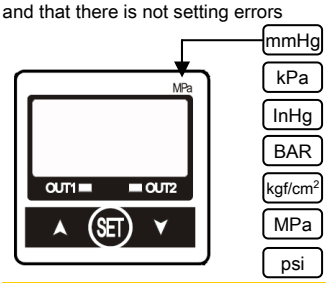


MOUNTING



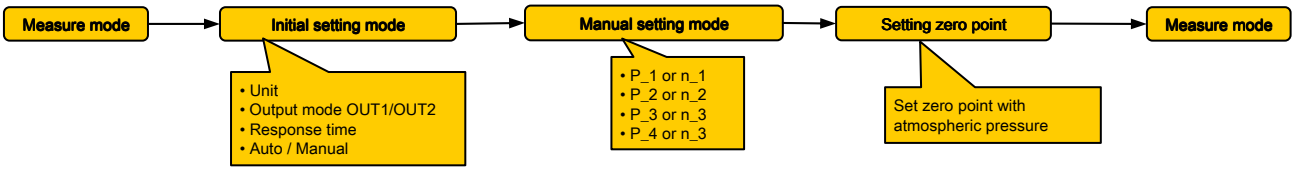
CHANGE PRESSURE MEASURE UNIT

When setted pressure is not in kPa or MPa, put the measure unit label in the front panel, in the area indicated in the picture, to be sure that pressure unit is not wrong and that there is not setting errors



FROM \ TO	Pa	kPa	Mpa	kgf/cm2	mmHg	psi	bar	InHg
1 Pa	1	0,001	0,000001	0,000010197	0,00750062	0,000145038	0,00001	0,0002593
1 kPa	1000,000	1	0,001	0,010197	7,500616	0,0145038	0,010000	0,2953
1 Mpa	1000000	1000	1	10,197	7500,616	145,038	10	295,2998
1 kgf/cm2	98066,5	98,0665	0,098067	1	735,559	14,2233	0,980665	28,95979
1 mmHg	133,32	0,13332	0,000133	0,0013595	1	0,019336	0,0013332	0,039370
1 psi	6895	6,895	0,006895	0,07031	51,7157	1	0,06895	2,036074
1 bar	100000,0	100	0,1	1,01972	750,062	14,5038	1	29,52998
1 InHg	3386,388	3,386388	0,003386	0,034530	25,40000	0,491141	0,033863	1

SETTING PROCEDURE

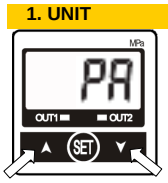


MEASURE MODE

Press SET button and hold 3 seconds

INITIAL SETTING MODE

1. UNIT



Set the measure unit with the ▲ and ▼ button
PA : kPa or MPa
GF : kgf/cm²
bAr : bar
PS I : psi

Press SET button

2. OUT1 OUTPUT MODE

Set output mode of OUT1 with ▲ or ▼.
"1no" : Normally open
"1nc" : Normally closed

Press SET button

3. OUT2 OUTPUT MODE

Set output mode of OUT2 with ▲ or ▼.
"2no" : Normally open
"2nc" : Normally closed

Press SET button

4. RESPONSE TIME

Set the response time with ▲or ▼button.
(Select from "2.5 = 2.5ms," "24 = 2.4ms," "192 = 192 ms," and "768 = 768ms. ")

Press SET button

5. MANUAL / AUTO

Select the auto preset mode or manual calibration mode with ▲or ▼ button
"Aut " = Auto preset mode
"mAn" = Manual calibration mode

Press SET button to finish

MANUAL SETTING MODE

1. MANUAL SELECTION

Select manual setting mode as initial regulating mode

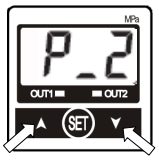
Press the SET button and hold it until "P_1" or "n_1" appaears on the display.
The led shows P_* at normal open mode and n_* at normal close mode.

2. P_1 or n_1

Button ▲: Increase the set point value
Button ▼: Decrease the set point value
"P_1" or "n_1" and the set point value light up alternately

Press SET button

3. P_2 or n_2



Button ▲: Increase the set point value
Button ▼: Decrease the set point value
"P_2" or "n_2" and the set point value light up alternately

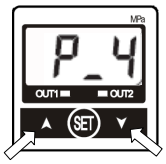
Press SET button

4. P_3 or n_3

Button ▲: Increase the set point value
Button ▼: Decrease the set point value
"P_3" or "n_3" and the set point value light up alternately

Press SET button

5. P_4 or n_4



Button ▲: Increase the set point value
Button ▼: Decrease the set point value
"P_4" or "n_4" and the set point value light up alternately

Press SET button to finish

AUTO SETTING MODE

1.AUTO SELECTION

Select auto preset mode as the initial setting mode.

Press the SET button and hold it until "RP1" appears on the display.

Press SET button

2. PREPARATION OF AUTO PRESET

Prepare the equipment to be set while "RP1" is displayed.
If OUT1 setting is not required, press the ▼ and ▲ buttons simultaneously to skip to "RP2".

Press SET button

3. OUT1 AUTO PRESET

Repeat vacuum and break several times while "AIL" is displayed. The optimum set point value is determined automatically.

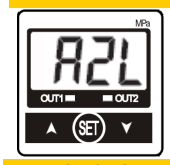
Press SET button

4. PREPARATION OF AUTO PRESET

Change the vacuum nozzle or other conditions of the work piece and supply vacuum pressure. If OUT2 setting is not required, press the ▼ and ▲ buttons simultaneously to skip to the measurement mode.

Press SET button

5. OUT2 AUTO PRESET

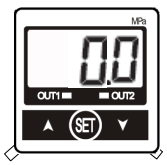


Repeat vacuum and break several times while "A2L" is displayed. The optimum set point value is determined automatically.

Press SET button to finish

FUNCTIONS

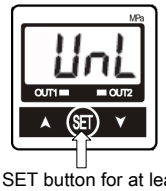
SETTING ZERO POINT



This function uses the measured pressure at the moment of auto shift input as refering pressure and adjusts regolating point values "P_1" and "P_2" of the output sensor 1 and "P_3" and "P_4" of the output sensor 2.
Pressure detection is not influenced by fluctuations of primary pressure.
Set zero point with atmosperic pressure.
Hold pressed both ▲ and ▼ buttons simultaneously to reset the display.
After reseting resetting the operation returns to the measurement mode automatically.

KEY LOCK

This function avoids that buttons could be unintentionally pressed



Press SET button for at least 2 seconds release when the display turns to "UnL".

Change the displays to "LoC" with ▲ or ▼ buttons

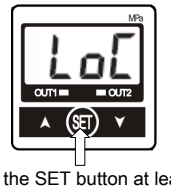
Press SET button to finish

SETTING PEAK/BOTTOM VALUES

Press the button ▲ at least for 2 second during pressure display to enter the peak display mode. The displayed value will blink. To return, press the ▲ button again at least for 2 second.

Press the button ▼ at least for 1 second during pressure display to enter the bottom display mode. The displayed value will blink. To return, press the button ▼ again at least for 1 second.

KEY RELEASE



Press the SET button at least 4 seconds. Release it when the display turns to "LoC".

Change the display to "UnL" with the ▲ or ▼ button.

Press SET button to finish

INSTRUCTIONS IN THE EVENT OF ERRORS

ERROR DESCRIPTION		DISPLAY LCD	DESCRIPTION	SOLUTIONS
Over current error	OUT 1	Er 1	Load current of switch output is > 80mA.	1)Shut off the power supply. After eliminating the factor that caused the over current 2)Reduce the load under than 80mA
	OUT 2	Er2		
Residual pressure		Er3	During the setting of zero point, the environment pressure is >±0,03 Mpa.	Bring the input pressure back to atmospheric pressure and try using the zero out function.
Applied pressure error		- - -	Supply pressure exceeds the maximum regulating pressure.	Reduce/Increase supply pressure to within the regulating pressure range.
		- - - -	Supply pressure is below the minimum regulating pressure.	
Auto shift error		Er4	Internal data error	Shut off the instrument and restart up. If the switch does not come back to a normal operation, please contact Waircom-MBS S.p.A. for an inspection
		Er6	Internal data error	
		Er 7	Internal data error	
		Er8	Internal data error	

TECHNICAL DATA

Rated pressure range			0÷10 bar
Setting pressure range			-1÷10 bar
Capacity pressure			15 bar
Fluid			Air-not corrosive and incombustible gases
Pressure setting resolution		kPa	-
		MPa	0.001
		Kgf/cm^2	0.01
		bar	0.1
		psi	0.1
		mmHG	-
		inHG	-
Power supply voltage			12÷24VDC ±10%, ripple (p-p) ≤ 10%
Sensor output			PNP 2 output (max applied voltage 24V max load current 80mA)
Repeatability			± 0.2% F.S. ± max. 1 digit
Histeresis	Histeresis mode		Variable (≥0)
	Comparator mode		Fix (3 digit)
Response time			≤ 2.5ms (with chattering prevention function: 24ms, 192ms e 768ms selected)
Short -circuit protection			Yes
Resolution display			3 ½ a digit display 7 segments (sampling frequency 5Hz)
Accuracy display			± 2% F.S. ±Max 1 digit (con Temperature of ambient: 25 ± 3℃)
Optical indicator			OUT1= GREEN LED that lights up when ON OUT2= RED LED that lights up when ON
Analog output			Output voltage: 1÷5V ≤ ±2.5% F.S.
Environmental resistence		Protection	IP50 (special version IP65)
		Working temperature	Operting:0÷50℃; Stored:-10÷60℃ (With no condensa tion or freezing)
		C. humidity	Operting and stored: 35 ÷ 85% RH (With no condensation)
		Withstand voltage	1000Vca for 1 min, between wires and body
		Insulation resistance	≥ 50MΩ (at 500Vcc) between wires and body
		Vibration resistance	10÷55Hz with 1.5mm amplitude or 98m/s^2, the smaller
		Shock resistance	980 m/s^2 in X, Y, Z directions 3 times each (Not energized)
Temperature characteristics			≤±2.5% F.S. or less of measured pressure at 25C in temperature range of 0 to 50C

WARNINGS

MACHINERY
1. Be sure that there is not voltage in the machinery before to do the electrical connection
2. Do not exceed the maximum allowed load (80mA)
3. Operate the sensor only with the indicated voltage
4. Power supply voltage has to be stabilized. The correct working of the instrument can be disturbed by the presence of large magnetic fields near it.
5. Operate the switch within the regulating pressure range and without exceeding the max operating pressure

MOUNTING
1. If the instrument is not operating properly, do not continue to use it
2. Mount the instrument using the proper tightening couple

ENVIRONMENT
1. Never use in the presence of explosive gases
2. Never use in enviroment exposed to welding liquid, oils and solvents

WIRING
1. Verify the colours and numbers of wires
2. Avoid to repeatability stretch and bend the wires
3. Verify that there is no faulty wiring insolution (contact with the other circuits, ground fault, Improper insulation between wires, etc).

MAINTENANCE
1. Perform periodic inspections to ensure proper operating of the instrument
2. Take precautions using a switch for an interlock circuit