

Model: PM-9100 ISO-9001, CE, IEC1010



### **FEATURES**

- \* Dual & differential input, 2000 mbar (2 bar) maximum range.
- \* Application: Industrial, laboratory, heating, ventilation, medical hospital.....
- \* Used for dry, non-corrosive and nonionic air and gas only. Liquid is prohibited.
- \* Sensor is built inside the housing.
- \* Single lugs for pipe connection.
- \* 8 kind display units (mbar, psi, Kg/cm<sup>2</sup> mm Hg, inch Hg, meter H20, inch H20, Atmosphere ) select by push button on the front panel.
- \* Records max. & min. readings.
- \* Zero button on the front panel, easy to offset the zero value.
- \* Data Hold.
- \* RS232 PC serial interface, can match the personal computer used as the Data Logger, Recorder.... and other modern pressure measuring system.







## **MANOMETER**

2000 mbar, dual & differential input

Model: PM-9100

|   | FEAT  | ΓU | RES  |
|---|---|----|--|
| * | Dual & differential input, 2000 mbar max. range.        | *  | Push button gain adjustment, usage for calibration |
| * | Application: Industrial, laboratory, heating,           |    | precisely if necessary.                            |
|   | ventilation, medical hospital, used for air or not      | *  | Microprocessor circuit assures maximum possible    |
|   | corrosive and not ionized gas.                          |    | accuracy, provides special functions and features, |
| * | Sensor is built inside the housing.                     | *  | Super large LCD display with contrast adjustment   |
| * | Single lugs for pipe connection.                        |    | for best viewing angle.                            |
| * | 8 kind display units ( m bar, psi, Kg/cm^2, mm/Hg,      | *  | Records maximum & minimum readings with recall.    |
|   | inch/Hg, meter/H2O, inch/H2O, Atmosphere ) select       | *  | Data Hold function for stored the desired value on |
|   | by push button on the front panel                       |    | display.   |
| * | Auto shut off saves battery life.                       | *  | Built-in low battery indicator.                    |
| * | Zero button on the front panel, easy to offset the zero | *  | RS 232 PC serial interface, can match the personal |
|   | value.  |    | computer used as the Data Logger, Recorder &       |
|   |   |    | other modern pressure measuring system.            |

|               | GENERAL SPE                             | CIFICATIONS   | S  |
|---------------|---|---------------|--|
| Circuit       | Microprocessor LSI circuit.             | Power off     | Auto shut off, saves battery life, or                            |
| Display       | 61 mm x 34 mm supper large LCD          |               | manual off by push button.                                       |
|               | display. 15 mm (0.6") digit size.       | Sampling time | Approx. 0.8 second.  |
| Display units | mbar, psi, Kg/cm^2, mm/Hg, inch/Hg      | Operating     | 0 to 50 $^{\circ}\mathrm{C}$ ( 32 to 122 $^{\circ}\mathrm{F}$ ). |
|               | meter/H2O, inch/H2O, Atmosphere.        | temperature   |  |
| Function      | Dual & differential input, data hold,   | Operating     | Less than 80% R.H.   |
|               | zero/relative, memory.                  | humidity      |  |
| Zero adjust   | Push button on the front panel.         | Power supply  | 006P DC 9V battery(heavy duty).                                  |
| Span adjust   | Push button gain adjustment, usage      | Power current | Approx. DC 8.5 mA.   |
|               | for calibration precisely if necessary. | Weight        | 345 g/0.76 LB  |
| Sensor        | * Sensor is built inside the housing.   | Dimension     | 180 x 72 x 32 mm   |
|               | * Piezoelectric sensor.                 |               | (7.1 x 2.8 x 1.3 inch)   |
|               | * Used for dry, non-corrosive and       | Accessories   | * Instruction manual 1 PC.                                       |
|               | non-ionic air and gas only.             | included      | * Hard carrying case 1 PC.                                       |
|               | * Liquid is prohibited.                 | Optional      | * Data acquisition software                                      |
| Data hold     | By push button.                         | accessories   | ( Windows version ),   |
| Data record   | Record maximum & minimum                |               | SW-U801-WIN  |
|               | readings.                               |               | * RS232 cable, UPCB-01   |
| Data output   | RS 232 PC serial interface.             |               | * USB cable, USB-01  |

|            |         | ELECTRIC   | AL SP  | ECIFICATI  | ONS <i>(23±5 ℃)</i>                |
|------------|---------|------------|--------|------------|------------------------------------|
| Unit       | Max. ra | ange       | Resolu | tion       | Accuracy                           |
| m bar      | 2000    | m bar      | 1      | m bar      | -                                  |
| psi        | 29      | psi        | 0.01   | psi        |                                    |
| Kg/cm^2    | 2.040   | Kg/cm^2    | 0.001  | Kg/cm^2    | ± 2 % F. S. ( F.S. : full scale )  |
| mm/Hg      | 1500    | mm/Hg      | 1      | mm/Hg      |                                    |
| inch/Hg    | 59.05   | inch/Hg    | 0.02   | inch/Hg    | Note :                             |
| meter/H2O  | 20.40   | meter/H2O  | 0.01   | meter/H2O  | Included linearity, hysteresis and |
| inch/H2O   | 802     | inch/H2O   | 0.5    | inch/H2O   | repeatability                      |
| Atmosphere | 1.974   | Atmosphere | 0.001  | Atmosphere |                                    |

<sup>\*</sup> Appearance and specifications listed in this brochure are subject to change without notice.

## 200 mbar, Dual & differential input RS232/USB computer interface



## MANOMETER

Model: PM-9102 *ISO-9001, CE, IEC1010* 









### 200 mbar, dual & differential input

### **MANOMETER**

Model: PM-9102

#### **FEATURES**

|   | 2711 01120   |
|---|--|
| * | Dual & differential input, 200 mbar max. range.    |
| * | Application: Industrial, laboratory, heating,      |
|   | ventilation, medical hospital, used for air or not |
|   | corrosive and not ionized gas.                     |
| * | Sensor is built inside the housing.                |
| * | Single lugs for pipe connection.                   |
| * | 8 kind display units ( mbar, psi, Kg/cm^2, mm Hg,  |
|   | inch Hg, meter H2O, inch H2O, Atmosphere ) select  |
|   | by push button on the front panel                  |
| * | Auto shut off saves battery life.                  |
| * | Zero button on the front panel, easy to offset the |
|   | zero value.  |
| * | Microprocessor circuit assures maximum possible    |
|   | accuracy, provides special functions and features, |
| * | Super large LCD display with contrast adjustment   |
|   | for best viewing angle.                            |
| * | Records maximum & minimum readings with recall.    |
| * | Data Hold function for stored the desired value on |
|   | display.   |
| * | Built-in low battery indicator.                    |
| * | RS232 PC serial interface, can match the personal  |
|   | computer used as the Data Logger, Recorder &       |
|   | other modern pressure measuring system.            |

| Circuit                    | Microprocessor LSI circuit.                                    |  |  |  |
|----------------------------|--|--|--|--|
| Display                    | 61 mm x 34 mm supper large LCD                                 |  |  |  |
|                            | display. 15 mm (0.6") digit size.                              |  |  |  |
| Display units              | mbar, psi, Kg/cm^2, mm Hg, inch Hg,                            |  |  |  |
|                            | meter H2O, inch H2O, Atmosphere.                               |  |  |  |
| Function                   | Dual & differential input, data hold,                          |  |  |  |
|                            | zero/relative, memory.   |  |  |  |
| Zero adjust                | Push button on the front panel.                                |  |  |  |
| Sensor                     | * Sensor is built inside the housing.                          |  |  |  |
|                            | * Piezoelectric sensor.  |  |  |  |
|                            | * Used for dry, non-corrosive and                              |  |  |  |
|                            | non-ionic air and gas only.                                    |  |  |  |
|                            | Liquid is prohibited.  |  |  |  |
| Data hold                  | By push button.  |  |  |  |
|                            | Record maximum & minimum readings.                             |  |  |  |
| Data record                | Record maximum & minimum readings.                             |  |  |  |
| Data record<br>Data output | Record maximum & minimum readings. RS 232 PC serial interface. |  |  |  |
|                            |  |  |  |  |
| Data output                | RS 232 PC serial interface.                                    |  |  |  |

| Operating     | 0 to 50 $^{\circ}\mathrm{C}$ ( 32 to 122 $^{\circ}\mathrm{F}$ ). |  |  |  |  |
|---------------|--|--|--|--|--|
| temperature   |  |  |  |  |  |
| Operating     | Less than 80% R.H.   |  |  |  |  |
| humidity      |  |  |  |  |  |
| Power supply  | 006P DC 9V battery ( heavy duty ).                               |  |  |  |  |
| Power current | Approx. DC 6.0 mA.   |  |  |  |  |
| Weight        | 345 g/0.76 LB .  |  |  |  |  |
| Dimension     | 180 x 72 x 32 mm (7.1 x 2.8 x 1.3 inch).                         |  |  |  |  |
| Accessories   | * Instruction manual 1 PC.                                       |  |  |  |  |
| included      | * Hard carrying case 1 PC.                                       |  |  |  |  |
|               | * Plug for quick coupler 2 PCs.                                  |  |  |  |  |
| Optional      | * Data acquisition software                                      |  |  |  |  |
| accessories   | ( Windows version )SW-U801-WIN                                   |  |  |  |  |
|               | * USB cableUSB-01  |  |  |  |  |
|               | * RS232 cableUPCB-01   |  |  |  |  |

#### **ELECTRICAL SPECIFICATIONS**

| Unit       | Max. rang | je         | Resolu | tion       |
|------------|-----------|------------|--------|------------|
| mbar       | 200       | mbar       | 0.1    | mbar       |
| psi        | 2.9       | psi        | 0.001  | psi        |
| Kg/cm^2    | 0.204     | Kg/cm^2    | 0.001  | Kg/cm^2    |
| mm Hg      | 150       | mm Hg      | 0.1    | mm Hg      |
| inch Hg    | 5.905     | inch Hg    | 0.002  | inch Hg    |
| meter H2O  | 2.040     | meter H2O  | 0.001  | meter H2O  |
| inch H2O   | 80.2      | inch H2O   | 0.05   | inch H2O   |
| Atmosphere | 0.197     | Atmosphere | 0.001  | Atmosphere |

| Unit       | Max. range |            | Accuracy              |
|------------|------------|------------|-----------------------|
| mbar 200   |            | mbar       | ± 2 % F. S.           |
| psi        | 2.9        | psi        |                       |
| Kg/cm^2    | 0.204      | Kg/cm^2    | Note:                 |
| mm Hg      | 150        | mm Hg      | * 23± 5 °C.           |
| inch Hg    | 5.905      | inch Hg    | * F.S. : full scale   |
| meter H2O  | 2.040      | meter H2O  | * Included linearity, |
| inch H2O   | 80.2       | inch H2O   | hysteresis and        |
| Atmosphere | 0.197      | Atmosphere | repeatability         |

#### Remark ·

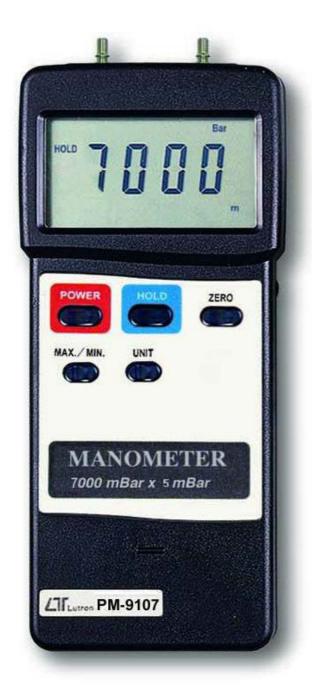
| Remark :   |              |
|------------|--------------|
| Measuring  | Display unit |
| unit       |              |
| mbar       | m Bar        |
| psi        | Psi          |
| Kg/cm^2    | Kg /cm2      |
| mm Hg      | mm /Hg       |
| inch Hg    | in/Hg        |
| meter H2O  | m H2O        |
| inch H2O   | inch H2O     |
| Atmosphere | ATP          |

Appearance and specifications listed in this brochure are subject to change without notice.



Model: PM-9107

ISO-9001, CE, IEC1010



### **FEATURES**

- \* Dual & differential input, 7000 mbar (7 bar) maximum range.
- \* Application: Industrial, laboratory, heating, ventilation, medical hospital, used for air or not corrosive and not ionized gas.
- Sensor is built inside the housing.
- \* Single lugs for pipe connection.
- \* 8 kind display units ( mbar, psi, Kg/cm^2 mm Hg, inch Hg, meter H20, inch H20, Atmosphere ) select by push button on the front panel
- \* Records max. & min. readings.
- \* Zero button on the front panel, easy to offset the zero value.
- Data Hold.
- \* RS232 PC serial interface, can match the personal computer used as the Data Logger, Recorder.... and other modern pressure measuring system.







### 7000 mbar, dual & differential input

## **MANOMETER**

Model: PM-9107

|   | FEAT  | ΓU | RES  |
|---|---|----|--|
| * | Dual & differential input, 7000 mbar max. range.        | *  | Push button gain adjustment, usage for calibration |
| * | Application: Industrial, laboratory, heating,           |    | precisely if necessary.                            |
|   | ventilation, medical hospital, used for air or not      | *  | Microprocessor circuit assures maximum possible    |
|   | corrosive and not ionized gas.                          |    | accuracy, provides special functions and features, |
| * | Sensor is built inside the housing.                     | *  | Super large LCD display with contrast adjustment   |
| * | Single lugs for pipe connection.                        |    | for best viewing angle.                            |
| * | 8 kind display units ( m bar, psi, Kg/cm^2, mm/Hg,      | *  | Records maximum & minimum readings with recall.    |
|   | inch/Hg, meter/H2O, inch/H2O, Atmosphere ) select       | *  | Data Hold function for stored the desired value on |
|   | by push button on the front panel                       |    | display.   |
| * | Auto shut off saves battery life.                       | *  | Built-in low battery indicator.                    |
| * | Zero button on the front panel, easy to offset the zero | *  | RS 232 PC serial interface, can match the personal |
|   | value.  |    | computer used as the Data Logger, Recorder &       |
|   |   |    | other modern pressure measuring system.            |

|               | GENERAL SPI  | ECIFICATIONS          |  |
|---------------|--|-----------------------|--|
| Circuit       | Microprocessor LSI circuit.                                  | Data record           | Record maximum & minimum                         |
| Display       | 61 mm x 34 mm supper large LCD                               |                       | readings.  |
|               | display. 15 mm (0.6") digit size.                            | Power off             | Auto shut off, saves battery life, or            |
| Display units | mbar, psi, Kg/cm^2, mm/Hg, inch/Hg                           | <b>3</b> ,            | manual off by push button.                       |
|               | meter/H2O, inch/H2O, Atmosphere.                             | Sampling time         | Approx. 0.8 second.                              |
| Function      | Dual & differential input, data hold, zero/relative, memory. | Operating temperature | 0 to 50 $^{\circ}$ C ( 32 to 122 $^{\circ}$ F ). |
| Zero adjust   | Push button on the front panel.                              | Operating             | Less than 80% R.H.                               |
| Span adjust   | Push button gain adjustment, usage                           | humidity              |  |
|               | for calibration precisely if necessary.                      | Power supply          | 006P DC 9V battery(heavy duty).                  |
| Sensor        | * Sensor is built inside the housing.                        | Power current         | Approx. DC 8.5 mA.                               |
|               | * Piezoelectric sensor.                                      | Weight                | 345 g/0.76 LB                                    |
|               | * Used for dry, non-corrosive and                            | Dimension             | 180 x 72 x 32 mm                                 |
|               | non-ionic air and gas only.                                  |                       | (7.1 x 2.8 x 1.3 inch)                           |
|               | * Liquid is prohibited.                                      | Accessories           | * Instruction manual 1 PC.                       |
| Data hold     | By push button.  | included              | * Hard carrying case 1 PC.                       |

|            |         | ELECTRIC   | AL SP  | ECIFICATI  | ONS (23±5℃)                        |
|------------|---------|------------|--------|------------|------------------------------------|
| Unit       | Max. ra | ange       | Resolu | tion       | Accuracy                           |
| m bar      | 7000    | m bar      | 5      | m bar      |                                    |
| psi        | 101.5   | psi        | 0.5    | psi        |                                    |
| Kg/cm^2    | 7.135   | Kg/cm^2    | 0.005  | Kg/cm^2    | ± 2 % F. S. ( F.S. : full scale )  |
| mm/Hg      | 5250    | mm/Hg      | 5      | mm/Hg      |                                    |
| inch/Hg    | 206.7   | inch/Hg    | 0.1    | inch/Hg    | Note :                             |
| meter/H2O  | 71.35   | meter/H2O  | 0.05   | meter/H2O  | Included linearity, hysteresis and |
| inch/H2O   | 2810    | inch/H2O   | 2      | inch/H2O   | repeatability                      |
| Atmosphere | 6.905   | Atmosphere | 0.005  | Atmosphere |                                    |

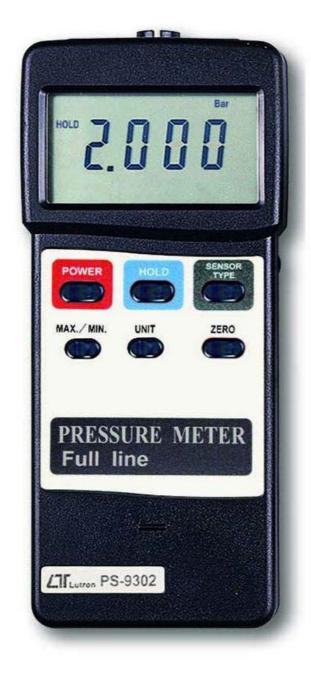
<sup>\*</sup> Appearance and specifications listed in this brochure are subject to change without notice.

0510-PM9107

## PRESSURE METER

Model: PS-9302 *ISO-9001, CE, IEC1010* 















### PRESSURE METER

Model: PS-9302

|   | FEATURES   |   |  |  |  |  |  |  |  |
|---|--|---|--|--|--|--|--|--|--|
| * | Meter can cooperate with 2, 5, 10, 20, 50, 100, 400 bar sensor, new calibration are not necessary when change the new sensor.  | * | Zero button on the front panel, easy adjust the zero value of pressure sensor.  Push button gain adjustment, usage for calibration precisely |  |  |  |  |  |  |
| * | When change the new pressure sensor, just select pressure  | Ļ | if necessary.  |  |  |  |  |  |  |
|   | type (2, 5, 10, 20, 50, 100, 400 bar) on the front panel button. The sensor type will memorize into the circuit permanently by | Ĺ | Separate pressure sensor, easy operation. & remote measurement.  |  |  |  |  |  |  |
| L | EEPROM.  | * | Microprocessor circuit assures maximum possible accuracy,  |  |  |  |  |  |  |
| * | 8 kind pressure units (bar, psi, Kg/cm2 mm/Hg, inch/Hg,  |   | provides special functions and features,   |  |  |  |  |  |  |
|   | meter/H20, inch/H20, Atmosphere ) select by push button on the front panel   | * | Super large LCD display with contrast adjustment for best viewing angle.   |  |  |  |  |  |  |
| * | Optional full line presssure sensor (2, 5, 10, 20, 50, 100,  | * | Records maximum & minimum readings with recall.  |  |  |  |  |  |  |
|   | 400 bar ) are available.   | * | Data Hold function for stored the desired value on display.  |  |  |  |  |  |  |
| * | Auto shut off saves battery life.  | * | Built-in low battery indicator.  |  |  |  |  |  |  |
| * | 4 pin DIN socket, 2 pins to provide DC 5 V exciting voltage  | * | RS232/USB PC serial interface, can match the personal  |  |  |  |  |  |  |
|   | ( power supply ) to pressure transducer, another two pins for  |   | computer used as the Data Logger, Pressure Recorder and  |  |  |  |  |  |  |
|   | accept transducer signal of 100mV full scale.  |   | other mordern pressure measuring system.   |  |  |  |  |  |  |

|                 | GENERAL SPI                                   | CIFICATIO     | NS   |  |  |  |
|-----------------|---|---------------|--|--|--|--|
| Circuit         | Microprocessor LSI circuit.                   | Data output   | RS 232/USB PC serial interface.              |  |  |  |
| Display         | 61 mm x 34 mm supper large LCD display.       | Sampling time | Approx. 0.8 second.                          |  |  |  |
|                 | 15 mm ( 0.6" ) digit size.                    | Power off     | Auto shut off, saves battery life, or manual |  |  |  |
| Display units   | bar, psi, Kg/cm^2, mm/Hg, inch Hg, meter H20  |               | off by push button.                          |  |  |  |
|                 | inch H20, Atmosphere.                         | Operating     | 0 to 50 °C ( 32 to 122 °F ).                 |  |  |  |
| Accuracy        | ± (0.5% + 1 d)                                | temperature   |  |  |  |  |
|                 | * Under the signal from the sensor is at full | Operating     | Less than 80% R.H.                           |  |  |  |
|                 | scale ( 100 mV ).                             | humidity      |  |  |  |  |
|                 | * Meter only.                                 | Power supply  | 006P DC 9V battery(heavy duty).              |  |  |  |
|                 | * Within 23 $C \pm 5 C$                       | Power current | Approx. DC 8.5 mA.                           |  |  |  |
| Pressure        | Optional, exciting voltage DC 5V,             | Weight        | 345 g/0.76 LB                                |  |  |  |
| transducer      | Sensor max. range output is DC 100 mV.        | Dimension     | 180 x 72 x 32 mm ( 7.1 x 2.8 x 1.3 inch ).   |  |  |  |
| Zero adjust     | Push button on the front panel.               | Accessories   | * Instruction manual1 PC                     |  |  |  |
| Span adjust     | Push button gain adjustment, usage for        | included      |  |  |  |  |
|                 | calibration precisely if necessary.           | Optional      | * Pressure sensor, PS100-xxBAR               |  |  |  |
| Transducer      | Approx 100 mV (Full Scale).                   | accessories   | refer to the bottom description.             |  |  |  |
| mV input signal |   |               | * Hard carrying case (CA-06).                |  |  |  |
| Exciting output | DC 5 V.                                       |               | * Data acquisition software, SW-U801-WIN.    |  |  |  |
| power supply    |   |               | * RS232 cable, UPCB-01                       |  |  |  |
| Data hold       | By push button.                               | 1             | * USB cable, USB-01                          |  |  |  |
| Data record     | Record maximun & mininum readings.            |               |  |  |  |  |

| АРРІ  | ICATIONS                   |                 |
|---|----------------------------|-----------------|
| * Measure Pneumatic Pressures.                | * Hydraulic Servo controls | * Refrigeration |
| * Measure Automobile Engine Vacuum Pressures. | * Air conditioning         | -               |
| * Pressure for Super Heat Measurements        | * Food Processing          |                 |

| ELECTRICAL SPECIFICATIONS |       |        |       |        |       |        |       |        |       |        |       |         |        |        |
|---------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|---------|--------|--------|
| Sensor type               | 2 bar |        | 5 bar | 5 bar  |       | 10 bar |       | 20 bar |       | 50 bar |       | 100 bar |        | ar     |
|                           | Max.  | Reso-   | Max.   | Reso-  |
|                           | range | lution  | range  | lution |
| bar                       | 2     | 0.002  | 5     | 0.005  | 10    | 0.01   | 20    | 0.02   | 50    | 0.05   | 100   | 0.1     | 400    | 0.5    |
| psi                       | 29    | 0.02   | 72.5  | 0.1    | 145   | 0.2    | 290   | 0.2    | 725   | 1      | 1450  | 2       | 5800   | 5      |
| Kg/cm^2                   | 2.040 | 0.002  | 5.095 | 0.005  | 10.19 | 0.01   | 20.40 | 0.02   | 50.95 | 0.05   | 101.9 | 0.1     | 408    | 0.5    |
| mm Hg                     | 1500  | 2      | 3750  | 5      | 7500  | 10     | 15000 | 20     | 37500 | 50     | 75000 | 100     | 300000 | 500    |
| inch Hg                   | 59.05 | 0.05   | 147.6 | 0.1    | 295.2 | 0.2    | 590.5 | 0.5    | 1476  | 1      | 2952  | 2       | 11810  | 10     |
| meter H20                 | 20.40 | 0.02   | 50.95 | 0.05   | 101.9 | 0.1    | 204.0 | 0.2    | 509.5 | 0.5    | 1019  | 1       | 4075   | 5      |
| inch H20                  | 802   | 1      | 2006  | 2      | 4010  | 5      | 8020  | 10     | 20050 | 20     | 40100 | 50      | 160600 | 200    |
| Atmosphere                | 1.974 | 0.002  | 4.935 | 0.005  | 9.87  | 0.01   | 19.74 | 0.02   | 49.35 | 0.05   | 98.7  | 0.1     | 394.5  | 0.5    |

### PRESSURE SENSOR, Model: PS100-XXBAR

| Description | * Optional, pre: | ptional, pressure sensor that cooperate with PS-9302.   |  |  |  |  |  |  |  |  |
|-------------|------------------|---|--|--|--|--|--|--|--|--|
|             | * Out put : 100  | NV DC for full scale.   |  |  |  |  |  |  |  |  |
|             | * 4 pin DIN plu  | g, 2 pins to accept DC 5 V exciting voltage(power supply) for pressure transducer, another two pins |  |  |  |  |  |  |  |  |
|             | for output sig   | nal of 100mV full scale.  |  |  |  |  |  |  |  |  |
|             | Size: 30 mm dia  | a. x 85 mm. Weight : 160 g.   |  |  |  |  |  |  |  |  |
|             |                  | onnector: PS 1/4" ( 19 teeth per inch ) or 1/4" NPT   |  |  |  |  |  |  |  |  |
|             | * Included one   | adapter connector that convert the 1/4" NPT to 1/4" PS.   |  |  |  |  |  |  |  |  |
| Model       | 2 bar sensor     | PS100-2BAR  |  |  |  |  |  |  |  |  |
|             | 5 bar sensor     | PS100-5BAR  |  |  |  |  |  |  |  |  |
|             | 10 bar sensor    | PS100-10BAR   |  |  |  |  |  |  |  |  |
|             | 20 bar sensor    | PS100-20BAR   |  |  |  |  |  |  |  |  |
|             | 50 bar sensor    | PS100-50BAR   |  |  |  |  |  |  |  |  |
|             | 100 bar sensor   | PS100-100BAR  |  |  |  |  |  |  |  |  |
|             | 400 bar sensor   | PS100-400BAR  |  |  |  |  |  |  |  |  |

<sup>\*</sup> Appearance and specifications listed in this brochure are subject to change without notice.

## PRESSURE METER

Model: PS-9303SD *ISO-9001, CE, IEC1010* 









Pressure sensor for PS-9303SD Model : PS100-xxBAR







#### SD Card real time data logger

### PRESSURE METER, full line

Model: PS-9303SD

#### FEATURES

| <u></u> | EATURES   |  |  |  |  |  |  |
|---------|---|--|--|--|--|--|--|
| *       | Meter can cooperate with 2, 5, 10, 20, 50, 100, 200,      |  |  |  |  |  |  |
|         | 400 Bar sensor, new calibration procedures are not        |  |  |  |  |  |  |
|         | necessary when change the new sensor .                    |  |  |  |  |  |  |
| *       | When change the new pressure sensor, just select          |  |  |  |  |  |  |
|         | pressure type ( 2, 5, 10, 20, 50, 100, 200, 400 bar )     |  |  |  |  |  |  |
|         | on the front panel button. The sensor type will           |  |  |  |  |  |  |
|         | memorize into the circuit permanently.                    |  |  |  |  |  |  |
| *       | 8 kind pressure units (Bar, Psi, Kg/cm^2, mm Hg,          |  |  |  |  |  |  |
|         | inch Hg, meter H20, inch H20, Atmosphere ), unit          |  |  |  |  |  |  |
|         | select by push button on the front panel.                 |  |  |  |  |  |  |
| *       | Full line optional pressure sensors are available.        |  |  |  |  |  |  |
|         | Cooperate the external pressure sensor that its output    |  |  |  |  |  |  |
|         | signal is 100 mV for full scale.                          |  |  |  |  |  |  |
| *       | Zero button on the front panel, easy adjust the zero      |  |  |  |  |  |  |
|         | value of pressure sensor.                                 |  |  |  |  |  |  |
| *       | Available push button gain adjustment, usage for          |  |  |  |  |  |  |
|         | calibration precisely if necessary.                       |  |  |  |  |  |  |
| *       | Separate pressure sensor, easy for remote measurement.    |  |  |  |  |  |  |
|         | Microprocessor circuit assures maximum possible accuracy, |  |  |  |  |  |  |
|         | provides special functions and features,                  |  |  |  |  |  |  |
| *       | Real time SD memory card Datalogger, built-in Clock       |  |  |  |  |  |  |
|         | and Calendar, sampling time can set from 1 sec to 8       |  |  |  |  |  |  |
|         | hour 59 min. 59 sec.                                      |  |  |  |  |  |  |
| *       | Manual datalogger is available, during execute the        |  |  |  |  |  |  |
|         | manual datalogger function, it can set the different      |  |  |  |  |  |  |
|         | location no. ( position 1 to position 99 ).               |  |  |  |  |  |  |
| *       | Innovation and easy operation, computer is not need to    |  |  |  |  |  |  |
|         | setup extra software, after execute datalogger, just take |  |  |  |  |  |  |
|         | away the SD card from the meter and plug in the SD card   |  |  |  |  |  |  |
|         | into the computer, it can down load the all the measured  |  |  |  |  |  |  |
|         | value with the time information ( year/month/date/        |  |  |  |  |  |  |
|         | hour/minute/second ) to the Excel directly, the user can  |  |  |  |  |  |  |
|         | make the further data or graphic analysis by themselves.  |  |  |  |  |  |  |
| *       | SD card capacity: 1 GB to 16 GB.                          |  |  |  |  |  |  |
| *       | LCD with green light backlight, easy reading.             |  |  |  |  |  |  |
| *       | It can default auto power off or manual power off.        |  |  |  |  |  |  |
| *       | Data hold, record max. and min. reading.                  |  |  |  |  |  |  |
| *       | Microcomputer circuit, high accuracy.                     |  |  |  |  |  |  |
| *       | Power by UM3/AA (1.5 V) x 6 batteries or DC 9V adapter.   |  |  |  |  |  |  |
| *       | RS232/USB PC computer interface.                          |  |  |  |  |  |  |
| *       | Wide applications : Measure pneumatic pressures,          |  |  |  |  |  |  |
|         | measure automobile engine pressures, pressure for         |  |  |  |  |  |  |
|         | super heat measurements, hydraulic servo controls,        |  |  |  |  |  |  |
| l       | 6   |  |  |  |  |  |  |

| Advanced      | * SD memory card Format                   |  |  |  |  |
|---------------|---|--|--|--|--|
| setting       | * Set clock time ( Year/Month/Date,       |  |  |  |  |
|               | Hour/Minute/ Second )                     |  |  |  |  |
|               | * Set sampling time                       |  |  |  |  |
|               | * Auto power OFF management               |  |  |  |  |
|               | * Set beep Sound ON/OFF                   |  |  |  |  |
|               | * Decimal point of SD card setting        |  |  |  |  |
|               | * Select sensor type.                     |  |  |  |  |
| Data Output   | RS 232/USB PC computer interface.         |  |  |  |  |
| Data Gatpat   | * Connect the optional RS232 cable        |  |  |  |  |
|               | UPCB-02 will get the RS232 plug.          |  |  |  |  |
|               | * Connect the optional USB cable          |  |  |  |  |
|               | USB-01 will get the USB plug.             |  |  |  |  |
| Onanatina     | 0 to 50 °C. ( 32 to 122 °F ).             |  |  |  |  |
| Operating     | 0 to 50 (. ( 32 to 122 F ).               |  |  |  |  |
| Temperature   | 1 H 000/ D.H                              |  |  |  |  |
| Operating     | Less than 80% R.H.                        |  |  |  |  |
| Humidity      |   |  |  |  |  |
| Power Supply  | * Alkaline or heavy duty DC 1.5 V battery |  |  |  |  |
|               | ( UM3, AA ) x 6 PCs, or equivalent.       |  |  |  |  |
|               | * DC 9V adapter input. ( AC/DC power      |  |  |  |  |
|               | adapter is optional ).                    |  |  |  |  |
| Power Current | Normal operation ( w/o SD card save       |  |  |  |  |
|               | data and LCD Backlight is OFF):           |  |  |  |  |
|               | Approx. DC 14 mA.                         |  |  |  |  |
|               | When SD card save the data and LCD        |  |  |  |  |
|               | Backlight is OFF):                        |  |  |  |  |
|               | Approx. DC 37 mA.                         |  |  |  |  |
|               | * . If LCD backlight on, the power        |  |  |  |  |
|               | consumption will increase approx.         |  |  |  |  |
|               | 12 mA.                                    |  |  |  |  |
| Weight        | 489 g/1.08 LB.                            |  |  |  |  |
| Dimension     | 177 x 68 x 45 mm                          |  |  |  |  |
|               | (7.0 x 2.7x 1.9 inch)                     |  |  |  |  |
| Accessories   | Instruction manual                        |  |  |  |  |
| Included      |   |  |  |  |  |
| Optional      | Pressure sensor, PS100-xxBAR,             |  |  |  |  |
| Accessories   | * Refer to page                           |  |  |  |  |
|               | Hard carrying case, CA-06.                |  |  |  |  |
|               | Soft carrying case, CA-05A.               |  |  |  |  |
|               | SD memory card (1 GB)                     |  |  |  |  |
|               | SD memory card ( 2 GB )                   |  |  |  |  |
|               | AC to DC 9V adapter.                      |  |  |  |  |
|               | USB cable. USB-01.                        |  |  |  |  |
|               | RS232 cable, UPCB-02.                     |  |  |  |  |
|               |   |  |  |  |  |
|               | Data Acquisition software, SW-U801-WIN.   |  |  |  |  |

#### GENERAL SPECIFICATIONS

refrigeration, air conditioning, food processing.

| Circuit       | Custom one-chip of microprocessor LSI |                                      |  |  |  |  |
|---------------|---------------------------------------|--------------------------------------|--|--|--|--|
| 7             | circuit.                              |                                      |  |  |  |  |
| Display       | LCD size                              | : 52 mm x 38 mm                      |  |  |  |  |
|               | LCD with                              | n green backlight ( ON/OFF ).        |  |  |  |  |
| Sensor type   | Can coo                               | perate with optional 2, 5, 10, 20,   |  |  |  |  |
|               | 50, 100,                              | 200, 400 bar sensor, new             |  |  |  |  |
|               | calibration are not necessary when    |                                      |  |  |  |  |
|               | change t                              | the new sensor .                     |  |  |  |  |
| Display units | Bar, Psi,                             | Kg/cm^2, mm Hg, inch Hg,             |  |  |  |  |
|               | meter H                               | 20, inch H20, Atmosphere.            |  |  |  |  |
| Accuracy      | ± (0.5%                               | 6 + 1 d )                            |  |  |  |  |
| ,             | * Under                               | the signal from the sensor is at     |  |  |  |  |
|               | full so                               | cale ( 100 mV ).                     |  |  |  |  |
|               | * Meter                               | only.                                |  |  |  |  |
|               | * Within                              | 23±5 ℃.                              |  |  |  |  |
| Pressure      | Coopera                               | te the external pressure sensor      |  |  |  |  |
| sensor        | that its o                            | output signal is 100 mV for full     |  |  |  |  |
|               | scale. re                             | f. page 16                           |  |  |  |  |
| Zero adjust   | Push but                              | tton on the front panel.             |  |  |  |  |
| Span adjust   | Push but                              | tton gain adjustment, usage for      |  |  |  |  |
|               | calibration                           | on precisely if necessary.           |  |  |  |  |
| Input signal  | DC 100                                | mV for full Scale.                   |  |  |  |  |
| from sensor   |                                       |                                      |  |  |  |  |
| Datalogger    | Auto                                  | 1 sec to 8 hour 59 min. 59 sec.      |  |  |  |  |
| Sampling Time |                                       | @ Sampling time can set to 1 second, |  |  |  |  |
| Setting range |                                       | but memory data may loss.            |  |  |  |  |
|               | Manual                                | Push the data logger button          |  |  |  |  |
|               |                                       | once will save data one time.        |  |  |  |  |
|               |                                       | @ Set the sampling time to           |  |  |  |  |
|               |                                       | 0 second.                            |  |  |  |  |
|               |                                       | @ Manual mode, can also select the   |  |  |  |  |
|               |                                       | 1 to 99 position ( Location ) no.    |  |  |  |  |
| Memory Card   | SD mem                                | ory card. 1 GB to 16 GB.             |  |  |  |  |
| Data Hold     | Freeze the display reading.           |                                      |  |  |  |  |
| Memory Recall | Maximum & Minimum value.              |                                      |  |  |  |  |
| Sampling Time | Approx. 1 second.                     |                                      |  |  |  |  |
| of Display    |                                       |                                      |  |  |  |  |
|               |                                       |                                      |  |  |  |  |
|               |                                       |                                      |  |  |  |  |
|               |                                       |                                      |  |  |  |  |
|               |                                       |                                      |  |  |  |  |

| ELECTRICAL SPECIFICATIONS (23±5 ℃) |       |            |       |        |        |        |  |  |
|------------------------------------|-------|------------|-------|--------|--------|--------|--|--|
| Sensor type                        | 2 bar |            | 5 bar |        | 10 bar |        |  |  |
|                                    | Max.  | Max. Reso- |       | Reso-  | Max.   | Reso-  |  |  |
|                                    | range | lution     | range | lution | range  | lution |  |  |
| bar                                | 2     | 0.002      | 5     | 0.005  | 10     | 0.01   |  |  |
| Psi                                | 29    | 0.02       | 72.5  | 0.1    | 145    | 0.2    |  |  |
| Kg/cm^2                            | 2.040 | 0.002      | 5.095 | 0.005  | 10.19  | 0.01   |  |  |
| mm Hg                              | 1500  | 2          | 3750  | 5      | 7500   | 10     |  |  |
| inch Hg                            | 59.05 | 0.05       | 147.6 | 0.1    | 295.2  | 0.2    |  |  |
| meter H20                          | 20.40 | 0.02       | 50.95 | 0.05   | 101.9  | 0.1    |  |  |
| inch H20                           | 802   | 1          | 2006  | 2      | 4010   | 5      |  |  |
| Atmosphere                         | 1.974 | 0.002      | 4.935 | 0.002  | 9.87   | 0.01   |  |  |
| hPA                                | 2000  | 2          | 5000  | 5      | 10000  | 10     |  |  |
| kPA                                | 200.0 | 0.2        | 500.0 | 0.5    | 1000   | 1      |  |  |

| Sensor type | 20 ba | r          | 50 ba | r      | 100 bar |        |  |
|-------------|-------|------------|-------|--------|---------|--------|--|
|             | Max.  | Max. Reso- |       | Reso-  | Max.    | Reso-  |  |
|             | range | lution     | range | lution | range   | lution |  |
| bar         | 20    | 0.02       | 50    | 0.05   | 100     | 0.1    |  |
| Psi         | 290   | 0.2        | 725   | 1      | 1450    | 2      |  |
| Kg/cm^2     | 20.40 | 0.02       | 50.95 | 0.05   | 101.9   | 0.1    |  |
| mm Hg       | 15000 | 20         | 37500 | 50     | 75000   | 100    |  |
| inch Hg     | 590.5 | 0.5        | 1476  | 1      | 2952    | 2      |  |
| meter H20   | 204.0 | 0.2        | 509.5 | 0.5    | 1019    | 1      |  |
| inch H20    | 8020  | 10         | 20050 | 20     | 40100   | 50     |  |
| Atmosphere  | 19.74 | 0.02       | 49.35 | 0.05   | 98.7    | 0.1    |  |
| hPA         | 20000 | 20         | 50000 | 50     | 100000  | 100    |  |
| kPA         | 2000  | 2          | 5000  | 5      | 10000   | 10     |  |

| Sensor type | 200 ba | 200 bar |        | ar     |  |
|-------------|--------|---------|--------|--------|--|
|             | Max.   | Reso-   | Max.   | Reso-  |  |
|             | range  | lution  | range  | lution |  |
| bar         | 200    | 0.2     | 400    | 0.5    |  |
| Psi         | 2900   | 2       | 5800   | 5      |  |
| Kg/cm^2     | 204.0  | 0.2     | 408.0  | 0.5    |  |
| mm Hg       | 150000 | 200     | 300000 | 500    |  |
| inch Hg     | 5905   | 5       | 11810  | 10     |  |
| meter H20   | 2040   | 2       | 4075   | 5      |  |
| inch H20    | 80200  | 100     | 160600 | 200    |  |
| Atmosphere  | 197.4  | 0.2     | 394.5  | 0.5    |  |
| hPA         | 200000 | 200     | 400000 | 500    |  |
| kPA         | 20000  | 20      | 40000  | 50     |  |

PATENT CHINA: ZL 2008 2 0189918.5 ZL 2008 2 0189917.0 Germany: Nr. 20 2008 016 337.4 JAPAN: 3151214



# VACUUM METER

Model: VC-9200

ISO-9001, CE, IEC1010









### **VACUUM METER**

FAMCO هاپيرسنعت

Model: VC-9200

|   | FEAT  | RES |  |
|---|---|-----|--|
| * | Absolute vacuum & absolute pressure measuremen                                    | *   | Auto shut off saves battery life.  |
| * | Wide measure range from 1 to 1500 mbar.  Overload protection up to 2000 mbar max. | *   | Microprocessor circuit assures maximum possible accuracy, provides special functions and features, |
| * | Separate probe, easy operation.   | *   | Records maximum & minimum readings with recall.  |
| * | Application: Automobile, Industrial, laboratory,                                  | *   | Data Hold function for stored the desired value on   |
|   | heating, ventilation, medical hospital  |     | display.   |
| * | Heavy duty sensor used for air, oil gas, liquid.                                  | *   | Built-in low battery indicator.  |
| * | 8 kind display units (torr, mm Hg, micron, mbar,                                  | *   | RS232 PC serial interface, can match the personal  |
|   | KPa, Pa, inch Hg, psi) select by push button on the front panel.                  |     | computer used as the Data Logger, Recorder   |

| GENERAL SPECIFICATIONS |  |                |                                 |  |  |
|------------------------|--|----------------|---------------------------------|--|--|
| Display                | 61 mm x 34 mm supper large LCD                                   | Power supply   | 006P DC 9V battery(heavy duty). |  |  |
|                        | display. 15 mm (0.6") digit size.                                | Power current  | Approx. DC 6.0 mA.              |  |  |
| Display units          | 8 kind display units : torr, mm Hg,                              | Pressure       | 1/4" PS                         |  |  |
|                        | micron, mbar, KPa, Pa, inch Hg, psi.                             | Port Connector |                                 |  |  |
| Circuit                | Microprocessor LSI circuit. Weight                               |                | Instrument :                    |  |  |
| Function               | Data hold, memory ( max., min.)                                  |                | 220 g/0.48 LB.                  |  |  |
| Sensor                 | * Separate probe, easy operation.                                |                | Sensor probe :                  |  |  |
| probe                  | * Heavy duty sensor uesed for                                    |                | 175 g/0.39 LB.                  |  |  |
|                        | vacuum measurement of air, oil ga                                | Dimension      | Meter:                          |  |  |
|                        | liquid.  |                | 180 x 72 x 32 mm                |  |  |
| Data hold              | By push button.  |                | (7.1 x 2.8 x 1.3 inch)          |  |  |
| Data record            | Record maximum & minimum   |                | Sensor probe :                  |  |  |
|                        | readings.  |                | 90 mm x 30 mm Dia.              |  |  |
| Data output            | RS 232 PC serial interface.                                      | Accessories    | * Sensor probe 1 PC.            |  |  |
| Sampling time          | Approx. 0.8 second.  |                | * Instruction manual 1 PC.      |  |  |
| Power off              | Auto shut off, saves battery life, or                            | included       | * Hard carrying case 1 PC.      |  |  |
|                        | manual off by push button.                                       | Optional       | * Data acquisition software     |  |  |
| Operating              | 0 to 50 $^{\circ}\mathrm{C}$ ( 32 to 122 $^{\circ}\mathrm{F}$ ). | accessories    | ( Windows version ),            |  |  |
| temperature            |  |                | SW-U801-WIN.                    |  |  |
| Operating              | Less than 80% R.H.   |                | * RS232 cable, UPCB-01          |  |  |
| humidity               |  |                | * USB cable, USB-01             |  |  |

| ELECTRICAL SPECIFICATIONS |                 |              |                                    |  |
|---------------------------|-----------------|--------------|------------------------------------|--|
| Unit                      | Max. range      | Resolution   | Accuracy ( $23\pm5~\%$ )           |  |
| mbar                      | 1500 mbar       | 1 mbar       |                                    |  |
| KPa                       | 150.0 KPa       | 0.1 KPa      | ± 1 % F. S. ( F.S. : full scale )  |  |
| Pa                        | 150,000 Pa      | 100 Pa       |                                    |  |
| torr                      | 1125 torr       | 1 torr       | Note:                              |  |
| mm Hg                     | 1125 mm Hg      | 1 mm Hg      | Included linearity, hysteresis and |  |
| micron                    | 1125,000 micron | 1000 micron  | repeatability                      |  |
| inch Hg                   | 44.30 inch Hg   | 0.02 inch Hg |                                    |  |
| psi                       | 21.75 psi       | 0.01 psi     |                                    |  |

<sup>\*</sup> Appearance and specifications listed in this brochure are subject to change without notice.

0607-VC9200

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