

# Application Work Sheet (Pressure)

Quotation

Purchase Order

For better support to the customer, please fill this form out when you request a quotation or place an order. It will help us to provide you the correct solution and minimize a risk which is our goal for the customer.

## General Information

Client \_\_\_\_\_ Date \_\_\_\_\_  
Name \_\_\_\_\_ End-User \_\_\_\_\_  
TEL. No. \_\_\_\_\_ Project \_\_\_\_\_  
FAX. No. \_\_\_\_\_ Required delivery \_\_\_\_\_  
Model \_\_\_\_\_  
Quantity \_\_\_\_\_

## Performance Specifications

Pressure Range \_\_\_\_\_  
Operating Range \_\_\_\_\_  
Measuring Unit  MPa  bar  kPa  mmHg  mmH2O  mbar  
Pressure reference  kgf/cm2  Torr  psi  °C  °F  
Output Signal  mV/V  4 ~ 20 mA  1 ~ 5 V  0 ~ 10 V  
Power Supply  24 V DC  12 V DC

## Physical Specifications

Process Connection  PT 1/4"  PT 3/8"  PT 1/2"  G1/4"  G1/2"  
 PF 1/4"  PF 3/8"  PF 1/2"  NPT1/4"  NPT1/2"  
 Flush 1/2"  Flush 3/4"  Flush 1"  
 40A Flange  50A Flange  80A Flange  100A Flange  
 Sanitary Diaphragm \_\_\_\_\_  Other \_\_\_\_\_  
Electrical Connection  Terminal  DIN 43650  M12 Connector  Cable(1,5 m)  
Local Display Unit  None  LCD  LED

## Process Conditions

Process Media \_\_\_\_\_  
Operating Temperature \_\_\_\_\_  
Humidity \_\_\_\_\_  
Vibration \_\_\_\_\_  
Explosion Protection  Required  No required  
Weather Protection  Required  No required

# Pressure Range Code

| CODE  | kgf/cm <sup>2</sup> | bar           | psi          | MPa      |
|-------|---------------------|---------------|--------------|----------|
| 0001  | 0~1                 | 0~1           | 0~15         | 0~0.1    |
| 0003  | 0~3                 | 0~3           | 0~45         | 0~0.3    |
| 0005  | 0~5                 | 0~5           | 0~70         | 0~0.5    |
| 0006  | 0~6                 | 0~6           | 0~90         | 0~0.6    |
| 0010  | 0~10                | 0~10          | 0~150        | 0~1      |
| 0015  | 0~15                | 0~15          | 0~200        | 0~1.5    |
| 0020  | 0~20                | 0~20          | 0~300        | 0~2      |
| 0025  | 0~25                | 0~25          | 0~350        | 0~2.5    |
| 0030  | 0~30                | 0~30          | 0~450        | 0~3      |
| 0035  | 0~35                | 0~35          | 0~500        | 0~3.5    |
| 0050  | 0~50                | 0~50          | 0~700        | 0~5      |
| 0070  | 0~70                | 0~70          | 0~1000       | 0~7      |
| 0100  | 0~100               | 0~100         | 0~1500       | 0~10     |
| 0200  | 0~200               | 0~200         | 0~3000       | 0~20     |
| 0250  | 0~250               | 0~250         | 0~3500       | 0~25     |
| 0300  | 0~300               | 0~300         | 0~4500       | 0~30     |
| 0350  | 0~350               | 0~350         | 0~5000       | 0~35     |
| 0500  | 0~500               | 0~500         | 0~7000       | 0~50     |
| 0700  | 0~700               | 0~700         | 0~10000      | 0~70     |
| 1000  | 0~1000              | 0~1000        | 0~15000      | 0~100    |
| 2000  | 0~2000              | 0~2000        | 0~28000      | 0~200    |
| V0000 | -76~0 cmHg          | -1013~0 mbar  | -30~0 inHg   | -0.1~0   |
| V0001 | -76 cmHg~1          | -1013 mbar~1  | -30 inHg~15  | -0.1~0.1 |
| V0002 | -76 cmHg~2          | -1013 mbar~2  | -30 inHg~30  | -0.1~0.2 |
| V0003 | -76 cmHg~3          | -1013 mbar~3  | -30 inHg~45  | -0.1~0.3 |
| V0004 | -76 cmHg~4          | -1013 mbar~4  | -30 inHg~60  | -0.1~0.4 |
| V0006 | -76 cmHg~6          | -1013 mbar~6  | -30 inHg~90  | -0.1~0.6 |
| V0010 | -76 cmHg~10         | -1013 mbar~10 | -30 inHg~150 | -0.1~1   |
| V0015 | -76 cmHg~15         | -1013 mbar~15 | -30 inHg~200 | -0.1~1.5 |
| V0020 | -76 cmHg~20         | -1013 mbar~20 | -30 inHg~300 | -0.1~2   |
| L0600 | 0~600 mmH2O         | 0~60 mbar     | 0~0.9        | 0~0.006  |
| L1000 | 0~1000 mmH2O        | 0~100 mbar    | 0~1.5        | 0~0.01   |
| L2000 | 0~2000 mmH2O        | 0~200 mbar    | 0~3          | 0~0.02   |
| L3000 | 0~3000 mmH2O        | 0~300 mbar    | 0~4.5        | 0~0.03   |
| L4000 | 0~4000 mmH2O        | 0~400 mbar    | 0~5.5        | 0~0.04   |
| L5000 | 0~5000 mmH2O        | 0~500 mbar    | 0~7          | 0~0.05   |
| 00000 | Other Range         |               |              |          |

# P601 Series Local Display Smart Pressure Transmitter



## Feature

- High reliability smart pressure transmitter with local display for industrial application
- from 0~0.01 to 500 MPa
- Advanced piezoresistive or SOS silicon sensitive pressure sensor
- Long term stability
- Customized LCD display with backlight
- Ex d II C T6 / KGS
- HART Communication(Optional)
- 의장등록 제30-0366814호

## Applications

*The P601 series pressure transmitter is ideal for measurements which require a local display and a need to communicate with remote data acquisition equipment in industrial applications.*

- Hydraulic and pneumatic system
- Regulation system of transmission line LPG and LNG
- Machine tools and automatic machinery
- Oil and off-shore industry
- Equipments for chemical petrochemical industry
- Automation system and plant engineering

### Input

|                    |  |
|--------------------|--|
| Technology         | Advanced piezoresistive or SOS silicon pressure sensor   |
| Pressure range     | 0 ~ 0.01 to 500 MPa Gauge, Vacuum or Compound pressure<br>0 ~ 0.1 to 3.5 MPa Absolute pressure |
| Pressure reference | Gauge, including vacuum and compound and absolute  |
| Overload pressure  | 1.5 times of F.S. (Max. 500 MPa)   |

### Output

|                            | Current output                | Voltage output        |     |
|----------------------------|-------------------------------|-----------------------|-----|
| Electrical connection type | 2-wire technique              | 3 or 4 Wire technique |     |
| Full scale output signal   | 20 mA                         | ± 0.03 %              | 5 V |
| Zero measured output       | 4 mA                          | ± 0.01 %              | 1 V |
| Local display              | Customized LCD with backlight |                       |     |

### Electrical Specifications

|                          |                                     |
|--------------------------|-------------------------------------|
| Power supply             | 12~36 V DC (It is not free voltage) |
| Load resistance max@24 V | 500 Ω at 24 V                       |
| Power ripple             | ≤500 mV P-P                         |
| Insulation resistor      | ≥20 MΩ, 25 V DC                     |

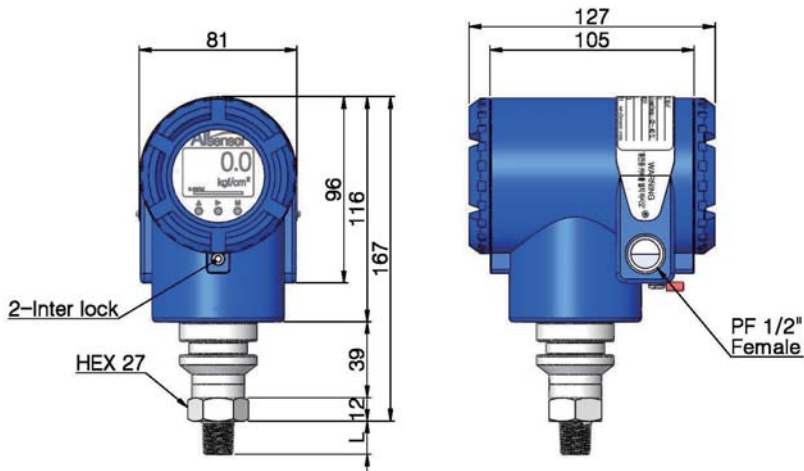
### Performance Specifications

|  |   |
|--|---|
| Accuracy                               | ≤ ± 0.25 % F.S. (> 100 Mpa ± 0.5 % F.S.)      |
| Non-linearity                          | ± 0.05 % F.S. typical                         |
| Repeatability                          | ± 0.02 % F.S. typical                         |
| Pressure hysteresis                    | ± 0.02 % F.S. typical                         |
| Long term stability                    | ± 0.05 % F.S. over 1 year                     |
| Response time(10 % to 90 %)            | ≤ 20 ms                                       |
| Reference temperature                  | 25 °C   |
| Working temperature range(Process)     | -40 ~ 120 °C                                  |
| Compensated temperature range(Process) | -10 ~ 80 °C                                   |
| Ambient temperature range              | -20 ~ 60 °C                                   |
| Thermal sensitivity shift              | ≤ ± 0.05 % F.S. in reference to 35 °C typical |
| Thermal zero shift                     | ≤ ± 0.05 % F.S. in reference to 35 °C typical |

**Physical Specifications**

|                      |  |
|----------------------|--|
| Process connection   | Rc(PT) 3/8" (M) standard (>100 Mpa M20 x 1.5p)<br>Other connections available on request   |
| Process media        | Gases and liquids compatible with STS 316L   |
| Materials            | Wetted parts : STS 316L<br>Housing & rear cover : Aluminum Die-casting(Al-remainder, Si-10.682<br>Fe-0.722, Cu-2.102, Mn-0.177, Mg-0.246, Sn-0.028, Ni-0.035,<br>Zn-0.978, Ti-0.017, Zr-0.001, Pb-0.005)<br>Front cover : Aluminum Die-casting<br>& Tempered glass adhesion assembly(Cemented joint, Loctite243) |
| Enclosure rating     | IP67   |
| Explosion protection | Exd II C T6 (방호장치 의무안전인증 / 고용노동부고시 제2013-54호)  |
| Vibration            | 0.1 g(1/M/s/s) Maximum   |
| Weight               | Approx.(1,5 kg)  |

**Dimension(mm)**

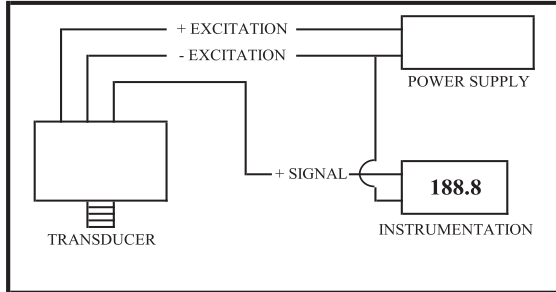


**Ordering Information**

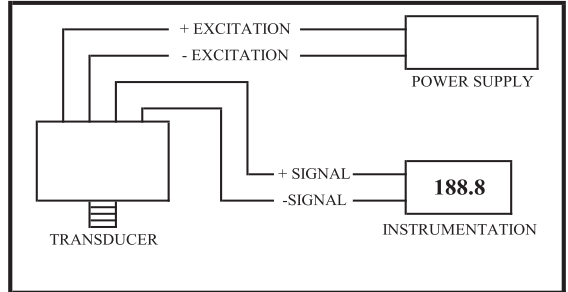
|  |          |          |          |          |          |   |          |          |          |   |          |   |          |  |
|--|----------|----------|----------|----------|----------|---|----------|----------|----------|---|----------|---|----------|--|
| <b>P</b>   | <b>6</b> | <b>0</b> | <b>1</b> | <b>G</b> | <b>H</b> | <b>0</b>  | <b>0</b> | <b>1</b> | <b>0</b> | <b>M</b>  | <b>P</b> | <b>E</b>  | <b>T</b> |  |
| <p><b>Model Name</b><br/>P601 :<br/>Local Display Smart<br/>Pressure Transmitter</p> |          |          |          |          |          | <p><b>Pressure Range</b><br/>Refer to pressure range code</p> |          |          |          | <p><b>Pressure Unit</b><br/>M : MPa    H : mmH2O<br/>B : bar    G : mmHg<br/>P : psi    T : torr<br/>K : kgf/cm<sup>2</sup></p> |          | <p><b>Process Connection</b><br/>A : PT3/8"    G : M20 x 1.5P<br/>B : PF3/8"    L : NPT 1/4"<br/>C : PT1/4"    M : NPT 3/8"<br/>D : PF1/4"    N : NPT 1/2"<br/>E : PT1/2"    V : VCR1/4"<br/>F : PF1/2"    W : VCR1/2"<br/>O : Others</p> |          |  |
| <p><b>Pressure Type</b><br/>A : Absolute<br/>G : Gauge</p>                           |          |          |          |          |          | <p><b>Out Put</b><br/>H : 2Wire 4-20 mA</p>                   |          |          |          | <p><b>Pressure Sensor</b><br/>P : Piezo-Resistive<br/>H : SOS<br/>T : Tantalum Diaphragm</p>                                    |          | <p><b>Electrical Cable Entry</b><br/>T : G(PF) 1/2" Female</p>  |          |  |

# Pressure Transducer & Transmitter

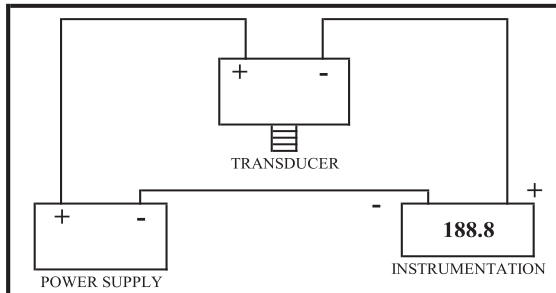
## Installation and Wiring



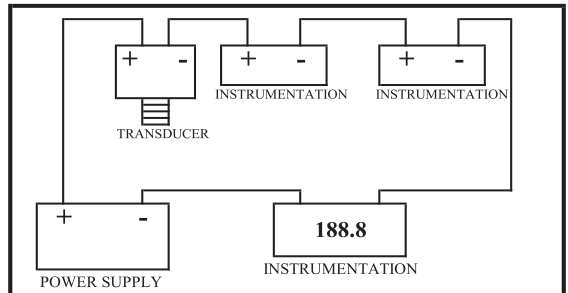
**3Wire Configuration for voltage output Transducer**  
 ("-"Excitation and "-"Signal Are Common)



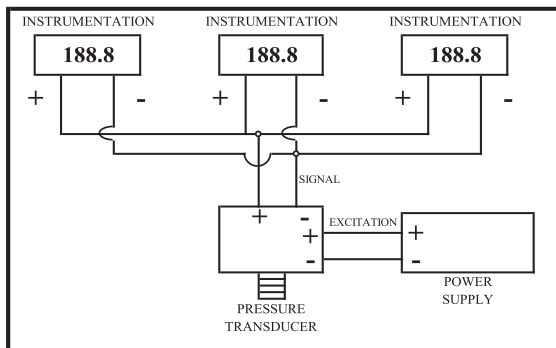
**4Wire Configuration Millivolt Output Transducer**



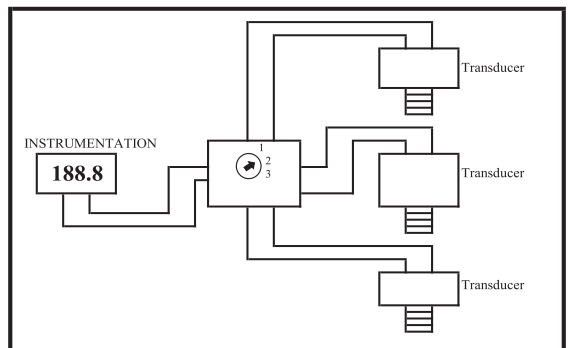
**2Wire Configuration for Current output Transducer**



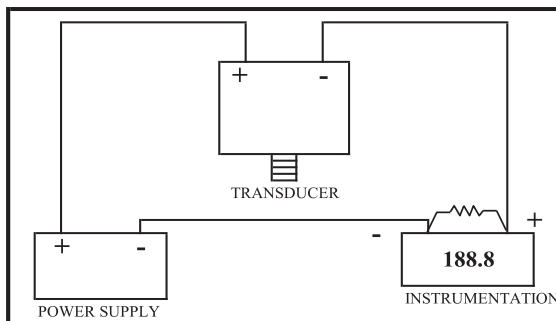
**Multi-instrument 4-20mA Current Loop**  
 (Panel Meters, Chart Recorder, Computers, etc)



**Multiple Instruments Wired In Parallel to a Voltage Output**



**Multiple Transducer Wired to One Meter and One Switch**  
 (Transducer With Built-in Zero & Span Adjustments, Same outputs & Same Pressure Range)



**Converting Current Into Voltage For Instrumentation Set Up For Voltage**