

# Digital Pressure Sensor

## Series GS40

### Specifications

| Model                       | GS40-M5   | GS40-01 | GS40-02 |
|-----------------------------|---|---------|---------|
| Fluid                       | Air/Inert gas   |         |         |
| Hysteresis                  | 3% F.S. (Full span) or less                               |         |         |
| Accuracy                    | ±3% F.S. (5 to 40°C), ±5% F.S. (-5 to 60°C)               |         |         |
| Voltage                     | 12 to 24 VDC (Ripple ±10% or less)                        |         |         |
| Output                      | Open collector 30 V, 80 mA or less                        |         |         |
| Operating display           | Light turns ON when pressure drops below the set minimum. |         |         |
| Current consumption         | 15 mA (24 VDC when ON) or less                            |         |         |
| Max. operating pressure     | 0.98 MPa  |         |         |
| Operating temperature range | -5 to 60°C (No freezing)                                  |         |         |
| Sampling frequency          | 4 Hz  |         |         |
| Bracket                     | 15501   | —       | —       |
| Port size                   | M5 x 0.8 (Female thread)                                  | R 1/8   | R 1/4   |
| Weight (g)                  | 42  | 54      | 57      |

#### Multiple features

Pressure sensor and switch in one compact body; Economical use of space; Simplified operation; Combined functions.

#### Pressure switch with digital display and self-contained solid state sensor

#### Minimum allowable pressure indicator on digital display

#### Set pressure display

- SET---Push button

Normally, the LCD displays line pressure. When the SET button is pressed the set pressure is displayed. At this time, the user is capable of determining the difference between the line and set pressure.

#### Double alarm display

When LINE pressure is within 10% of the current minimum allowable setting, the ARROW at the lower left corner of the LCD flashes.

#### Fault alarm indicator light

- ALM---Alarm LED

When pressure drops below the current minimum allowable, this red LED illuminates.

#### Simplified pressure setting

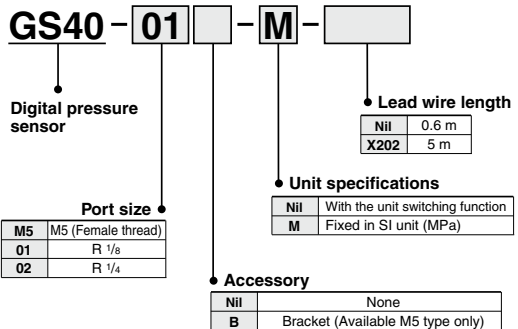
- P.SET---Pressure setting trimmer

Push button: If the SET is pressed, set pressure will be displayed digitally, enabling to set pressure over looking at it visually.

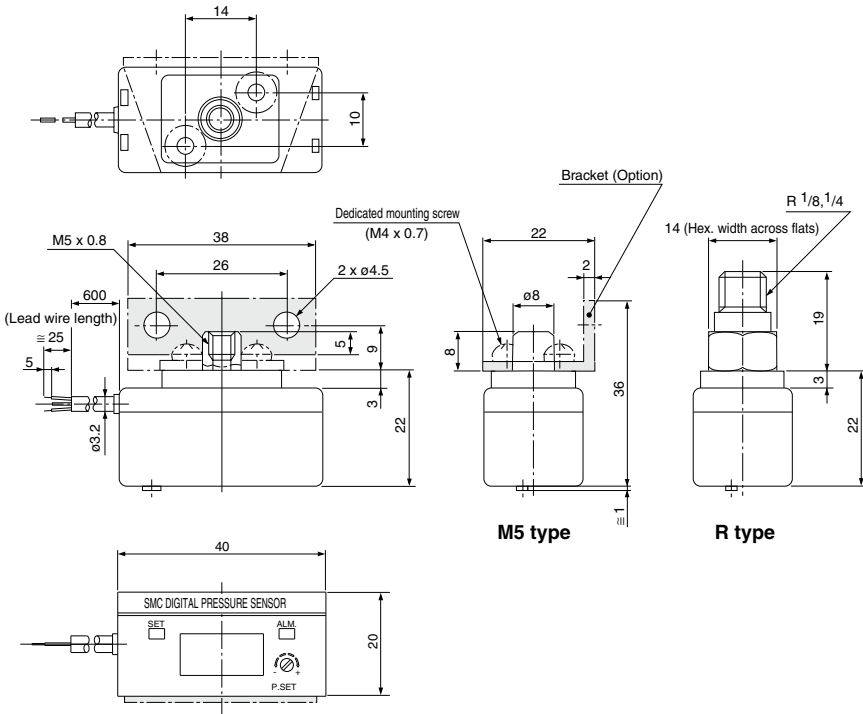
#### A variety of installation options

Screw included.....M5, R 1/8, R 1/4  
Mounting bracket--- M5 type only

### How to Order



**Dimensions**



|            |
|------------|
| <b>G</b>   |
| <b>GS</b>  |
| <b>PPA</b> |



# Series GS40 Specific Product Precautions

Be sure to read this before handling.  
Refer to front matter 56 for safety Instructions.

## Wiring

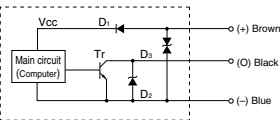
### ⚠ Warning

1. Remove energy source from the switch while wiring. When it is short-circuited, built-in micro-computer receives damage.
2. If the black wire (output wire) comes in contact with the power supply or is shorted, the built-in output transistors will burn out, leading to malfunction.
3. Do not apply tensile power to the power cord. This will cause damage.
4. Maximum allowable load current is 80 mA. Be sure to not exceed 80 mA.

### ⚠ Caution

#### 1. Internal circuit and example of wiring

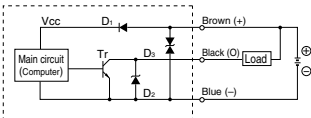
##### Circuit



- Brown wire — Connect to DC source (+) (positive) to enable switch operation.  
Black wire — Connect (Switch output) to PLC Input Terminal or DC relay, or other lead.  
Blue wire — Connect to DC source (-) (negative) to enable switch operation.
- D<sub>1</sub> — Protection diode  
D<sub>2</sub> — Surge suppressor (Surge absorbing diode)  
D<sub>3</sub> — Surge suppressor (Surge absorbing diode)  
Tr — Output transistor

#### Example of wiring

Relay, example of wiring for resistant load, etc.



## Mounting and Piping

### ⚠ Caution

1. Mounting orientation is available either horizontally or vertically.
2. Be sure to hold the main body when handling.
3. Do not drop or strike body. Excessive impact may damage the switch inside.
4. During installation or removal of the sensor, use a wrench on the Hex width across flats for R threads. For M5 thread, use it on the rectangular parts beneath the body. If force is applied to the top of the body or resin case, damage may be caused to internal parts of the switch.
5. Do not touch the LCD indicator face of the pressure switch during operation. Static electricity will cause malfunction or damage to the internal parts.

## Pressure Setting

### ⚠ Caution

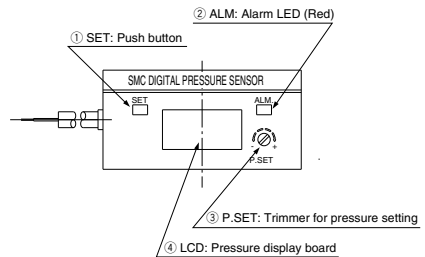
#### 1. Pressure setting

While pressing ① SET, turn pressure-setting slotted screw ③ "P.SET" (counterclockwise to decrease) and watch the LCD. When the LCD shows the correct figure, stop turning "P.SET" and release the SET button. Set pressure is displayed on the pressure display panel ④ LCD. (Turning clockwise increases the pressure).

#### 2. Alarm display

When line pressure drops to within 10% of established minimum allowable pressure, the LCD arrow indicator (on the front side) flashes to indicate the condition. When line pressure drops below the established minimum pressure the red alarm LED labeled ② ALM (on the front side) comes ON and is continuously illuminated while the low pressure condition exists.

3. Keep within the maximum operating pressure range. If more pressure than the maximum allowable operating pressure is applied, LCD displays "OF" and then it cannot be used. In that case, reset the pressure and the power source one more time.



## Operating Environment

### ⚠ Warning

1. Do not use in locations where there is splashing or spraying of oils and solvents. Since this unit is open type, if water or oil, etc. make an ingress etc., the internal circuit may be corroded and result in a malfunction or damage.
2. Ground the piping when induction noise is expected to be generated from piping. When the noise is expected from power wire or high pressure wire, install the switch away from the noise.
3. Operating fluid is restricted to air and inert gas. Liquid cannot be used.
4. Absolutely never use in an atmosphere where explosive liquid or gases are used.

Unit does not have explosion-proof construction. If used in an atmosphere of explosive gases, there is a possibility of causing an explosion.