

Button-Type Pressure Sensor 200°C Heat-Resistant Spec Version Supplementary Instruction Material

1. Introduction

The button-type pressure sensor 200°C heat-resistant spec version is a specially designed product by improving its heat resistance up to 200°C from the conventional SSB series' 150°C. Because of the characteristics of a strain gauge used in this product, however, the sensitivity fluctuates depending on the temperature of the installation environment (※). As in the past, the sensitivity classification labeled on the sensor can be set in the measurement software and measuring amplifier. However, in order to perform more accurate measurements, it is necessary to make the setting according to the installation environment. This document explains how to make this setting.

※Installation environment temperature: means operating ambient temperature of the place in which button-type pressure sensor chassis is installed.

2. Setting method

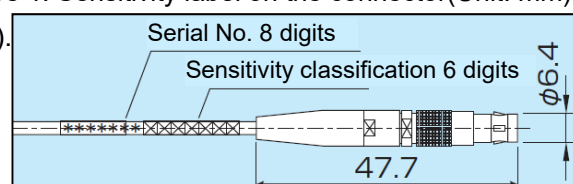
2-1. Check the sensitivity classification of 6 digits (figure at right).

2-2. Calculate the setting value of sensor sensitivity.

Table 1. Conversion factor

| Operating temperature (°C) | Factor | Operating temperature (°C) | Factor |
|----------------------------|--------|----------------------------|--------|
| 25 | 0.999 | 115 | 1.008 |
| 30 | 0.999 | 120 | 1.008 |
| 35 | 0.999 | 125 | 1.009 |
| 40 | 1.000 | 130 | 1.011 |
| 45 | 1.000 | 135 | 1.012 |
| 50 | 1.000 | 140 | 1.013 |
| 55 | 1.000 | 145 | 1.014 |
| 60 | 1.001 | 150 | 1.015 |
| 65 | 1.001 | 155 | 1.017 |
| 70 | 1.001 | 160 | 1.018 |
| 75 | 1.002 | 165 | 1.019 |
| 80 | 1.002 | 170 | 1.021 |
| 85 | 1.003 | 175 | 1.022 |
| 90 | 1.004 | 180 | 1.024 |
| 95 | 1.004 | 185 | 1.026 |
| 100 | 1.005 | 190 | 1.027 |
| 105 | 1.006 | 195 | 1.029 |
| 110 | 1.007 | 200 | 1.031 |

Figure 1. Sensitivity label on the connector(Unit: mm)



Calculation example)

<Assumptions for calculation example>

- Pressure sensor sensitivity classification 71200A
- Operating ambient temperature 190°C (The factor at this time is 1.027 shown in the above table)

<Calculation>

Use “1200” of 71200A, and “1.027”, the factor of 190°C operating temperature shown in the above Table 1.

$$1200 \div 1.027 \doteq 1168$$

Apply this calculated 1168 to the location of 1200 which was used for the calculation, and change the sensitivity classification to be set in the software or amplifier for measurements as follows.

(Before conversion) → (After conversion)
71200A → 71168A

2-3. Setting the Sensor Sensitivity

Enter the converted sensor sensitivity value by following Section 4-4-2 “Setting Sensor Sensitivity” on Page 24 in Pressure measuring amplifier MPS08 Instruction Manual or Section 4-1 “Setting Pressure Sensor Sensitivity” on Page 12 in Pressure measuring amplifier MPV04 Instruction Manual.

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3. About Measuring Amplifier & Measurement Software

When using the Button-type Pressure Sensor 200°C Heat-Resistant Spec Version, please use the following or later versions of measurement software.

<In the case of using the MPS08 amplifier>

| | |
|--------------------------------------|-----------------|
| PC side measurement software version | Ver.11.10.38 |
| MPS08 amplifier firmware version | Ver.00.00.42.00 |

<In the case of using MPV04 amplifier>

| | |
|----------------------------------|---------------|
| MPV04 amplifier firmware version | Ver. 01.04.00 |
|----------------------------------|---------------|

4. How to check the latest software version

Please visit the following Web site.

http://www.futaba.co.jp/precision/mold_marshall/software