

# Temperature Calibration Certificate

Model : ACTW-CAD  
 Serial No. : 0681  
 Date : November 04, 2022  
 Location : Production Section  
 Method : Calibration equation is determined from fifth order regression of samples of the reference temperature against A/D values. Samples are taken at approximately 0, 5, 10, 15, 20, 25, 30, and 35 °C.

## 1. Equation

$$\text{Instrument temperature}[\text{°C}] = A+B \times N+C \times N^2+D \times N^3+E \times N^4+F \times N^5 \quad N: \text{A/D value}$$

## 2. Coefficients

A = -7.346412e+00      D = +3.274107e-13  
 B = +1.144861e-03      E = -4.074187e-18  
 C = -1.377010e-08      F = +2.945153e-23

## 3. Calibration results

| Reference temperature [°C] | A/D value | Instrument temperature [°C] | Residual error [°C] | Acceptance [°C] | OK/NG |
|----------------------------|-----------|-----------------------------|---------------------|-----------------|-------|
| 0.100                      | 7004.1    | 0.100                       | 0.000               | ±0.005          | OK    |
| 5.081                      | 12197.6   | 5.081                       | 0.000               | ±0.005          | OK    |
| 10.022                     | 17644.2   | 10.021                      | -0.001              | ±0.005          | OK    |
| 15.100                     | 23419.6   | 15.101                      | 0.001               | ±0.005          | OK    |
| 20.019                     | 29041.3   | 20.018                      | -0.001              | ±0.005          | OK    |
| 25.016                     | 34658.2   | 25.017                      | 0.001               | ±0.005          | OK    |
| 29.987                     | 40032.7   | 29.987                      | 0.000               | ±0.005          | OK    |
| 34.935                     | 45082.9   | 34.935                      | 0.000               | ±0.005          | OK    |

## 4. Verification

Criteria of judgement : Residual error of the instrument temperature at arbitrary point is within the acceptance value.

| Reference temperature [°C] | Instrument temperature [°C] | Residual error [°C] | Acceptance [°C] | Judgement |
|----------------------------|-----------------------------|---------------------|-----------------|-----------|
| 12.636                     | 12.635                      | -0.001              | ±0.008          | Passed    |

Examined

*T. Souma*

Approved

*M. Ujinaki*

JFE Advantech Co., Ltd.