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Client :

INNOWAVE

Certificate No: Z19-60223

## CALIBRATION CERTIFICATE

Object DAE4 - SN: 871

Calibration Procedure(s) FF-Z11-002-01

Calibration Procedure for the Data Acquisition Electronics

(DAEx)

Calibration date: June 27, 2019

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Process Calibrator 753	1971018	24-Jun-19 (CTTL, No.J19X05126)	Jun-20

Calibrated by:

Name Function Yu Zongying SAR Test Engineer

Reviewed by:

Zhao Jing SAR Test Engineer

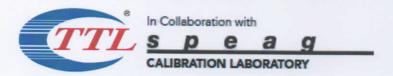
Approved by:

Qi Dianyuan SAR Project Leader

Issued: June 29, 2019

Signature

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Glossary:

DAE data acquisition electronics

Connector angle information used in DASY system to align probe sensor X

to the robot coordinate system.

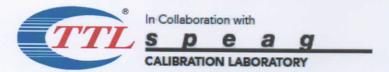
Methods Applied and Interpretation of Parameters:

 DC Voltage Measurement: Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.

- Connector angle: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.

Certificate No: Z19-60223

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## **DC Voltage Measurement**

A/D - Converter Resolution nominal

High Range:  $1LSB = 6.1 \mu V$ , full range =  $-100...+300 \ mV$ Low Range:  $1LSB = 61 \ nV$ , full range =  $-1.....+3 \ mV$ DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	Х	Y	Z
High Range	404.719 ± 0.15% (k=2)	404.706 ± 0.15% (k=2)	405.146 ± 0.15% (k=2)
Low Range	3.98180 ± 0.7% (k=2)	3.93711 ± 0.7% (k=2)	3.96917 ± 0.7% (k=2)

## **Connector Angle**

Connector Angle to be used in DASY system	90° ± 1 °
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Certificate No: Z19-60223