



In Collaboration with
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CALIBRATION LABORATORY



中国认可
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CALIBRATION
CNAS L0570

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Client : **SRTC**

Certificate No: **Z21-60307**

CALIBRATION CERTIFICATE

Object **DAE4 - SN: 546**

Calibration Procedure(s) **FF-Z11-002-01**
Calibration Procedure for the Data Acquisition Electronics (DAEx)

Calibration date: **August 25, 2021**

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)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
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Process Calibrator 753	1971018	15-Jun-21 (CTTL, No.J21X04465)	Jun-22
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	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: August 27, 2021

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.



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DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = -100...+300 mV

Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	405.359 $\pm$ 0.15% (k=2)	404.103 $\pm$ 0.15% (k=2)	404.210 $\pm$ 0.15% (k=2)
Low Range	3.98630 $\pm$ 0.7% (k=2)	3.95606 $\pm$ 0.7% (k=2)	3.97757 $\pm$ 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	246° $\pm$ 1 °
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Client : **SRTC**

Certificate No: **Z21-60354**

CALIBRATION CERTIFICATE

Object

DAE4 - SN: 720

Calibration Procedure(s)

FF-Z11-002-01

Calibration Procedure for the Data Acquisition Electronics
(DAEx)

Calibration date:

October 08, 2021

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)°C 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	15-Jun-21 (CTTL, No.J21X04465)	Jun-22

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: October 10, 2021

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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.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = $6.1\mu\text{V}$, full range = -100...+300 mV

Low Range: 1LSB = 61nV , full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	$403.342 \pm 0.15\% (k=2)$	$404.760 \pm 0.15\% (k=2)$	$403.216 \pm 0.15\% (k=2)$
Low Range	$3.93457 \pm 0.7\% (k=2)$	$3.95294 \pm 0.7\% (k=2)$	$3.95511 \pm 0.7\% (k=2)$

Connector Angle

Connector Angle to be used in DASY system	$297^\circ \pm 1^\circ$
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Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **SRTC (Auden)**

Certificate No: **AM1DV2-1021_Oct21**

CALIBRATION CERTIFICATE

Object **AM1DV2 - SN: 1021**

Calibration procedure(s) **QA CAL-24.v4**
Calibration procedure for AM1D magnetic field probes and TMFS in the audio range

Calibration date: **October 06, 2021**

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)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	31-Aug-21 (No. 31368)	Aug-22
Reference Probe AM1DV2	SN: 1008	15-Dec-20 (No. AM1DV2-1008_Dec20)	Dec-21
DAE4	SN: 781	23-Dec-20 (No. DAE4-781_Dec20)	Dec-21

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
AMCC	SN: 1050	01-Oct-13 (in house check Oct-20)	Oct-23
AMMI Audio Measuring Instrument	SN: 1062	26-Sep-12 (in house check Oct-20)	Oct-23

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: October 6, 2021

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