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DASY - DOSIMETRIC ASSESSMENT SYSTEM

CALIBRATION REPORT

DATA ACQUISITION ELECTRONICS

MODEL: **DAE3**

SERIAL NUMBER: **306**

This Data Acquisition Unit was calibrated and tested using a FLUKE 702 Process Calibrator. Calibration and verification were performed at an ambient temperature of 23 ± 5 °C and a relative humidity of < 70%.

Measurements were performed using the standard DASY software for converting binary values, offset compensation and noise filtering. Software settings are indicated in the reports.

Results from this calibration relate only to the unit calibrated.

Calibrated by: **P. Merian**

Calibration Date: **26.08.97**

DASY Software Version: **DASY3-V1.0**

1. DC Voltage Measurement

DA - Converter Values from DAE

High Range: 1LSB = 7.6 μ V, full range = 500 mV
 Low Range: 1LSB = 76nV, full range = 5 mV

Software Set-up: Calibration time: 3 sec Measuring time: 3 sec

Setup	X	Y	Z
High Range	505.28485	505.7655	505.4
Low Range	4.9372625	4.98295	4.982145
Connector Position	0°		

High Range	Input	Reading in μ V	% Error
Channel X + Input	20mV	20000.72	0.00
	200mV	200001.4	0.00
Channel X - Input	20mV	-19998.4	-0.01
	200mV	-199999.5	0.00
Channel Y + Input	20mV	19999.57	0.00
	200mV	199999.5	0.00
Channel Y - Input	20mV	-20003.73	0.02
	200mV	-200001.3	0.00
Channel Z + Input	20mV	19998.57	-0.01
	200mV	200001.3	0.00
Channel Z - Input	20mV	-20001.49	0.01
	200mV	-200001.3	0.00

Low Range	Input	Reading in μ V	% Error
Channel X + Input	0.2mV	199.8658	-0.07
	2mV	2000.079	0.00
Channel X - Input	0.2mV	-200.1584	0.08
	2mV	-2000.143	0.01
Channel Y + Input	0.2mV	199.5524	-0.22
	2mV	2000.143	0.01
Channel Y - Input	0.2mV	-200.7035	0.35
	2mV	-2000.104	0.01
Channel Z + Input	0.2mV	199.1585	-0.42
	2mV	2000.104	0.01
Channel Z - Input	0.2mV	-200.7008	0.35
	2mV	-2000.104	0.01

2. Common mode sensitivity

Software Set-up

Calibration time: 3 sec

Measuring time: 3 sec

in μ V	Common mode Input Voltage	High Range Reading	Low Range Reading
Channel X	200mV	10.40376	8.131552
	-200mV	-6.094974	-7.459704
Channel Y	200mV	3.241344	2.555174
	-200mV	-5.136086	-4.340172
Channel Z	200mV	-9.87421	-8.023036
	-200mV	4.804124	5.501433

3. Channel separation

Software Set-up

Calibration time: 3 sec

Measuring time: 3 sec

in μ V	Input Voltage	Channel X	Channel Y	Channel Z
Channel X	200mV	-	-1.062639	-0.4528275
Channel Y	200mV	-0.3449799	-	3.869797
Channel Z	200mV	-3.575336	-1.064617	-

4. AD-Converter Values with inputs shorted

in LSB	Low Range	High Range
Channel X	14244.75	12798.61
Channel Y	13617.35	12743.51
Channel Z	12823.23	12659.57

5. Input Offset Measurement

Measured after 15 min warm-up time of the Data Acquisition Electronic.
Every Measurement is preceded by a calibration cycle.

Software set-up:

Calibration time: 3 sec

Measuring time: 3 sec

Number of measurements: 100

Input 10M Ω

in μ V	Average	min. Offset	max. Offset	Std. Deviation
Channel X	-4.63125	-6.72206	-3.27729	0.431957
Channel Y	-2.2037	-3.03105	-0.40726	0.343979
Channel Z	-1.42055	-2.18257	0.180368	0.528036

Input shorted

In μ V	Average	min. Offset	max. Offset	Std. Deviation
Channel X	-0.28877	-1.4806	0.80312	0.241033
Channel Y	-0.96241	-2.33718	-0.14049	0.341344
Channel Z	-1.05598	-1.97981	-0.56406	0.19261

6. Input Offset Current

in fA	Input Offset Current
Channel X	< 25
Channel Y	< 25
Channel Z	< 25

7. Input Resistance

	Calibrating	Measuring
Channel X	200 k Ω	200M Ω
Channel Y	200 k Ω	200M Ω
Channel Z	200 k Ω	200M Ω

8. Low Battery Alarm Voltage

in V	Alarm Level
Supply (+ Vcc)	7.8V
Supply (- Vcc)	-7.6V

9. Power Consumption

in mA	Switched off	Stand by	Transmitting
Supply (+ Vcc)	0.006	5.1	13.8
Supply (- Vcc)	-0.008	-8.3	-9.44

10. Functional test

Touch async pulse 1	nc
Touch async pulse 2	nc
Touch status bit 1	ok
Touch status bit 2	ok
Remote power off	ok
Remote analog Power control	ok

Date: 26.2.97

Signature: *[Handwritten Signature]*