

DASY - DOSIMETRIC ASSESSMENT SYSTEM

CALIBRATION REPORT

DATA ACQUISITION ELECTRONICS

MODEL: DAE3 V1

SERIAL NUMBER: 322

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: M.Bruggmann

Calibration Date: 31.12.97

DASY Software Version: DASY3 V1.0a

1. DC Voltage Measurement

DA - Converter Values from DAE

High Range: 1LSB = $7.6\mu\text{V}$, 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	505.7575	505.41	505.9225
Low Range	4.95165	4.939525	4.979075
Connector Position	110°		

High Range	Input	Reading in μV	% Error
Channel X + Input	200mV	200001	0.00
	20mV	20002.8	0.01
Channel X - Input	20mV	-19999.6	0.00
Channel Y + Input	200mV	200000	0.00
	20mV	20000.9	0.00
Channel Y - Input	20mV	-20002.3	0.01
Channel Z + Input	200mV	200000	0.00
	20mV	20003.1	0.02
Channel Z - Input	20mV	-20000	0.00

Low Range	Input	Reading in μV	% Error
Channel X + Input	2mV	2000.04	0.00
	0.2mV	199.784	-0.11
Channel X - Input	0.2mV	-200.753	0.38
Channel Y + Input	2mV	2000.17	0.01
	0.2mV	198.891	-0.55
Channel Y - Input	0.2mV	-201.35	0.67
Channel Z + Input	2mV	1999.9	0.00
	0.2mV	199.459	-0.27
Channel Z - Input	0.2mV	-201.24	0.62

2. Common mode sensitivity

Software Set-up

Calibration time: 3 sec, Measuring time: 3 sec

Low/High Range

in μV	Common mode Input Voltage	High Range Reading	Low Range Reading
Channel X	200mV	10.6458	8.11049
	- 200mV	-7.52593	-8.80445
Channel Y	200mV	2.77096	1.74226
	- 200mV	-4.62126	-3.96747
Channel Z	200mV	2.33392	1.04693
	- 200mV	-2.38279	-3.44739

3. Channel separation

Software Set-up

Calibration time: 3 sec, Measuring time: 3 sec

High Range

in μV	Input Voltage	Channel X	Channel Y	Channel Z
Channel X	200mV	-	1.76361	-0.118691
Channel Y	200mV	2.30225	-	2.60122
Channel Z	200mV	-3.40601	-1.47267	-

4. AD-Converter Values with inputs shorted

in LSB	Low Range	High Range
Channel X	13074	12448
Channel Y	12829.9	12444.6
Channel Z	11583.8	12596.6

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, Low Range

Input 10M Ω

in μ V	Average	min. Offset	max. Offset	Std. Deviation
Channel X	-0.40045	-1.27585	0.195834	0.254749
Channel Y	-0.64842	-1.28513	0.124686	0.29496
Channel Z	-1.12127	-2.23713	-0.40703	0.269582

Input shorted

in μ V	Average	min. Offset	max. Offset	Std. Deviation
Channel X	-0.83035	-1.55355	-0.12397	0.283752
Channel Y	0.640006	-0.14782	1.588	0.243942
Channel Z	-0.75032	-1.46387	-0.08725	0.304108

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)	7.9 V
Supply (- Vcc)	-7.6V

9. Power Consumption

in mA	Switched off	Stand by	Transmitting
Supply (+ Vcc)	0.006	5.6	13.6
Supply (- Vcc)	-0.009	-8.1	-9.2

10. Functional test

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

Date: 31-12-97

Signature: *[Handwritten Signature]*