



Version 1.0

**TECHNICAL
NOTE**

2.4 GHz PROCESS-SENSORS RECALIBRATION PROCESS



DOCUMENT

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UPDATES

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1. TECHNICAL SUPPORT

For general contact, technical support, to report documentation errors and to order manuals, contact ***Beanair Technical Support Center*** (BTSC) at:

tech-support@Beanair.com

For detailed information about where you can buy the Beanair equipment/software or for recommendations on accessories and components visit:




www.Beanair.com

To register for product news and announcements or for product questions contact Beanair's Technical Support Center (BTSC).

Our aim is to make this user manual as helpful as possible. Keep us informed of your comments and suggestions for improvements.

Beanair appreciates feedback from the users of our information.

2. VISUAL SYMBOLS DEFINITION

<i>Symbols</i>	<i>Definition</i>
	<i><u>Caution or Warning</u></i> – Alerts the user with important information about Beanair wireless sensor networks (WSN), if this information is not followed, the equipment /software may fail or malfunction.
	<i><u>Danger</u></i> – This information MUST be followed if not you may damage the equipment permanently or bodily injury may occur.
	<i><u>Tip or Information</u></i> – Provides advice and suggestions that may be useful when installing Beanair Wireless Sensor Networks.

3. ACRONYMS AND ABBREVIATIONS

<i>AES</i>	Advanced Encryption Standard
<i>CCA</i>	Clear Channel Assessment
<i>CSMA/CA</i>	Carrier Sense Multiple Access/Collision Avoidance
<i>GTS</i>	Guaranteed Time-Slot
<i>kSps</i>	Kilo samples per second
<i>LLC</i>	Logical Link Control
<i>LQI</i>	Link quality indicator
<i>LDCDA</i>	Low duty cycle data acquisition
<i>MAC</i>	Media Access Control
<i>PAN</i>	Personal Area Network
<i>PER</i>	Packet error rate
<i>RF</i>	Radio Frequency
<i>SD</i>	Secure Digital
<i>WSN</i>	Wireless sensor Network

4. HOW TO CALIBRATE THE BEANDEVICE® AN-XX

4.1 USED EQUIPEMENT

- CALYS multifunction calibrator, you can use any other calibrator brand



- Connector



- BeanDevice® AN-XX



4.2 CALIBRATION PROCESS

1. Connect the BeanDevice® channel to the Calibrator output:

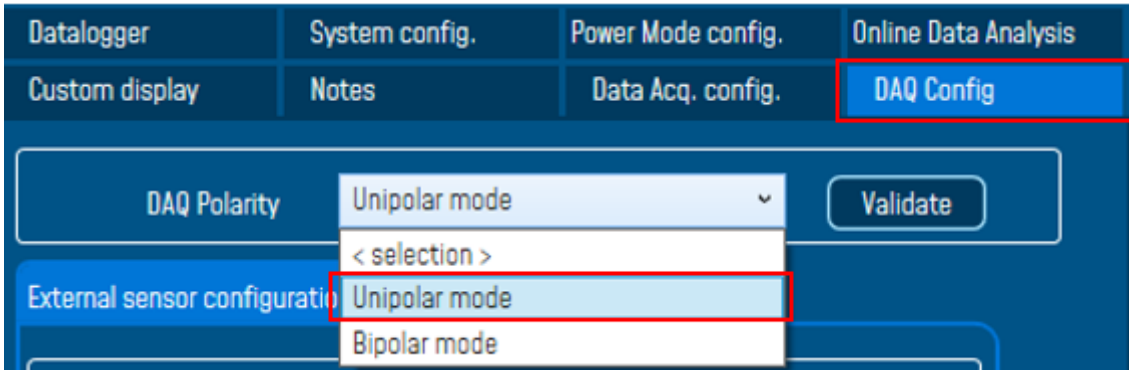
Sens+ to V

Sens- to COM

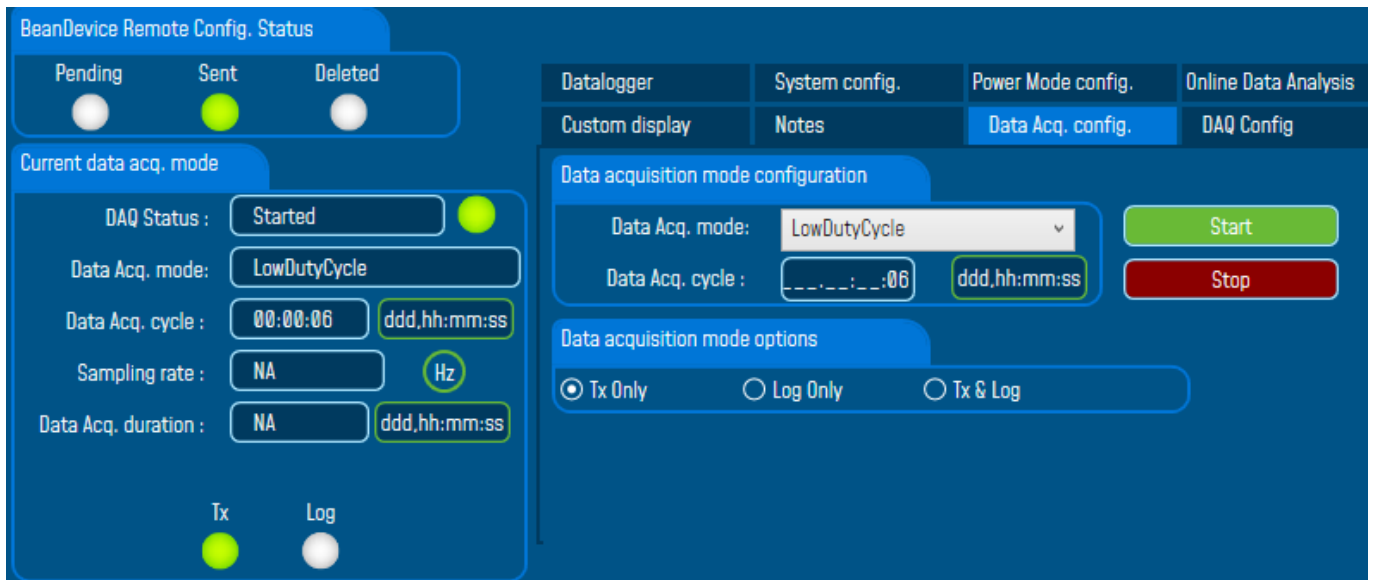


2. Enter 1V from the Calibrator and press Enter to validate.

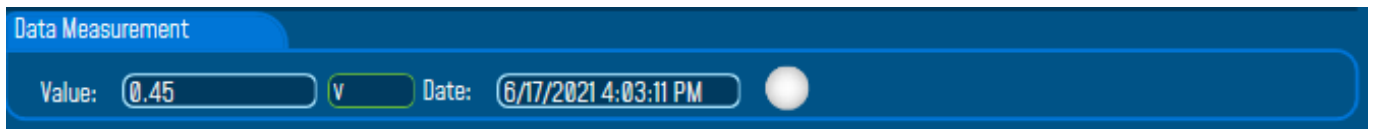
3. From BeanScope® software choose Unipolar mode as DAQ Polarity.



4. Configure the BeanDevice on LowDutyCycle mode with 6s data acquisition cycle.



5. Select the sensor profile used in the calibration and copy the displayed value from the measurement data frame.



6. Paste the value in the Excel sheet in front of the corresponding injected value.



CH0		Bipolar	Unipolar	Injected value (Volts)
sample1				1
sample2				4
Ratio		#DIV/0!	#DIV/0!	
offset		#DIV/0!	#DIV/0!	

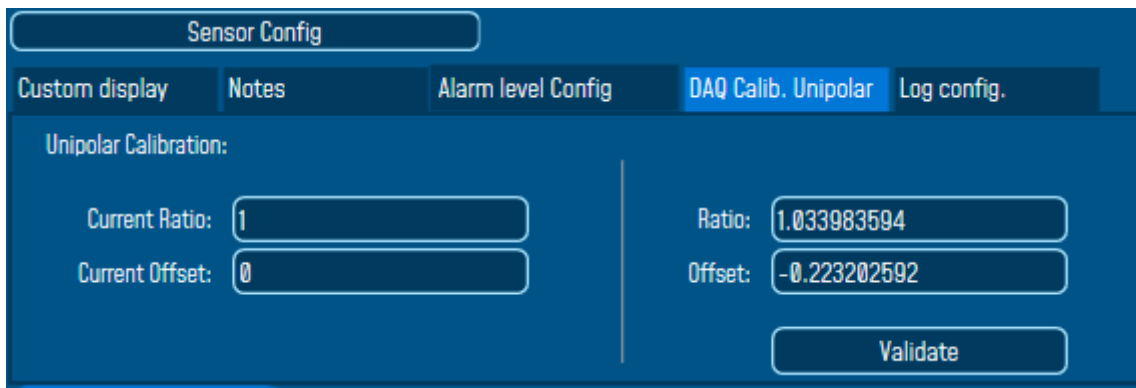
The ratio will be automatically displayed in the Excel sheet.

7. Redo the same steps above with the second injected value (4V), and inject the obtained value in the corresponding Excel field.

8. Copy the obtained Ratio and Offset values in the Excel sheet.

CH0		Bipolar	Unipolar	Injected value (Volts)
sample1			1.1893	1
sample2			4.0914	4
Ratio		#DIV/0!	1.033734192	
offset		#DIV/0!	-0.229420075	

9. On the BeanScape® software, go to DAQ Calibration Unipolar and paste the values in the Ratio & Offset fields.



10. Redo the same instructions for the Bipolar Configuration.