

WIRELESS DATA LOGGER WITH ANALOG INPUTS ($\pm 5V$ OR $\pm 10V$)

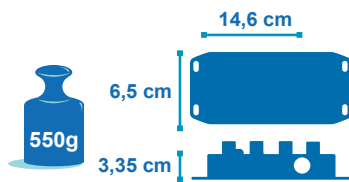
//APPLICATIONS

2 year
Warranty



TimeSync

made
in
Germany



FEATURED VIDEO

- [BeanDevice® AN-V Main presentation Video](#)
- [BeanDevice® AN-V Configuration Video](#)
- [BeanDevice® AN-V Wireless Range Video](#)

USER MANUAL

- [BeanDevice® ProcessSensor user manual](#)

SELECTION GUIDE

- [BeanDevice® ProcessSensor selection guide](#)

MECHANICAL DRAWING

- [BeanDevice® AN-V drawing](#)

// MAIN FEATURES



Analog inputs $\pm 5V$ or $\pm 10V$
(4 channels)



Wireless transmission IEEE 802.15.4 with
antenna diversity



Integrated sensor power supply, software
configurable 4.5V to 20V



Integrated rechargeable Lithium-Ion
battery



Embedded data logger up to 1 million
data points

//EMBEDDED DATA LOGGER UP TO 1 MILLION DATA POINTS

The BeanDevice® AN-V integrates an embedded data logger, which can be used to log data when a Wireless Sensor Networks can not be easily deployed on your site. All the data acquisitions are stored on the embedded flash and then transmitted to the BeanGateway® whenever a Wireless Sensor Network is established.

The Datalogger function is compatible with all the data acquisition mode available on your BeanDevice® AN-V :

- LowDutyCycle Data Acquisition
- Alarm
- Streaming & Streaming packet

EXAMPLE : DATA ACQUISITION SYSTEM FOR TECHNICAL BUILDING MANAGEMENT

- The BeanDevice® AN-V is configured with its Datalogger feature. A standalone installation of the BeanDevice® AN-V will be done (mounted on the walls), without the necessity for any connection to the BeanGateway®.
- Once the sensors are connected, each data is recorded on the embedded flash.
- When needed a technician working on the site can send a request for a log transmission. Then the BeanDevice® AN-V starts sending all its logs. If all the logs are successfully transmitted to the BeanGateway®, the flash memory is erased and new logs will be recorded.



For further information about the Datalogger, please read the following technical note : [TN_RF_007 – “BeanDevice® DataLogger User Guide”](#)

// REMOTE CONFIGURATION & MONITORING
BeanScape® Basic

The **BeanScape®** application allows the user to view all the data measurements transmitted by the **BeanDevice® AN-V**. With the **OTAC** (Over-the-Air configuration) feature, the user can remotely configure the **BeanDevice® AN-V**.

SEVERAL DATA ACQUISITION MODES ARE AVAILABLE ON THE BEANDEVICE® AN-V :

- **Low Duty Cycle Data Acquisition mode (LDCDA)** : the data acquisition is immediately transmitted by radio. The transmission frequency can be configured from 1s to 24h.
- **Alarm Mode** : the measured value is transmitted by radio whenever an alarm threshold (fixed by the user) is detected (4 alarms threshold levels High/Low).
- **Survey Mode** : operates like the Alarm mode but the device sends frequently a beacon frame informing its current status.
- **Streaming Packet Mode** : All measured values are transmitted by packet within a continuous flow at 400 samples per second maximum.
- **Streaming Mode** : all measured values are transmitted in real-time within a continuous flow at 100 samples per second maximum.

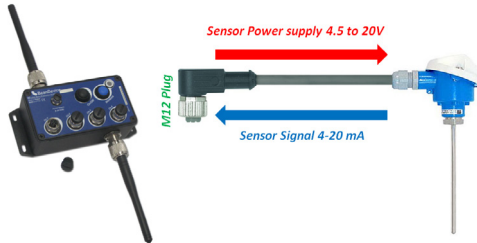
BeanScape® Premium+ Add-on

The **BeanScape® Premium+** integrates an **OPC DA** server (Data Access). **OPC DA** is particularly well suited for real time measurement and data sharing. Each data/measurement can be associated to a tag or its attributes and shared with one or many **OPC** clients.



For further information about the different data acquisition modes:
[TN_RF_008 – “Data acquisition modes available on the BeanDevice®”](#)

//CONFIGURABLE SENSOR POWER SUPPLY



The sensor is directly powered by a high accuracy and adjustable DC/DC converter integrated inside the device. The excitation voltage is remotely configurable through the **BeanScape®** (4.5 to 20V).

Product Reference

BND-ANV-NCH-MR

N - Number of data acquisition channels:

4 : 4 channels

MR - Measurement Range

- **5** : $\pm 5V$ measurement range , - **10** : $\pm 10V$ measurement range

Example : BND-ANV-4CH-5 , **BeanDevice® AN-V with four channels , measurement range: $\pm 5V$**

Analog data acquisition block specifications

Signal Conditioning	Analog low voltage measurement
Number of channels	4 Channels
A/D Converter	16 bits - SAR Architecture (Successive Approximation Register) with temperature compensation
Measurement range (analog polarity is configurable from the BeanScape®)	BND-ANV-NCH-5 - IEEE-BT: $\pm 5V$ (bipolar) or 0-10 V (unipolar) BND-ANV-NCH-10 - IEEE-BT: $\pm 10V$ (bipolar) or 0-20 V (unipolar)
Non-linearity error	± 0.5 LSB
Measurement accuracy(@25°C)	< 0,1% when plugged on external power supply < 0,08% when operating on battery power
Sensor Connector	M12-5Pins coming with an IP rating IP67 Nema 6

Sensor wiring code (M12 Socket)

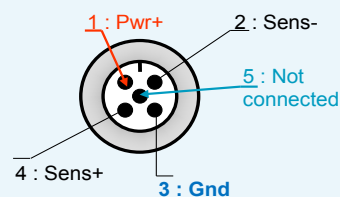
Caption

Pwr+ : sensor power supply (4.5 to 20 Volts)

Gnd : electrical ground

Sens+ : sensor signal + input

Sens- : Not used



Sensor Power Supply specifications

Excitation voltage range	4.5 Volts to 20Volts , configurable from the BeanScape® software
Excitation voltage accuracy on full scale range(@25°C)	$\pm 0.1\%$
Maximum Output Power (@25°C)	2 Watts

Over-the-air configuration (OTAC) parameters

Data Acquisition mode	<ul style="list-style-type: none"> • Low Duty Cycle Data Acquisition (LDCDA) Mode: 1s to 24 hour • Alarm & Survey mode: 1s to 24 hour • Streaming Packet Mode: 400 SPS maximum • Streaming Mode: 100 SPS maximum
Sampling Rate (SPS = samples per second)	Minimum: 1 SPS Maximum: 400 SPS maximum on each channel
Alarm Threshold	2 high levels alarms & 2 low levels alarms
Sensor power supply	4.5 to 20 Volts
Analog Input polarity	Bipolar or Unipolar
Power Mode	Sleeping, Sleeping with Network Listening & Active
TX Power	-7 dBm/ -1 dBm/ +5 dBm/ +11 dBm/ +15 dBm/ +18 dBm

RF Specifications

Wireless Protocol Stack	IEEE 802.15.4 (2006 version)
WSN Topology	Point-to-Point / Star
Data Rate	250 Kbits/s
RF Characteristics	ISM 2.4GHz - 16 Channels
TX Power	+0 dBm to +18 dBm
Receiver Sensitivity	-95.5 dBm to -104 dBm
Maximum Radio Range	1 Km (L.O.S)
Antenna diversity	2 omnidirectional N-Type antenna , gain of 2.2 dBi , IP67 Nema 6

Embedded Data Logger

Storage Capacity	up to 1 million data points
Wireless data downloading	3 minutes to download the full memory (average time)

Environmental and Mechanical

Enclosure	Aluminium, Watertight IP65 – Fire Protection : ULV94/Getex Enclosure dimensions (without antenna) L x W x H : 146.05 mm x 65.5mm x 33.5 mm
Shock Resistance	10g during 50ms
Operating Temperature	-20 °C to +65 °C
Norms	CE Labelling Directive R&TTE (Radio) ETSI EN 300 328 ROHS - Directive 2002/95/EC



Power Supply	
Integrated battery charger	Integrated Lithium-ion battery charger with high precision battery monitoring : <ul style="list-style-type: none"> · Overvoltage Protection, Overcurrent/Short-Circuit Protection, Undervoltage Protection · Battery Temperature monitoring · Current accumulation measurement
Current consumption @ 3,3V	<ul style="list-style-type: none"> · During data acquisition : 70mA to 130mA (depends on external sensor power supply) · During Radio transmission : 60 mA @ 0dBm · During sleeping: < 30 µA
External power supply	External power supply : +8v to +28v
Rechargeable battery	Lithium-Ion high density rechargeable battery capacity of 950 mAh

	Option(s)
Power-supply bloc	Wall plug-in, Switchmode power Supply 12V @ 1,25A with sealed M8 Plug (IP67 Nema 6)
Calibration Certificate	Calibration certificate linked to national and international standards (COFRAC)

//GETTING STARTING WITH A WIRELESS SENSOR NETWORK

DESCRIPTION	STARTERKIT REFERENCE
Starterkit Wireless System acquisition BeanDevice AN-mV 1 x <u>BeanGateway Ethernet (Indoor version), Ref. : BGTW-ETH-IND</u> 1 x <u>BeanDevice AN-V, Ref. : BND-AN-MV-4CH-IEEE</u> 1 x <u>Beanscape Basic, Ref. : BNSC_BASIC</u>	SK_BND_ANV_4CH_IND
Starterkit Wireless System acquisition BeanDevice AN-mV 1 x <u>BeanGateway Ethernet (Outdoor version), Ref. : BGTW-ETH-OUT</u> 1 x <u>BeanDevice AN-V, Ref. : BND-AN-MV-4CH-IEEE</u> 1 x <u>Beanscape Basic, Ref. : BNSC_BASIC</u>	SK_BND_ANV_4CH_OUT

The BeanDevice® AN-V operates only on our Wireless Sensor Networks, you will need the BeanGateway® and the BeanScape® for starting a wireless sensor networks.



OR



**OPC server is only on the Beanscape® Premium+



Product specifications are subject to change without notice. Contact Beanair for latest specifications.

**//CONTACT US**

FOR MORE INFORMATION :

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