

SELF-POWERED WIRELESS ANALOG DATA ACQUISITION SYSTEM WITH ANALOG INPUTS (±5V OR ±10V)

2year
Warranty



made
in
Germany

//APPLICATIONS

Featured VIDEO

BeanDevice® AN-V Xtender Main presentation Video

USER MANUAL

BeanDevice® ProcessSensor user manual

SELECTION GUIDE

BeanDevice® ProcessSensor selection guide

//MAIN FEATURES



Analog inputs ±5V or ±10V



Integrated Lithium-thionyl chloride primary cell 6,5Ah



Wireless transmission IEEE 802.15.4 with antenna diversity



Embedded data logger up to 1million data points



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



Extended operating temperature range : -40°C to +85°C

//EMBEDDED DATA LOGGER UP TO 1 MILLION DATA POINTS

The BeanDevice® AN-V Xtender 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 Xtender :

- LowDutyCycle Data Acquisition
- Survey

EXAMPLE : DATA ACQUISITION SYSTEM ON WATER TREATMENT PLANT

- The BeanDevice® AN-V Xtender is configured with its Datalogger feature. A standalone installation of the BeanDevice® AN-V Xtender 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 Xtender 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 informations 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 Xtender. With the OTAC (Over-the-Air configuration) feature, the user can remotely configure the BeanDevice® AN-V Xtender.

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

- **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.
- **Survey Mode** : the measured value is transmitted by radio whenever an alarm threshold (fixed by the user) is detected (4 alarms threshold levels High/Low). Meanwhile, the device sends frequently a beacon frame informing its current status.

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 informations about the data acquisition modes, please read the following technical note : [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 **BeanScope**[®] (4.5 to 20V).

//EASY BATTERY MAINTENANCE

Fully designed for an easy battery maintenance, **BeanDevice**[®] AN-V Xtender integrates a battery holder which is sealed to IP67, extending the applications into harsher external environments where dust or water would inhibit equipment operation.

STEP 1



STEP 2



STEP 3



Product Reference
BND-ANV-XTD-NCH-MR
N - Number of data acquisition channels:
4 : 4 channels

MR - Measurement Range
- 5 : ±5V measurement range , **- 10** : ±10V measurement range

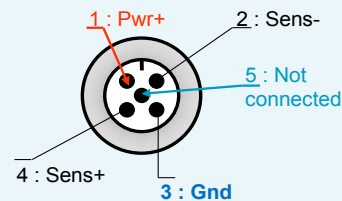
Example : BND-ANV-XTD-4 CH-5 , **BeanDevice® AN-V Xtender with four channels , measurement range: ±5V**
Analog data acquisition block specifications

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-XTD-NCH-5 - IEEE-BT: ±5V (bipolar) or 0-10 V (unipolar) BND-ANV-XTD-NCH-10 - IEEE-BT: ±10V (bipolar) or 0-20 V (unipolar)
Non-linearity error	± 0.5 LSB
Measurement accuracy(@25°C)	< 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)	±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 Survey mode: 1s to 24 hour
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 with Network Listening & Active
TX Power	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	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 l x h : 149.1 mm x 77mm x 60.5 mm Weight: 690 grams
Shock Resistance	10g during 50ms
Operating Temperature	-40 °C to +85 °C
Norms	CE Labelling Directive R&TTE (Radio) ETSI EN 300 328 ROHS - Directive 2002/95/EC

Power Supply

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
Primary cell protection	High precision primary cell monitoring : <ul style="list-style-type: none"> · Overvoltage Protection · Primary cell Temperature monitoring · Current accumulation measurement
Primary cell	Lithium-thionyl chloride 6,5Ah

//GETTING STARTING WITH A WIRELESS SENSOR NETWORK

DESCRIPTION	STARTERKIT REFERENCE
Starterkit Wireless System acquisition BeanDevice AN-V Xtender 1 x <u>BeanGateway Ethernet (Indoor version), Ref. : BGTW-ETH-IND</u> 1 x <u>BeanDevice AN-V Xtender, Ref. : BND-ANV-XTD-4CH</u> 1 x <u>BeanScape Basic, Ref. : BNSC_BASIC</u>	SK_BND_ANV_XTD_4CH_IND
Starterkit Wireless System acquisition BeanDevice AN-V Xtender 1 x <u>BeanGateway Ethernet (Outdoor version), Ref. : BGTW-ETH-OUT</u> 1 x <u>BeanDevice AN-V Xtender, Ref. : BND-ANV-XTD-4CH</u> 1 x <u>BeanScape Basic, Ref. : BNSC_BASIC</u>	SK_BND_ANV_XTD_4CH_OUT

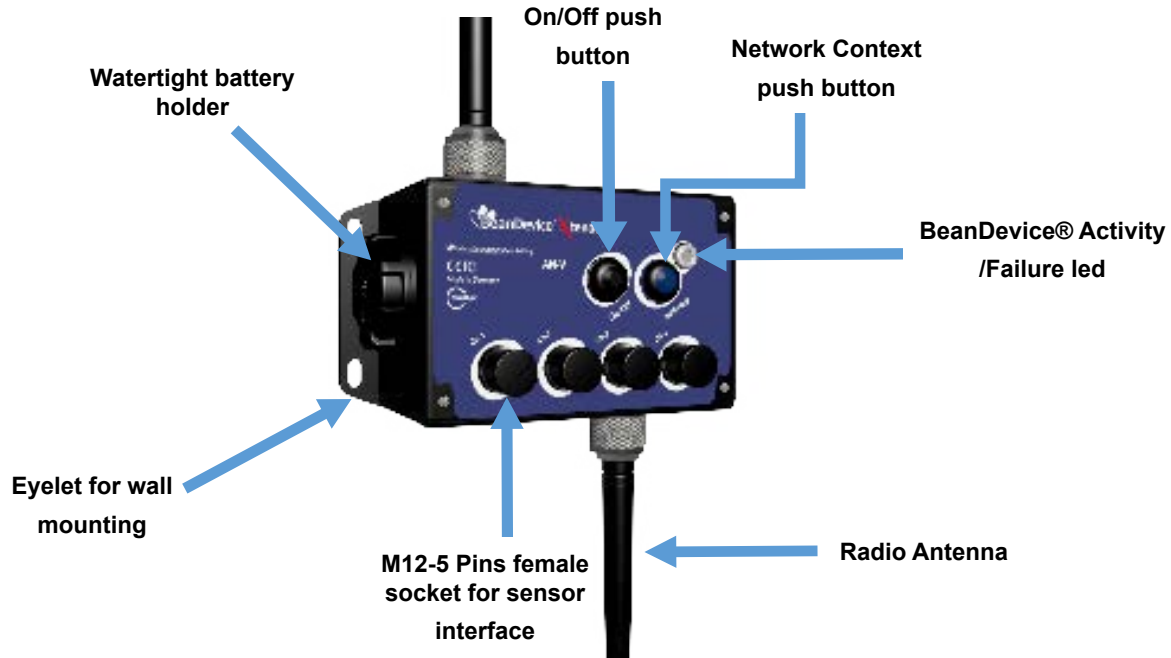
The **BeanDevice® AN-V Xtender** operates only on our Wireless Sensor Networks, you will need the **BeanGateway®** and the **BeanScape®** for starting a wireless sensor networks.



OPC FOUNDATION
**OPC server is only on the BeanScape® Premium+

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

//PRODUCT OVERVIEW



//ACCESSORIES



Power Supply | Ref: M8-PWR-12V

- . Power Supply bloc 12V with M8-3Pins plug
- . Watertight - IP67



Molded Cable with M8 | Ref: CBL-M8-2M

- . 3POLE - MALE, PVC
- . Length : 2meters
- . Watertight - IP67



Omnidirectional antenna 5dBi for outdoor use | Ref: HG_OMNI_5_OUT_DBI

- . Waterproof design
- . Outdoor use
- . Professional N-type design reduces stress
- . N-type, Male, Reverse Polarity,
- . VSWR < 2.0 / Length=95mm
- . Wind survival: up to 180Mph / Watertight IP65



N-Type cable (Male/Male) | Ref: CBL_ANT_XXM

- . length: 1 meter / 2 meters / 5 meters
- . Cable type: RF-5/H155



M12-5 Pins plug for sensor interface | Ref: M12-PL-SENSOR
watertight IP67 - Material: Plastic ABS

M12-5 Pins plug for sensor interface | Ref: M12-AL-SENSOR
watertight IP67 - Material: Aluminum case



Lithium-thionyl chloride primary cell (Li-SOCl₂) 6,5 Ah | Ref: PP6.5DMG

//CONTACT US

FOR MORE INFORMATION :

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Visit our blog : **www.industrial-wsn.com**

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