

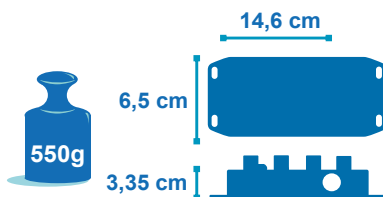
SELF-POWERED WIRELESS DATA LOGGER WITH 4-20mA CURRENT LOOP INPUTS

//APPLICATIONS

2year
Warranty



made
in
Germany



FEATURED VIDEO



BeanDevice® AN-420 Xtender Main presentation Video

USER MANUAL



BeanDevice® ProcessSensor user manual

MECHANICAL DRAWING



BeanDevice® AN-420 Xtender drawing

// MAIN FEATURES



Wireless data logger with 4-20mA current loop inputs (4 channels)



Wireless transmission IEEE 802.15.4 with antenna diversity



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



Integrated Lithium-thionyl chloride primary cell 6,5Ah



Embedded data logger up to 1million data points



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

//EMBEDDED DATA LOGGER UP TO 1 MILLION DATA POINTS

The BeanDevice® AN-420 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-420 Xtender :

- LowDutyCycle Data Acquisition
- Alarm
- Survey

EXAMPLE : DATA ACQUISITION SYSTEM ON WATER TREATMENT PLANT

- The BeanDevice® AN-420 Xtender is configured with its Datalogger feature. A standalone installation of the BeanDevice® AN-420 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-420 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 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-420 Xtender.

With the OTAC (Over-the-Air configuration) feature, the user can remotely configure the BeanDevice® AN-420 Xtender.

SEVERAL DATA ACQUISITION MODES ARE AVAILABLE ON THE BEANDEVICE® AN-420 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.
- **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.

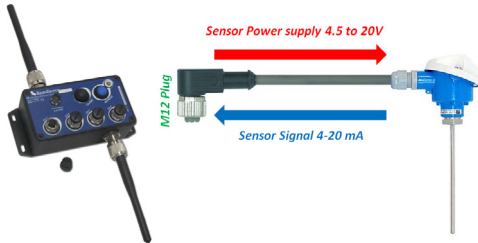
BeanScape® Premium+ Add-on

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).

//EASY BATTERY MAINTENANCE

Fully designed for an easy battery maintenance, [BeanDevice® AN-420 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-AN420-XTD-NCH

N - Number of data acquisition channels:

4 : 4 channels

Example: BND-AN420-4CH

BeanDevice® AN-420 with four channels

Analog data acquisition block specifications

| | |
|------------------------------------|--|
| Signal Conditioning | Analog current loop measurement |
| Number of channels | 4 Channels |
| A/D Converter | 16 bits - SAR Architecture (Successive Approximation Register) with temperature compensation |
| Measurement range | 4-20 mA Current Loop measurement |
| 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)

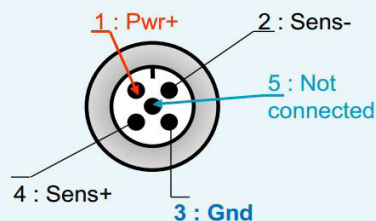
Caption

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 Alarm & Survey mode: 1s to 24 hour |
| Alarm Threshold | 2 high levels alarms & 2 low levels alarms |
| Sensor power supply | 4.5 to 20 Volts |
| 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 | Aluminum, Watertight IP65 – Fire Protection : ULV94/Getex Enclosure dimensions (without antenna) L x W x H : 149.1 mm x 77mm x 60.5 mm Weight : 690 g |
| 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, Overcurrent/Short-Circuit Protection, Undervoltage Protection · Primary cell Temperature monitoring · Current accumulation measurement |
| Primary cell | Lithium-thionyl chloride 6,5Ah |

Option(s)

| | |
|--------------------------------|---|
| 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-420 Xtender 1 x BeanGateway Ethernet (Indoor version), Ref. : BGTW-ETH-IND 1 x BeanDevice AN-420 Xtender, Ref. : BND-AN-420-4CH-XTD 1 x Beanscape Basic, Ref. : BNSC_BASIC | SK_BND_AN420_XTD_4CH_IND |
| Starterkit Wireless System acquisition BeanDevice AN-420 Xtender 1 x BeanGateway Ethernet (Outdoor version), Ref. : BGTW-ETH-OUT 1 x BeanDevice AN-420 Xtender, Ref. : BND-AN-420-4CH-XTD 1 x Beanscape Basic, Ref. : BNSC_BASIC | SK_BND_AN420_XTD_4CH_OUT |

The BeanDevice® AN-420 Xtender operates only on our Wireless Sensor Networks, you will need the BeanGateway® and the BeanScape® for starting a wireless sensor networks.



OR



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

//CONTACT US

FOR MORE INFORMATION :

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