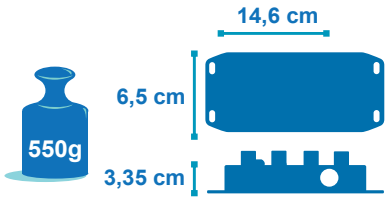
ProcessSensor

WIRELESS ANALOG DATA ACQUISITION SYSTEM WITH ANALOG INPUTS ±20 MV

2year Warranty

TimeSync

made in Germany



//APPLICATIONS

FEATURED VIDEO

- BeanDevice® AN-mV Main presentation Video
- BeanDevice® AN-mV Configuration Video
- BeanDevice® AN-mV Wireless Range Video

USER MANUAL

- BeanDevice® ProcessSensor User Manual

MECHANICAL DRAWING

- BeanDevice® AN-mV Drawing

// MAIN FEATURES

- Analog inputs ±20 mV (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-mV 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-mV :

- LowDutyCycle Data Acquisition
- Survey
- Streaming packet

EXAMPLE : DATA ACQUISITION SYSTEM FOR TECHNICAL BUILDING MANAGEMENT

- The BeanDevice® AN-mV is configured with its Datalogger feature. A standalone installation of the BeanDevice® AN-mV 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-mV starts sending all its logs. If all the logs are sucessfully 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-mV. With the OTAC (Over-the-Air configuration) feature, the user can remotely configure the BeanDevice® AN-mV.

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

- 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.
- Streaming Packet Mode : All measured values are transmitted by packet within a continuous flow at 400 samples per second maximum.

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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.

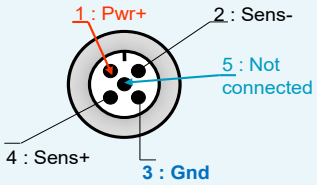
For further informations about the data acquisition modes, please read the following technical note :
TN_RF_008 – "Data acquisition modes available on the BeanDevice®"

//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 BeanScape® (4.5 to 20V).

Product Reference	
BND-AN-MV-NCH	
N - Number of data acquisition channels: **4** : 4 channels	**Example: BND-AN-MV-4CH** BeanDevice® AN-mV with four channels

Analog data acquisition block specifications	
Signal Conditionning	Analog low voltage mV **with voltage-compensated measurement**
Number of channels	4 Channels
A/D Converter	16 bits - SAR Architecture (Successive Approximation Register) with temperature compensation
Measurement range	±20 mV (bipolar) or 0-40 mV (unipolar)
Non-linearity error	± 0.5 LSB
Measurement accuracy(@25°C)	< 0,2% when the BeanDevice® is connected to an external power supply
	< 0,4% when the BeanDevice® operates on battery
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	• Low Duty Cycle Data Acquisition (LDCDA) Mode: 1s to 24 hour • Survey mode: 1s to 24 hour • Streaming Packet Mode: 400 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 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 dowloading	3 minutes to download the full memory (average time)

	Environmental and Mechanical
Enclosure	Aluminium, Watertight IP65 – Fire Protection : ULV94/Getex Enclosure dimensions (w/o antenna) LxWxH: 146.05mm x 65.5mm x 33.5mm
Shock Resistance	10g during 50ms
Operating Temperature	-40 °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 : · Overvoltage Protection · Battery Temperature monitoring · Current accumulation measurement
Current consumption @ 3,3V	· 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)

ProcessSensor

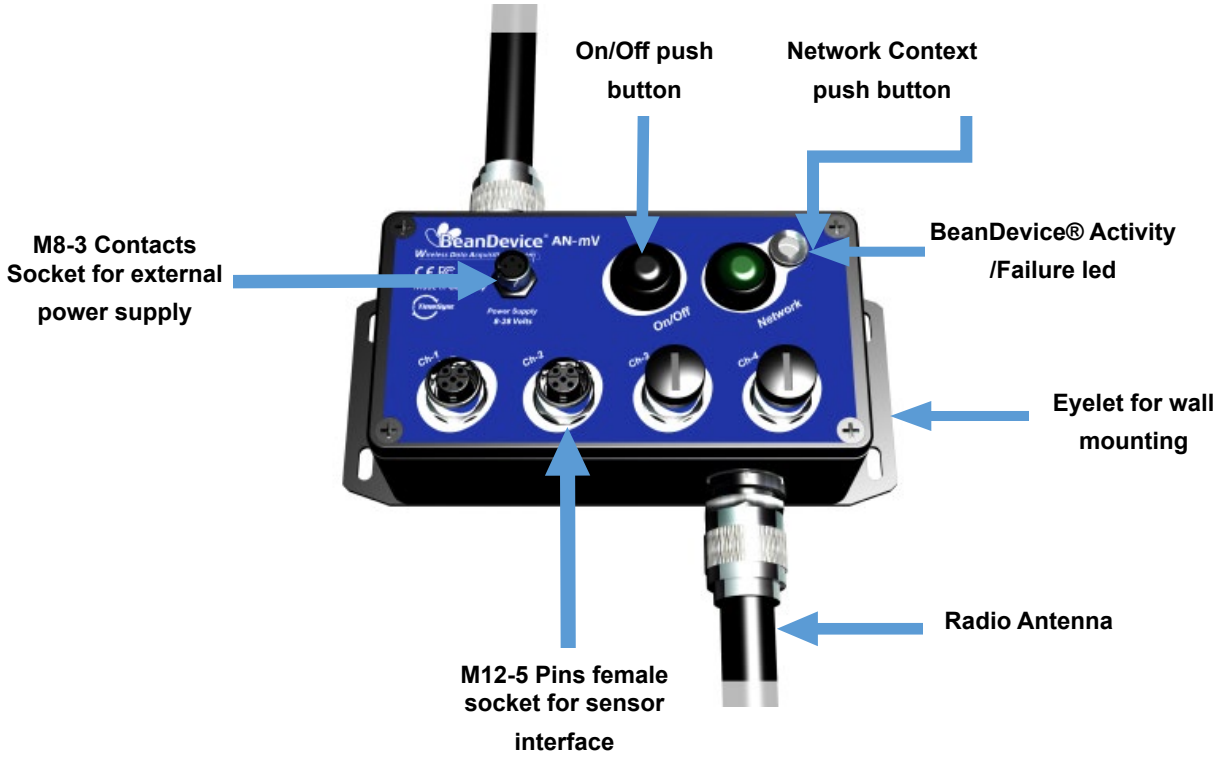
//GETTING STARTING WITH A WIRELESS SENSOR NETWORK

DESCRIPTION	STARTERKIT REFERENCE
Starterkit Wireless System acquisition BeanDevice AN-mV 1 x BeanGateway Ethernet ***(Indoor version), Ref. : BGTW-ETH-IND*** 1 x BeanDevice AN-MV, ***Ref. : BND-AN-MV-4CH-IEEE*** 1 x Beanscape Basic, ***Ref. : BNSC_BASIC***	**SK_BND_ANMV_4CH_IND**
Starterkit Wireless System acquisition BeanDevice AN-mV 1 x BeanGateway Ethernet ***(Outdoor version), Ref. : BGTW-ETH-OUT*** 1 x BeanDevice AN-MV, ***Ref. : BND-AN-MV-4CH-IEEE*** 1 x Beanscape Basic, ***Ref. : BNSC_BASIC***	**SK_BND_ANMV_4CH_OUT**

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

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

Omnidirectiona antenna 5dBi for outdoor use | Ref: HG_OMNI_5_OUT_DBI

. Waterproof design
. Outoor 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

//CONTACT US

FOR MORE INFORMATION :

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

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