



WIRELESS TEMPERATURE & HUMIDITY DATA LOGGER / LOW COST & SMALL SIZE

2year
Warranty



FEATURED VIDEO



BeanDevice® ONE-TH main presentation video

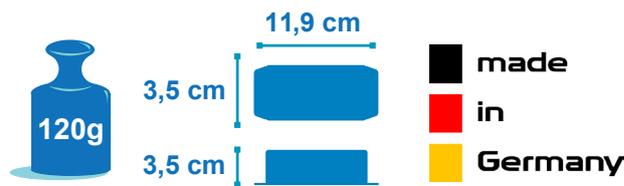


BeanDevice® ONE-TH application video

USER MANUAL



BeanDevice® EcoSensor Products Line user manual



AIR-CONDITIONNING SYSTEM (HVAC)



COLD CHAIN TRACEABILITY



MEDICAL LAB & CLEAN ROOM



AGRICULTURE & FARMING



ENVIRONMENT

// MAIN FEATURES



High accuracy temperature sensor :
- range : -40°C to +75°C
- accuracy : ±0.2°C



High accuracy humidity sensor :
- range : 0 to 100% RH
- accuracy : ±1.8% RH



Embedded data logger :
up to 1 million data points



Ultra-low power technology IEEE 802.15.4
(up to 7-year battery life) Max wireless range: 300m (L.O.S.)



Watertight IP67 polycarbonate enclosure
Weight : 120g,
Size (LxH) : 119x35x35mm



Primary cell capacity: 2200 mAh (AA size)
Lithium-thionyl chloride technology



OPC server allowing real time access from your IT system to the BeanScape® (available on BeanScape® Premium+)



Integrated dew point measurement

//EMBEDDED DATA LOGGER UP TO 1 MILLION DATA POINTS

The **BeanDevice® ONE-TH** 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 acquisition are stored on the embedded flash and then transmitted to the **BeanGateway®** when a Wireless Sensor Networks is established.

The dataLogger function is compatible with all the data acquisition mode available on your **BeanDevice® ONE-TH** :

- LowDutyCycle Data Acquisition
- Survey

EXAMPLE : HVAC MONITORING

- In standalone operation, the **BeanDevice® ONE-TH** stores all the measurements on its embedded datalogger. Thus, a direct connection with the **BeanGateway®** is not needed.
- The temperature & humidity in the HVAC system are monitored and all the acquired measurements are logged on the embedded flash.
- Data logs can be transmitted to the **BeanGateway®** on request. Once a successful transmission is done, the user can choose to erase automatically the logs from the datalogger memory, so new ones can be stored.



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

//DEW POINT MEASUREMENT

The **BeanDevice® ONE-TH**, comes with DewPoint measurement capability which makes it suitable for Greenhouses monitoring.

The dew point is the temperature at which the water vapor in a sample of air at constant barometric pressure condenses into liquid water at the same rate at which it evaporates. When the air temperature cools to the dew point temperature, or if the dew point rises to equal the air temperature, the **BeanDevice® ONE-TH** transmits the information, so the user can prevent the formation of dews.

//REMOTE CONFIGURATION & MONITORING

BeanScape® Basic

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

SEVERAL DATA ACQUISITION MODES ARE AVAILABLE ON THE BEANDEVICE® ONE-TH :



- **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.

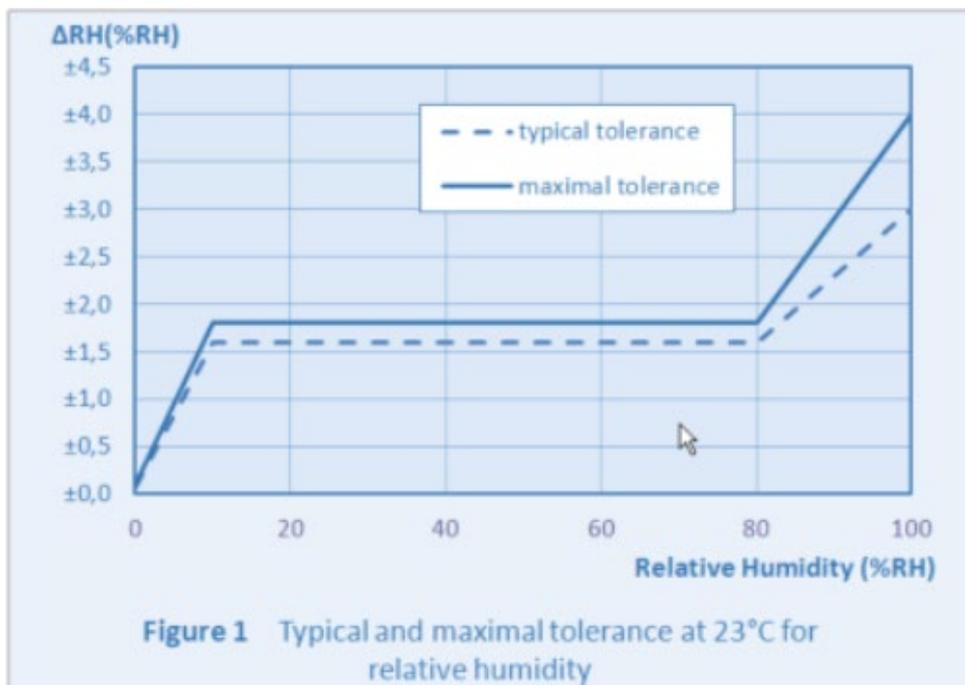
BeanScape® Premium+ Add-on

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.

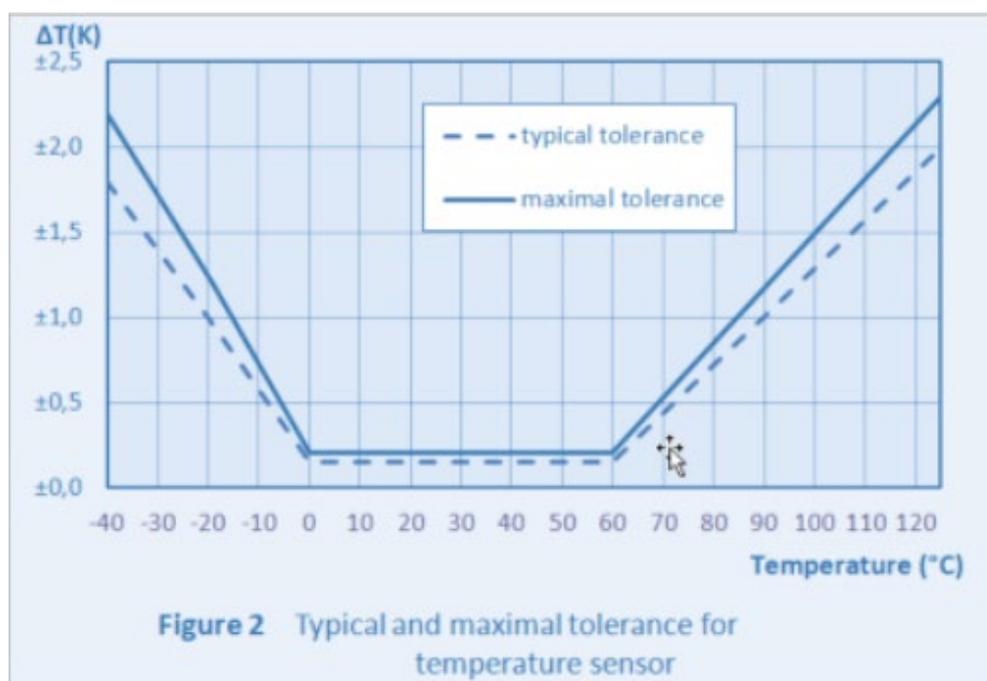


For further informations about the data acquisition modes, please read the following technical note : [TN_RF_008 – “Data acquisition modes available on the BeanDevice®”](#)

// RELATIVE HUMIDITY ACCURACY



// TEMPERATURE MEASUREMENT ACCURACY



Product Reference

BND-ONE-TH – WP

WP – Wireless Protocol
IEEE : IEEE 802.15.4 (2006)

Example : BND-ONE-TH-IEEE , wireless temperature/humidity sensor, wireless protocol IEEE 802.15.4

Sensor filter cap mechanical specifications

Filter cap	Glass grommet and sinter filter
Pressure Resistant	Up to 16 bar
Dew formation resistant	Yes



Temperature sensor specifications

Temperature Sensor technology	Thermistor
Measurement range	- 40°C to +85 °C
Measurement accuracy	±0.2 °C (0 ... 60 °C)
Sensor resolution	0.015 °C
Long term drift	< 0.05 K / year
Response time	< 10s with sensor cap

Humidity sensor specifications

Humidity Sensor Technology	Capacitive polymer humidity sensor
Measurement range	0 to 100% RH
Sensor accuracy (at 23°C)	±1.8% RH (10 ... 80% RH)
Sensor resolution	0.02% RH
Hysteresis (50% rH)	< ±1% RH
Linearity error	< ±1% RH
Response time	<10s with sensor cap
Long term drift	< 0.5 % RH / year

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
Max. Radio Range	300 m (L.O.S)
Antenna	Omnidirectional antenna 2.2dBi


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
Alarm Threshold	2 high levels alarms & 2 low levels alarms
Power Mode	Sleeping with Network Listening & Active
TX Power	18 dBm

Embedded data logger

Storage capacity	up to 1 000 000 data points (500 000 data points per measurement channel)
Wireless data downloading	3 minutes to download the full memory (average time)

Environmental and Mechanical

Enclosure	Polycarbonate, Watertight IP67 Nema 6 – Fire Protection : ULV94 Enclosure dimensions (LxHx) : 119 mm x 35 mm x 35 mm Weight (battery included): 120g
Operating Temperature	-40°C to +75°C
Norms	FCC & CE compliant ROHS - Directive 2002/95/EC

Power supply

Current consumption @3.3 Volts	· During data acquisition : 20 to 30 mA · During Radio transmission : 40 mA @ 5dBm , 70 mA @ 18 dBm · During sleeping : < 10 µA
Included primary cell	Lithium-thionyl chloride battery with 2200 mAh capacity (AA size)

Choose an ultra low power wireless sensor

RF transmission in minutes	Battery life (temperature room 25°C)
Every 2 minutes	22 months
Every 5 minutes	51 months
Every 10 minutes	102 months

//GETTING STARTING WITH A WIRELESS SENSOR NETWORK

DESCRIPTION	STARTERKIT REFERENCE
Starterkit with BeanDevice® ONE-TH + BeanGateway® Indoor 1 x <u>BeanGateway Ethernet (Indoor version), Ref. : BGTW-ETH-IND</u> 1 x <u>BeanDevice ONE-TH, Ref. : BND-ONE-TH</u> 1 x <u>Beanscape Basic, Ref. : BNSC_BASIC</u>	SK_ONE_TH_IND
Starterkit with BeanDevice® ONE-TH + BeanGateway® Outdoor 1 x <u>BeanGateway Ethernet (Outdoor version), Ref. : BGTW-ETH-OUT</u> 1 x <u>BeanDevice ONE-TH, Ref. : BND-ONE-TH</u> 1 x <u>Beanscape Basic, Ref. : BNSC_BASIC</u>	SK_ONE_TH_OUT

The **BeanDevice® ONE-TH** 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*

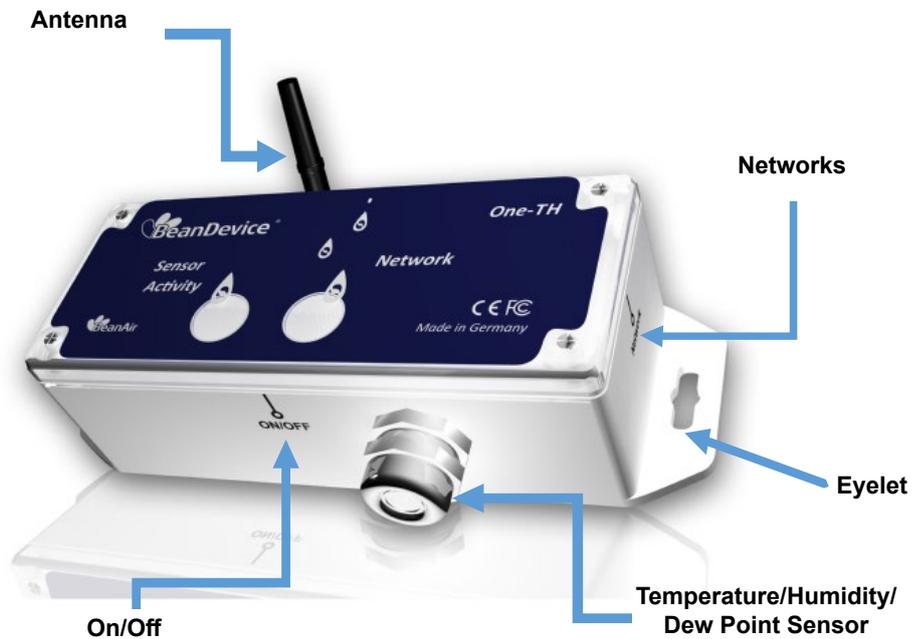


WSN Supervision Software



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

// PRODUCT OVERVIEW



// ACCESSORIES



Lithium-thionyl chloride primary cell (Li-SOCl₂) 2,2 Ah |
Ref: PP1.8DMG



2.2 dBi omnidirectional antenna



// CONTACT US

FOR MORE INFORMATIONS :

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Visit our blog : www.industrial-wsn.com

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