BeanAir
WIRELESS IIOT SENSORS

IOT

BeanDevice® 2.4GHz ONE-Tir

Wireless Industrial IOT Infrared Temperature Sensor | built-in datalogger

2.4 GHz

EcoSensor

2year Warranty

MADE IN GERMANY

CE FC ℝ 001A-08148

120g

35 mm

119 mm

35 mm

MAIN FEATURES

- 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.)

- High precision non-contact temperature measurement (±0,5°C)

- Waterproof IP67 polycarbonate enclosure Weight : 120g / Size (Lxlxh) : 119x35x35mm

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

BeanDevice® 2.4GHz ONE-Tir
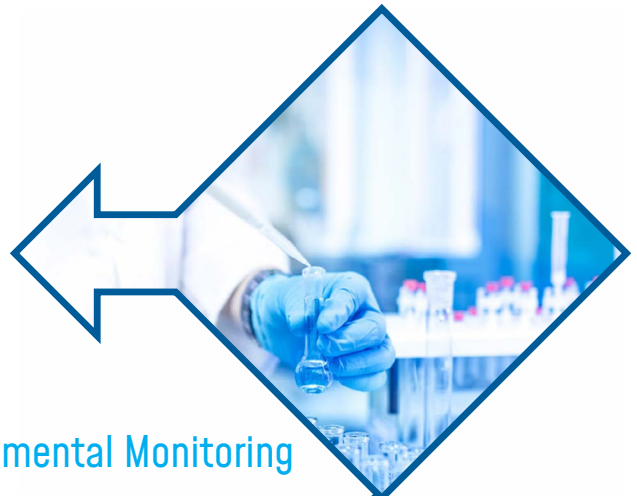
APPLICATIONS

Medical lab & white room

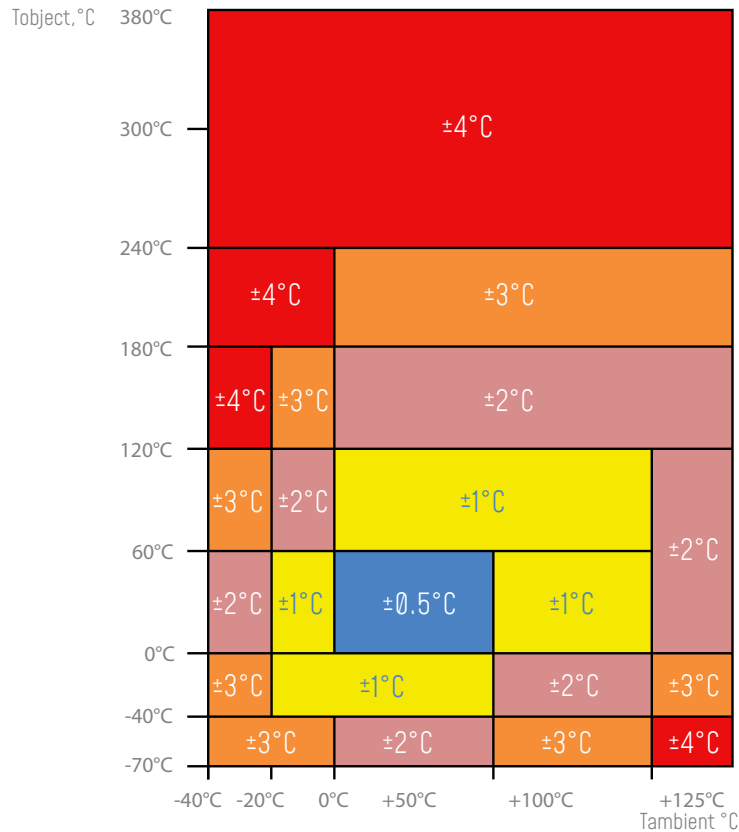Medical lab & white room

Environmental Monitoring

Transport

ADVANTAGES

- Rapid Analysis of the target system
- Highly operational in system with very high temperature
- Adapted for working in Hazardous /Sensible environment
- No risk of contamination and mechanical effect on the target
- High measurement accuracy
- Easy integration

BeanDevice® 2.4GHz ONE-Tir

IR TEMPERATURE SENSOR ACCURACY

Tobject,°C

380°C					
300°C	±4°C				
240°C					
180°C	±4°C	±3°C			
120°C	±4°C	±3°C	±2°C		
60°C	±3°C	±2°C	±1°C		±2°C
0°C	±2°C	±1°C	±0.5°C	±1°C	
-40°C	±3°C	±1°C		±2°C	±3°C
-70°C	±3°C	±2°C	±3°C	±4°C	

-40°C -20°C 0°C +50°C +100°C +125°C
Tambient °C

EMBEDDED DATA LOGGER UP TO 1 MILLION DATA POINTS

The BeanDevice® 2.4GHz ONE-TIR integrates an embedded datalogger, which can be used to log data when a Wireless IIOT Sensors can not be easily deployed on your site. All the data acquisition are stored on the embedded flash and then transmitted to the BeanGateway® 2.4GHz when a network is established.
The dataLogger function is compatible with all the data acquisition mode available on your BeanDevice® 2.4GHz ONE-TIR :

• LowDutyCycle Data Acquisition
• Survey

EXAMPLE : TEMPERATURE MONITORING ON PIPE

• In standalone operation, the BeanDevice® 2.4GHz ONE-TIR stores all the measurements on its embedded datalogger. Thus, a direct connection with the BeanGateway® 2.4GHz is not needed.
• When the the truck starts moving, the local temperature is monitored and all the acquired measurements are stored on datalogger.
• Data logs can be transmitted to the BeanGateway® 2.4GHz 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.

BeanDevice® 2.4GHz ONE-Tir

Datalogger mode ON

Request for Logs transmission

Transmits all the Data Logs

> **For further information about data logger, please read the following technical note :**
> **TN-RF-007 – "BeanDevice® DataLogger User Guide "**

REMOTE CONFIGURATION & MONITORING

BeanScape® 2.4GHz Basic

The BeanScape® 2.4GHz application allows the user to view all the data transmitted by the BeanDevice® 2.4GHz ONE-TIR With the OTAC (Over-the-Air configuration) feature, the user can remotely configure the BeanDevice® 2.4GHz ONE-TIR

• 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.

BeanDevice® 2.4GHz ONE-Tir

OTAC

BeanScape

BeanGateway

BeanDevice
2.4GHz One-TIR

> **For further information about data logger, please read the following technical note :**
> **TN-RF-008 – "Data acquisition modes available on the BeanDevice®"**

TECHNICAL SPECIFICATIONS

PRODUCT REFERENCE
BND-2.4GHZ-ONE-Tir

IR TEMPERATURE SENSOR SPECIFICATION	
Measurement range	-40°C to +85°C for ambient temperature (Ta) -70°C to +380°C for object temperature (To)
Sensor Technology	Thermopile
Emissivity coefficient	0 to 1 (Configurable from the BeanScape®)
Accuracy	CF. IR Temperature Table
Measurement resolution	0.02 °C
Field of View (FOV)	Cf. Type FOV curve

RF SPECIFICATIONS	
Wireless Technology	Ultra-Power and license-free 2.4Ghz radio technology (IEEE 802.15.4E)
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 (In Transmission Mode)	300 m (Line of Sight) , 30-80m (Non Line of Sight) [1]
Antenna	Omndirectional antenna 2.2dBi

BeanDevice® 2.4GHz ONE-Tir

TECHNICAL SPECIFICATIONS

OVER-THE-AIR CONFIGURATION (OTAC) PARAMETERS	
Data Acquisition mode	Low Duty Cycle Data Acquisition (LDCDA) Mode: 1s to 24 hour / Alarm mode: 1s to 24 hour
Emissivity coefficient	0 to 1
Alarm Threshold	2 high level alarms & 2 low level alarms
Power Mode	Sleeping with Network Listening & Active

EMBEDDED DATA LOGGER	
Storage capacity	up to 1 000 000 data points
Wireless data downloading	3 minutes to download the full memory (average time)

ENVIRONMENTAL AND MECHANICA	
Casing	Polycarbonate, Waterproof IP67 – Fire Protection : ULV94 Casing dimensions (Lxlxh) : 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 : 60 mA · During sleeping : < 10 µA
Included primary cell	Lithium-thionyl chloride battery with 1800 mAh capacity (AA size)

CHOOSE AN ULTRA LOW POWER WIRELESS SENSOR	
in minutes	Battery life (temperature room 25°C)
Every 2 minutes	22 months
Every 5 minutes	51 months
Every 10 minutes	102 months

*1 300m L.O.S conditions is reached:
• Beangateway is positioned in Line Of Sight toward sensor (no obstacles, no radio interferences) with High Gain Antenna, with a Height of 3 meters minimum. 26dBm High Gain Directional Antenna is used om gateway side.
• On sensor side : Radome Antenna should point to Vertical Direction for better coverity

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BeanDevice® 2.4GHz ONE-Tir

2.4 GHz

GETTING STARTED WITH A WIRELESS IIOT SENSORS

The BeanDevice® 2.4GHz ONE-TIR operates only on our Wireless IIOT Sensors , you will need the BeanGateway® 2.4GHz and the BeanScape® 2.4GHz for starting a Wireless IIOT Sensors.

BeanDevice

2.4GHz One-Tir

BeanGateway

Indoor Version

OR

BeanScape

Wireless IIOT Sensors
Supervision Software

Outdoor Version

BeanGateway

BeanAir

Rethinking Sensing Technology

BEANDEVICE® ONE-TIR OVERVIEW

Waterproof Antenna

EcoSensor

BeanDevice

**2.4GHz
ONE-TIR**

Network Reset
non-contact push button

Eyelet for
wall mounting

ON/OFF non-contact
push button

Temperature Sensor probe

ACCESSORIES

Antenna
2.2 dBi omnidirectional antenna

Primary Cell
Lithium-thionyl chloride primary cell (Li-SOCl2) 2,2 Ah
Ref: PP2.2DMG

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

CONTACT US

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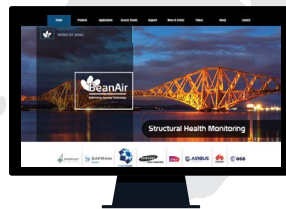+493066405051

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BeanAir® Sensors has right to change product specifications without notice.

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