WIRELESS INFRARED TEMPERATURE DATA LOGGER / LOW COST & SMALL SIZE

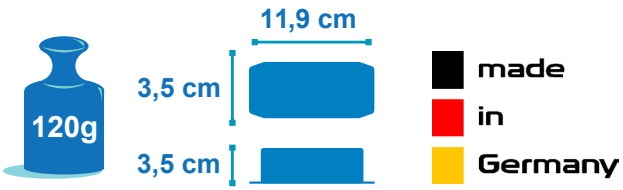
//APPLICATIONS

FEATURED VIDEO

BeanDevice® ONE-TIR main presentation video

USER MANUAL

BeanDevice® EcoSensor Products Line user manual



RAILWAY TEMPERATURE CONTROL

INDUSTRIAL TEMPERATURE CONTROL OF MOVING PARTS

GAS DETECTION

PLASTIC, GLASS & METAL PROCESSING

CHEMISTRY & PHARMACEUTICAL INDUSTRY

HEALTHCARE

// MAIN FEATURES

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

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 (Lxlxh) : 119x35x35mm

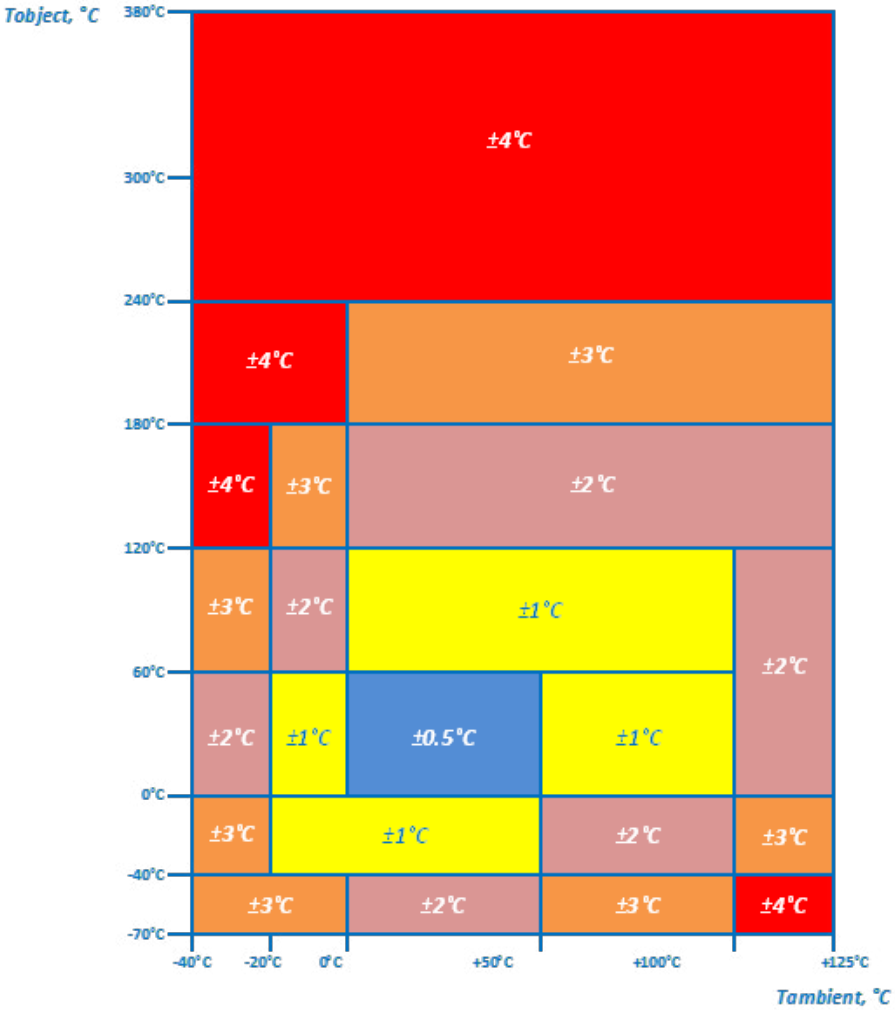
Primary cell capacity: 2200 mAh (AA size)
Lithium-thionyl chloride technology

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

//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

//IR TEMPERATURE SENSOR ACCURACY



//EMBEDDED DATA LOGGER UP TO 1 MILLION DATA POINTS

The BeanDevice® ONE-TIR 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-TIR :

- LowDutyCycle Data Acquisition
- Survey

EXAMPLE : TEMPERATURE MONITORING ON PIPE

•In standalone operation, the BeanDevice® ONE-TIR stores all the measurements on its embedded datalogger. Thus, a direct connection with the BeanGateway® is not needed.
• When all the BeanDevices are deployed on the pipe, the local & object temperature are monitored and all the data acquisition are stored on datalogger.
•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 "

//REMOTE CONFIGURATION & MONITORING

BeanScape® Basic

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

SEVERAL DATA ACQUISITION MODES ARE AVAILABLE ON THE BEANDEVICE® 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.

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®"

Product Reference	
BND-ONE-TIR – WP	
WP – Wireless Protocol IEEE : IEEE 802.15.4 (2006)	***Example :*** BND-ONE-TIR-IEEE , wireless temperature/humidity sensor, wireless protocol IEEE 802.15.4

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 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	Omndirectional 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 Survey mode: 1s to 24 hour
Emissivity coefficient	0 to 1
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 – Fire Protection : ULV94 Enclosure 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 : 40 mA @ 5dBm , 70 mA @ 18 dBm · During sleeping : < 10 µA
Included primary cell	Lithium-thionyl chloride battery with 2200 mAh capacity (AA size)

EcoSensor

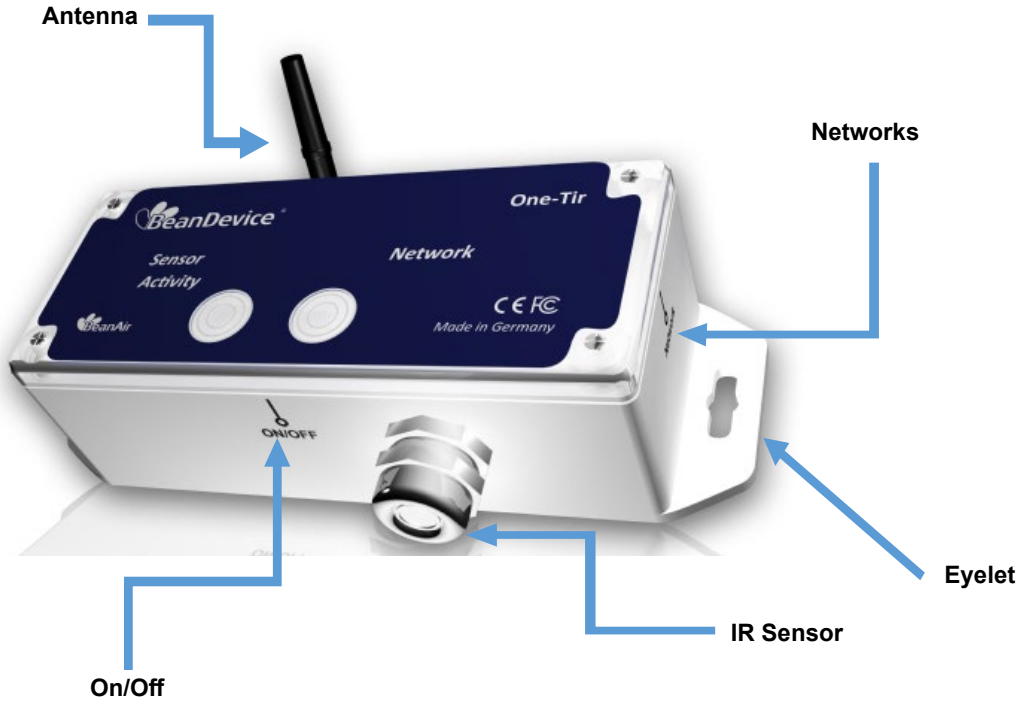
Choose an ultra low power wireless sensor	
RF transmission in minutes	**Battery life (temperature room 25°C)**
Every 2 minutes	22 months
Every 5 minutes	51 months
Every 10 minutes	102 months

//GETTING STARTING WITH A WIRELESS SENSOR NETWORK

DESCRIPTION	STARTERKIT REFERENCE
Starterkit with BeanDevice® ONE-TIR + BeanGateway® Indoor 1 x BeanGateway Ethernet ***(Indoor version), Ref. : BGTW-ETH-IND*** 1 x BeanDevice ONE-TIR, ***Ref. : BND-ONE-TIR*** 1 x Beanscape Basic, ***Ref. : BNSC_BASIC***	**SK_ONE_TIR_IND**
Starterkit with BeanDevice® ONE-TIR + BeanGateway® Outdoor 1 x BeanGateway Ethernet ***(Outdoor version), Ref. : BGTW-ETH-OUT*** 1 x BeanDevice ONE-TIR , ***Ref. : BND-ONE-TIR*** 1 x Beanscape Basic, ***Ref. : BNSC_BASIC***	**SK_ONE_TIR_OUT**

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

//PRODUCT OVERVIEW



//ACCESSORIES

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

2.2 dBi omnidirectional antenna

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

//CONTACT US

FOR MORE INFORMATIONS :

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