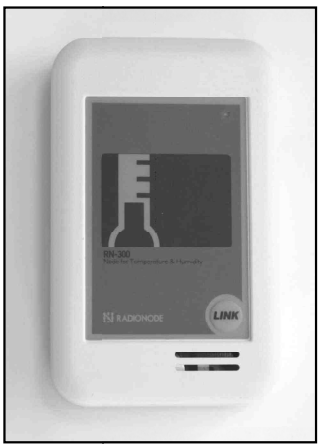
RN-300

RADIONODE

Wireless Temperature & Humidity Sensor



- ✓ **2.4GHZ IEEE 802.15.4**
- ✓ **High Accuracy Temperature**
- ✓ **High Accuracy Humidity**
- ✓ **Low Power Consumption with AA Battery**
- ✓ **Easy Magnet Wall Mount**

Overview

RN-300 wireless T&H sensor is designed to be used for collecting temperature and humidity more convenient way. RN-300 wireless sensor at specific area keeps transmitting the measurement data to the host device such as radionode RN-001. A transmitting interval is user defined parameter.

Literally it is wireless. As well as transmitting information, it does not require the power cable. Simply it operates with AA battery during more than one year. Magnet wall mount and modern design make it is always suitable for various environments.

Application

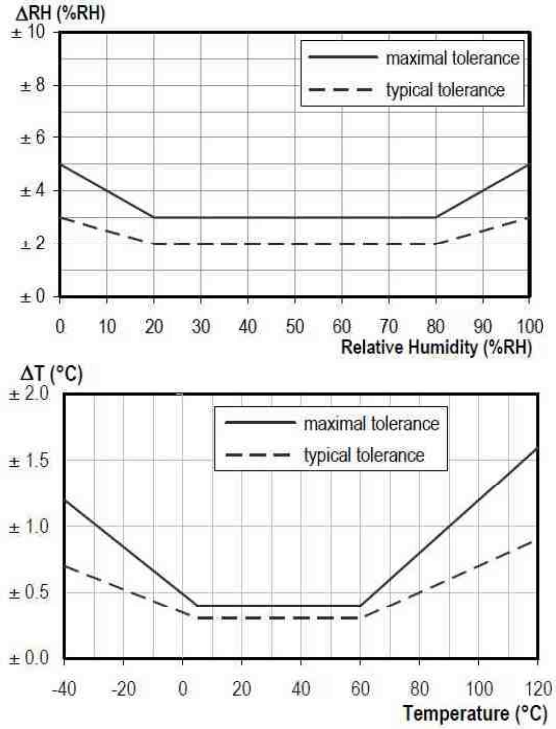
•Data logger
•SMS Alert Message for Temp./RH
•Twitter Message for Temp./RH
•E-mail Daily Summary Report
•Monitoring On PC and Mobile

Block Diagram

Where to Use

•Food Service
•Live Stock
•Warehouse
•Medical Industry
•Manufacturing Facility
•Server Room

1. Specification

RN-300 Specification		Temperature & Humidity Characteristic
Dimension	73 * 116 * 25 (mm)	
Power	6V DC, AA Battery X 2	
Antenna	Internal PCB	
Communication	IEEE 802.15.4 (2.4GHZ , 16 Channel)	
Network	Tree Topology	
RF Distance	100m (Open Space)	
RF Power	TX: 2.5dB, RX: -96dB	
Accuracy	Temp. :. ± 0.3'C Humidity : ±2.0 %	
Battery Lifetime	More than a years (@ 10 Minute)	
Power Consumption	wait: 5uA, Transmit : 20mA	
Wall Mount	Magnet	
Housing Material	ABS	
Operation Temp.	-40 ~ 85 `C	

2. Operation

2.1 Power

RN-300 sensor can be operated with power supplier or AA alkaline battery. One should be selected. RN-300 device does not have battery charging function and power switch. As long as battery is inserted, RN-300 device keep working.

Operation temperature depends on battery type. Bellow table can tell us an available battery type for each environment. Be careful when you are selecting the battery especially in low temperature. It is given data from battery manufacturer.

Battery Type	Temp range in spec.
Rocket Alkaline AA (LR6)	0'C ~ 30'C
Energizer Ultimate Lithium AA	**-40'C ~ 60'C**
Energizer Alkaline MAX AA	-18'C ~ 55'C
Energizer Alkaline ADVANCE AA	-18'C ~ 55'C

RN-300 has six different battery levels. The level value will be send to the host device. The level accuracy depends on temperature at operating area. The bellow table shows the six levels

Status	Best	Good	Normal	Weak	Warning	Empty
Value	255	200	150	100	50	5

2.2 Transmitting Interval

A transmitting interval time can be changed by the host device. Normally 10 minutes are set. Data transmission is occurred four times during the interval time against data loss even if there are several schemes for data stability. And the last data will be taken.

2.3 Wireless Connection

As long as the host device is working, RN-300 sensor can be connected to the host. Link button is available to try to re-connecting to the host. Blink green LED represents that RN-300 is searching the host devices. Once the green LED turned off, connection is completed.

While transmitting data, LED will be turned on. And LED will be turned off when putting into sleeping mode.

3. Trouble shooting

- In case of too long distance, try it again at closer location to the host.
- In case of disconnection, please check the total number of RN-300 sensor.
  If it is more than eight sensors, you need to a router device such as RN200. It can expend an available wireless capacity.
- In case of disconnection in near distance, please check the network ID. The host and sensor should have a same network ID. Default network ID is 303. And you can check network ID in the host device.(RN-001)

4. Warranty

- 1 Year Warranty Service for free

5. Contact

- Company : DEKIST Co., Ltd.
- Address : #303, 465-1 Gimryangjang-dong, Cheoin-gu, Gyeonggi-do, Korea
- Phone : +82 70-7529-4359
- Fax : +82 505-115-0009
- Email : master@dekist.com
- Web Page : www.radionode.co.kr

FCC ID : 2ABC3-RN300

CAUTION : Changes or modifications not expressly approved by the manufacturer responsible for
compliance could void the user's authority to operate the equipment.

FCC RF Exposure Requirements: The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.