

# Radiance Instruments Co. Ltd.

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## PRODUCT SPECIFICATION

Product number: TMW023-2P and TMW023-2PR. Product name: SMOKE X2 transmitter and receiver Versions: V1.0  
Receiver and transmitter are two products that are used simultaneously, The receiver and transmitter use the same module, and the module is a two-way transceiver.

### Features:

- 2 Channels BBQ/Oven monitor.
- LORA WAN connectivity
- IP66 waterproof.
- High/low alarm setting.
- Min/max temperature reading
- Loud alarm sound
- Clear LCD display with backlight
- External adapter and battery power
- Fan control

### Specification:

|                         |                                                                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measuring range         | -58 ~ 572 °F / -50 ~ 300°C                                                                                                                                                              |
| Temperature accuracy    | ±1.8°F(±1°C) between -4°F to 248°F ( -20 to 120°C)<br>±3.6°F(±2°C) between -58°F to -4°F / 248 to 392°F ( -50 to -20 °C /120 to 200°C)<br>±5.4°F (±3°C) between 392~572°F(200 to 300°C) |
| Wireless distance       | About 2000 meters in open areas                                                                                                                                                         |
| Display resolution      | Current temperature 0.1°, min/max and alarm limit set 1°                                                                                                                                |
| Alarm sound volume      | About 90dB (300mm distance)                                                                                                                                                             |
| Unit reading update     | 1 second                                                                                                                                                                                |
| Receiver reading update | 30 seconds                                                                                                                                                                              |
| Water resistant rating  | IP66                                                                                                                                                                                    |
| Power                   | 2 pieces AA alkaline batteries, external adapter power input                                                                                                                            |
| Battery life            | Transmitter about 125 hours, receiver about 1800 hours                                                                                                                                  |
| Display size            | Transmitter 59(W) X 78 (H) mm, receiver 35(W) X 59 (H) mm,                                                                                                                              |
| Probe                   | Curved probe: 3.5(Ø) x 150(L) mm, tip 2.2(Ø) x 10(L) mm, cable length 1200mm.<br>Straight probe: 3.5(Ø) x 51(L) mm, cable length 1200mm.                                                |
| Product size            | Transmitter 90 (W) x 119(H) X 28(D)mm , receiver 52 (W) x 113(H) X 28(D)mm                                                                                                              |
| Working temperature     | Main part 32 ~ 122 °F/0 ~ 50 °C, cable 700°F/371°C, probe handle 644°F/340°C                                                                                                            |
| Attachment              | 1 piece curved probes, 1 piece straight probe, 1 piece air clip.                                                                                                                        |

### Operation

1. Insert all the probes with the correct number. Connect the external power.
2. Press [ON-OFF] button to turn on the unit, the backlight will turn on 10 seconds.
3. Press [ON-OFF] button and hold for 3 seconds to turn off the unit.
4. Press [ON-OFF] button and hold for 10 seconds then release to reset the unit.

### Select temperature unit

Press [°C/°F] button to select the temperature unit.

### Low and high temperature alarm setting

1. Press [CH] button to select the channel for alarm setting. All the icons flashing that you selected.
2. Press [SET] button to enter alarm on-off setting. Press [▼] or [▲] button to set the alarm on or off.
3. Press [SET] button once again to enter high alarm limit setting mode, high alarm value will be flashing. Press [▼] or [▲] button to set the high alarm limit.
4. Press [SET] button once again to enter low alarm limit setting mode, low alarm value will be flashing. Press [▼] or [▲] button to set the low alarm limit.
5. Press [SET] button once again to finish the alarm setting.
6. If the temperature reading is out of the limited, the alarm will sound, the "LOW" or "HIGH" icon flash, press any key to stop the alarm sound, the low alarm or high alarm icon will be flashing continue.
7. Alarm sound: the channel 1 alarm sound is "di - - -", the channel 2 alarm sound is "di di - -".
  - \* If the both alarms sound active, the last alarm sound will be instead the before one.
  - \* The default low alarm value is 32°F, the default high alarm value is 160°F,

### Backlight control

- 1) Press [☼] button to switch backlight on or off. The backlight will be turn on 20 seconds, and then turn off automatically.

### Volume adjustment

1. Press [VOL] button to adjust volume level.
2. When the volume class is , it means that the alarm sound is off.
3. When power up, the sound volume level is the third class.

#### Calibration

- 1) Press [CH] button to select the channel for calibrate.
  - 2) Press [CAL] button to enter the calibration mode, "CAL" flash, press [▼] or [▲] button to set reading error.
  - 3) Press [CAL] button again to exit the calibration mode.
- The errors adjust range is -4~4°F.

#### Wireless control

1. Press [] button to turn on or off the wireless function. When power on, transmission function is on.

#### Receiver control

1. Press [] button to turn on the unit.
2. Press [] button to turn on the backlight 20 seconds.
3. Press [] button and hold for 3 seconds to turn off the unit.
4. Press [VOL] button to adjust volume level.
5. When the unit alarm, press any button to stop the alarm sound. This situation will send back to the transmitter and mute the alarm sound.

#### Code rematch

1. The transmitter has already been synchronized with the receiver at ex-factory setting. If rematch is needed, press and hold [] button for 5 seconds. Rematch mode would start and "Sync" icon will appear in the display.
2. Press and hold [VOL] button for 5 seconds to start rematch.
3. The units would restore the code automatically and return to normal mode.

#### NOTE:

1. Clean the probe immediately with cleaning wipes after each measurement to avoid cross contamination.
2. Do not expose thermometer to temperatures over 50°C/ 122 °F or use in ovens, otherwise incorrect readings or damage to the thermometer may result.

#### ERROR SYMBOLS:

| Symbol                                                                                       | Description                                                                 | Action required                                                                 |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------|
|           | Full battery                                                                |                                                                                 |
|           | Low battery                                                                 | Replace the battery with the same type                                          |
|           | Battery level indication                                                    | (75%/50%/25%)                                                                   |
| EXT POWER                                                                                    | Power adapter connecting                                                    |                                                                                 |
| CAL                                                                                          | Calibrating                                                                 |                                                                                 |
|  SET TEMP | Fan connecting                                                              |                                                                                 |
| LLL.L                                                                                        | The reading is out of low range(-58 °F -50°C)                               | Keep the measurement above low range                                            |
| HHH.H                                                                                        | 1.Sensor short circuit<br>2.The reading is out of high range (572 °F/300°C) | 1.Return the thermometer for repair<br>2. Keep the measurement below high range |
| NO PROBE!                                                                                    | 1.The sensor open circuit<br>2.The sensor probe is not connect              | 1.Return the thermometer for repair<br>2.Connect the sensor probe correctly     |

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This device complies with Industry Canada Licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Pour maintenir la conformité aux directives d'exposition aux radiofréquences, cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

*This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.*

*If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- Reorient or relocate the receiving antenna.*
- Increase the separation between the equipment and receiver.*
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- Consult the dealer or an experienced radio/TV technician for help.*

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

The products are usually hung on a wall or placed on a table for use.

Two positions on the back of the product are magnets that can be attached to the metal wall.

*Transmitter: FCC ID: 2A167-S2T, IC: 22116- S2T. Receiver: FCC ID: 2A167-S2R, IC: 22116- S2R.*

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