

Universal Electronics Inc.

Cardiff Standard Wired Thermostat (Tide Dial) Quick Reference Guide



PART NUMBER:

J1TH019A00-00001 – Cardiff Standard Wired Thermostat (Tide Dial) – UVN

ACTIVATING RF

In order to keep the authentication as transparent as possible for the user the pairing procedure will be forced in “Just Works” configuration. To achieve the “Just Works” configuration the target device and the receiver will set its IO capabilities as “No Input/No Output”.

While in pairing mode, the RCU transmits general BLE advertisement (ADV_IND) packets with an advertisement interval of PAIR_ADV_INTERVAL and repeatedly transmits for up to PAIR_ADV_DURATION. If no connection is established as a result of the advertising, the receiver returns to deep sleep state after PAIR_ADV_DURATION.

The user would not need to reset the pairing even if the receiver is already paired and wants to pair with new target but simply overwrite pairing information. Pairing info saves only 1 at times. No multi-pairing supported (e.g. Gateway and Tablet) even one of connection dropped.

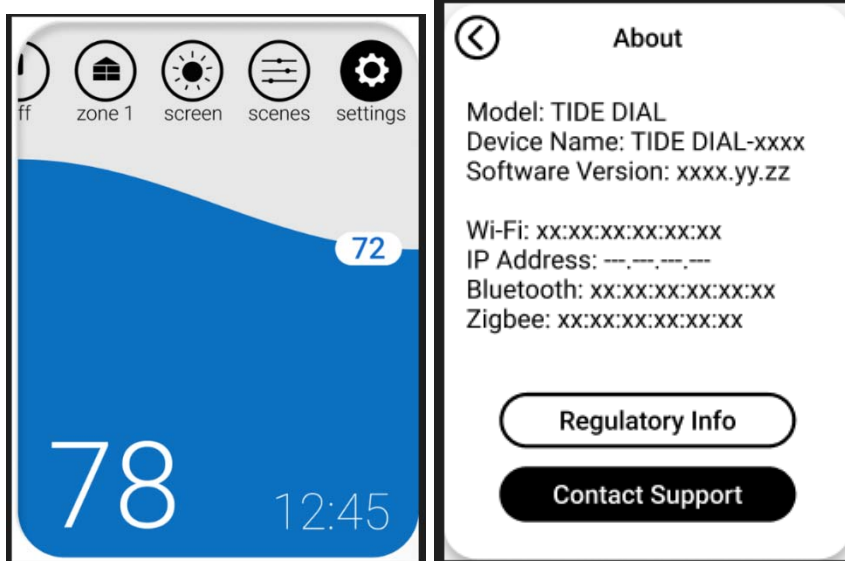
Features:

- Mechanical form factor: 86 x 86 [mm]
- Display
 - o 2.8” 262K Color Full Dot Matrix 240x320 TFT IPS
 - o TechShine B0280077A (w/FPC modification)
 - o SPI control
 - o Backlight
- UE61V Wi-Fi/BLE Module
 - o Multi Cloud Connectivity (direct connection, not only cloud to cloud connection), Default to QS Cloud. Option to add Customer specific Cloud (e.g., Trane Nexia, IHG etc)
 - o Wi-Fi Feature shall be disabled for limited power budget target (HVAC OEM variant, DC10-18V)
 - o HVAC OEM proprietary SW logic would be customized per product configuration
- UE878 Zigbee Controller on board
 - o IEEE 802.15.4 and Bluetooth Smart 4.2 compatible
 - o 512KB Flash Program Memory, 64KB RAM
 - o 32MHz Crystal
 - o 32.768KHz Crystal
 - o DC/DC enabled
 - o UE878NMEJ
 - o UE878 circuit is an optional install on the PCBA depending on customer configuration
- Rotary Encoder
 - o ddm hopt+schuler 427 digi Switch or equivalent
 - o 30 detents/resolution with 0.5Ncm torque
 - o Push Switch w/3N force
 - o Quadrature Decoder Interface
 - o 500,000 life cycle for push, 100,000 life cycle for rotation (~3M Clicks)
- Packaged Thermistor
 - o TI TMP61
 - o Temperature Accuracy: +/- 1F (between 5-60C)
 - o Optional install on the PCBA depending on customer configuration
- Proximity Sensor/ Occupancy Sensor (Thermopile) - TPiS 1S 1385 / 5029
 - o Proximity to wake up system upon user detection within 2ft.
 - o Occupancy 120 degree @ 25feet (7m) assuming thermostat will be installed at 60” (1.52m)
 - o Optional install on the PCBA depending on customer configuration

- Up to 4 Hard Keys + 1 Rotary Encoder
 - o I/O Expander TCA8418RTWR Required
 - o 4 keys on PCBA, 2 keys exposed in the product design
 - o OK/Select via rotary encoder.
- RTC
 - o NXP PCF85263ATL
 - o 32.768KHz Crystal SMD, +/- 5ppm (+/- 30sec over month)
 - o minimum 48hours (entire weekend) of backup battery or super cap is required
 - o Optional install on PCBA depending on customer configuration
- 5V/3.3V Operation
 - o Input voltage 10~18VDC (typ. 16V). This shall be depopulated for 24VAC operation.
- Programming/Debug header for development purpose for UE61V module and UE878
 - o Pin out shall be common w/Qorvo programmer for UE878.
 - o Header shall be DNF for MP (no need to expose from housing)
- Temp/Humidity Sensor
 - o Initial design will have Sensirion SHTC3 and TI HDC2010. Final part will be determined during development
 - o Temperature Accuracy: +/- 1F (between 5-60C)
 - o Relative Humidity Accuracy: +/- 3% (between 20%-80%)
 - o Optional install on PCBA depending on customer configuration
- CO2 sensor for CO2 reading
 - o Sensirion SDC 40
 - o Cal Title-24 non-compliant for DCV (Demand Control Ventilation) application
 - o Optional install on PCBA depending on customer configuration
- ADC for analog sensor input
- Piezo buzzer
 - o Optional install on PCBA depending on customer configuration
- Modular Pack
 - o Different Modular packs to be supported by the product design.
 - o 24VAC PCBA will be developed initially for this platform
- 24 VAC from HVAC to the Tide Touch power Modular Pack
- Operating Temperature
 - o -10°C to +50°C, 5% to 90%RH without condensation

How to Access Regulatory Information:

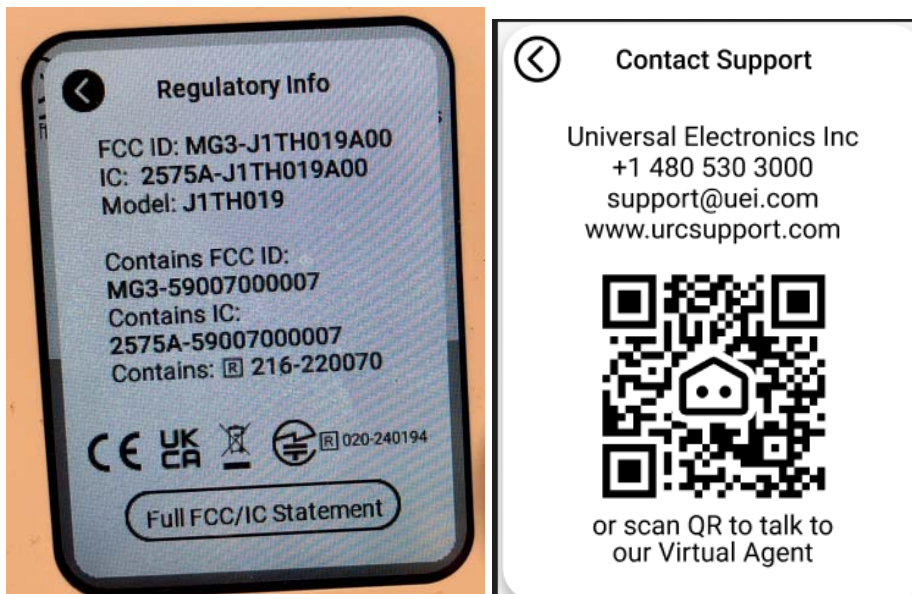
Follow these steps to access the regulatory screens.



Rotate the main knob to bring up the different functions.

Press main knob to select **Settings** icon; press and release.

Rotate main knob to select the **about** icon; press and release.



The about screen shows the model number and other important details.

Rotate main knob to select the **Regulatory Info** icon to see the FCC, IC, and MIC IDs. The end user can also scan the QR code for the FCC/IC statements online.

Caution

Please read all safety instructions to ensure personal safety and prevent damage to equipment.

Warning

- Do not put remote in a fire
- Do not disassemble the thermostat control unit
- Disposal of the thermostat control



- Risk of explosion if the **battery** is replaced by an incorrect type
- **battery** shall not be exposed to excessive heat such as sunshine, fire or the like
- Disposal of a **battery** into fire or a hot oven, or mechanically crushing or cutting of a **battery**, can result in an **explosion**
- Leaving a **battery** in an extremely high temperature surrounding environment can result in an **explosion** or leakage of flammable liquid or gas
- A **battery** subjected to extremely low air pressure may result in an **explosion** or the leakage of flammable liquid or gas

Important Safety Instructions

1. Read these instructions
2. Keep these instructions
3. Head all warnings
4. Follow all instructions

COMPLIANCE WITH FCC RULES AND REGULATIONS

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 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, 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 or decrease 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 remote control/ TV technician for help.

This equipment has been verified to comply with the limits for a Class B computing device, pursuant to FCC Rules. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

FCC Authorization Label

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.
- 2 This device must accept any interference received, including interference that may cause undesired operation.

To satisfy RF exposure requirements, this device and its antenna must operate with 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.

INDUSTRY CANADA USER'S STATEMENT FOR NON-DETACHABLE ANTENNA FOR BOTH ENGLISH AND FRENCH.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

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

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Pour satisfaire aux exigences d'exposition aux RF, cet appareil et son antenne doivent fonctionner à une distance de séparation d'au moins 20 cm de toutes les personnes et ne doivent pas être colocalisés ou fonctionner conjointement avec une autre antenne ou émetteur.