

MASTER THERMOSTATS	SLAVE UNITS
TH113-A/F/AF (12VDC)	CT230-120GA
TH114-A/F/AF (12VDC)	CT230-120GB
TH115-A/F/AF (12VDC)	CT230-240GA
TH116-A/F/AF (12VDC)	CT230-240GB

## 1. Introduction

This master and slave unit system is specially designed for large floor heating applications exceeding 15 A.

The master thermostat controls a single or multiple floor heating zones driven by slave units. The master thermostat can control up to 10 slave units.

Each slave unit drives its own zone and is equipped with a GFCI test button and warning light as well as an On/Standby switch to facilitate maintenance on specific zones of the floor installation.

## 2. Operation

### Master Thermostat

The master unit controls the temperature and sends a signal to slave units when heating is required. The floor sensor is connected to the master unit. The master unit is powered by the slave units.

### Slave Unit

The slave unit receives the signal sent by the master unit and activates its load.

**NOTE: There must be a minimum of one slave unit ON to power the master unit.**

## 3. Installation

Turn off power to the heating system at the main power panel to avoid electrical shock. Installation should be carried out by an electrician.

### 3.1 Wiring Guidelines

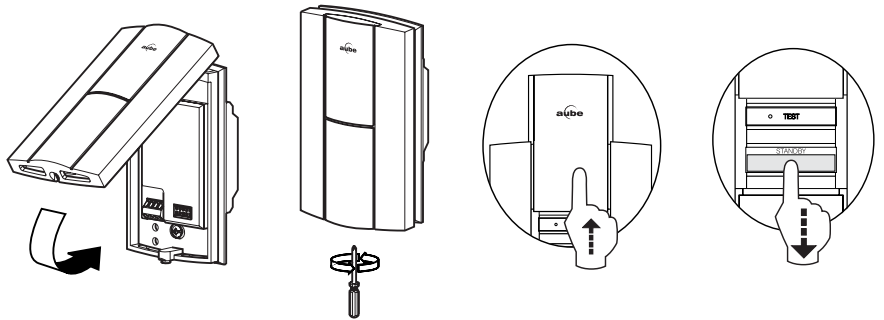
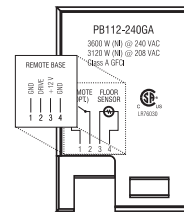
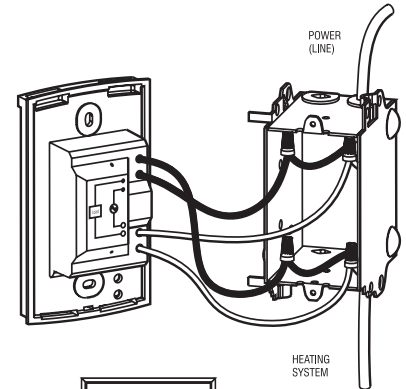
- The wire distance between the master thermostat and slave unit should not exceed 500 ft. (150 m).
- The floor sensor cable should not exceed 200 ft. (60 m).
- A 3-wire 20 AWG cable is recommended.

### 3.2 Slave Units - Installation and Wiring

The slave units can operate on different voltages (e.g. 5 units @ 120 V and 5 @ 240 V).

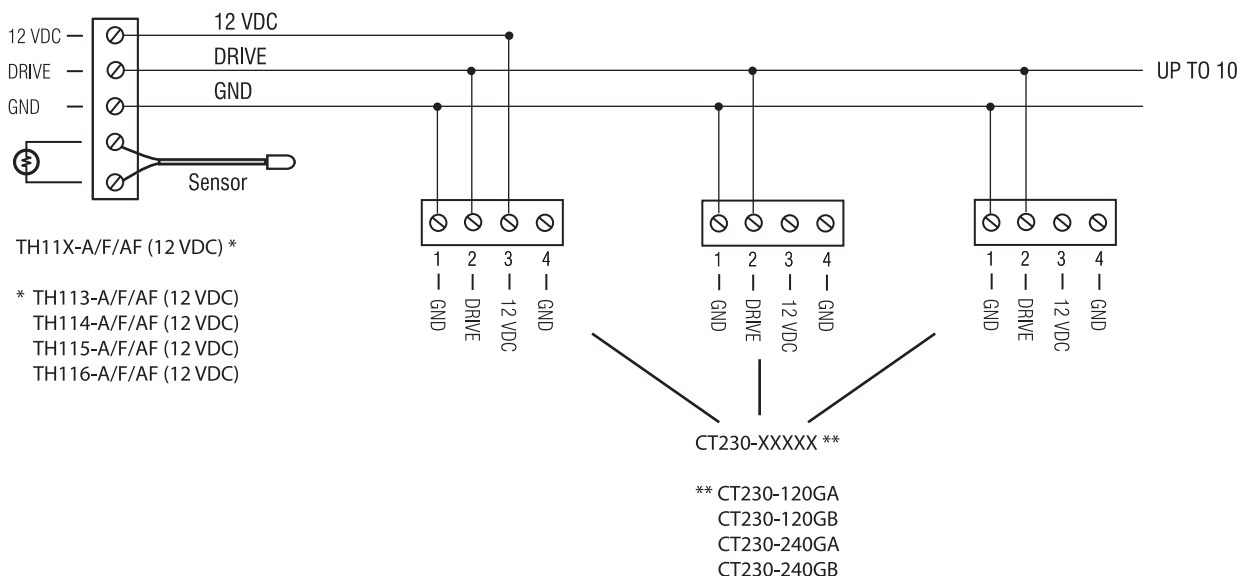
- Required parts:** CT230-120GA, -120GB, -240GA or -240GB
- Installation:** On an electrical box
- Location:** Installation near the master thermostat is not required (i.e. can be installed in a utility room).
- Wiring:** The power bases are joined through a daisy chain connection.

- Connect the 120 V or 240 V power base wires to the power (line) and to the load (floor) using solderless connectors for copper wires, and secure the base to the electrical box.
- Affix the wiring sticker (in the CT230 box) to the base.
- Connect the slave power bases together as per FIGURE 1.
- Once installation and wiring is complete, mount the CT230 interface:
  - Align the bracket tabs of the CT230 with the holes located on top of the power base.
  - Secure the CT230 interface using the screw (captive).



- Switch all slave power bases to STANDBY by sliding the protective door upwards and positioning the switch to STANDBY. Install and connect the master unit (see 3.3).

**FIGURE 1**  
Connections



### 3.3 Master Thermostat - Installation and Wiring

**WARNING: Make sure all slave units are in STANDBY mode.**

- **Required parts:** TH113-A/F/AF (12VDC), TH114-A/F/AF (12VDC), TH115-A/F/AF (12VDC) or TH116-A/F/AF (12VDC)

- **Location:** anywhere easily accessible to users.

#### Temperature control: AF (ambient with floor limit) / A (ambient)

- Install the master thermostat in the controlled area.
- Choose a location about 5 ft. above the floor in an area where the temperature is stable.
- Avoid locations where there are air drafts (top of staircase, air outlet), dead air spots (behind a door), direct sunlight or concealed chimneys or stove pipes.

#### Temperature control: F (floor)

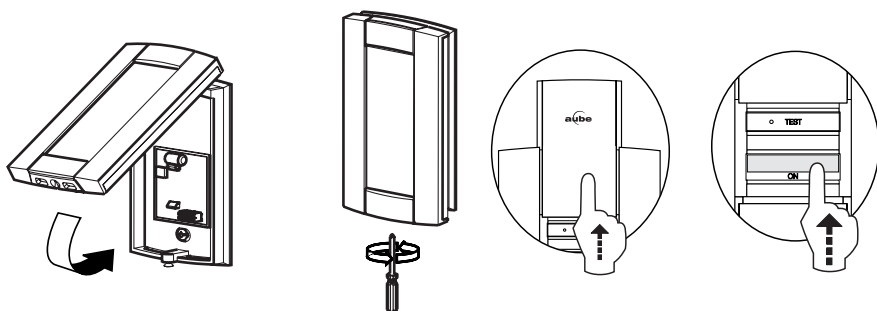
- Can be installed anywhere.

- 6 Wire the 12 VDC base to the nearest slave unit.

The floor sensor must be installed in an area where average temperature can be read. The cable must follow the wall down to the floor and must not cross any heater wires or be directly on or adjacent to a heating wire. For maximum performance, the sensor probe should be centered between the wires in the mat (max. 80°C).

- 7 Push the excess wire into the wall, secure the base using the provided screws and wall anchors, and install the TH11x thermostat onto the base.

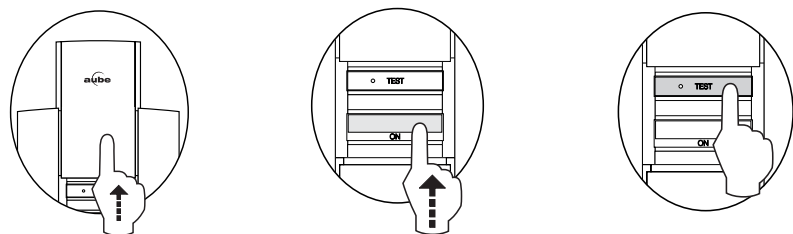
- 8 Once the thermostat is installed, return power to heating system and switch all slave units and the master thermostat to ON.



### 3.4 Slave Units - GFCI Test

We recommend you test the GFCI immediately after installing the thermostat, and once a month thereafter to ensure it is operating properly.

If the test warning light comes ON during normal operation, cut power to heating system from the main power panel and verify the installation.



- 1 Slide the protective door upwards and make sure the switch is ON.

- 2 Press TEST.

- The test is successful if the TEST warning light is ON and power is cut off.
- If the test fails (first installation test):
  - a. Verify installation
  - b. Check the load wires
  - c. Once you've identified the problem, run the GFCI test again
- If the test fails (monthly maintenance):
  - a. Cut power to heating system from the main power panel and call customer service

- 3 When the test is successful, reset the slave unit by switching from ON to STANDBY then back to ON.

- 4 Repeat steps 1 to 3 for all slave units.

## Technical Specifications

#### Temperature:

- Operation: 32°F to 122°F (0°C to 50°C)
- Storage: -4°F to 122°F (-20°C to 50°C)

#### TH113/TH114/TH115/TH116 (A/F/AF-12VDC)

<b>Power supply</b>	12 V from remote unit
<b>Maximum slave units</b>	up to 10 slave units per master thermostat
<b>Wire gauge</b>	20 AWG
<b>Size (H • W • D) BASE</b>	4.63 x 2.7 x 0.61 in. (117.5 x 68.3 x 15 mm)

**NOTE:** Refer to the TH11x user guide for technical specifications.

#### CT230-120GA/120GB/240GA/240GB

<b>Supply</b>	
- PB112-120	1800 W @ 120 VAC 60 Hz, 15 A resistive
- PB112-240	3600 W @ 240 VAC 60 Hz, 15 A resistive
<b>GFCI</b>	GA=5 mA / GB=30 mA
<b>Certification</b>	c CSA us
<b>Size (H • W • D) BASE</b>	4.63 x 2.7 x 1.45 in. (117.5 x 68.3 x 37 mm)
<b>Size (H • W • D) INTERFACE</b>	4.67 x 2.74 x 0.67 in. (118.6 x 69.6 x 17 mm)

## Warranty

Aube warrants this product, excluding battery, to be free from defects in the workmanship or materials, under normal use and service, for a period of three (3) years from the date of purchase by the consumer. If at any time during the warranty period the product is determined to be defective or malfunctions, Aube shall repair or replace it (at Aube's option).

If the product is defective,

- (i) return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it, or
- (ii) contact Aube. Aube will make the determination whether the product should be returned, or whether a replacement product can be sent to you.

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Aube that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

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## Service

For any questions regarding the product installation or operation, contact us at:

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For more information on our products, visit us at:  
[www.aubetech.com](http://www.aubetech.com)