aube technologies

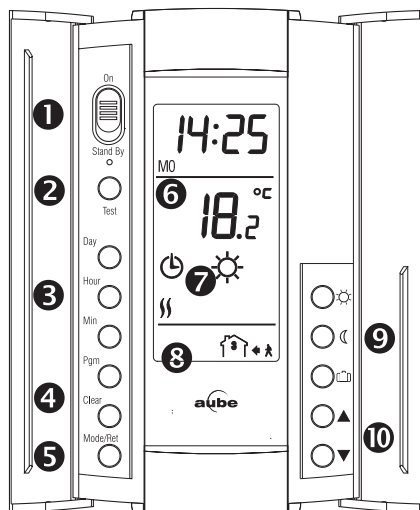# TH115 A/F/AF
Owner's Guide

Thank you for choosing the Aube TH115, a programmable thermostat that provides both energy savings and comfort.

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❶ TH115 Description

Buttons and symbols

❶ On/Stand By Switch
Use this switch to put the thermostat in sleep mode when its use is no longer required (e.g. summer). This will not affect the clock or programming.

❷ GFCI Warning Light and Test Button

❸ Day & Clock Settings

❹ Programming Mode

❺ Mode Selection/Exit Programming

❻ Room OR Floor Temperature

❼ Current Mode and Setpoint

❽ Current Program Number

❾ Setpoint definition/Pre-defined Setpoints

❿ Increase/Decrease Temperature

Models

A   Controls the Ambient temperature.
AF Controls the Ambient temperature and Floor temperature limit.
F   Controls the Floor temperature.

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❷ Switch Selection

This thermostat is factory-set to the following values:

#	Function	UP	DN
SW1	Temperature format [a]	°F	°C
SW2	Early Start [b]	Disable	Enable
SW3	Time format	12-hour	24-hour

a. If you switch from °F to °C or vice versa, the ☼, ☾ and 🛄 setpoints may need to be redefined.
b. When using AUTO mode, the thermostat calculates the optimum start time to obtain the desired temperature by the set time. The heating system could be started a few hours prior to set time when required.

Switches are located on the rear of the control module.
To modify any setting, switch UP or DN.

SW1 SW2 SW3

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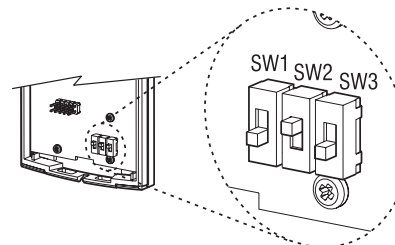
❸ Control Module Installation

Align the bracket tabs on the control module with the holes located on top of the power base.

Control module

Power base

NOTE: Keep the thermostat's air vents clean and free from obstructions.

NOTE: The screw cannot be removed completely.

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❹ First Power ON

When power is applied for the first time, the LCD displays: 0:00, MO (Monday), ⚡ and temperature (room/floor).
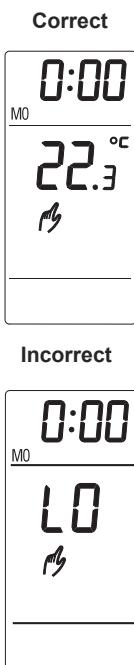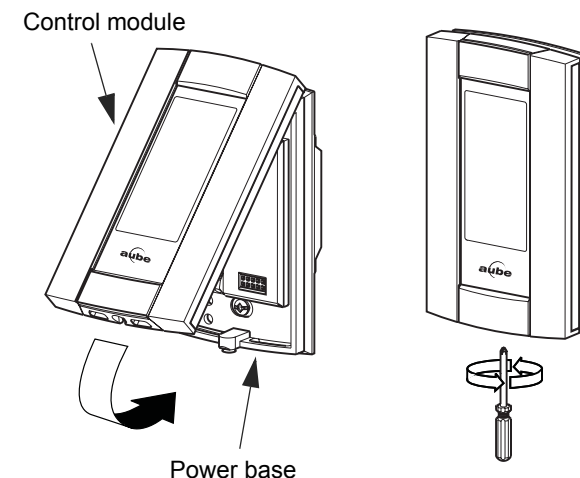
❶ Press HOUR - MIN to set the current time.

❷ Press DAY to set current day.

For AF and F models: one of the two following messages may be displayed if the installation is incorrect:

LO: The floor temperature is below 32°F (0°C), or the temperature sensor is defective, or not connected.
The heating indicator ≀≀≀≀≀ is displayed and the relay is closed (energized).

HI: The floor temperature is above 140°F (60°C), or the temperature sensor is defective.

Correct

Incorrect

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❺ GFCI Test (GA & GB power base only)

The GFCI monitors the electrical flow for any loss of current; if there is one, the thermostat will cut off power to the heating system. We recommend you test the GFCI immediately after installing the control module, and once a month thereafter to ensure it is operating properly. To test:

❶ Increase the temperature ▲ until the heating indicator ≀≀≀≀≀ is displayed.

❷ Press TEST:

👍 • **Successful**: the TEST warning light is ON and power to heating system is cut off.

👎 • **Unsuccessful**: the TEST warning light is OFF. Cut power to heating system from the main power panel and call customer service.

❸ When successful, reset thermostat (Stand By/On) to power the heating system.

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

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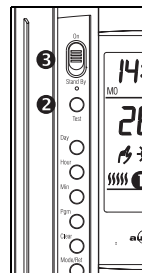
❻ Temperature Setpoint

The following temperature setpoints are pre-programmed:

Symbol	Description	Default A/AF	F	New
☼	Comfort (when at home)	70°F	82°F	
☾	Economy (when asleep/ away from home)	64°F	68°F	
🛄	Vacation (during prolonged absence)	50°F	50°F	

To modify a setpoint:

❶ Set the desired temperature using ▲▼.

❷ Press and Hold the ☼ or ☾ or 🛄 button until symbol is displayed.

❸ Press RET to exit.

Floor temperature limit—The floor temperature limit is 82°F. To modify this limit:

❶ Press ☼ and hold while switching from ON to Stand By then back to On.

❷ Set temperature ▲▼

❸ Press RET to exit.

To avoid damaging your floor, we recommend you follow the supplier's instructions.

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❼ Operating Modes

Automatic ☉—Executes the schedule.

❶ Press MODE until ☉ is displayed. The current program number is displayed.
You can temporary bypass the current program by setting a specific temperature ▲▼ or by pressing on a pre-defined setpoint button (☼ ☾). The new setpoint will be maintained until the beginning of the next program.

Manual ⚡—Maintains a constant temperature.

❶ Press MODE until ⚡ is displayed.

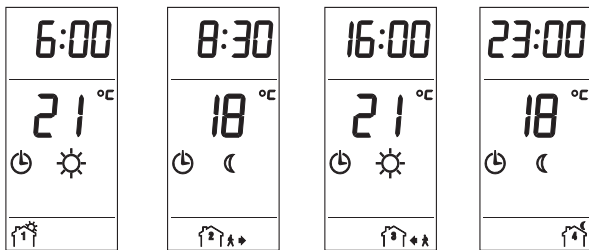❷ Set temperature ▲▼ or press (☼ ☾) to use pre-defined setpoint.

Vacation 🛄—Maintains the Vacation setpoint during a prolonged absence.

▸ Press 🛄 until the icon is displayed.

920-115-007-00-1-A

8 Pre-programmed Schedule

The TH115 programmable thermostat is pre-programmed with the following schedule:

6:00	8:30	16:00	23:00
21 °C	18 °C	21 °C	18 °C
☾ ☼	☾ ☾	☾ ☼	☾ ☾
Time you wake up and desired temperature	Time you leave and temperature during your absence	Time you return home and desired temperature	Time you go to bed and overnight temperature

Programs		MO	TU	WE	TH	FR	SA	SU
⌂	☼	6:00	6:00	6:00	6:00	6:00	6:00	6:00
⌂	☾	8:30	8:30	8:30	8:30	8:30	--:--	--:--
⌂	☼	16:00	16:00	16:00	16:00	16:00	--:--	--:--
⌂	☾	23:00	23:00	23:00	23:00	23:00	23:00	23:00

9 Modify the Schedule

Notes:

▸ You can program up to 4 different programs per day. Each day can have different programs.

▸ It is sometimes faster to program the same schedule for the entire week and then to modify the exception days.

To modify:

❶ Press PGM to access the programming mode

❷ Press DAY to select the day to be programmed (hold for 3 seconds to select all days of the week).

❸ Press PGM to select the program number.

❹ Press HOUR and MIN to set the time **or** press CLEAR to clear the time (--:-- is disregarded).

❺ Repeat steps 2 to 4 for remaining programs.

❻ When completed, press RET to exit mode.

NOTE: After 60 seconds of inactivity, the thermostat will automatically exit programming mode.

Custom Grid

Use this blank grid to record your new schedule.

Prog	Setpoint	MO	TU	WE	TH	FR	SA	SU
⌂	☼							
⌂	☾							
⌂	☼							
⌂	☾							

▸ Model: ☐ A   ☐ F   ☐ AF

▸ Temperature display: ☐ °F   ☐ °C

▸ Time display: ☐ 12hrs   ☐ 24hrs

10 Remote Input

The TH115 is equipped with a remote input which allows connection of a telephone controller (accessory Aube CT240) or any other remote control system.

When a signal is received through this input, the TH115 will automatically switch from normal operating mode to Vacation mode (⌂), and vice versa when the signal is removed.

Activating the Vacation mode ⌂

There are two ways to activate the Vacation mode:

❶ From the thermostat, see "Operating Modes" above.

❷ From a telephone (remote location). For details on how to activate using a telephone, refer to the CT240 Instruction Manual.

WARNING: When the Vacation mode is activated remotely, it must be deactivated remotely.

Temperature Control

The TH115 thermostat works differently than conventional electromechanical thermostats.

It is equipped with a proportional integral adaptive (P.I.A.) controller which determines heating cycles by analyzing the temperature behavior history within the room.

The P.I.A. controller reduces temperature variations providing an accurate temperature control while increasing user comfort.

The controller determines the amount of power required by the heating system to maintain the setpoint temperature.

∫	∫∫	∫∫∫	∫∫∫∫	∫∫∫∫∫
1 to 20%	21 to 40%	41 to 60%	61 to 80%	81 to 100%

Technical Specifications

Model: TH115 A / AF / F

Display range: 32°F to 140°F (0°C to 60°C)

Setting range (ambient): 40°F to 86°F (5°C to 30°C)

Setting range (floor limit): 40°F to 104°F (5°C to 40°C)

Pre-programmed temperature setpoints:

▸ **Comfort**:   A/AF: 70°F (21°C) and F: 82°F (28°C)

▸ **Economy**: A/AF: 64°F (18°C) and F: 68°F (20°C)

▸ **Vacation**:   A/F/AF: 50°F (10°C)

▸ **Floor limit**: AF: 82°F (28°C)

Accuracy: ± 0.9°F (0.5°C)

Storage: -4°F to 120°F (-20°C to 50°C)

Temperature control: Proportional integral adaptive, 15-minute or 15-second heating cycles according to the application and power base.

Memory backup: In the event of a power failure, an internal circuit will maintain the programming. Only the time will have to be set if the power failure is more than two (2) hours. The thermostat will return to the same operating mode as set before the power failure.

Warranty

If you have any questions concerning the installation or programming of the TH115 programmable thermostat, call our technical support team at:

Phone: Montreal area: (450) 358-4600
Canada / U.S.: 1-800-831-AUBE (2823)
Fax: (450) 358-4650
Email: service@aubetech.com

Monday to Friday from 8:30 AM to 5:00 PM EST

For more information on our products, visit us at:
www.aubetech.com

ENERGY STAR

As an ENERGY STAR® partner, Aube Technologies has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Installation Instructions

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

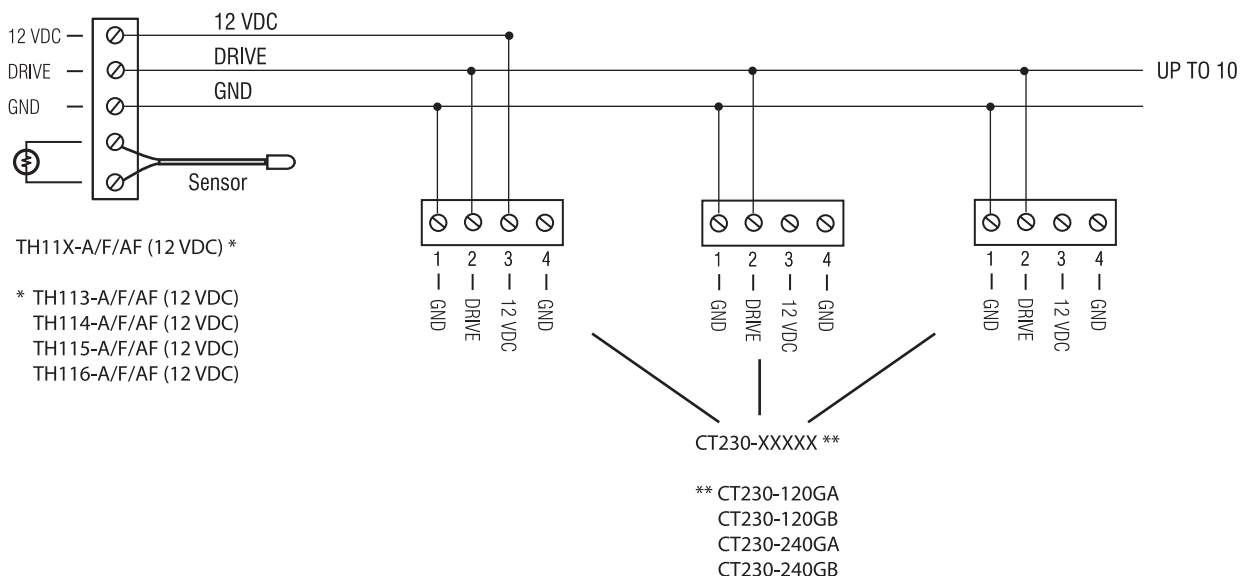The slave units can operate on different voltages (e.g. 5 units @ 120 V and 5 @ 240 V).

- **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.

❶ 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.

❷ Affix the wiring sticker (in the CT230 box) to the base.

❸ Connect the slave power bases together as per FIGURE 1.

❹ Once installation and wiring is complete, mount the CT230 interface:
   a) Align the bracket tabs of the CT230 with the holes located on top of the power base.
   b) Secure the CT230 interface using the screw (captive).
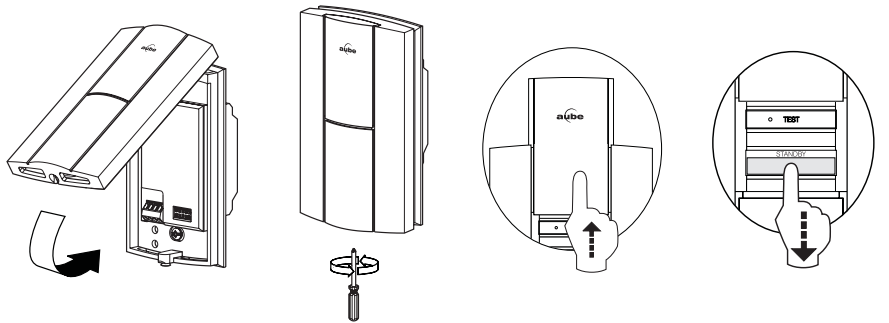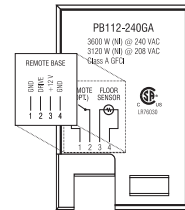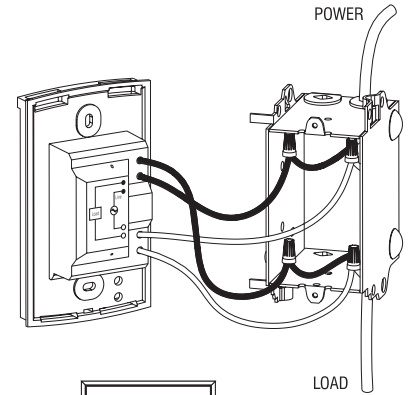
❺ Switch all slave power bases to STANDBY by sliding the protective door upwards and positioning the switch to STANDBY.
Install and connect the master unit (see 3.3).

FIGURE 1
Connections

TH11X-A/F/AF (12 VDC) *

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

UP TO 10

CT230-XXXXX **

** CT230-120GA
   CT230-120GB
   CT230-240GA
   CT230-240GB

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.

❻ 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).

❼ 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.

❽ Once the thermostat is installed, return power to heating system and switch all slave units and the master thermostat to ON.
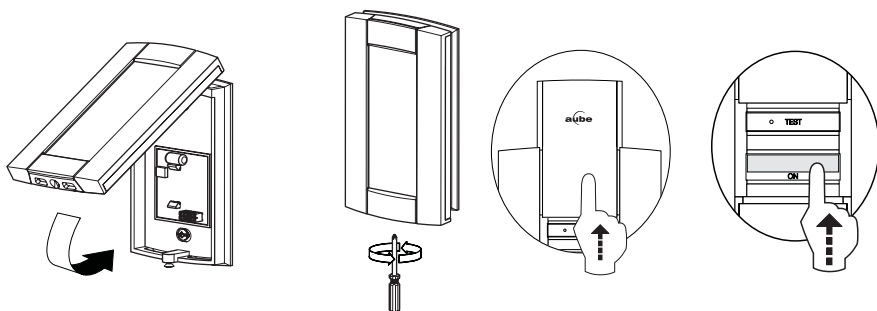
3.4 Slave Units - GFCI Test

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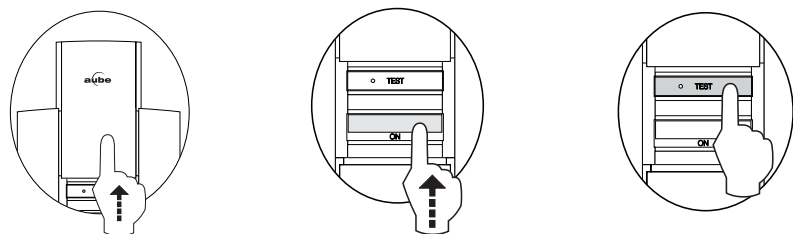
❶ Slide the protective door upwards and make sure the switch is ON.

❷ 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

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

❹ 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)

Power supply	12 V from remote unit
Maximum slave units	up to 10 slave units per master thermostat
Wire gauge	20 AWG
Size (H • W • D) BASE	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

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

Service

If you have any questions concerning the installation of the master thermostat or slave units, contact our technical support team at:

Montreal area:	(450) 358-4600
Canada / U.S.:	1-800-831-AUBE (2823)
Fax:	(450) 358-4650
Email:	service@aubetech.com

Monday to Friday from 8:30 AM to 5:00 PM EST.

For more information on our products, visit us at www.aubetech.com

Warranty

AUBE TECHNOLOGIES INC.
ONE (1) YEAR LIMITED WARRANTY
This product is guaranteed against workmanship defects for a one year period following the initial date of purchase. During this period, AUBE Technologies Inc. will repair or replace, at our option and without charge, any defective product which has been used under normal conditions.
The warranty does not cover delivery costs and does not apply to products poorly installed or randomly damaged following installation. This warranty cancels and replaces any other manufacturer's express or implied warranty as well as any other company commitment.
AUBE Technologies Inc. cannot be held liable for related or random damages following the installation of this product. The defective product as well as the purchase invoice must be returned to the place of purchase or mailed, prepaid and insured, to the following address:

Aube Technologies Inc.
705 Montrichard
Saint-Jean-sur-Richelieu, Quebec,
Canada J2X 5K8