ENGLISH
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LG
Life's Good

INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product.
Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
Please retain this installation manual for future reference after reading it thoroughly.

2 Points Dry Contact (For Setback)
Original instruction

LG Electronics Inc.
Manufacturer: LG Electronics Inc. Changwon 2nd factory, 84, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, KOREA

MFL70585311
Rev.05_042424

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TABLE OF CONTENTS

3 Overview

4 Important Safety Instructions

6 Part Description

7 Installation

8 Setting and using method

8 Power supply and indoor unit connection

9 Setting of Contact Signal Input

10 Setting the desired temperature

11 Control mode setting

17 Indoor unit monitoring

ENGLISH

FCC Statement

This equipment generates and uses ISM frequency energy and if not installed and used properly, that is in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with limits for ISM Equipment pursuant to part 18 FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause 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:

- Reorient or relocate the receiving antenna of the radio or television.
- 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.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibility of the user to correct such interference.

Supplier's Declaration of Conformity

47 CFR §2.1077 Compliance Information

Trade Name: LG
Responsible Party: LG Electronics USA, Inc.
Address: 111 Sylvan Avenue, North Building Englewood Cliffs, NJ 07632
Email: lg.environmental@lge.com

FCC Compliance Statement

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.

Overview

LG Dry Contact is a solution for automatic control of air conditioning system at the owner's behest. In simple words, it's a switch which can be used to turn the unit On/Off after getting the signal from external sources like key-in lock, door or window switch etc specially used in Hotel rooms. It's a small PCB that either can be fit inside the control box of Indoor unit or can be outside the unit in a plastic case if there is no sufficient space inside the Indoor unit. Apart from simple installation, it can also be linked to Central Controller via Indoor unit PI485 pcb. For this, all connecting wires & an additional small pcb for looping is also provided along with Dry Contact.

Dry Contact can be used in two ways.

1. It can be used to actually turn On/Off the system on receiving the signal from the source. In this case, user doesn't need to use remote controller anymore to turn On/Off the system. However all the further settings like temperature, fan speed, mode etc can be done through remote controller only.
2. Other way is almost similar as above but in this case, after getting the On signal from the external source, user has to turn On the system from remote controller only. Dry contact just activates the system. However system can be turned Off directly from the external source. So only On mode is different here.

So in both of above conditions, system can't be operated without signal from external source which prevents unnecessary use of system & facilitates its operation only when its required. These settings can be selected from the remote controller whose details have been explained in the later part of this manual.

So depending upon the requirement, Dry Contact offers a variety of applications to suit the customer's requirement in the best possible way.

❉ If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

❉ Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

❉ Qualified service technician is only possible to access to product.

Important Safety Instructions

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product.

⚠ WARNING

It can result in serious injury or death when the directions are ignored.

⚠ CAUTION

It can result in minor injury or product damage when the directions are ignored.

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

Installation

- Be sure to request to the service center or installation specialty store when installing products. It will cause fire or electric shock or explosion or injury.
- Request to the service center or installation specialty store when reinstalling the installed product. It will cause fire or electric shock or explosion or injury.
- Do not disassemble, fix, and modify products randomly. It will cause fire or electric shock.
- Be sure to turn off power before installation. It will cause electric shock.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Always perform grounding. Otherwise, it may cause electrical shock.
- You need to use a safely insulated power supply which follows IEC61558-2-6 anc NEC Class2. If you do not follow, It may cause fire, electric shock, explosion or injury.
- Securely attach the electrical part cover to Module. If the electric part cover of Module is not attached securely, it could result in a fire or electric shock due to dust, water, etc.
- Make the connections securely so that the outside force of the cable may not be applied to the terminals. Inadequate connection and fastening may generate heat and cause a fire.

In-use

- Do not place flammable stuffs close to the product. It will cause fire.
- Do not allow water to run into the product. It will cause electric shock or breakdown.
- Do not give the shock to the product. It will cause breakdown when giving the shock to the product.
- Request to the service center or installation specialty store when the product becomes wet. It will cause fire or electric shock.
- Do not give the shock using sharp and pointed objects. It will cause breakdown by damaging parts.

- Do not touch the board when the power is connected. It can cause a fire, electric shock, explosion, injury and problem to the product.
- Unplug the unit if strange sounds, smell, or smoke comes from it. Otherwise, it may cause electrical shock or a fire.
- The appliance must only be supplied at safety extra low voltage corresponding to the marking on the appliance.
- This appliance is not intended to be accessible to the general public.

⚠ CAUTION

In-use

- Do not clean using the powerful detergent like solvent but use soft cloths. It will cause fire or product deformation.
- Do not press the screen using powerful pressure or select two buttons. It will cause product breakdown or malfunction.
- Do not touch or pull the lead wire with wet hands. It will cause product breakdown or electric shock.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

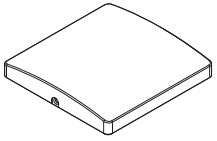
Installation

- If anyone other than a licensed professional installs, repairs, or alters LG Electronics air conditioning products, the warranty is voided.
  - All costs associated with repair are then the full responsibility of the owner.
- Do not install the unit in potentially explosive atmospheres.

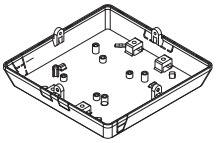
Minimum cross-sectional area of conductors

Rated current of appliance A			Nominal cross-sectional area mm²
		≤0.2	Tinsel cord [a]
>0.2	and	≤3	0.5 [a]
>3	and	≤6	0.75
>6	and	≤10	1.0 (0.75)[b]
>10	and	≤16	1.5 (1.0)[b]
>16	and	≤25	2.5
>25	and	≤32	4
>32	and	≤40	6
>40	and	≤63	10

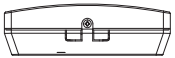
Part Description



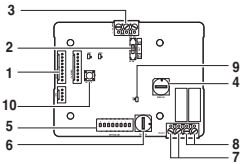
Front Case



Rear Case



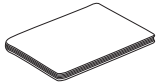
Side



PCBA



Cable 1EA
(for connecting with indoor unit)



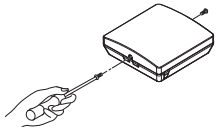
Installation Manual

*Other : Screw (For installation, 4EA)

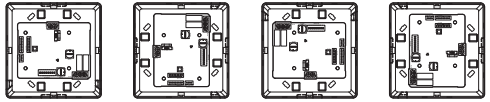
DRY CONTACT FOR SETBACK	
1. CN_INDOOR	: Connect communication wire between indoor unit and Dry Contact For Setback and supply power to Dry Contact For Setback
2. VS_SW	: Switch to select voltage (5 V-12 V) of contact point
3. CN_OPER	: Contact point signal input
4. OPER_SW	: Switch to select the control mode
5. SETTING_SW	: Switch to select whether to use set function of Dry contact for setback
6. TEMP_SW	: Switch to set the desired temperature of the indoor unit
7. CN_OUT (O1, O2)	: Connector to show whether the indoor unit is operating
8. CN_OUT (E3, E4)	: Connector to show whether there is an error with the indoor unit
9. LD01	: LED to display the status of the Dry Contact For Setback
10. RST_SW	: Reset switch

Installation

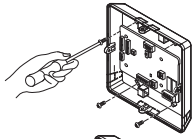
1) Loosen and remove two screws that secure the product.



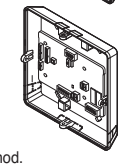
2) Position the rear case to the direction towards to the connector for convenient cable arrangement.



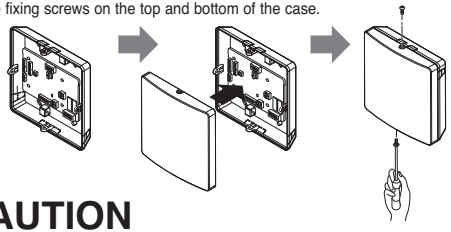
3) Secure the rear case on the installation place using the supplied fixing screws.



4) Remove knock out shapes on the rear case (4-sided) according to the connector's size and direction.



5) Connect the connection wires properly according to the connection method.
(Refer to the instruction and set-up description)
6) Set the switch according to the setting method. (Refer to the instruction and set-up description)
7) Tighten the fixing screws on the top and bottom of the case.



⚠ CAUTION

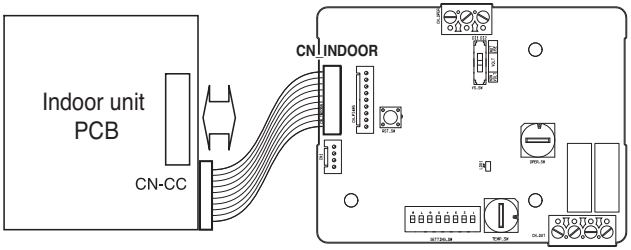
1. Install the product on flat surface and install anchoring screws at more than 2 places. Otherwise the controller may not be anchored properly.
2. Do not tighten anchoring screws too tightly. It may cause deformation of the case.
3. Do not deform the case at random. It may cause malfunction of the controller.

Setting and using method

You must press the RESET switch when you are completed with all the settings to reflect the settings.

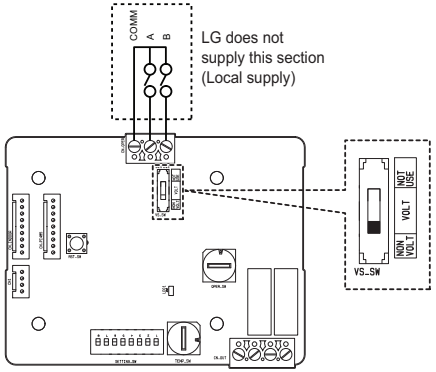
Power supply and indoor unit connection

■ When using the Dry Contact For Setback independently

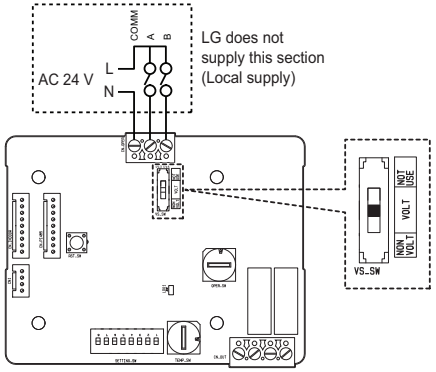


Setting of Contact Signal Input

■ For no power contact point signal input



■ For power contact point signal input

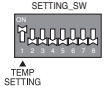


Setting the desired temperature

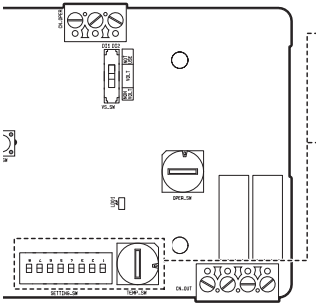
■ When setting the desired temperature of the Dry Contact For Setback

: When operating the indoor unit, set the desired temperature according to the TEMP_SW setting.
When the indoor unit is unlocked, the desired temperature can be reset by other controller

1) Turn on the TEMP_SETTING switch of SETTING_SW.



2) Use the TEMP_SW to set the temperature as shown below.



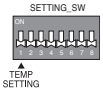
Desired temperature setting table

TEMP SW setting	0	1	2	3	4	5	6	7
Temperature setting(℃)	18	19	20	21	22	23	24	25

TEMP SW setting	8	9	A	B	C	D	E	F
Temperature setting(℃)	26	27	28	29	30	30	30	30

■ When not using the desired temperature setting of Dry Contact For Setback

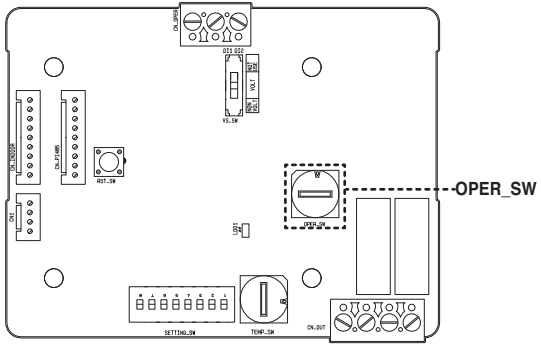
1) Turn off the TEMP_SETTING switch of SETTING_SW.



• When operating the indoor unit initially with Dry Contact For Setback, set the desired temperature to 18°C.

Control mode setting

■ Use the OPER_SW to set the control mode you want from 0~F.



• Indoor control priority
Central control > Dry Contact For Setback > Wired/Wireless remote controller, indoor unit button
• Dry Contact For Setback controls the indoor unit according to the applicable mode when there is a change in input of A and B.

■ Description of each control mode

1) Cancel mode for use of Dry contact for setback

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
0		OFF	OFF	The indoor unit cannot be controlled through the Dry contact for setback No change in indoor unit condition
		ON	OFF	
		OFF	ON	
		ON	ON	

• Set this when the Dry Contact For Setback is connected but not used.

2) General mode

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
1		OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Unlocked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit stopped, locked
2		OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Indoor unit operating, unlocked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit stopped, locked
3	Use TEMP_SW 	OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Indoor unit stopped, locked
		OFF	ON	Unlocked
		ON	ON	Indoor unit operating, unlocked
4		OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Indoor unit stopped, locked
		OFF	ON	Unlocked
	Not Use TEMP_SW 	ON	ON	Unlocked
5		OFF	OFF	Locked
		ON	OFF	Locked
		OFF	ON	Locked
		ON	ON	Unlocked
6		OFF	OFF	Locked
		ON	OFF	Locked
		OFF	ON	Locked
		ON	ON	Indoor unit operating, unlocked

3) Fan level setting mode

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
7	Use TEMP_SW 	OFF	OFF	Indoor unit operating at low level, locked
		ON	OFF	Indoor unit operating at low level, unlocked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit stopped, locked
8	Not Use TEMP_SW 	OFF	OFF	Indoor unit operating at low level, locked
		ON	OFF	Indoor unit operating at low level, unlocked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Unlocked

- **When the indoor unit is operating with a Dry Contact For Setback, the fan level can be changed by other controller when the fan level is set to low level and the indoor is in unlocked condition.**

4) Power save mode

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
9		OFF	OFF	Indoor unit operating in power save mode, locked
		ON	OFF	Indoor unit operating in power save mode, unlocked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit operating, unlocked
A		OFF	OFF	Indoor unit operating in power save mode, locked
		ON	OFF	Indoor unit operating in power save mode, unlocked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit stopped, locked

- **Power save mode: Adjust the set temperature to +3°C for cooling and -3°C for heating.**

5) Compressor stop mode

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
B	Use TEMP_SW 	OFF	OFF	Indoor unit operating (Compressor in stop mode), locked
		ON	OFF	(Compressor not in stop mode), unlocked
	Not Use TEMP_SW 	OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit stopped, locked

• **Compressor stop mode: The compressor is stopped during cool/heat operation.**

6) Operating mode selection mode

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
C	Use TEMP_SW 	OFF	OFF	Indoor unit stopped
		ON	OFF	Indoor unit in cool/high operation
		OFF	ON	Indoor unit in heat/high operation
		ON	ON	Indoor unit in fan/high operation
D	Not Use TEMP_SW 	OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Indoor unit in cool/high operation, locked
		OFF	ON	Indoor unit in heat/high operation, locked
		ON	ON	Indoor unit in fan/high operation, locked

7) Compressor stop mode when interlocking with Economizer

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
E		OFF	OFF	(Compressor not in stop mode), unlocked, occupied
		ON	OFF	(Compressor in stop mode), unlocked, occupied
		OFF	ON	(Compressor not in stop mode), unlocked, unoccupied
		ON	ON	(Compressor in stop mode), unlocked, unoccupied
		OFF	OFF	(Compressor not in stop mode), unlocked
		ON	OFF	(Compressor in stop mode), unlocked
		OFF	ON	(Compressor not in stop mode), unlocked
		ON	ON	(Compressor in stop mode), unlocked
4		OFF	OFF	Mechanical Cooling Off (Economizing)
		ON	OFF	Mechanical Cooling ON
		OFF	ON	Mechanical Cooling Off (Economizing)
		ON	ON	Mechanical Cooling ON
		OFF	OFF	Mechanical Cooling Off (Economizing), unoccupied
		ON	OFF	Mechanical Cooling ON, unoccupied
		OFF	ON	Mechanical Cooling Off (Economizing), occupied
		ON	ON	Mechanical Cooling ON, occupied

8) Occupancy Sensor

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
F		OFF	OFF	Occupied, unlocked
		ON	OFF	Unoccupied, unlocked
		OFF	ON	Occupied, locked
		ON	ON	Unoccupied, locked

9) Extended mode

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
0		OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Indoor unit stopped, locked
		OFF	ON	Indoor unit stopped, locked
		ON	ON	Indoor unit prior operating condition maintained, unlocked
1		OFF	OFF	Indoor unit stopped, unlocked
		ON	OFF	Indoor unit stopped, unlocked
		OFF	ON	Indoor unit stopped, unlocked
		ON	ON	Indoor unit prior operating condition maintained, unlocked

10) Refrigerant leakage solution for Hotel

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
2		OFF	OFF	Indoor unit stopped, locked
		ON	OFF	Unlocked
		OFF	ON	Indoor unit operating, unlocked
		ON	ON	Unlocked

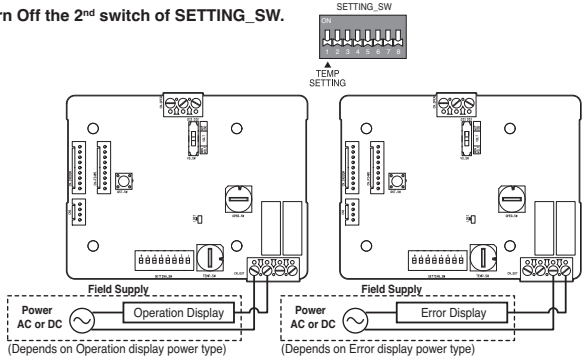
11) Keep cooling in unoccupied

OPER_SW	SETTING_SW	Input A	Input B	Operating mode
3		OFF	OFF	Operation (in cooling mode), locked
		ON	OFF	Restore previous operation status, unlocked
		OFF	ON	Not use
		ON	ON	Not use

Indoor unit monitoring

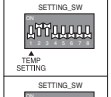
■ Monitoring operation and error status : Refer to below and connect to the control device that you want to control.

1) Turn Off the 2nd switch of SETTING_SW.

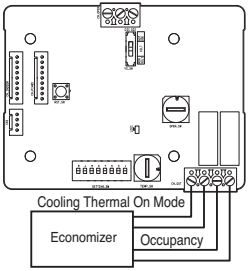


■ Cooling, Thermal On Mode and Occupancy output : This relay output Is for interlocking with economizer.

1) Set OPER_SW and SETTING_SW like below.

OPER_SW	SETTING_SW	OPER_SW	SETTING_SW
E		4	

❉ Refer to the description of each control mode.



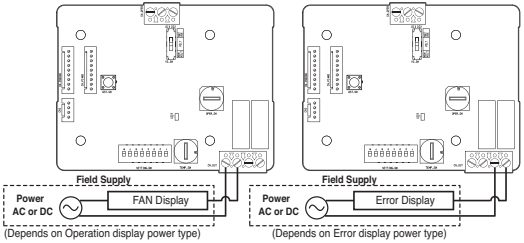
· When Indoor unit is operating as Cooling Thermal On Mode Relay output is closed.

■ Monitoring fan and error status : Refer to below and Connect to the control device that you want to control.

1) Turn on the 3rd switch of SETTING_SW.



2) Set OPER_SW to F.



⚠ CAUTION

When using local supply, do not use high voltage more than DC 12 V (0.5 A), AC 24 V (0.5 A).

ENGLISH

■ Refrigerant leakage solution for Hotel : Indoor unit which installed refrigerant leakage sensor generates an error 'CH230' when Indoor Unit detect a leakage of refrigerant. When Drycontact receive 'CH230' error, output ports operate to prevent leakage of refrigerant.

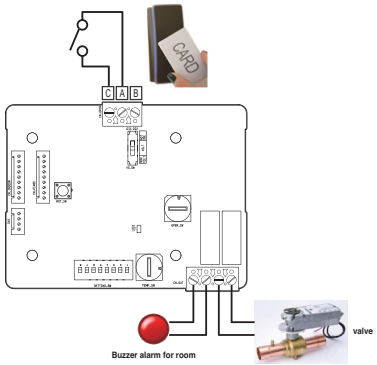
1) Turn on the 4th switch of SETTING_SW



2) Set OPER_SW to '2'

- Output ports E3, E4 will be close until power reset
- Output ports O1, O2 will be close for 60 seconds and open again

* These output ports operate in only refrigerant leakage error status.



US	Please call the installing contractor of your product, as warranty service will be provided by them.
CANADA	Service call Number # : (888) LG Canada, (888) 542-2623 Numéro pour les appels de service : LG Canada, 1-888-542-2623