User Manual RBW322-FTL-315

RBW322-FTL-315 Room Control Module

Application

Solar-powered room control module with LCD and controls, with intelligent communication management for measuring room temperature and for wireless transmission of measured values, occupancy, setpoint and weekly schedule.

For direct communication with the technoLink® MD15-FTL-315 wireless small actuator, the RBW322-FTL-315 supports the non-proprietary EnOcean wireless protocol A5-20-01 (Battery Powered Actuator) using an integrated wireless interface.

Together with the MD15-FTL-315 function units, the RBW322-FTL-315 constitutes a functional unit for easy room temperature control.

The user manual of the RBW322-FTL-315 and the MD15-FTL-315 are valid related closely. Follow the instructions and explanations in both user manuals.



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General Information

Information about the Manual

This manual contains information on the product RBW322-FTL-315 and its operation. Each person who carries out work on this product must have read and understood this manual. If you have any questions that are not resolved by this manual, you can obtain further information from your service technician.

If the product is not used in accordance with this data sheet, the intended protection will be impaired. Therefore, please observe the following items without fail:

- ▶ This manual is an integral part of the device. Please keep it in the immediate vicinity of the device.
- The manual must be retained throughout the entire service life of the device.
- ▶ The manual must be passed along to any subsequent owner or user.



NOTE

This manual describes the specific settings and functions of the RBW322-FTL-315. In addition to these instructions, the product description of the MD15-FTL-315 wireless partner must also be observed.

Copyright

Reproduction (including excerpts), recovery or transfer of any content without a written declaration of the manufacturer is not allowed.

Notes on Disposal

The product is considered waste from electrical and electronic equipment (electronic waste) and may not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.



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Symbol Declaration

Safety Instructions

Hazardous situations during installation, commissioning and operating the device are indicated by safety instructions. They are indicated by signal words which express the severity of the hazard.

A DANGER!

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

A CAUTION

Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

Warns against a possible hazardous situation that could lead to property and environmental damage.

Notes

Supplementary information can be found in the notes:



NOTE

Indicates additional information and important details that can simplify working with the product.

Enumeration Signs

There are two other signs which make this manual easier to use:

- Indicates a list point.
- Indicates an activity you have to do.



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Safety

Safety Instructions

To minimize hazards to life and limb, the environment and the machine safety, please observe the following items:

- ▶ Read all safety instructions in this manual in order to prevent injuries and damage to the device or any equipment connected to it.
- ▶ To avoid potential hazards, only operate the product according to its intended use.
- Observe these notes as well as the safety instructions in the following sections of this manual.

Intended Use

Together with the MD15-FTL-315, the RBW322-FTL-315 constitutes a functional unit for easy room temperature control.

Only the MD15-FTL-315 actuator is authorized for use.

Modifications to and retrofitting of the device could result in unforeseeable dangers and are thus prohibited.

Please also observe the following items:

- Do not operate the device under wet or moist ambient conditions.
- ▶ Do not operate the device in a potentially explosive atmosphere.
- Keep the product surface clean and dry.

As an Operator, What May You Do?

You may only perform the following settings on the device:

- Setting the setpoint. (See "Setting Setpoint" on page 9.)
- Set the party mode. (See "Setting Party Mode (Usage Time Extension)" on page 10.)
- Setting the vacation mode. (See "Setting Vacation Mode" on page 10.)
- Setting the weekly schedule. (See "Setting the Weekly Schedule" on page 11.)
- Delete usage time. (See "Delete usage time" on page 12.)
- Setting the setpoints for comfort mode and reduced temperature mode. (See "Setting the Setpoints for Comfort Mode and Reduced Temperature Mode" on page 12.)
- Setting the time and date. (See "Setting the Time and Date" on page 13.)
- Setting the 12/24 hour display. (See "Setting the 12/24 Hour Display" on page 13.)
- Switching the temperature unit to °C/°F. (See "Switching the Temperature Units °C/°F" on page 14.)
- Maintenance and cleaning. (See "Maintenance and Cleaning" on page 14.)
- Information about contacting customer service in case of operating and malfunction messages. (See "Operating and Malfunctioning Messages" on page 15.)



NOTE

Mounting, installation, commissioning and troubleshooting may only be performed by a service technician. Improper changes by the operator can lead to malfunction and impairment of the service life.

Customer Service

For technical information or in the case of problems, please contact your service technician. You can find the contact information on the back of the manual.



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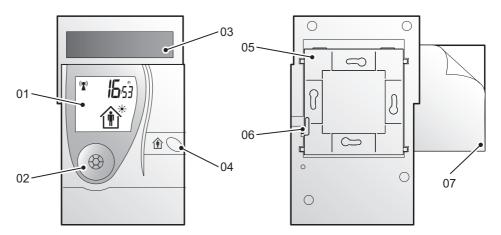
Equipment Description

Along with the MD15-FTL-315 units, the RBW322-FTL-315 constitutes a functional unit for room temperature control. It is used for controlling the temperature in residential and commercial areas (households, office buildings, hotels, school buildings under specific circumstances).

Before both wireless partners can communicate with each other, the MD15-FTL-315 must be teached-in on the RBW322-FTL-315. This procedure only needs to be performed once. Generally, both wireless partners can be automatically synchronized with each other after a connection failure, e.g. as caused by malfunctions (See "System Malfunction" on page 15.).

Control of the RBW322-FTL-315/MD15-FTL-315 controller set is assumed by the RBW322-FTL-315.

Components



01	Display	Displays information on the current status of controller set RBW322/MD15.
02	Rotary knob	When switching on the device for the first time and to select values.
03	Solar cell	Generates energy for internal energy storage units
04	Occupancy button	Select between "Present" and "Absent"
05	Holding plate	Fastens the RBW322-FTL-315 operator panel
06	Bar	Fastens the RBW322-FTL-315 operator panel to the holding plate
07	Adhesive pad	Bonds the holding plate to even surfaces



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Operating Modes

Because different rooms are used in different ways, temperature control based on use is more energy-efficient. Rooms that are used in different ways need different temperature profiles.

In order to maintain a desired a temperature in a room, two different operating modes can be used:

Comfort Mode: Operating mode for a room that is in use ("present" mode). The controller

operates with the specified comfort setpoint. The room temperature remains

set in a comfortable range.

ture Mode:

Reduced Tempera- Energy-saving operating mode ("absent"/economy mode) for a room that is

not in use. The controller operates with a reduced setpoint.

Configurations

These operating modes are determined by following configurations, which can be set in the configuration level of the room control module:

Weekly Schedule The timetable with comfort mode or reduced temperature mode is set from

MOFR: Monday to Friday.

Weekly Schedule The timetable with comfort mode or reduced temperature mode is set for

SASU: Saturday and Sunday

Weekly Schedule The timetable with comfort mode or reduced temperature mode is set from

MOSU: Monday to Sunday

Party Mode: You can use the comfort mode longer than registered in the timetable for a

maximum of 8 hours after the comfort mode ends.

Vacation Mode: If you do not use the room for a longer period of time you can set the days in

which you are not present. The room control module will use the reduced

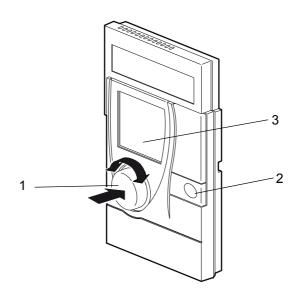
temperature mode on these days.



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Operation Elements and Display

The RBW322-FTL-315 and MD15-FTL-315 operate automatically. Basic settings are performed on the RBW322-FTL-315 operator panel.



1	[Rotary knob]	Turn: Set value (e.g. setpoint).
	+	Turn counter-clockwise: Reduce value.
	[Confirmation button]	Turn clockwise: Increase value.
		Press: Change levels or confirm display setting.
2	Î	Occupancy button: Switch between "Present" (comfort mode) and "Absent" (reduced temperature mode).
3	Display	Displays the most current information of the room control module.



NOTE

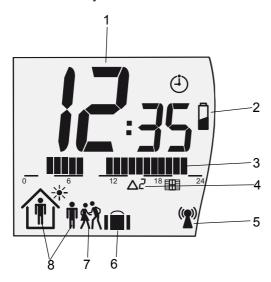
If the occupancy button is switched to "absent" (reduced temperature mode) during an active usage time, the reduced temperature mode is active until the next switching point (start time) for "comfort mode".



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Indicators on the Display

To show the latest information of the room control, the RBW322-FTL-315 has a large display with clear indicators and symbols.



1	Time	Initial display
2	Energy storage indicator	The indicator appears when the remaining charge of the RBW322-FTL-315 energy storage unit is < 10%.
3	Weekly schedule	Current daytime usage times
4	Operating message and malfunction message	12 or 24 hour display or the number of the usage time
5	Wireless control indicator	Wireless icon shown = wireless communication present, at least one wireless partner has been teached-in Wireless icon not shown = no wireless communication present, no wireless partners have been teached-in or all wireless partners are malfunctioning. Wireless icon flashes = radiogram in transmission / teach-in process.
6	Vacation mode indicator	This icon appears on the display when vacation mode is activated.
7	Party mode	This icon appears on the display when party mode is activated.
8	Occupancy indicator	Indicates whether a room is occupied or not. The person is in the house: The room is in use. The person is next to the house: The room is not in use.



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Operations and Settings

At the operating and configuration level you can configure and set the RBW322-FTL-315 according to your requirements.

Operating Level

In the operating level you can choose the setpoint for the comfort mode.

You can reach the operating level in the following way:

- Press the rotary knob briefly for 2 seconds.
- Turn it to reach the operating level.
- Press the rotary knob.



NOTE

You have two possibilities to set the setpoint for the comfort mode (operating level, configurating

Setting Setpoint



The setpoint can only be changed in comfort mode (i).



Briefly press the rotary knob.

The setpoint indicator flashes for 2 seconds.

Set the desired setpoint by turning the rotary knob.

The new selected value flashes for approx. 2 seconds; it is then automatically applied and the room control module switches to the initial display.

A new setpoint can also be applied:

- ▶ Press the rotary knob for approx. 2 seconds.
- Set the setpoint by turning the rotary knob.
- Press the rotary knob.

Configuration Level

In the configuration level you can set the party mode, the vacation mode, the weekly schedule, the setpoint for comfort mode and reduced temperature mode, the time and date, the 12/24 hour display and you can switch the temperature units °C/°F.

You can reach the operating level in the following way:

- Press the rotary knob briefly for 2 seconds and turn to reach the operation level.
- Turn it to reach the service level.
- Press the rotary knob.
- ▶ Turn the rotary knob clockwise to select the individual setting functions, beginning with the party mode function.



NOTE

The individual setting functions are ended if the rotary knob is pressed for approx. 2 seconds or if no settings are entered within approx. 30 seconds.



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Setting Party Mode (Usage Time Extension)



The maximum party time is 8 hours.

This can be set in steps of 30 minutes.

- Press the rotary knob for 2 seconds.
- ▶ Turn the rotary knob clockwise to select the party mode function.



Press the knob briefly; the display flashes.
 Current time = start of party mode (usage time extension).



- ➤ Set the end time for party mode (usage time extension) by turning the knob.

 The selected comfort mode extension (usage time extension) is shown in the display by the bar indicator.
- ➤ Confirm the entry by briefly pressing the rotary knob.

 The display switches back to the initial display.

The comfort mode extension is effective immediately and comfort mode is switched on. The activated party mode is indicated by the party icon on the display.



► End the party mode prematurely by pressing the occupancy button.

Setting Vacation Mode



- Press the rotary rotary knob for 2 seconds.
- ▶ Turn the rotary rotary knob clockwise to set the vacation mode.



Set the Vacation Start

- ► Briefly press the rotary knob. The month display flashes.
- ▶ Set the month by turning the rotary knob.
- Confirm setting by pressing the rotary knob.
- ▶ Set the day by turning the rotary knob.
- Confirm setting by pressing the rotary knob.



Set the Vacation End

- Set the month by turning the rotary knob.
- ► Confirm setting by pressing the rotary knob.
- Set the day by turning the rotary knob.
- ► Confirm setting by pressing the rotary knob.

The display switches back to the initial display.



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Vacation mode begins at 00:00 (12 AM) on the set start date and ends at 24:00 (midnight) on the set end date.

If a vacation time is set and has not yet begun, the initial display.



If vacation mode is active, the vacation end date and the **part is** icon are shown on the display. If vacation mode is active, the controller operates in reduced temperature mode. Once the set vacation time has elapsed, the vacation mode function is deleted and the display switches back to the initial display.

End an Active Vacation Mode Prematurely

Press the rotary knob for 2 seconds.

Delete or End Vacation Mode

Set vacation start equal to vacation end. Perform settings as described above.



NOTE

Vacation time must be at least 2 days long, and does not work retroactively.

If a vacation start date is entered which is before the current date, the set dates will not be active until the next calendar year.

Setting the Weekly Schedule

Up to 4 usage times can be set per day. A usage time consists of a start time and an end time (usage time block). This can be set in steps of 15 minutes.

A weekly schedule is available with the following setting ranges:

- MOFR Monday Friday
- SASU Saturday Sunday
- MOSU Monday Sunday
- Individual days MO, TU, WE, TH, FR, SA and SU



- Press the rotary knob for 2 seconds.
- ▶ Turn the rotary knob clockwise to select the weekly schedule function.



Press the rotary knob.

First usage time/start time is displayed and flashes, icon is active.

- Turn the rotary knob to set the start time.
- Press the rotary knob to confirm the setting.



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- ► Turn the rotary knob to set the end time.
- ▶ Press the rotary knob to confirm the setting.

The display switches to the start time of the second usage time. Set the **second**, **third and fourth usage times**, if desired.

The setting procedure is the same as for the first usage time block.

The display also shows in which usage time block (1) was just set.



The usage times of the current day are shown by the bar indicator on the display.

If a usage time is active, the controller operates in comfort mode. In addition, this icon is shown on the display.

If the current time is outside of the set usage time block, reduced temperature mode is active. In addition, the \bigwedge_{i} icon is shown on the display.

Delete usage time



NOTE

Deleting a usage time automatically deletes all subsequent usage times within a day range. So be careful to select the correct day range for deletion.

- Select the end time of the usage time block to be deleted as described above.
- ► Turn the rotary knob left until the end time = start time and then press the rotary knob.

The corresponding usage time is deleted and is no longer displayed.

Setting the Setpoints for Comfort Mode and Reduced Temperature Mode



- Press the knob for 2 seconds.
- ▶ Turn the knob clockwise to select the setpoint function (temperature display).



Press the rotary knob.

The setpoint for comfort mode flashes and can now be set.

The nicon is active.

Confirm the chosen setpoint for comfort mode by pressing the rotary knob.



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► The setpoint for reduced temperature mode flashes and can now be set. The icon is active.

Confirm the chosen setpoint for reduced temperature mode by pressing the rotary knob.

Factory setting: Comfort mode setpoint: 20 °C

Reduced temperature mode setpoint: 15 °C

Setting the Time and Date



Press the rotary knob for 2 seconds.

- ► Turn the rotary knob clockwise and select the TIME function "Time + Date".
- Press the rotary knob.

The hour, minutes, year, month and day can then be set in sequence.

The values to be set are always flashing.

- Set the hour.
- ▶ Press the rotary knob and confirm the setting.
- Set the minutes.
- Press the rotary knob and confirm the setting.
- ► Set the day.
- ▶ Press the rotary knob and confirm the setting.
- Set the month.
- ▶ Press the rotary knob and confirm the setting.
- Set the year.
- Press the rotary knob and confirm the setting.

Daylight saving time switching occurs automatically according to Central European standards.

Factory setting: Current Central European Time

Setting the 12/24 Hour Display



- ▶ Press the rotary knob for 2 seconds.
- ▶ Turn the rotary knob clockwise to access the 12/24 hour display.
- ▶ Press the rotary knob.



- ► Set 12 or 24 hours display.
- ▶ Confirm the setting by pressing the rotary knob.



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Set the Vacation Start

- Briefly press the rotary knob.
 The month display flashes.
- ▶ Set the month by turning the rotary knob.
- ► Confirm setting by pressing the rotary knob.
- ▶ Set the day by turning the rotary knob.
- ► Confirm setting by pressing the rotary knob.

Factory setting: 24 hours

Switching the Temperature Units °C/°F



- Press the rotary knob for 2 seconds.
- ► Turn the rotary knob clockwise to select the temperature units °C/°F.
- ► Press the rotary knob.



➤ Set the desired temperature units and confirm by pressing the rotary knob. The display switches to the initial display.

Factory setting: °C

Maintenance and Cleaning

Maintenance

For the RBW322-FTL-315 no maintenance is required.

Cleaning

- ▶ Clean the room control module with a lint-free and dry cloth.
- Do not use any aggressive cleaning agents.



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System Malfunction

The room control module provides information about the current status of the RBW322-FTL-315/MD15-FTL-315 controller set and any occurring malfunctions. The messages are shown on the display.

Operating and Malfunctioning Messages

Icon on display	Problem	Solution
ΔΙ	Wireless communication with at least one teached-in wireless partner has been interrupted for more than one hour.	Report the malfunction to your service technician.
	If no signal is received from the MD15-FTL-315 for a long period of time because the batteries are dead,	
	the icon switches to $\triangle 2$.	
	If wireless communication to all teached-in wireless partners is inter- rupted, the wireless icon is also no longer displayed.	
Δ?	Wireless communication with at least one teached-in wireless partner has been interrupted for more than four hours and a resynchronization has failed.	Report the malfunction to your service technician.
	If wireless communication to all teached-in wireless partners is inter- rupted, the wireless icon is also no longer displayed.	
ΔE	 The battery capacity of at least one MD15-FTL-315 is too low (<10%). If no signal is received from the MD15-FTL-315 for a long period of 	 Replace the MD15-FTL-315 batteries. When doing this, observe the section on battery replacement in
	time because the batteries are dead,	the chapter "Operating and Mal-
	the icon switches to $\triangle 2$	function Messages" in the MD15-FTL-315 operating instructions.
△8	Room control module defective, super- sedes all other messages.	Report the malfunction to your service technician.
	■ The battery capacity of the RBW322-FTL-315 is too low (<10%).	Report the malfunction to your service technician.
	The wireless icon will not be shown.No wireless connection exists!	Report the malfunction to your service technician.
	■ No teached-in wireless partner exists.	
	■ All wireless partners are defective.	



NOTE

You will find the contact data of your service technician at the end of the manual. See "Contacting Kieback&Peter Representatives" on page 20.



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Technical Specifications

Technical Data

Power: Dual power supply consisting of a solar cell and an internal energy

storage unit with priority management:

■ Internal energy storage uses 2 replaceable 3.6 V AA lithium batteries

Measured value: Room temperature of spaces in homes or offices

Measuring system: Integrated digital sensor
Temperature units: can be set to °C or °F
Measuring range: 0 to 50 °C or 32 to 122 °F

Relative measurement

precision:

0.1 K

Display: LCD:

■ Time

Weekly schedule

Icon display to indicate operating mode
 Setpoint in the temperature units selected
 10.0 to 30.0 °C, in 0.1 K increments

or 50 to 85 °F, in 1 °F increments

Controls: Knob with confirmation button for setting: setpoint, party mode, vaca-

tion mode, weekly schedule, time, date, display options (e.g. 12/

24 hour display) and service data

(i) Occupancy button: manually switch between present/absent

Interfaces: technoLink® wireless interface:

■ Wireless telegram: EnOcean wireless telegram, bidirectional

■ Frequency: 315 MHz

Operating range: Approx. 1181.1 inches in buildings (depending on

building structure)

■ Duty cycle: < 1%

Cyclic transmission/reception intervals

Transmission power: < 10 mW

Illumination strength: Min. 150 lux recommended

Operating range: Approx. 1181.1 inches in buildings (depending on building structure)

Housing: Plastic housing, RAL 9010 (pure white)

Other colors on request

Protection class: III

Degree of protection: IP30

Ambient temperature: 32 to 122 °F

Ambient humidity: During operation: 20 to 85% r.h., non-condensing;

Out of operation: 5 to 90% r.h., non-condensing

Installation: Flexible mounting using screws or adhesive

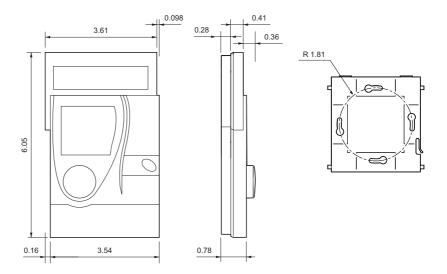
Weight: 7.76 oz

Dimensions: WxHxD: 3.54 x 6.05 x 1.05 inches



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Dimensions



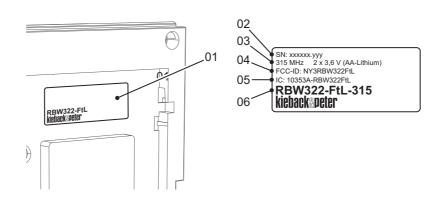
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NOTE

This picture shows the dimension of the device and the radius (R) in inch.

Type plate

The RBW322-FTL-315 type plate is located on the back of the device.



1	RBW322-FTL-315 type plate
2	Serial number
3	Frequency and nominal voltage
4	Device approval number
5	Identifier of the integrated semiconductor switch
6	Device name



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Accessories and Spare Parts



NOTE

Contact your Kieback&Peter representative if you have any questions regarding accessories or spare parts.

Batteries: 2 replaceable 3.6 V AA lithium batteries

Screws: Screw head diameter: 2.2 inches

(do not use any counter-
sunk-head screws)screw head height: 1 inch
nominal diameter: 0.1 inchWall plugs:fitting to the specified screws

Two-sided adhesive tape: 3.8 inches x 3.8 inches

Wireless Interface

Wireless communication with the MD15-FTL is cyclical, bidirectional and includes an intelligent synchronization process.

If the wireless communication between the RBW322-FTL-315 and the MD15-FTL-315 is interrupted, an internal resynchronization procedure starts automatically.



NOTE

This product uses only EnOcean wireless telegrams.

Only the MD15-FTL-315 can be used as a wireless partner.

Compliance Statement

This device complies with section 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 that may cause undesired operation.

Modifications not expressly approved by this company could void the user's authority to operate the equipment.

Radio Frequency (RF) Signal

The wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the OET Bulletin 56 Supplement C in the USA and by the Ministry of Health (Canada), Safety Code 6 in Canada. These limits are part of comprehensive guidelines and established permitted levels of RF energy population. These guidelines are based on the safety standards previously set by international standard bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of their ages and health.

This device and its antenna may not be located too close to or operated in conjunction with any other antenna or transmitter.

This device is capable of compliance with localized specific absorption rate (SAR) for uncontrolled environment/general public exposure limits specific in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003 December 2003.



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Class A Digital Device or Peripheral

The RBW322-FTL-315 is a digital device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or intended to be used in the home.

The equipment has been tested and found to comply with the limits for **Class A digital device**, pursuant to section 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the function manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

Declaration Concerning Antenna Specifications

The device confirms to the FCC recommendations for intetnal antenna type described below:

Model No. of antenna: N/A

Type of antenna: integrated/onboard PCB-antenna, permanently attached

Gain of the antenna: ≤ -10 dBi Frequency range: 315 MHz



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Contacting Kieback&Peter Representatives

Canadian Representative

Canadian Radio Standards Consulting Inc. Kwai Lum 6038 Vineyard Drive, Ottawa, Ontario, K1C2M5

(+) 613-824 6438 (Office) Lumkwai@rogers.com

US Representative

Magnum Energy Solutions LLC 43 Village Way #209 Hudson, OH 44236

(330) 656 9365 (Office) (866) 271 3961 (Toll Free) (330) 656 9368 (Fax)



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