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Better Technology...For A Better Life

RTC-P1 Retail Traffic Counter User's Manual

July 2004

Firmware Version 2.2

(Manual last updated: February 2010)

Inter-Dimensional Technologies, Inc.

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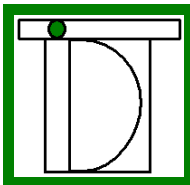

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Introduction

Congratulations on your purchase of the RTC-P1 Pedestrian Counter. We believe that the RTC-P1 will be a valuable asset to you and your business. The information that the RTC-P1 Pedestrian Counter enables you to gather can help you become more efficient and profitable.

Features:

The RTC-P1 Pedestrian Counter has many features that are usually found in more expensive systems. Features like:

- Records 65535 pedestrians before rolling over to zero
- Entrance indicator buzzer
- Security key switch to protect against tampering
- Bi-directional sensor (6' wide entrances or less) (Maximum 13' sensing)
- Adjustable sensor sensitivity
- Alignment LED's

Key Features

The RTC-P1 has a few key features that greatly dictate its operation. Therefore, please read this section carefully so that the RTC-P1 works as desired.

Count Type

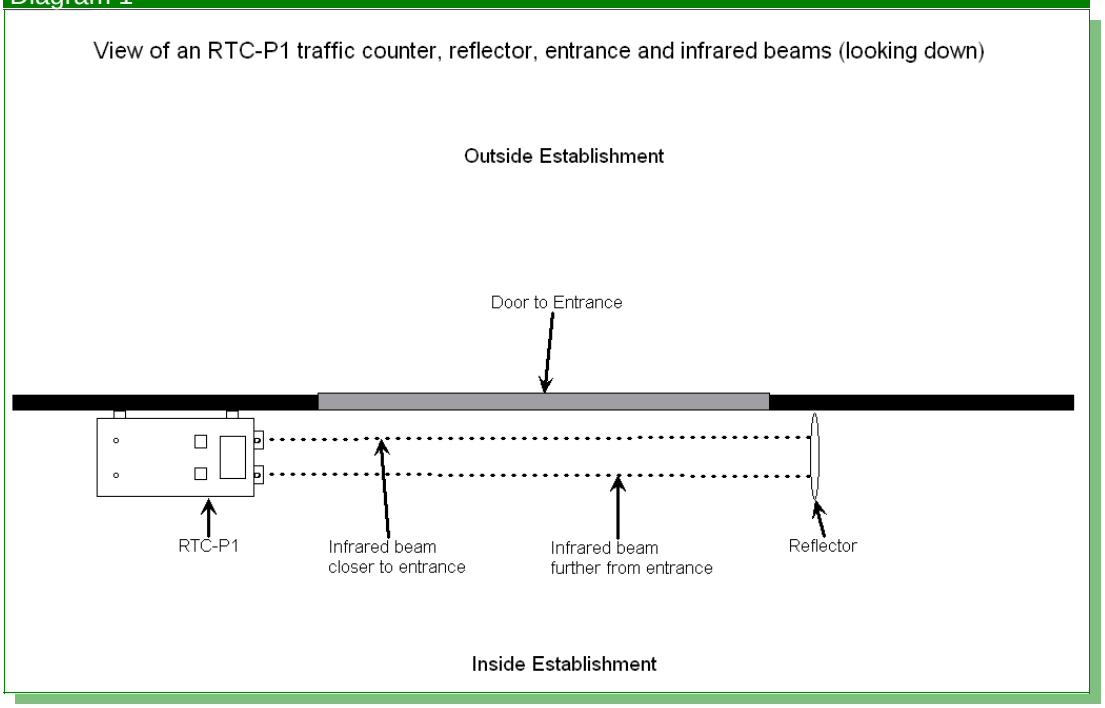
Choosing the correct "count type" is extremely important in determining when pedestrians will be counted. There are three different settings for this option: *Door Swings Out*, *Door Swings In* and *Count In & Out*.

> **NOTE:** This setting can be changed through the menu options. See the *Menu Options* section for details.

There are two reasons why this option exists. First, the action of the doors of the establishment can interfere with the RTC-P1. The RTC-P1's door sensors are bi-directional. This means that the RTC-P1 can normally determine if the pedestrian is entering or leaving the establishment. It does this by using two infrared sensors that protrude from the case and run parallel to each other, as shown in Diagram 1 below.

If the beam that is closer to the entrance is broken first, the door sensor knows that a pedestrian should be entering the establishment. When the beam that is further from the entrance is broken first, the RTC-P1 knows that a pedestrian should be leaving the establishment.

Diagram 1



If the door physically swing outside the establishment (or if there is no door, such as those found in mall environments), then the door will not interfere with the RTC-P1's infrared beams. Therefore, this option should be set to *Doors Swing Out* and the RTC-P1 will perform as described in the preceding paragraph.

However, if the door physically swings into the establishment, there is the potential for the door to interfere with the RTC-P1's infrared beams. To illustrate this, the following is a description of what happens when a pedestrian enters through a door that physically swings outside the establishment, and then when a pedestrian enters through a door that physically swings into the establishment. When a pedestrian enters through a door that swings outside

the establishment, he will pull the door open and walk through the entrance. The pedestrian will break the beam of the door sensor that is closer to the entrance first. The RTC-P1 knows that a pedestrian is entering and counts that pedestrian. When a pedestrian enters through a door that swings into the establishment, he will push the door open and then enter the establishment. This time, the door may break the beam closer to the entrance first, not the pedestrian. The result is the same.

However, the interference usually happens when the pedestrian exits the establishment. To illustrate this, the following is a description of what happens when a pedestrian exits through a door that physically swings outside the establishment, and then when a pedestrian exits through a door that physically swings into the establishment. When a pedestrian exits through a door that swings outside the establishment, he will push the door open and walk through the entrance. The pedestrian will break the beam of the door sensor that is further from the entrance. The RTC-P1 knows that a pedestrian is exiting and does not count that pedestrian. When a pedestrian exits through a door that swings into the establishment, he will pull the door open and then exit the establishment. This time, the door may break the beam closer to the entrance first. This is where the potential interference occurs. Since the pedestrian pulls the door open, the beam closer to the entrance will be broken first and the RTC-P1 may be "fooled" and count a pedestrian. This may happen even though the pedestrian is exiting the establishment.

We combat this interference by using the *Door Swings In* option. This option counts *every other* piece of activity sensed by the RTC-P1. This must be done because, when this option is set to *Door Swings Out*, the action of the door that physically swings into the establishment may always make the RTC-P1 count the pedestrian. That is because, regardless of if the pedestrian is entering or exiting the establishment, the action of the door will always break the beam that is closer to the entrance first. This would double the traffic totals. To illustrate how this option works, the following is an example. First, pedestrian #1 enters the establishment and is counted. Next, pedestrian #2 enters the establishment and is not counted. At this point, there are two pedestrians in the establishment, but the RTC-P1 traffic total is one (1). Next, let's assume that one of the pedestrians, say, pedestrian #2, exits the establishment. The pedestrian is counted because the RTC-P1 counts every other piece of activity that is sensed. The traffic total is now two (2). When pedestrian #1 exits the establishment, the RTC-P1 does not count the pedestrian and the traffic total remains at two. No matter what order the pedestrians enter and exit, when all pedestrians have left, the traffic total will be correct. This is the reason we need these first two options: *Door Swings Out* and *Door Swings In*.

The third option is more straightforward to understand. It is the *Count In & Out*. This option is used in cases where it is important to count *each and every* occurrence of a pedestrian, regardless of if they have been previously counted or if they are entering or exiting the establishment. An example of when to use this option is when the need arises to analyze advertising in the area. That is because, in advertising, if a particular pedestrian passes through the entrance ten times, that individual should be counted ten times. This option can be used regardless of if the doors physically swing into or outside the establishment. This option is usually only used to analyze advertising in areas such as malls and other public areas.

> **NOTE:** Not all doors that physically swing into the establishment will interfere with the RTC-P1. This will largely depend upon the design of the door. If the door is all glass, the door sensor may not sense it and there will be no interference. If the door is solid, or has a thick frame, there is more of a chance that the RTC-P1 will sense the door and have interference. If you have a door that physically swings into the establishment, you must determine if your door can be sensed by the RTC-P1.

This option may seem confusing. If you are not sure what setting to use, please give us a call and we will discuss your installation.

Setting Up and Powering Up the RTC-P1

Before installing the RTC-P1, examine the area around the entrance to make sure that nothing will impede the operations of the traffic counter.

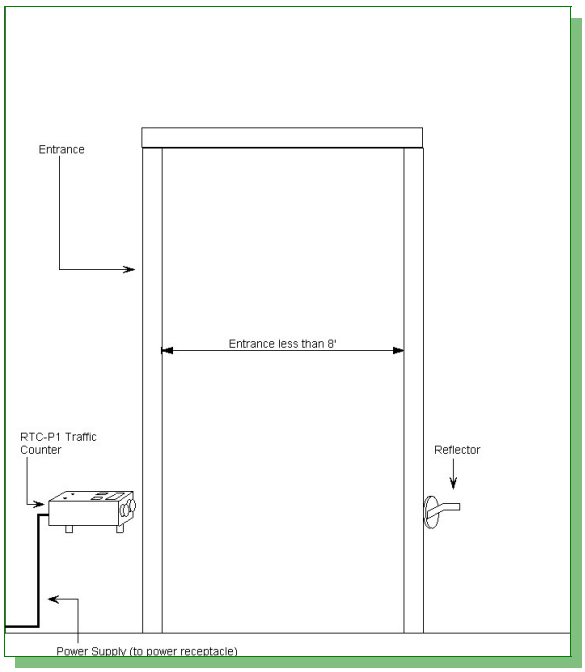
IMPORTANT: Please make sure you follow the numbered installation steps *in order* for correct installation.

NOTE: It is best that you read this entire section before beginning the installation. Then you can go back and perform each step, one at a time.

Step 1: Set up the RTC-P1

Select an area near the entrance where the RTC-P1 can be mounted. A typical installation is shown in Diagram 1, shown below. Make sure that it will not be in a position where it will be bumped excessively by pedestrian traffic. Also, remember that the traffic counter will need to be plugged into a power receptacle. So choose the side of the entrance on which a receptacle will be most accessible.

Diagram 2



Step 2: Connect the RTC-P1 to a power outlet

Connect the power supply that was supplied with the RTC-P1 to the connector labeled “Power" on the side of the RTC-P1. Connect the other end of the power supply into a standard 120 V AC, 60 Hz power outlet.

Caution: As with any electrical device, never put the RTC-P1 in or near water. Also, never come in contact with water while operating or installing any of these devices. This could cause serious injury, or even death.

NOTE: Use only the power supply which was supplied with the RTC-P1. If, for any reason, you need to replace this power supply, it must conform to the following:

- Input: 120 V AC, 60 Hz

- Output: 14 – 15 V DC, 500 mA or greater
- UL listed

Using anything else may damage the RTC-P1, which will void the manufacturer's warranty. Replacement power supplies can be purchased from Inter-Dimensional Technologies.

Step 3: Power up the system

To turn on the RTC-P1, push in the power button that is on the back side of the unit. The green power LED will become lit. Place the RTC-P1 on the floor for the time being.

Step 4: Align the RTC-P1 and reflector

GENERAL CONCEPT: You should follow these installation directions as closely as possible. However, before you continue, it would help to know how the system works. The traffic counter emits two infrared (invisible) beams, which will cross the entrance. These beams come from the two round sensors which protrude from the traffic counter case, as shown in Diagram 1. These beams must hit the reflector so that the reflector reflects the beams back to the traffic counter. When this happens, the traffic counter is *aligned* with the reflector. The two alignment LED's which are above each of the round sensors will not be lit when alignment is achieved.

When a pedestrian passes through the entrance, each of the alignment LED's will flash. This is normal and happens because the pedestrian passed between the traffic counter and reflector. When this happens, the traffic counter senses the absence of the infrared beam, and therefore, knows that someone has walked through the entrance.

If at least of the alignment LED's on the traffic counter is lit, the traffic counter does not sense an infrared beam reflecting back from the reflector. This will happen if the traffic counter becomes misaligned with the reflector. If the traffic counter is not aligned, then the proper adjustments must be made. The purpose of the alignment LED's is to show which of the two round sensors is not aligned with the reflector. In other words, each RED alignment LED corresponds to the round sensor that is immediately below it. When an alignment LED is lit, the sensor below it is not aligned with the reflector.

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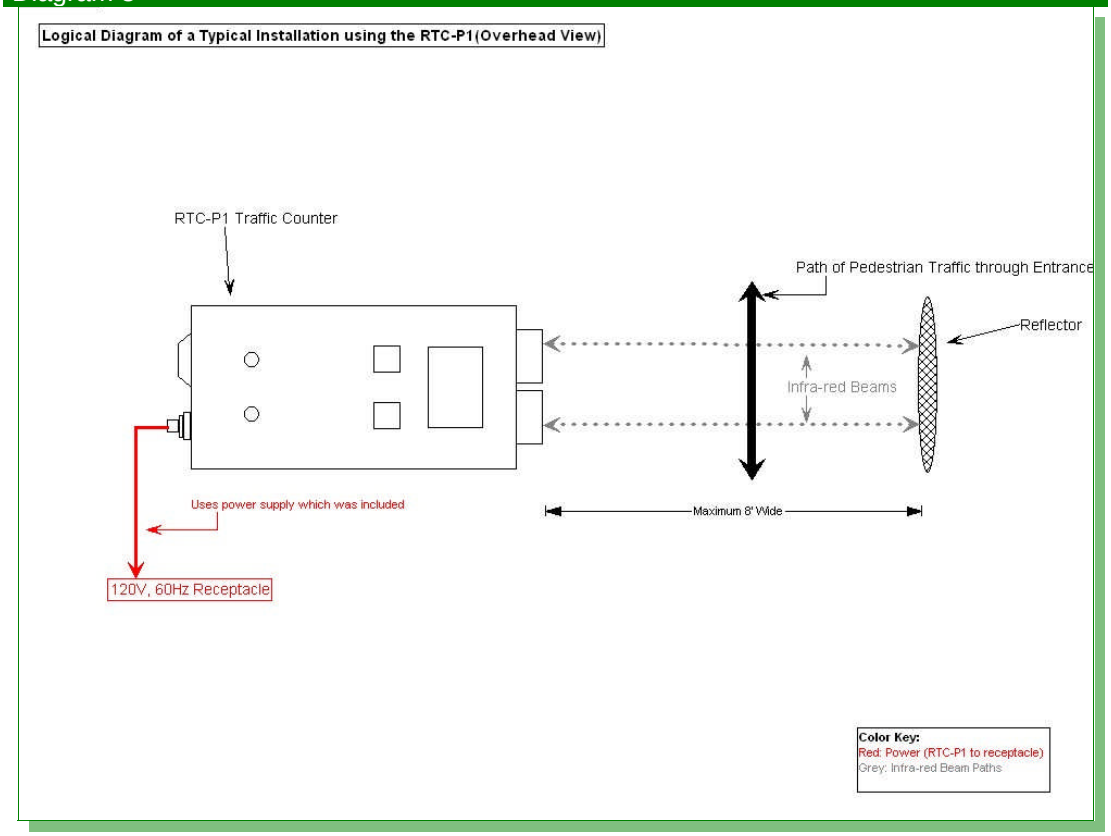
Diagram 3



Note on Diagram 4 through 7:

The infrared beams depicted in Diagram 4 through Diagram 7 become wider as they get further from the RTC-P1. In the top views, one beam is represented by a dashed line, while the other beam is represented by a solid line. This is done simply to distinguish between the two beams. The area between the two dashed lines represents one of the beams, while the area between the two solid lines represents the other beam.

In the side views, the two beams are side-by-side, so the diagrams appear to only depict one beam; however, it represents both beams.

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Diagram 4

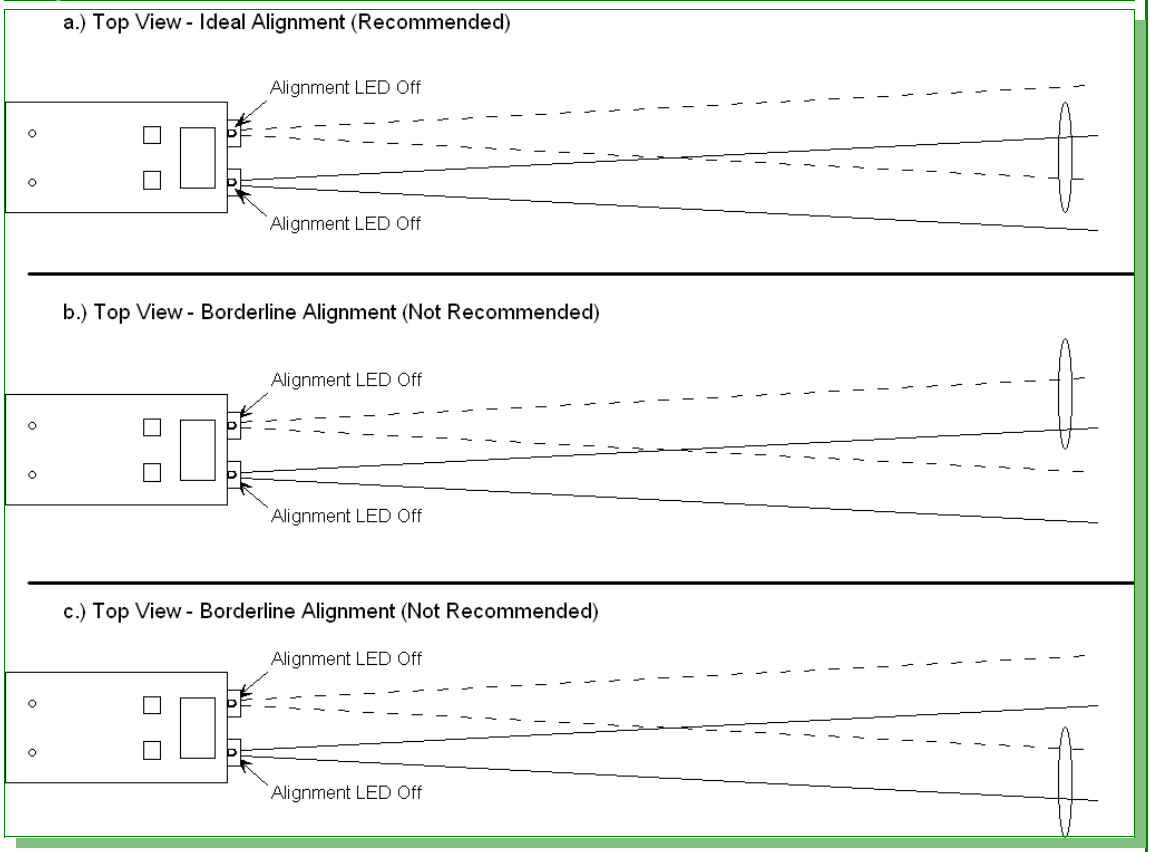

Diagram 4 Explanation:

Diagram 4.a: Top View – Ideal Alignment (Recommended): This diagram shows the top view of an RTC-P1 that has ideal alignment in the horizontal plane. This is because the reflector is being hit by both beams. Notice that neither of the alignment LED's are lit. In terms of the horizontal alignment, this is the ideal alignment. How do you know that you have an ideal alignment situation? By moving the reflector around and observing when the alignment LED's turn off and on. This will help find the "sweet spot" (the center of the beams). If you find the center of the beams (both horizontally and vertically), the RTC-P1 will not lose alignment easily if a pedestrian bumps it or the reflector. There will be a certain amount of forgiveness.

Diagram 4.b: Top View – Borderline Alignment (Not Recommended): This diagram shows the top view of an RTC-P1 that does not have ideal alignment in the horizontal plane. Although the reflector is being hit by both beams, the beam depicted with the solid line is barely hitting the reflector. Notice that neither of the alignment LED's are lit. However, this is not an ideal alignment situation because, if the reflector is bumped by a pedestrian, the RTC-P1 can lose alignment with the reflector easily. If this happens, a situation such as the one depicted in Diagram 5.a can occur. In terms of horizontal alignment, this is not the ideal alignment situation. The reflector and/or RTC-P1 should be adjusted. How do you know that you have a borderline alignment situation? By moving the reflector around and observing when the alignment LED's turn off and on. This will help find the "sweet spot" (the center of the beams).

Diagram 4.c: Top View – Borderline Alignment (Not Recommended): This diagram shows the top view of an RTC-P1 that does not have ideal alignment in the horizontal plane. Although the reflector is being hit by both beams, the beam depicted with the dashed line is barely hitting the reflector. Notice that neither of the alignment LED's are lit. However, this is not an ideal alignment situation because, if the reflector is bumped by a pedestrian, the RTC-P1 can lose alignment with the reflector easily. If this happens, a situation such as the one depicted in Diagram 5.b can occur. In terms of horizontal alignment, this is not the ideal alignment situation. The reflector and/or RTC-P1 should be adjusted. How do you know that you have a borderline alignment situation? By moving the reflector around and observing when the alignment LED's turn off and on. This will help find the "sweet spot" (the center of the beams) before mounting the reflector.

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Diagram 5

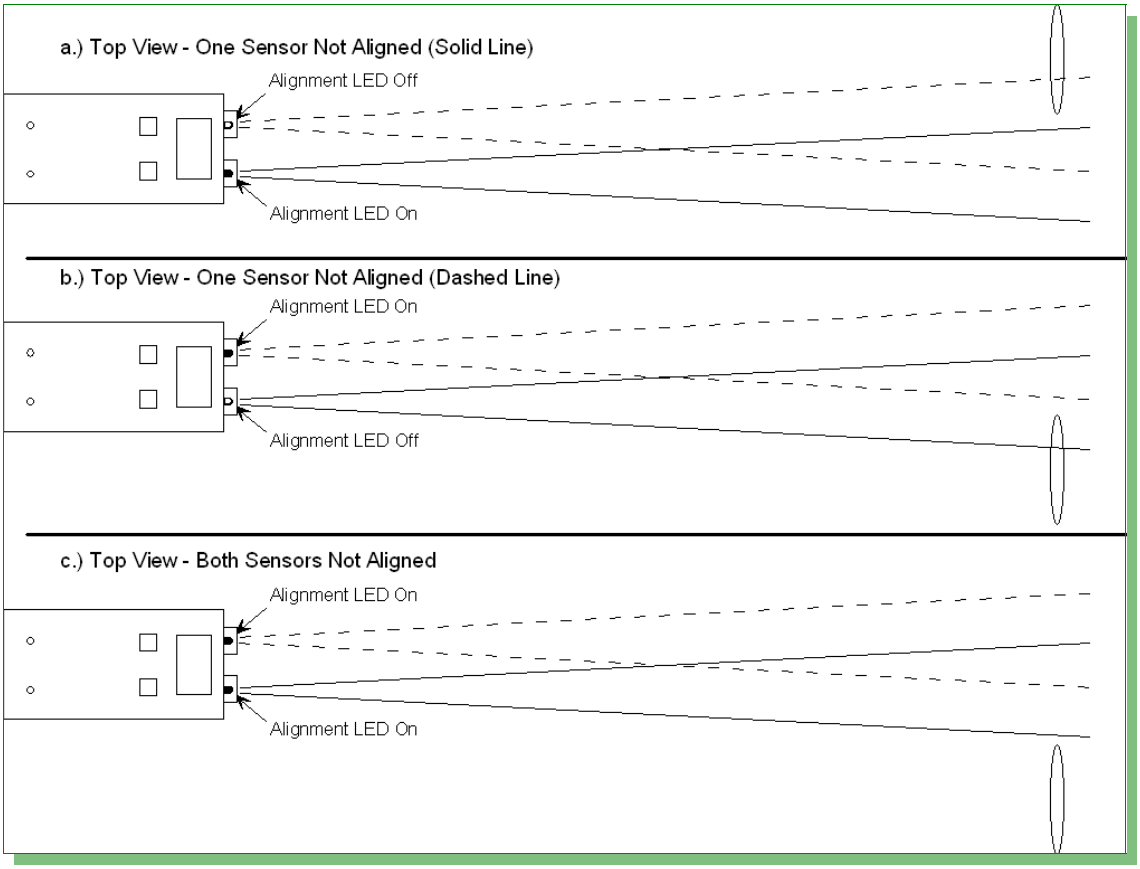

Diagram 5 Explanation:

Diagram 5.a: Top View – One Sensor Not Aligned (Solid Line): This diagram shows the top view of an RTC-P1 that has one sensor beam aligned with the reflector and one that is not aligned. This is because the beam depicted by the solid lines is not hitting the reflector. Notice that the alignment LED above the sensor that is not hitting the reflector is lit. We do not have horizontal alignment.

Diagram 5.b: Top View – One Sensor Not Aligned (Dashed Line): This diagram shows the top view of an RTC-P1 that has one sensor beam aligned with the reflector and one that is not aligned. This is because the beam depicted by the dashed lines is not hitting the reflector. Notice that the alignment LED above the sensor that is not hitting the reflector is lit. We do not have horizontal alignment.

Diagram 5.c: Top View – Both Sensors Not Aligned: This diagram shows the top view of an RTC-P1 that has neither of the two sensors aligned with the reflector. This is because neither of the beams is hitting the reflector. Notice that the alignment LED above each sensor is lit. We do not have horizontal alignment.

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Diagram 6

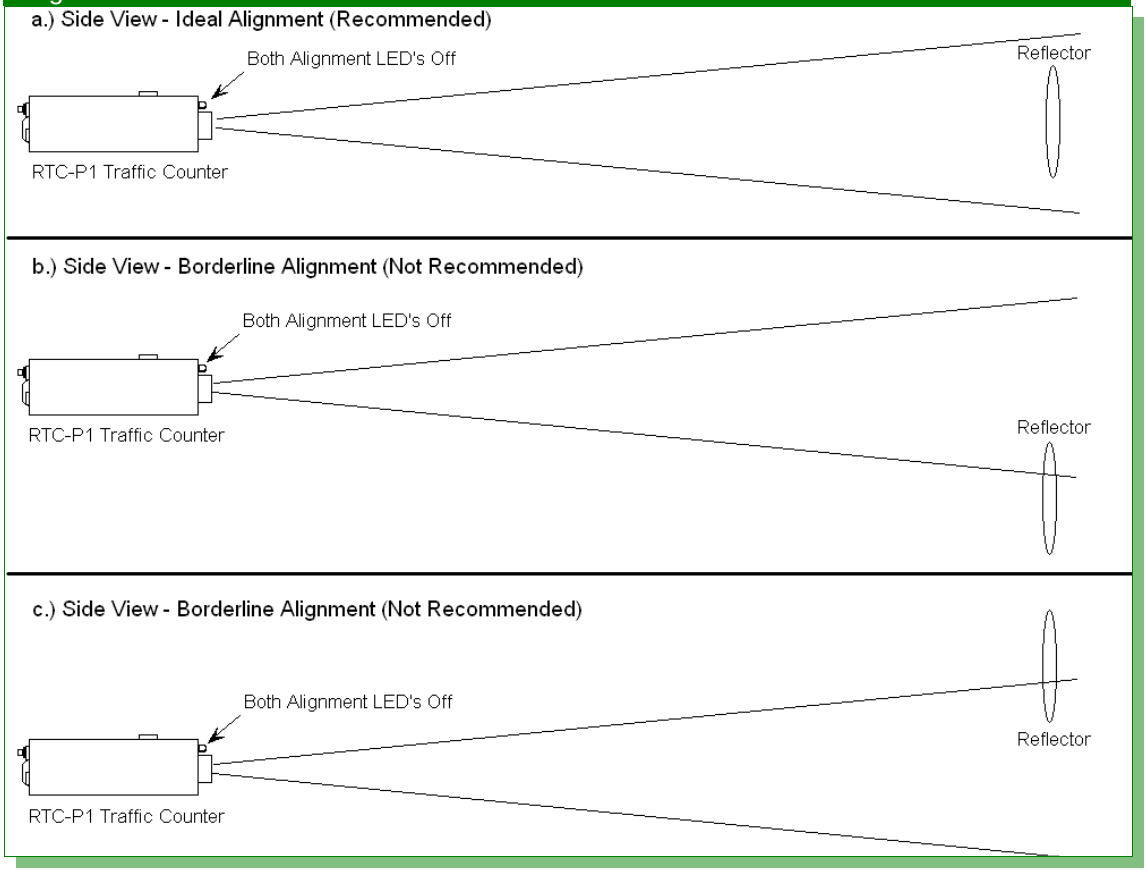

Diagram 6 Explanation:

Diagram 6.a: Side View – Ideal Alignment (Recommended): This diagram shows the side view of an RTC-P1 that has ideal alignment in the vertical plane. This is because the reflector is being hit by both beams. Notice that neither of the alignment LED's are lit. In terms of the vertical alignment, this is the ideal alignment. How do you know that you have an ideal alignment situation? By moving the reflector around and observing when the alignment LED's turn off and on. This will help find the "sweet spot" (the center of the beams). If you find the center of the beams (both horizontally and vertically), the RTC-P1 will not lose alignment easily if a pedestrian bumps the traffic counter or reflector. There will be a certain amount of forgiveness.

Diagram 6.b: Side View – Borderline Alignment (Not Recommended): This diagram shows the side view of an RTC-P1 that does not have ideal alignment in the vertical plane. Although the reflector is being hit by both beams, the beams are barely hitting the reflector. Notice that neither of the alignment LED's are lit. However, this is not an ideal alignment situation because, if the reflector is bumped by a pedestrian, the RTC-P1 can lose alignment with the reflector easily. If this happens, a situation such as the one depicted in Diagram 7.a can occur. In terms of vertical alignment, this is not the ideal alignment situation. The reflector and/or RTC-P1 should be adjusted. How do you know that you have a borderline alignment situation? By moving the reflector around and observing when the alignment LED's turn off and on. This will help find the "sweet spot" (the center of the beams).

Diagram 6.c: Side View – Borderline Alignment (Not Recommended): This diagram shows the side view of an RTC-P1 that does not have ideal alignment in the vertical plane. Although the reflector is being hit by both beams, the beams are barely hitting the reflector. Notice that neither of the alignment LED's are lit. However, this is not an ideal alignment situation because, if the reflector is bumped by a pedestrian, the RTC-P1 can lose alignment with the reflector easily. If this happens, a situation such as the one depicted in Diagram 7.b can occur. In terms of vertical alignment, this is not the ideal alignment situation. The reflector and/or RTC-P1 should be adjusted. How do you know that you have a borderline alignment situation? By moving the reflector around and observing when the alignment LED's turn off and on. This will help find the "sweet spot" (the center of the beams) before mounting the reflector.

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Diagram 7

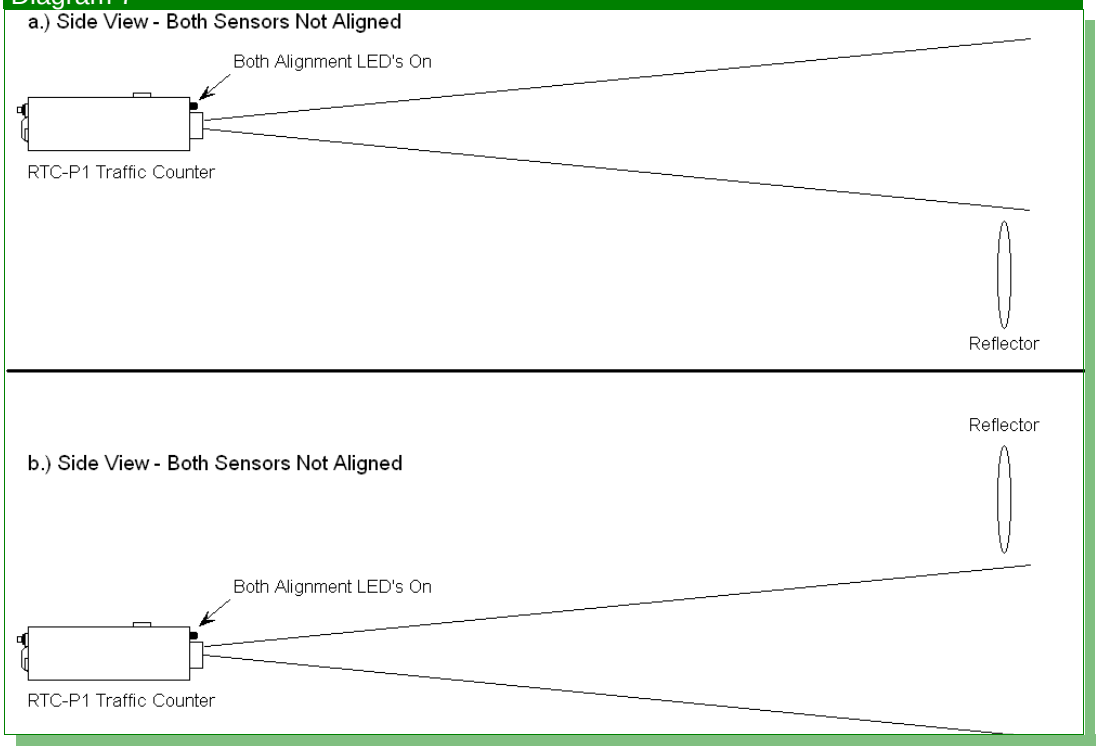


Diagram 7 Explanation:

Diagram 7.a: Side View – Both Sensors Not Aligned: This diagram shows the side view of an RTC-P1 that has neither of the two sensors aligned with the reflector. This is because neither of the beams is hitting the reflector. Notice that the alignment LED above each sensor is lit. We do not have vertical alignment.

Diagram 7.b: Side View – Both Sensors Not Aligned: This diagram shows the side view of an RTC-P1 that has neither of the two sensors aligned with the reflector. This is because neither of the beams is hitting the reflector. Notice that the alignment LED above each sensor is lit. We do not have vertical alignment.

NOTE: Aligning and installing the traffic counter and reflector can be done with one individual. However, it is much easier to accomplish this step with two individuals. Each individual should have a pencil within reach so that marks can be made on the wall where the pilot holes will be drilled to mount the traffic counter and reflector.

After turning on the RTC-P1 as described in Step 3, the alignment LED's will bit lit. As described in the General Concept note above, this is an indicator that the traffic counter is not aligned with its reflector. This is because we have placed the traffic counter on the floor at this point and have not aligned it with the reflector.

Now we are ready to align the traffic counter with its reflector. This is the most important part of the installation. It can also be a tedious task if the door jam of the entrance is not square. We will know when the traffic counter is aligned with the reflector when the two alignment LED's on the traffic counter are not lit.

a. Hold the traffic counter in place

Have one individual hold the traffic counter in place against the wall where you would like it to be mounted. This positioning only has to be approximate at this point. It should be oriented as described immediately above. If only one individual is available, the traffic counter should be mounted to the wall at this time. However, before mounting it, place a level on the top of the traffic counter to make sure that it is level and parallel wit the floor.

MOUNTING ORIENTATION OF RTC-P1: There are different theories as to how high off of the floor the traffic counter should be mounted. We recommend that it be mounted at a height of approximately two feet from the floor. However, if your environment will have many children playing or walking around the entrance, then you may want to place it higher than two feet.

The traffic counter should be mounted so that the power connector, power button and key lock are mounted *away* from the entrance and the two round sensors on the front of the case are mounted *towards* the entrance. The brackets on the unit are positioned on the bottom of the case. Refer to Diagram 2.

The unit is assembled at the factory to be mounted on the left hand side of the door as you are facing the outside. If, for any reason, the unit needs to be mounted on the right, simply unscrew the screw in each of the four corners on the bottom of the case. Then turn the bottom of the case around so that the brackets are now on the other side. Put the case back together by screwing the four screws back into place.

b. Hold the reflector in place

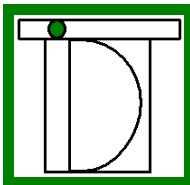
While the first individual is holding the traffic counter in place, the second individual should hold the reflector in place on the other side of the entrance, and at approximately the same height as the traffic counter. It should be oriented as described immediately above.

MOUNTING ORIENTATION OF REFLECTOR: The reflector must be mounted at the same height as the two round sensors that protrude from the traffic counter, but on the opposite side of the entrance. Refer to Diagram 2.

Make sure that the reflective side of the reflector is facing the traffic counter. If the reflector and traffic counter are misaligned, the traffic counter will not sense traffic.

c. Establish mounting positions for correct alignment

As the two individuals hold the traffic counter and reflector, both LED's should be



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turned off. If they are not, move the traffic counter and/or reflector until they are turned off. However, do not strive to simply find a position for the traffic counter and reflector such that the alignment LED's are not lit. Although the LED's may be turned off and the traffic counter aligned with the reflector, one of the two round sensors may "barely" be aligned with the reflector; meaning that a sensor may be pointing to the very edge of the reflector. Upon moving the traffic counter and reflector, you will notice that there is a certain amount of forgiveness before the LED(s) become lit and the unit becomes misaligned. This is because the beams which are emitted from the two round sensors are not fine beams; instead, the beams spread out slightly as they get further away from the traffic counter. Therefore, continue to move the traffic counter and/or reflector until you find a position where not only the alignment LED's are turned off, but if you move the reflector a few inches in any direction, the alignment LED's stay turned off. This will decrease the chance of the traffic counter becoming misaligned if someone bumps the traffic counter or reflector. **Refer to Diagrams 4 through 7.**

If you have any questions, please call us and we can help make sure the installation is done as well as it can be the first time.

Step 5: Mount the RTC-P1

NOTE ABOUT THE RTC-P1 MOUNTING BRACKETS: The mounting brackets for the traffic counter have slots in them. This is so the traffic counter can be moved closer to or further away from the wall. To make this adjustment, simply loosen the screws which secure the bracket to the traffic counter. Then adjust the bracket as needed. Do not loosen the screws too much or the hex nut on the inside of the case will come off.

If you cannot loosen these screws so that the bracket will move, then you must unscrew the screw in each of the four corners of the bottom of case. This will allow you to loosen the hex nuts that secure the brackets to the case. Once the hex nuts are loosened, adjust the brackets as needed and then retighten the hex nuts. Next, put the case back together by screwing the four screws back into place. There are additional holes in the traffic counter case where the mounting brackets can be attached. These additional holes may be useful for unusual mounting situations.

NOTE: We supply an extra mounting bracket in the event that you wish to attach all three brackets for unique mounting situations.

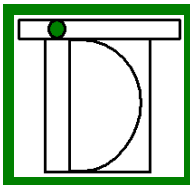
Once the optimal position has been found for the traffic counter and reflector, mark on the wall with a pencil where the pilot holes will be drilled. Place the traffic counter on the floor and drill the pilot holes. Next, screw the traffic counter into the wall.

Step 6: Mount the reflector

NOTE ABOUT THE REFLECTOR MOUNTING BRACKET: The mounting bracket for the reflector also has a slot in it. This is so the reflector can be moved closer to or further away from the wall. To make this adjustment, simply loosen the hex nut on the back of the reflector and slide the reflector along the slot as needed. Then retighten the hex nut so the reflector is mounted securely to the bracket.

Once the optimal position has been found for the traffic counter and reflector, mark on the wall with a pencil where the pilot holes will be drilled. Place the reflector on the ground and drill the pilot holes. Next, screw the reflector into the wall.

Step 7: Observe the results



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Once the installation is complete, the alignment LED's on the traffic counter should not be lit. If an alignment LED is lit, then the round sensors directly below it is not aligned. You must make the proper adjustments to the traffic counter and/or reflector so that the alignment LED's are not lit.

Once the alignment LED's are turned off, the traffic counter is aligned with the reflector and the system should be ready to accept traffic. Check to make sure that the system is sensing the incoming and outgoing traffic correctly by walking in and out of the door. When walking into your establishment, the beep should be slightly longer than the beep when leaving. If it is not, you should reverse the sensor direction. This will allow your employees to know if a pedestrian is entering or leaving your establishment simply by hearing the beep, even if the entrance is not in view. See the "Sensor Direction" in the "Menu Options" section for instructions.

Once the traffic counter is aligned, you should clear the traffic in the RTC-P1 that you may have accumulated during the installation and testing process. See the "Clear Traffic Data" in the "Menu Options" section for instructions to do this.

NOTE: The beep which sounds when a pedestrian walks through the entrance can be turned off, if desired. See the "Menu Options" section.

NOTE: The RTC-P1 comes standard from the factory ready to sense traffic on entrances with no door or with a door that physically swings outside the establishment. If you wish to count pedestrians in both directions, or if you have a door that physically swings into the establishment, then you must change the "Count Type" option. See the "Menu Options" section.

NOTE: If these adjustments fail and the traffic counter is still not aligned with the reflector, then call Inter-Dimensional Technologies at (570) 331-2089, or e-mail us at support@idtelectronics.com for technical support.

Menu Options

In traffic-sensing mode, the red “Keypad Active” LED will not be lit and a screen similar to the following will be displayed.

```
Total:
15
```

To activate the traffic counter's keypad in order to execute a menu option, insert the key into the key lock and turn it one quarter turn to the right. The red "Keypad Active" LED should illuminate and the first option, “Clear Traffic,” should be displayed as shown below.

```
Clear
Traffic
```

IMPORTANT: When the keypad is active, no traffic will be sensed by the RTC-P1. For this reason, it is important that you perform the required menu option immediately after activating the keypad so the system can return to sensing traffic. Therefore, in order for traffic to be sensed, the red "Activate Keypad" LED must NOT be lit.

NOTE: We recommend you do not keep the key in the key lock when you are not executing a menu option. This will ensure that no one will execute any menu options, such as resetting your traffic count.

NOTE: If you activate the keypad and want to exit without performing a function, simply turn the key one quarter turn to the left and the RTC-P1 will return to sensing traffic.

The following menu options are available on the RTC-P1, and are described below:

- Clear Traffic Data
- Toggle Buzzer
- Sensor Sensitivity
- Sensor Direction
- Count Type

Clear Traffic Data

Insert the key into the key lock and turn it to the right one quarter turn. The red "Keypad Active" LED will become lit. Press the "Select Command" button until the "Clear Traffic" option is displayed as shown below.

Press and hold the "Execute Command" button until you hear two short beeps followed by one long beep. The traffic will be cleared after the third long beep sounds. If you realize that you do not want to clear the traffic, let go of the "Execute Command" button before the third long beep sounds and the traffic will not be cleared.

Turn the key counterclockwise one quarter turn such that the key is vertical in the key lock. Remove the key from the key lock for security purposes. The red “Keypad Active” LED will shut off, the main screen will display and the traffic counter will return to sensing and counting traffic.

Toggle Buzzer

You can shut off the buzzer if you do not want it to sound each time traffic comes through the entrance.

Insert the key into the key lock and turn it to the right one quarter turn. The red "Keypad Active" LED will become lit. Press the "Select Command" button until the "Toggle Buzzer" option is displayed as shown below.

```
Toggle
Buzzer
```

Press and hold the "Execute Command" button until you hear two short beeps followed by one long beep. The buzzer will be toggled on/off after the third long beep sounds. If you realize that you did not want to toggle the buzzer, let go of the "Execute Command" button before the third long beep sounds and the buzzer status will not be toggled.

Turn the key counterclockwise one quarter turn such that the key is vertical in the key lock. Remove the key from the key lock for security purposes. The red “Keypad Active” LED will shut off, the main screen will display and the traffic counter will return to sensing and counting traffic.

Sensor Sensitivity

This option is useful when deciding if you want groups of people who pass through the entrance close together counted as individuals or not. For example, if the RTC-P1 is installed in a furniture store and two individuals walk in, one directly behind the other, you may only want the RTC-P1 to increment the traffic count by one and not two. That is because you might assume that the two individuals are together, such as a husband and wife. If the RTC-P1 is installed in a convenience store and two individuals walk in, one directly behind the other, you may want the RTC-P1 to increment the traffic count by two. That is because you might assume that the two individuals, whether they are together or not, will each purchase something from the store. As you can see, it is ultimately your choice as to how you want to handle this for your establishment. Either way, this is handled with the "Sensor Sensitivity" option.

The traffic counter sensitivity (delay) can be set from one half of one second to ten seconds. A good setting to start at is 1.5 seconds. This means that when the RTC-P1 senses traffic, it will ignore all other traffic for 1.5 seconds.

> NOTE: The sensor sensitivity is shown in milliseconds. This simply means that 1000 ms equals 1 second. Simply divide the value on the display by 1000 and that is how many seconds the delay will be. For example, 1500 ms is 1.5 seconds.

Insert the key into the key lock and turn it to the right one quarter turn. The red "Keypad Active" LED will become lit. Press the "Select Command" button until the "Sensor Sens" option is displayed as shown below.

```
Sensor
Sens
```

Press and hold the "Execute Command" button. While the button is pressed, the delay will increment by ½ second and two short beeps will sound. Continue to hold the "Execute Command" button until the desired delay is shown. Once the delay is shown as ten seconds, it will start over at ½ second (500 ms) and continue to count up once again.

> NOTE: After executing this option, you must turn the switch the key in the key lock in the "off" position. Multiple menu options can be performed without having to turn the key lock off after the execution of each menu option with any of the options except this option and the *Count Type* option.

Turn the key counterclockwise one quarter turn such that the key is vertical in the key lock. Remove the key from the key lock for security purposes. The red “Keypad Active” LED will shut off, the main screen will display and the traffic counter will return to sensing and counting traffic.

Sensor Direction

When a pedestrian enters your establishment, we want the buzzer to sound longer than when the pedestrian leaves your establishment. This will allow your employees to know if a pedestrian is coming into your establishment or leaving your establishment simply by hearing the beep. Also, the pedestrian is counted during the longer beep, not the shorter beep. If this setting is set in the opposite direction, the only thing that will happen is that the longer beep will sound and the pedestrian will be counted when the pedestrian exits the establishment.

Insert the key into the key lock and turn it to the right one quarter turn. The red "Keypad Active" LED will become lit. Press the "Select Command" button until the "Sensor Dir" option is displayed as shown below.

```
Sensor
Sens
```

Press and hold the "Execute Command" button until you hear two short beeps followed by one long beep. The sensor direction will be toggled after the third long beep sounds. If you realize that you do not want to toggle the sensor direction, let go of the "Execute Command" button before the third long beep sounds.

Turn the key one quarter turn to the left, such that the key is vertical in the key lock. Remove the key from the key lock for security purposes. The red “Keypad Active” LED will shut off, the main screen will display and the traffic counter will return to sensing and counting traffic.

Count Type

Insert the key into the key lock and turn it to the right one quarter turn. The red "Keypad Active" LED will be lit. Press the "Select Command" button until the "Count Type" option is displayed as shown below.

```
Sensor
Sens
```

Press and hold the "Execute Command" button. While the button is pressed, the display will continually-rotate between three settings: *Door Sw Out, Count In & Out* and *Door Sw In*. Stop pressing the "Execute Command" button when the setting which you would like to use is shown in the display. The default setting from the factory is *Door Sw Out*, as shown below.

```
Door
Sw Out
```

Turn the key counterclockwise one quarter turn such that the key is vertical in the key lock. Remove the key from the key lock for security purposes. The red "Keypad Active" LED will shut off and the main screen will display.

The directions shown immediately above explain how to use this option. Next we will describe when each of these options should be used.

- Door Sw Out (Door Swings Out): This option is used when there is no door on the entrance (such as a mall environment) or when the entrance to the establishment has a door which physically swings outside of the establishment. In brief, this option counts all pedestrians when they are entering the establishment and does not count any pedestrians when they are leaving the establishment.
- Door Sw In (Doors Swing In): This option must be used when the entrance to the establishment has a door which physically swing into the establishment. This option is necessary because if the door swings into the establishment, it may interfere with the infrared beams from the traffic counter. Because of the door interference, with the default setting (Door Sw Out) set, the RTC-P1 may count pedestrians, even if they are leaving because the action of the door is such that the door is coming from the outside of the establishment. This is because the traffic counter senses from which direction the activity is coming. The door, of course, will always swing into the establishment, regardless of if the pedestrian is entering or leaving the establishment. In brief, to remedy this problem, this option counts every other pedestrian, whether they are entering or leaving.
- Count In & Out: This option is used when you want to count the total traffic which passes through the entrance. This is useful, for example, when analyzing traffic patterns in an area where advertising is displayed. In these cases, you would want to see the total number of times an advertisement is seen, even if a given individual passes through the area more than once. This option can be used with a door which physically swings into or out of the establishment. Do not misunderstand this option for "door swings in and out." If your door swings in and out, the *Door Sw In* should be used.

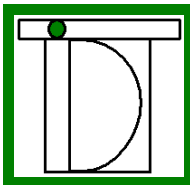
  NOTE: After executing this option, you must turn the switch the key in the key lock in the "off" position. Multiple menu options can be performed without having to turn the key lock off after the execution of each menu option with any of the options except this option and the *Sensor Sens* option.

EXTREMELY IMPORTANT: It is vitally important that this option be set correctly. If you have any questions on this option, give us a call and we can make sure the setting is correct.

Action of Buttons with Keypad Disabled

The menu options can only be accessed and executed when the key is in the key lock and turned one quarter turn to the right. However, when the system is not in this state, pressing each button still performs an action. Pressing the "Select Command" button will display the current setting to the *Count Type* menu option. Pressing the "Execute Command" button will display the current version of the Firmware in your traffic counter. The firmware is the program which resides in the hardware. Each of these options is displayed for three seconds and then goes back to the main screen and resumes sensing and counting traffic.

Notice that these two actions are for informational purposes only. No settings can be changed here. These are used as a short-cut to viewing some of the pertinent information without having to activate the buttons with the key. These two actions will usually only need to be performed at the request of IDT technical support personnel, during technical support calls.



Inter-Dimensional Technologies, Inc.

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Technical Specifications

RTC-P1 Traffic Counter

Weight:	Approx 12 oz.
Dimensions:	Approx 3 1/16" W x 5 7/8" L x 2" H
Power Consumption:	Approx 125 mA
Power Supply Required:	Input: 120 V AC, 60 Hz Output: 14 – 15 V DC, 500 mA or greater UL Listed
Sensor Range:	Entrances of 13' or less (non-directional mode) Entrances of 6' or less (directional model)

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