NEO RF245

LONG RANGE READER

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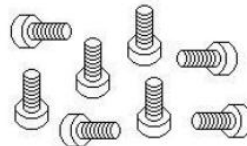# 1. Identifying Supplied Parts

Unpack and check the contents. If any of these parts are missing, contact your distributor.

NEO RF245
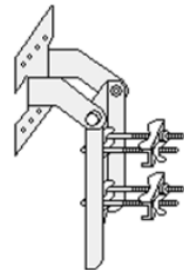
Quick Installation Guide

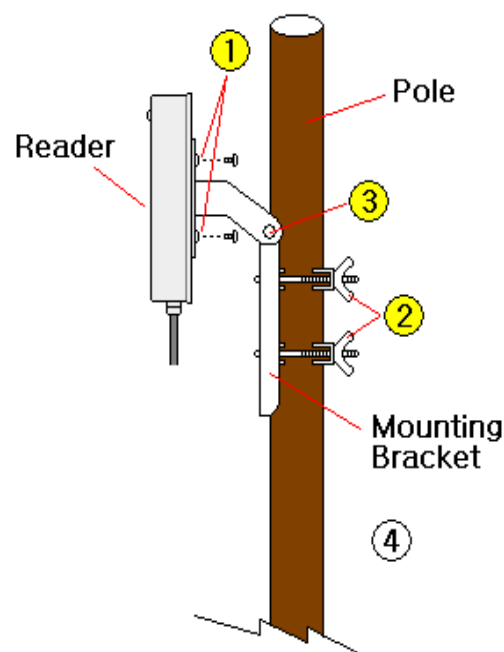**Mounting Bolts**

Mounting Bracket

ON/OFF Switch for
Reading range setting

2. Installation of the Product

Installation with Mounting Bracket

① Tighten 8 x mounting bolts to the reader

② Insert Mounting Bracket to the pole and tighten the V-bolts
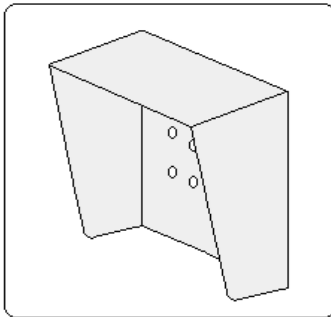
③ Setting the reading angle and tighten bolts/nuts

Installation with Mounting Bracket and Reader Hood

① Insert Reader Hood in between the reader and the Mounting Bracket and tighten 8 x mounting bolts to the reader

② Insert Mounting Bracket to the pole and tighten the V-bolts

③ Setting the reading angle and tighten bolts/nuts
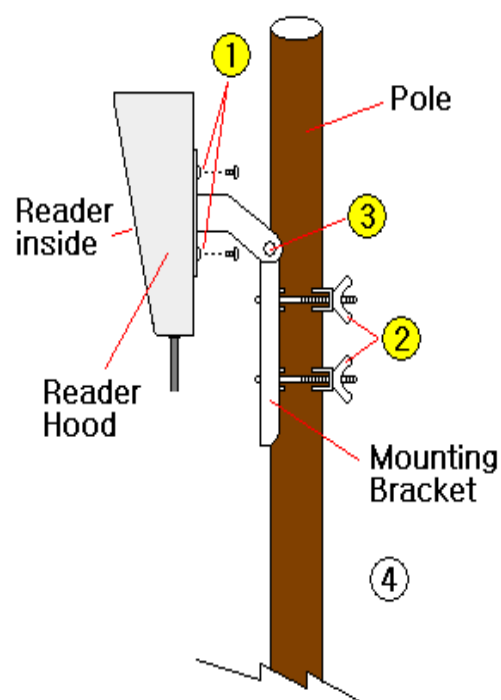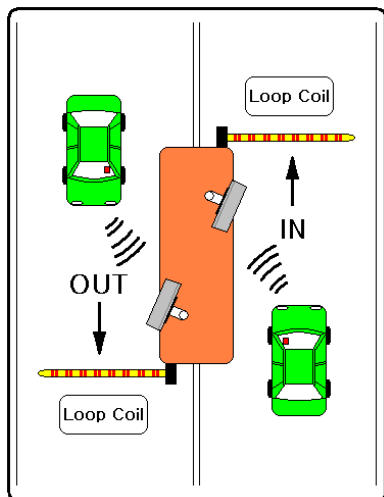
Extra Purchase

Reader Hood

Reader hood, bargate, loop coil and speed bump are for extra purchase. (IDTECK doesn't offer these contents)
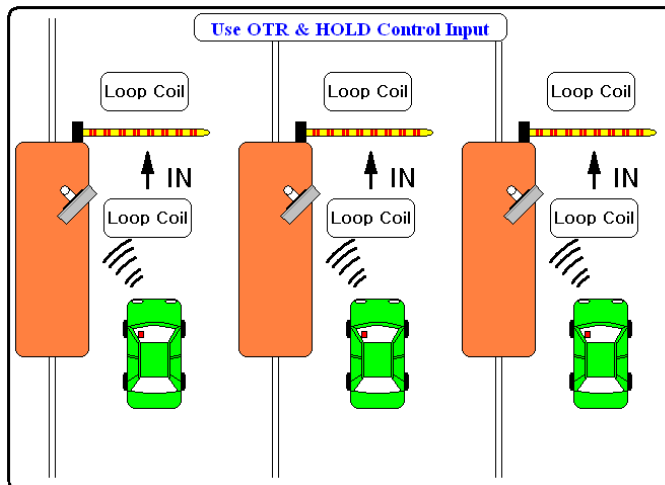
Reading Angle of NEO RF245

The reading angle of RF245 is approximately 90 degree at the front side of the reader. However the reader has about 10% of the maximum reading distance at the rear side of the reader.
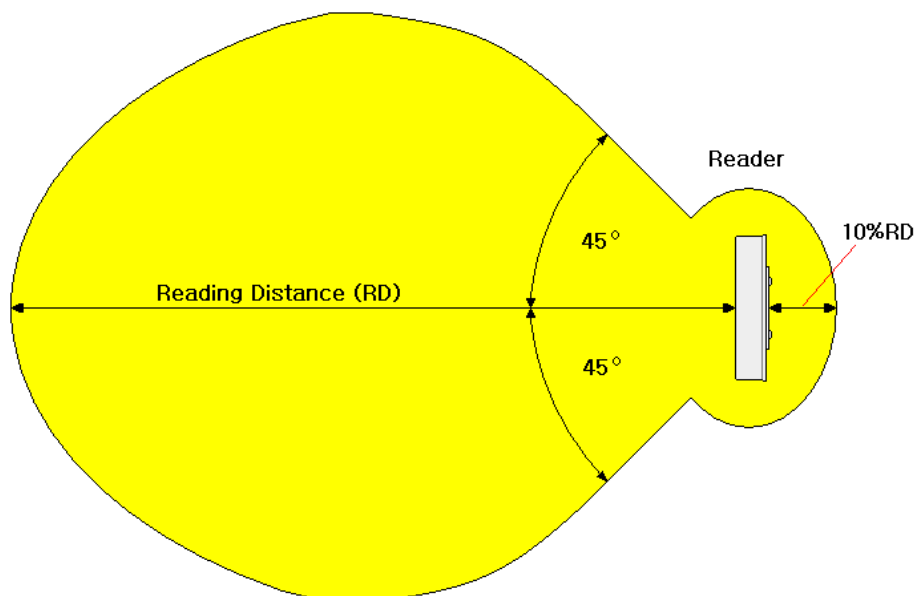
Applications

F.1 Parking Control (Island)   **F.2 Multiple Gates with OTR & HOLD Control**

※ Note:

1. NEO RF245 is applicable in a various way as it shows in F.1 and F.2. However, because of the characteristic of a long range reader, we recommend to have enough space between each of them when installing multiple RF245 (ex: F.1 : 3m, F.2 : 5m at least).

2. In case of not being able to keep enough distance between two or more readers due to the spatial constraints, a user can set desire reading range by adjusting the angle. If it is difficult to have enough space between the NEO RF245 due to the spatial constraints,

3. Using a reader hood will diminish the reading range; therefore, set a speed bump at the crossing gate ramp to extend the reading range, if desired. A speed limit has to be restricted to 20 Km/h or below.

3. Cable Color

| Cable name	Color
Main Power(DC+12V)	Red
Power Ground(GND)	Black
Wiegand Data-0	Green
Wiegand Data-1	White
BARGATE[1]	Gray
HOLD Loop INPUT[2]	Blue
OTR INPUT[3]	Yellow
RS232_TX	Purple
RS232_RX	Brown
BOOT_INPUT[4]	Orange

1. BARGATE output (a transistor output) that directly controls a car circuit breaker is used for circuit breaker control relay operation. The maximum current drain rate is 1 Amps.

2. HOLD input is used to force NEO RF245 to read a tag when loop sensor detects any approaching vehicle. When a vehicle is detected, NC contact should be used, and the input should also be disconnected from GND completely. In OTR mode, the reader will only output tag ID (1 time).
   CAUTION: Nothing should be connected to this input unless loop sensor is in use.

3. OTR cable (yellow) is used to limit the reading time to 1 (OTR = One time reading).

4. When BOOT_INPUT is connected to GND during firmware upgrade, the system changes into applicable mode.
   CAUTION: Nothing should be connected to this input during normal operation.

4. Wire Connection to Controller
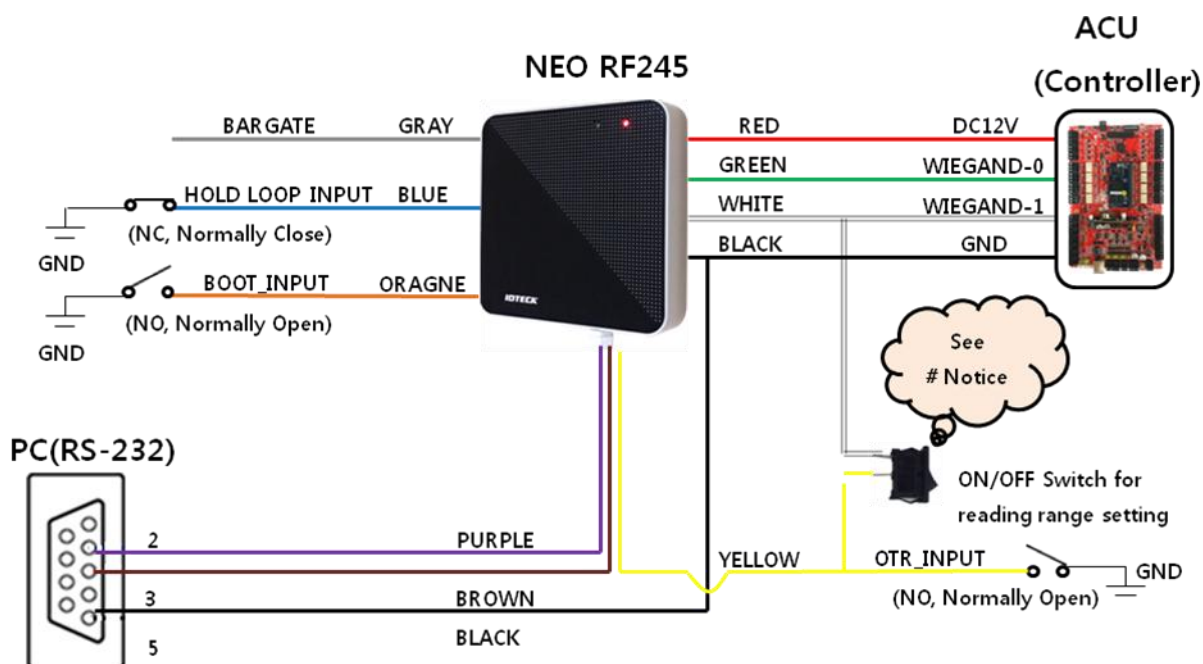
NEO RF245 Wire Connection

\# Notice
- Connect both yellow (OTR, one time reading) and white (WIEGAND-1) cable to the ON/OFF switch (the switch must be ON when setting up reading range).
- Turn ON the switch when setting up reading range. Make sure to turn it OFF after a desired range is setup.

5. Operation

- Normal Operation Mode

5-1   Apply power to the reader. When power is supplied, the RF245 reader will automatically set its frequency and site code, and go into standby mode. The red LED will be turned on after successful initialization.

5-2   If a tag (IDA245N & IDA245) or IDA245N-H2 & IDA245H2) approaches the reader, the reader will generate a beeping sound in every second. The green and red LED will blink on and off alternatively. The reader will send 26bit Wiegand output, RS232, and BARGATE output to the controller at the same time.

5-3   Bargate output:

When the reader detects a tag, it will generate 1s BARGATE control output through the Gray wire. The BARGATE output is a transistor (open collector) output, with the maximum current drain of 1 A.

**5-4   One time reading(OTR) control Input:**

Connect OTR (yellow) cable to GND to activate One-Time-Reading mode. During this state, the reader will only generate output signal when a tag is detected for the first time.

If a user needs to scan the same tag again, the particular tag must be completely out of the reading range for at least 5 seconds, and scanned to the reader again. (The maximum number of cards that the reader can detect at the same time during OTR more is 12. From the 13th tag, it will be detected as "Continuous.")

5-5   HOLD Control Input: (NC contacts required)

When the HOLD Control Input (Blue wire) is grounded, it will prevent the reader from reading the tag. This can be used for vehicle detectors such as Loop Coil Sensor.

Hold Input with OTR function will only detect on tag ID. Please refer to the following figure.
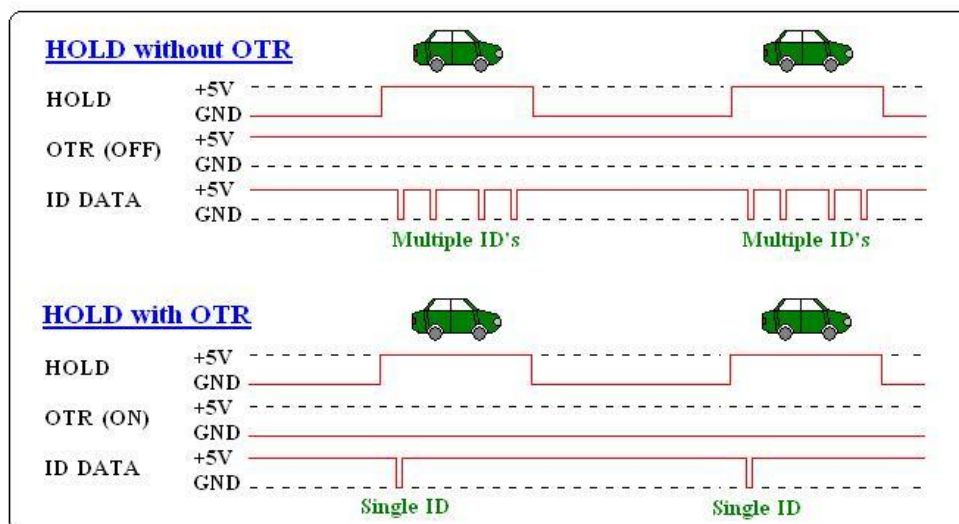
- Reading range setting method

☞ **NEO RF245 is suitable for any installation environment that the users can freely set the reading range at the desired distance.**

5-6   Power off NEO RF245.

5-7   Connect yellow (OTR, one time reading) and white (Wiegand_D1) cables together.

      (You can use a enclosed switch to connect two cables together, as shown below. The switch must be turned on before setting up reading range. Make sure to turn off when finished).
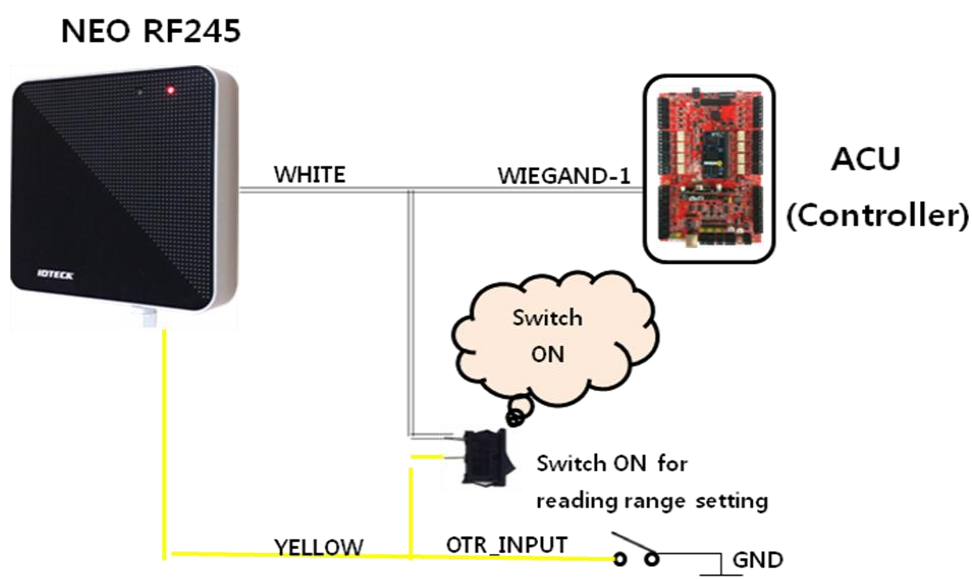
5-8   Power up NEO RF245.

5-9   Green and red LED will light up as shown below. The device will generate 10 beeping sounds for 10 seconds.

5-10   During those 10 seconds, scan a tag from a desired location. The tag should be scanned 10 straight times. For the first 5 times of the scanning, a single sound (Bee) will be generated. From the 6th to 9th times of scanning, double sound (Bee Beep) will be generated. At the last 10th time of scanning, triple sound (Bee Bee Beep) will be generated. Now the distance of that 10th time of scanning will be programmed as a new reading distance. When finished, the reading range setup will be finalized and green LED will turn off.

Set read range what you want at the field
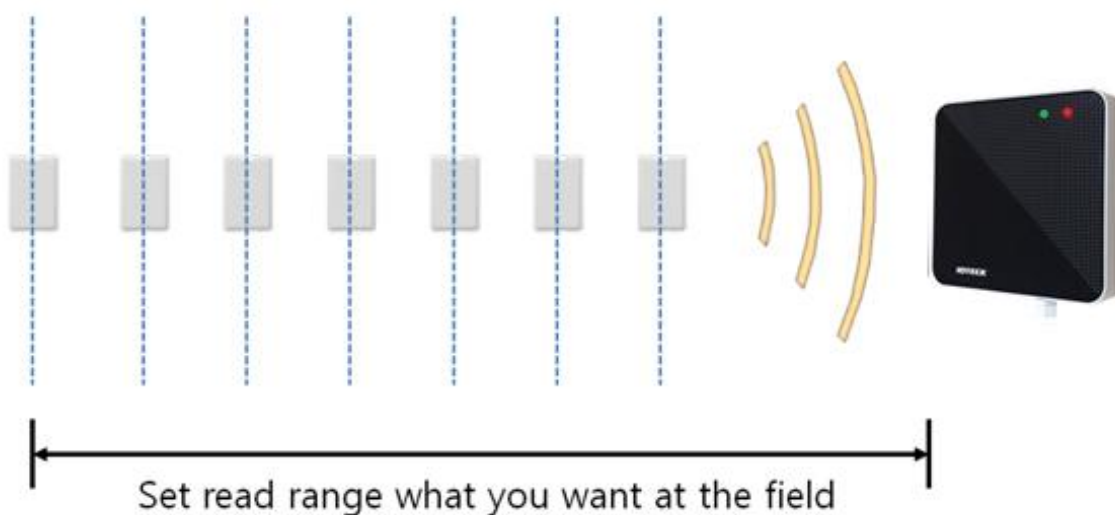
5-11 Power off the device, and disconnect yellow and white cables (If used switch, simply turn OFF the switch).
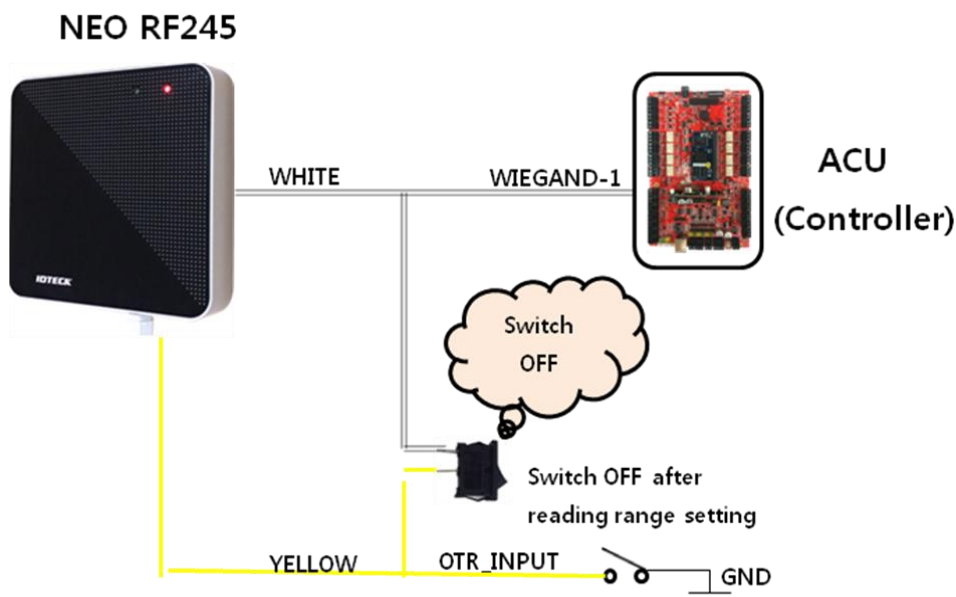
5-12 Power on the device. You can now scan the tag from the distance that has been programmed.

Scenario

- Current reading range is 2 meters, and you want to maximize the reading range. How?
    1) Follow the steps above (5-6 and 5-7).
    2) Wait until green LED turns off (DO NOT scan any tag until it fully goes off).
    3) Follow the steps (5-9 to 5-10). Recognition distance shall be set with the maximum reading range.

※ Note:

1. Reading range can have a margin of error that depends on installation circumstances.

2. The default reading range of NEO RF245 is set to maximum.

(Reading Range is definable according to each site's properties.)

6. Product manual download information

This Quick Installation Guide only provides basic installation information of the product. If you need full information about the product, please download a detailed manual following the steps specified below.

For registered users of our homepage
1. Visit IDTECK's homepage (www.idteck.com).
2. Click the Sign in button at the top of the homepage and log in using your registered ID and P/W.
3. Click the 'PRODUCT' menu at the main page of our website and select the product that you wish to download a manual for.
4. At the bottom part of the product's page you selected, click "DOWNLOAD" button and download the manual.

For un-registered users of our homepage
1. Visit IDTECK's homepage (www.idteck.com).
2. Please click "Member Join" menu at the top of our homepage and register your details following the registration process.
3. You can use your ID and P/W after web administrator approves it. Once it's approved, then please refer to "For registered users of our homepage" above.

Please contact us as below if you have any enquiries or issues arise.

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The specifications contained in this manual are subject to change without notice at any time.

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