



D-307386

ENG PGx312

PowerG 2-way Wireless Outdoor
Magnetic Contact with Auxiliary Input

Introduction

The PGx312 is a two-way wireless PowerG magnetic contact device. The device has the following features:

- Weatherproof, water-resistant outdoor transceiver
- Flat and curved surface installation
- Battery pull tab for auto enrollment
- Functions at extreme temperatures (-40 °C to 66 °C / -40°F to 151 °F) and is IP66 certified
- **Note:** UL testing temperatures: -35 °C to 66 °C (-31 °F to 151 °F)
- Battery life of up to five years (with typical commercial use)
- Integrated magnetic sensor
- Maximum magnetic gap of 44.5 mm (1.75 in.) on wood and 31.8 mm (1.25 in.) on metal
- Magnetic sensor toggle if the auxiliary input only is required
- Separate transmissions from sensor and auxiliary input that trigger the same RF transmitter
- Front and back tamper protection
- Automatic periodic supervision at regular intervals
- PowerG two-way FHSS TDMA technology
- Paintable using non-metallic paint. Recommended paints include KRYLON 'Fusion for Plastic', RUST-OLEUM 'Plastic', and DUPLI-COLOR 'Vinyl & Fabric Coating'.

The following smart capabilities are available for selected systems:

- Anti-masking protection, based on panel software version
- Auxiliary hardwired input, programmable as either normally open (NO), normally closed (NC), end of line (EOL), or double end of line (DEOL) for use with additional device. DEOL functionality is based on panel software version
- Supports temperature level reports according to PowerG panel software version

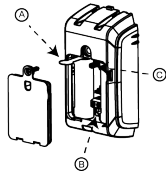
Enrolling the device

1. To ensure that the proper steps are used, refer to the installation manual for the alarm system that the device is being enrolled on.
2. From the installation menu, enter the device enrollment option through the specified method and select the appropriate option to add the new device.
3. Pull the enrollment tab or insert the batteries to power on the device and begin the auto-enrollment process.
Note: You can also enter ID:xxx-xxxx (the number of the device that is printed on the label), or press the enroll button on the detector to begin the enrollment process if the device does not automatically enroll.
4. Select the desired zone number.
5. Configure any device parameters that are required.
6. Mount and test the detector. For more information on testing the device, see *Local diagnostics test*. In addition, see the alarm systems installation manual that the device is enrolled on for other test procedures that are required.

Note:

- If the magnetic contact device is already enrolled, configure the magnetic contact device parameters using the Modify Devices option. See Step 2.
- To configure the device parameters, select the Device Settings option and refer to *Configuring the Device Parameters*.
- To enroll the device, power on the device by pulling the battery tab or insert the batteries. Both methods activate the auto-enrollment process. Alternatively, enter the ID: **107-XXXX** (the number of the device printed on the label).
- When enrolling the device to a wireless panel with a version that does not support the device ID, it is detected as **W/D Contact** with the ID: **101-XXXX**.
- If the device was not automatically enrolled, press the enrollment button as seen in Figure 1, callout B.

Figure 1: Enrollment options



| Callout | Description |
|---------|-------------------|
| A | Enrollment tab |
| B | Enrollment button |
| C | Tamper switch |

Installation

This equipment is designed to be installed by qualified service persons only. Place the device above the door or window on the fixed frame and the magnet on the movable part of the door or window. Do not place the magnet more than 44.5 mm (1.75 in) from the marked side of the device. To monitor outdoor areas, you can mount the PGx312 on a curved surface, such as a fence pole or similar.

Note:

- Once the battery cover is removed, a tamper message is transmitted to the panel. Subsequent removal of the battery prevents transmission of the TAMPER RESTORE alert, leaving the receiver in permanent alert. To avoid this, press the tamper switch when you remove the battery.
- Wait about 1 minute after battery removal before inserting the new batteries.

Caution! Risk of explosion if the battery is replaced by an incorrect type. Dispose of the used battery according to the manufacturer's instructions.

Attention! There is a back tamper switch behind the device. As long as the device is seated firmly within the bracket, the switch lever presses against a special break-away bracket segment that is loosely connected to the bracket. Be sure to fasten the break-away segment to the wall. If the detector unit is forcibly removed from the wall, this segment breaks away from the bracket, causing the tamper switch to open.

Local diagnostics test

A local diagnostic test establishes the signal strength of a device in its current position during the installation process. To perform this mandatory test, complete the following steps:

1. Separate the decorative cover from the device and unscrew the battery cover. See Steps 1 to 3 of *Mounting the PGx312*.
2. Press the tamper switch once and release it.
3. Open the door or window and verify that detection is indicated by a red LED flash.
After two seconds, the LED flashes three times in one of three colors to indicate the signal strength.

Important!

- Reliable reception must be assured. Therefore, **poor** signal strength is not acceptable. If you receive a **poor** signal from the detector, relocate it and re-test until a **good** or **strong** signal strength is received.
- For UL, only a **strong** signal strength is acceptable.
- 3. Reattach the battery cover.

Table 1. LED reception response

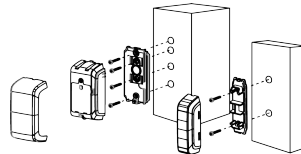
| LED response | Reception |
|--------------------|------------------|
| Green LED flashes | Strong |
| Yellow LED flashes | Good |
| Red LED flashes | Poor |
| No flashes | No communication |

Note:

- For detailed diagnostics test instructions, refer to the control panel *Installer Guide*.
- The LED light is off in normal conditions.

Mounting the device

Figure 2: Mounting on a flat surface



1. Insert a flat-head screwdriver into the slot provided and push upward to remove the decorative cover.
2. Unscrew the lower screw from the device cover.
3. Separate the device from the bracket.
4. To mount the device on a flat surface, mark, drill, and screw the required four holes in the mounting surface. You must use the middle two holes to add tamper protection. See Figure 2.
or
To mount the device impermanently on a curved surface, insert the straps through the slots in the device and magnet brackets. Fasten both straps to the curved surfaces. See Figure 3. Straps are not included with the product.
5. Screw in the bracket with the four screws provided.
6. Reattach the device to the bracket.
7. Mount the magnet base with the two supplied screws to an adjacent surface and attach the magnet to the magnet bracket.
8. Align the device and magnet according to the specifications in *Range Coverage Directions*.

Figure 3: Mounting on a curved surface with straps

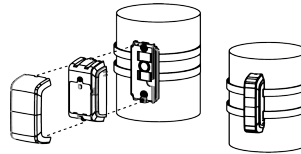
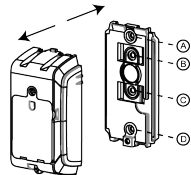


Figure 4: Device and bracket separation



| Callout | Description |
|---------|-------------------|
| A | Standard mounting |
| B | Tamper protection |
| C | Tamper protection |
| D | Standard mounting |

Range coverage directions

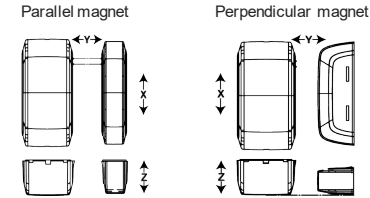
Table 2. Range coverage directions

| Non-metallic surface | | Supports | Metallic surface | |
|----------------------|-----------------|-----------|------------------|-----------------|
| Open | Close | Direction | Open | Close |
| 40 mm (1.6 in.) | 33 mm (1.3 in.) | X (up) | 32 mm (1.3 in.) | 25 mm (1.0 in.) |
| 22 mm (0.9 in.) | 17 mm (0.7 in.) | X (down) | 17 mm (0.7 in.) | 8 mm (0.3 in.) |
| 71 mm (2.8 in.) | 52 mm (2.0 in.) | Y | 48 mm (1.9 in.) | 35 mm (1.4 in.) |
| 85 mm (3.3 in.) | 55 mm (2.2 in.) | Z | 80 mm (3.1 in.) | 60 mm (2.4 in.) |

Note:

- The values stated above may vary by up to 10%. For steel installations, the gaps cannot be less than 3.2 mm (0.1 in.).
- For roller shutter assembly, the magnet needs to be mounted 25 mm to 35 mm (1.0 in. to 1.4 in.) from the devices (on the Y plane). For all other installations, a minimum gap of 5 mm (0.2 in.) is needed.
- When mounting on a slide door, refer to Y. When mounting on a roller shutter, refer to X. When mounting on a normal door, refer to Z.

Figure 5: Range coverage directions



Note:

- For UL commercial installations, the maximum opening to activate is 50.8 mm (2 in.).
- X (up) refers to the upper half of the Y plane. X (down) refers to the bottom half of the device on the X plane.
- When mounting the magnet perpendicular to the device, align the magnet with the face of the device as seen in the perpendicular magnet image.

Configuring the device parameters

Enter the control panel **DEVICE SETTINGS** menu and follow the configuration instructions for the PGx312 magnetic contact device as described in Table 3.

Table 3. Magnetic device parameters

| Option | Configuration instructions |
|-----------------|--|
| Magnetic sensor | Determine whether to enable or disable the magnetic sensor. Optional settings: Enable (default) or Disabled . |
| Input #1 | Define the external input according to the installer's requirements. Optional settings: Disabled (default), NO , NC , EOL , or DEOL . Note: DEOL support is dependent on panel software version. |
| Anti-mask | Determine whether to enable or disable the anti-masking. Optional settings: Disabled (default) or Enabled . Note: This feature is dependent on panel software version. |

Wiring the auxiliary input

Note:

- For UL installations, the device connected to the initiating circuit must be located in the same room as the transmitter.
- For UL installations, connect to UL listed residential burglar alarm accessories only.
- For ULC installations, connect ULC listed products only to the auxiliary wiring input.
- An alarm message transmits once the loop is opened or short circuited.

To connect this device with another nearby device by auxiliary input, complete the following steps:

1. Remove the jacket at the end of the cable to expose the wires within.
2. Perforate the silicon gasket with a 0.8 mm (0.03 in.) pin.
3. Pass each wire through an entry hole and out the opposite side.
4. Remove the insulation from the end of each wire.
5. Connect each wire to the relevant terminal, referencing *Auxiliary wiring options*.
6. Screw the terminal closed using a flat head screwdriver.

Note:

- Use a 22 AWG AUX cable (3.0 mm, 0.12 in. jacket diameter) for this installation.
- Use a cable shorter than 3 m (10 ft) for the auxiliary connection.
- Seal the auxiliary wiring gasket with RTV Silicone adhesive sealant.

Auxiliary wiring options

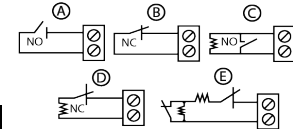
You can add more devices to the circuit of the PGx312 for NC, NO, EOL, or DEOL applications. Each application type is as follows:

Table 4. Auxiliary wiring options

| | |
|------|---|
| NC | Exclusively use series connected NC sensor contacts if the auxiliary input of the PGx312 is defined as a normally closed (NC) type. An EOL resistor is not required. |
| NO | Exclusively use parallel connected NO sensor contacts if the auxiliary input of the PGx312 is defined as NO type. An EOL resistor is not required. |
| EOL | For EOL supervision, NC or NO sensor contacts can be used. A 5.6 kΩ EOL resistor must be wired at the far end of the zone loop. |
| DEOL | For DEOL supervision, only N.C. contacts should be used. Two 5.6 kΩ EOL resistors must be wired at the far end of the zone loop. Note: DEOL support is dependent on panel software version. |

Note: Figure 6 E illustrates a DEOL resistor setup that is available dependent on panel software version.

Figure 6: Auxiliary wiring options



| Callout | Description |
|---------|---|
| A | N.O. switch |
| B | N.C. switch |
| C | EOL ; N.O. switch; use 5.6 kΩ resistor |
| D | EOL ; N.C. switch; use 5.6 kΩ resistor |
| E | Double EOL: NC switch only ; 5.6 kΩ resistors |

Calibrating the anti-mask

The anti-mask feature enables the detection of attempted sabotage, for example, sensor obstruction.

Note:

- This feature is dependent on panel software version.
 - Begin the anti-mask calibration process when the device and magnet are in the final installation position. This must be the shortest distance between the magnet and the device.
 - For the proper operation of the AM function, align the magnet with the sensor decorative cover during calibration. See Figure 5 for parallel and perpendicular magnet installation.
- Pre-requisites
- To receive an alert for magnet interference, enable the anti-masking configuration on the device settings menu.
 - Complete the anti-masking learning process after enrollment (see *Enrolling the PGx312*) and with the device and magnet in the final installation position.

