1. INTRODUCTION

The MC-302V PG2 is a very thin PowerG magnetic contact device that is compatible with PowerMaster control panels. The device includes a built-in reed switch (that opens upon removal of a magnet placed near it). The MC-302V PG2 sends the alarm message to the control panel using PowerG 2-way communications protocol. A periodic supervision or alarm message is transmitted automatically. The control panel is thus informed, at regular intervals, of the unit’s active participation in the system.

The LED lights green/yellow/red, according to signal strength, upon first insertion of the battery and for the test period of 15 minutes.

Operating power is obtained from an on-board 3 V Lithium battery. When the battery voltage is low, a “low battery” message is sent to the receiver.

The MC-302 V is available for 433 MHz, 868 MHz, and 915 MHz.

2. INSTALLATION

2.1. Mounting

Caution! This equipment shall be installed by Service Personnel in non-hazardous indoor locations only.
Notes:
- The required battery is CR2032 Lithium 3V, manufactured by VARTA or another UL-recognized manufacturer, purchased from a Visonic-approved supplier.
- To comply with FCC and IC RF exposure compliance requirements, the device should be located at a distance of at least 20 cm from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.
- Insert the battery when installing the product but not prior to the installation as this can degrade battery life performance.

1. Insert a “quarter” coin in the slot, as shown in the drawing, and flex to remove the cover
   - or, if a “quarter” coin is not available -
   Insert a 4 mm flat screwdriver into the slot of the plastic cover, as shown in the drawing, and flex the slot to open that side of the plastic cover.
2. Insert the screwdriver into the slot on the other side of the plastic cover and repeat the procedure, and then remove the cover.
3. Insert the battery at an angle (see drawing) while observing battery polarity and then press down on the battery.
   **Caution!** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the manufacturer’s instructions.
4. Peel away the release liners from the two strips of double-sided adhesive tape and attach to the device and magnet.
5. Align the device with the magnet according to the location marks and fasten the device and magnet to the mounting surface. The transmitter should be mounted on the fixed surface and the magnet on the moving surface.
6. For the 433 or 868 MHz installer models, ensure that the heads of the tightened screws are flat perpendicular to the device surface.
   To close the cover complete the following steps:
   - Insert the two teeth on the front cover into the corresponding slots on the base.
   - When the cover is approximately at a 30 degree angle to the base, push into place until you hear a click.

   **Figure 3: Closing the cover**

2.2. Enrollment

Refer to the PowerMaster panel’s Installer Guide and follow the procedure under the “02:ZONES/DEVICES” option of the Installer Menu. The following is a general description of the steps through the panel menu:

1. 02:ZONES/DEVICES
2. ADD NEW DEVICES > MODIFY DEVICES
3. ENROLL NOW or > ENTR ID:XXX-XXXX
4. Z06:Contact Sens > ID No. 104-XXXX
5. Z06:LOCATION > Z06:ZONE TYPE > Z06:SET CHIME > Z06:DEV SETTINGS

3. LOCAL DIAGNOSTICS TEST

Before testing, separate the base from the cover (see Figure 2).

A. Put back the cover to return the tamper switch to its normal (undisturbed) position.
B. Momentarily open the door or window and verify the red LED blinks, indicating detection.
C. After 2 seconds one of the LEDs blinks 3 times.

The following table indicates received signal strength indication.

<table>
<thead>
<tr>
<th>LED response</th>
<th>Reception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green LED blinks</td>
<td>Strong</td>
</tr>
<tr>
<td>Yellow LED blinks</td>
<td>Good</td>
</tr>
<tr>
<td>Red LED blinks</td>
<td>Poor</td>
</tr>
<tr>
<td>No blinks</td>
<td>No communication</td>
</tr>
</tbody>
</table>

**Important!** Reliable reception must be assured. Therefore, “poor” signal strength is not acceptable. If you receive a “poor” signal from the detector, re-locate it and re-test until a “good” or “strong” signal strength is received (in regions requiring UL-compliant installation, only “strong” signal strength is permitted).

**Note:** It is recommended to have a “strong” signal strength and you must verify the signal strength using the control panel’s diagnostic test. For detailed Diagnostics Test instructions refer to the control panel Installer Guide.

4. MISCELLANEOUS COMMENTS

Visonic Ltd. wireless systems are very reliable and are tested to high standards. However, due to low transmitting power and limited range (required by FCC and other regulatory authorities), there are some limitations to be considered:

A. Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the digital code used.
B. A receiver responds only to one transmitted signal at a time.
C. Wireless devices should be tested regularly to determine whether there are sources of interference and to protect against faults.
5. COMPLIANCE WITH STANDARDS

The MC-302V PG2 complies with the following standards:

Europe:
- EN 300220
- EN 301489
- EN 50130-4
- EN 61000-6-3
- EN 60950-1
- EN 50131-1
- EN 50131-2-6
- EN 50131-6 Type C.

Certified by Norwegian accredited certification body Applica Test & Certification AS in accordance with
- EN 50131-1
- EN 50131-2-6
- EN 50131-6
- EN 50130-4
- EN 50130-5

Hereby, Visonic Ltd. declares that the radio equipment type MC-302V PG2 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

USA: FCC - CFR 47 part 15, UL - UL-634
Canada: IC - RSS 210, ULC - ULCC 634

The Power G peripheral devices have two-way communication functionality, providing additional benefits as described in the technical brochure. This functionality has not been tested to comply with the respective technical requirements and should therefore be considered outside the scope of the product's certification.

Security Grade
Designed according to EN 50131-1, EN 50131-2-6 and EN 50131-6 Type C: this equipment can be applied in installed systems up to and including Security Grade 2.

Environmental Class
EN-50131-2-6 Class II

FCC Compliance Statement

The digital circuitry of this device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one that supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

Warning! Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

This device complies with FCC Rules Part 15 and with Industry Canada licence-exempt RSS standard(s). Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may be received or that may cause undesired operation.

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisee aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioelectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.

Reed Switch Positions

<table>
<thead>
<tr>
<th>Wood</th>
<th>Supports</th>
<th>Iron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening</td>
<td>Closing</td>
<td>Direction</td>
</tr>
<tr>
<td>&gt;14 mm</td>
<td>&gt;12 mm</td>
<td>X*</td>
</tr>
<tr>
<td>&gt;22 mm</td>
<td>&gt;20 mm</td>
<td>Y**</td>
</tr>
<tr>
<td>&gt;30 mm</td>
<td>&gt;27 mm</td>
<td>Z***</td>
</tr>
<tr>
<td>**X axis</td>
<td>The distance between the edge of the sensor to the edge of the magnet in the X axis direction.</td>
<td></td>
</tr>
<tr>
<td>**Y axis</td>
<td>The distance between A to B in the Y axis direction.</td>
<td></td>
</tr>
<tr>
<td>**Z axis</td>
<td>The distance between the sensor and the magnet from the plane defined by the Z axis direction.</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4: Range Coverage Directions
## APPENDIX: SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Band (MHz)</td>
<td>433, 868, 915 (in accordance with the prevailing frequency of your region)</td>
</tr>
<tr>
<td>Note:</td>
<td>Only devices in frequency band 915MHz are UL/ULC listed</td>
</tr>
<tr>
<td>Maximum Tx Power</td>
<td>10 dBm @ 433 MHz, @ 868MHz.</td>
</tr>
<tr>
<td>Modulation</td>
<td>GFSK</td>
</tr>
<tr>
<td>Antenna</td>
<td>Built-in loaded inverted-F antenna</td>
</tr>
<tr>
<td>Communication Protocol</td>
<td>PowerG</td>
</tr>
<tr>
<td>Supervision</td>
<td>Signaling at 256 sec. intervals</td>
</tr>
<tr>
<td>Battery type</td>
<td>Varta 3V Lithium CR2032</td>
</tr>
<tr>
<td>Battery Life Expectancy (for typical use at room temperature)</td>
<td>Up to 3 years, not tested by UL/ULC</td>
</tr>
<tr>
<td>Low Battery Threshold</td>
<td>2.1 V</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0°C (32°F) to 55°C (131°F). UL verified range: 0°C (32°F) to 49°C (120°F) only</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to 85°C (-104°F to 185°F)</td>
</tr>
<tr>
<td>Relative Humidity (RH)</td>
<td>Up to 95% non-condensing, UL verified up to a maximum of 85% RH only</td>
</tr>
<tr>
<td>Dimensions (LxWxD)</td>
<td>433/868 MHz model: 62 x 25.4 x 7.6 mm (2.5 x 1 x 0.3 in.)</td>
</tr>
<tr>
<td></td>
<td>915 MHz model: 62 x 25.4 x 6.4 mm (2.5 x 1 x 0.26 in.)</td>
</tr>
<tr>
<td>Weight (including battery)</td>
<td>12g (0.42 oz)</td>
</tr>
<tr>
<td>Color</td>
<td>White or brown</td>
</tr>
</tbody>
</table>
WARRANTY

Visonic Limited (the "Manufacturer") warrants this product (the "Product") to the original purchaser only (the "Purchaser") against defective workmanship and materials under normal use of the Product for a period of twelve (12) months from the date of shipment by the Manufacturer or from late delivery or production date if applicable.

This Warranty is subject to the conditions and limitations set forth herein. Failure to comply with these conditions and limitations will void this Warranty.

CONDITIONS TO VOID WARRANTY:

The Warranty applies only to defects in parts and workmanship relating to normal use of the Product. It does not cover:

• damage incurred in shipping or handling;
• damage caused by harsh weather such as flood, wind, earthquake or lightning;
• damage due to causes beyond the control of the Seller such as excessive voltage, mechanical shock or water damage;
• damage caused by unauthorized alteration, alterations, modifications or foreign objects being used with or in conjunction with the Product;
• damage caused by peripheral devices unless such peripherals are supplied by the Seller;
• defects caused by failure to provide a suitable installation environment for the Product;
• damage caused by use of the Products for purposes other than those for which they were designed;
• damage from improper maintenance;
• damage arising out of any other abuse, mishandling or improper application of the Product.

ITEMS NOT COVERED BY WARRANTY:

In addition to the items which void the Warranty, the following items shall not be covered by Warranty: (i) height cost to the repair center; (ii) custom codes, taxes, or VAT which may be due; (iii) Products which are not identified with the Seller's product label and lot number or serial number; (iv) Products disassembled or repaired in such a manner as to make it impossible to verify the claims for warranty; (v) Products not returned in the original packaging.

In no event shall the Manufacturer be liable to anyone for any consequential, incidental, special, indirect, or punitive damages, whether based on breach of warranty or on any other legal theory, including, but not limited to, lost profits, revenue or goodwill; directly or indirectly arising from Purchaser's use or inability to use the Product, or for loss or destruction of other property or from any other cause, even if Manufacturer has been advised of the possibility of such damage.

The Manufacturer shall be under no liability whatsoever arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs. The Manufacturer's obligations under this Warranty are limited solely to repair and/or replace at the Manufacturer's discretion any Product or part thereof that may prove defective. Any repair and/or replacement shall not extend the original Warranty period. The Manufacturer shall not be responsible for demanding and/or reinstatement costs. To exercise this Warranty the Product must be returned to the Manufacturer freight pre-paid and insured. All freight and insurance costs shall be the responsibility of the Purchaser and are not included in this Warranty.

For sales in Israel only:

The Purchaser shall comply with the provisions of the Israeli Consumer Protection Law – 1981 ("Consumer Protection Law") related regulations, including the Israeli Consumer Protection Regulations (Warranty Sticker), 5772-2012 ("Regulations"); including, without limitation (i) providing its customers with all the minimum warranty required by the Consumer Protection Law, and (ii) ensuring that a warranty certificate and a warranty sticker (as defined in the Regulations) ("Warranty Sticker") is attached to any sold Product and the date of the sale of the Product to the consumer or the end user shall be added in a readable manner on the Warranty Sticker.

In no event shall the Purchaser's compliance with the Consumer Protection Law and Regulations expand any of the Manufacturer's warranty obligations under this warranty, and the Purchaser shall be responsible for any warranty obligations that it provides with respect to the Product which exceed those different from this warranty.

This Warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. IN NO CASE SHALL THE MANUFACTURER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, PUNITIVE, EXEMPLARY OR OTHER DAMAGES, OR FOR LOSS, DAMAGE, OR EXPENSE, INCLUDING LOSS OF USE, PROFITS, REVENUE, OR GOODWILL, DIRECTLY OR INDIRECTLY ARISING FROM PURCHASER'S USE OR INABILITY TO USE THE PRODUCT, OR FOR LOSS OR DESTRUCTION OF OTHER PROPERTY OR FROM ANY OTHER CAUSE, EVEN IF MANUFACTURER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This Warranty is exclusive to the original Purchaser and is non-transferable. By acceptance of the Product, Purchaser agrees to the said conditions of sale and warranty and he recognizes having been informed of relevant laws and regulations.