



D-307587

tyco**MX-862 Installation Instructions****Introduction**

The MX-862 is an addressable smart ceiling PIR detector. It creates a 360° coverage area to detect the movement of intruders in indoor areas. The detector has the following features.

- Tamper protection.
- False alarm prevention via The Advanced True Motion Recognition™ algorithm

Note: For UL installations, the detector is for use with UL listed control units only.

Device overview

Figure 1: Internal view

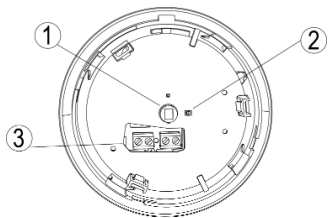


Table 1. Legend

Callout	Part
1	Pyro sensor
2	LED
3	Wiring terminal

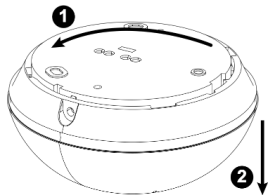
Enrolling the device

Refer to the MX alarm panel instruction manual for enrollment information.

Removing the bracket

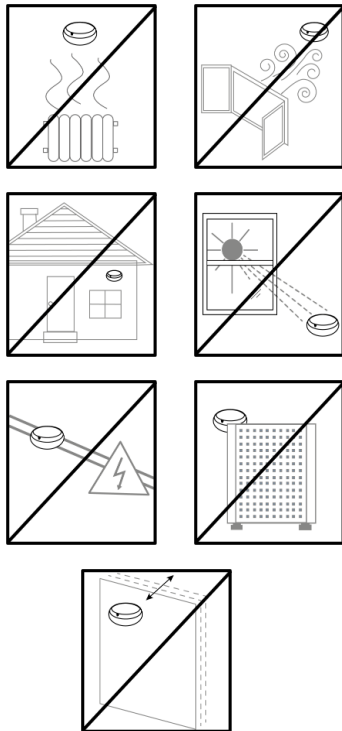
Before wiring and mounting the device, rotate the mounting bracket anticlockwise and pull it from the detector. See Figure 2.

Figure 2: Removing the bracket

**Installation guidelines**

Consider the following guide when you choose a suitable mounting location.

Figure 3: Device mounting hazards



1. Keep away from heat sources.
2. Do not expose to air drafts.
3. Do not install outdoors.
4. Avoid direct sunshine.
5. Do not install near high voltage electrical lines.
6. Do not install behind partitions.
7. Do not mount on a moveable or unstable surface.

Notes:

- Only qualified service persons can install the device.
- Do not partially or completely obscure the device's field of view.
- Do not install the MX-862 addressable ceiling PIR detector in the following locations:
 - Hazardous areas.
 - Areas with a pollution degree higher than pollution degree 2.
 - Circuits above overvoltage category II.
- Install the MX-862 according to the Standard for Installation and Classification of Residential Burglar Alarm Systems, UL 1641.

Mounting and wiring the device

1. Use the holes in the mounting bracket to mark and drill three holes in the mounting surface. See Figure 4.
2. Fasten the bracket to the mounting surface with screws.
3. Wire the device.
 - a. Remove the jacket at the end of both cables to expose the jacketed wires. To expose the wires, remove the insulation at the end of each wire. See Figure 5.
 - b. Feed the wires through one of the pairs of openings on the mounting bracket. See Figure 6.
 - c. For each cable, insert one wire in the positive terminal loop that is marked L+ and the other wire in the negative terminal loop that is marked L-. See Figure 7.
 - d. Screw both terminals closed with a flat-head screwdriver. See Figure 8.
4. Align the bracket tabs with the device slots and rotate the device clockwise. Verify that it is securely attached. See 1 and 2 in Figure 9.
5. Fasten the device to the bracket with a screw. See step 3 in Figure 9.

Figure 4: Marking, drilling and screwing the device

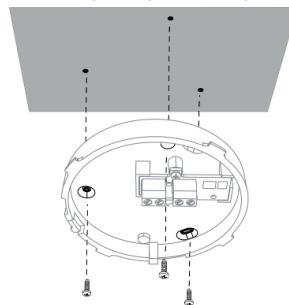


Figure 5: Removing the cable and wire jackets



Figure 6: Inserting the cables through the cable opening

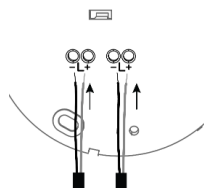


Figure 7: Positive and negative terminal loops

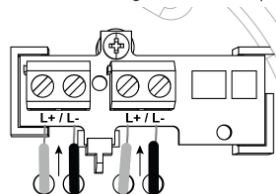


Figure 8: Closing the terminal with a screwdriver

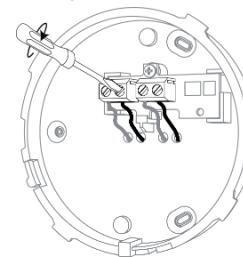
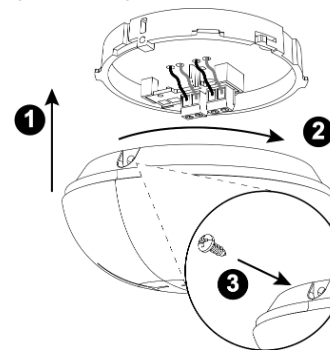


Figure 9: Attaching the device

**Mounting height and detection distance**

The following table outlines the detection distance in relation to the mounting height:

Table 2. Mounting height and detection distance

Height	2 m (6.6 ft)	3 m* (9.8 ft)	4 m* (13.1 ft)
Detection distance radius	3.1 m (10.2 ft)	3.75 m (12.3 ft)	5 m (16.4 ft)

Note: UL/ULC verified detection only at 3.35 m (11 ft) radius when the device is installed at 2.75 m (9 ft) height. * For UL installations the maximum mounting height is 2.75 m (9 ft).

Walk testing

Perform a walk test of the coverage area at least once a week to ensure that the device is working correctly.

1. Set the alarm control panel to test mode to switch the device to walk test mode.
2. Walk test the coverage area by walking across the far end of the coverage pattern in both directions. The LED lights red each time it detects motion.

The device switches to normal mode when test mode is disabled on the panel.

Note:

- For detailed Placement instructions refer to the control panel reference manual.

Device settings

To change a default device setting, select **DEVICE SETTINGS** from the MX panel menu and configure one or more setting options in the following definition list:

- **Alarm LED:** Select **LED OFF** to turn off the LED indication of alarm events. **LED ON** is the default setting
- **Walk test:** Select **Disable** to disable the LED indication of alarm events in walk test mode. **Enable** is the default setting.

LED Event indication

The following table describes the LED patterns and the corresponding events they indicate:

Table 3. LED event indications

LED	Event
Slow blinks	Walk test
Fast blinks	Enrollment mode
On for three seconds	Intruder detection

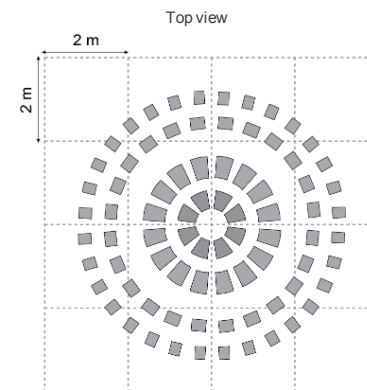
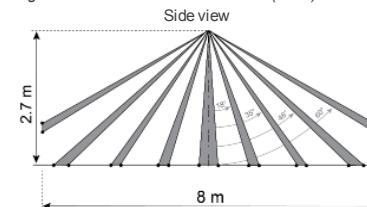
Specifications**General**

- **Detector type:** One pyroelectric sensor operating in a dual separated configuration

Optical

- **Lens data:** Fresnel type lens. Number of beams: 72.
- **Max. coverage:** Ø10 m/360° at the maximum installation height of 4 m (13.1 ft)

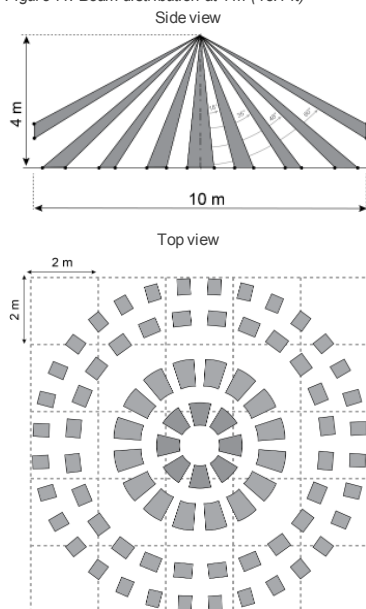
Figure 10: Beam distribution at 2.7 m (8.9 ft)



29010617R001



Figure 11: Beam distribution at 4 m (13.1 ft)



Electrical

- **Power supply:** MX Loop supply
- **Current consumption:** 0.3mA average quiescent, maximum 3.5 mA (during alarm and LED on)

Functional

- **Alarm period:** 3 seconds
- **Communications protocol:** MX
- **Tamper alert:** Reported when the detector is opened.

Mounting

- **Height:** 2 m to 4 m (6.6 ft to 13.1 ft)
- **Installation options:** Ceiling surface

Environmental

- **RF Immunity:** 20 V/m up to 1000 MHz, 10 V/m up to 2700 MHz
- **Operating temperatures:** -10 °C to 50 °C (14 °F to 122 °F)
Note: UL verified operation range is 0 °C to 49 °C only.
- **Storage temperatures:** -20 °C to 60 °C (-4 °F to 140 °F)
- **Humidity:** Average relative humidity of up to approximately 75% non-condensing. For 30 days per year the relative humidity may vary between 85% and 95% non-condensing
- **For UL installations:** 5% to 93% with no condensation

Physical

- **Size (diameter):** 10.6 cm (4.2 in)
- **Weight:** 110 g (3.88 oz)
- **Color:** White

Compliance with standards



The MX-862 is listed by UL 639 and by ULC-S306 for Intrusion-Detection Units
Europe: EN 50131-2-2 Grade 2 Class II

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.



W.E.E.E. Product Recycling Declaration
For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste.
Directive 2002/96/EC Waste Electrical and Electronic Equipment.

Limited Warranty

Digital Security Controls warrants that for a period of 12 months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, Digital Security Controls shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of Digital Security Controls such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper application of the equipment.

The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of Digital Security Controls. Digital Security Controls neither assumes responsibility for, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product. In no event shall Digital Security Controls be liable for any direct, indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.

Warning: Digital Security Controls recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Important Information: Changes or modifications not expressly approved by Digital Security Controls could void the user's authority to operate this equipment.

IMPORTANT - READ CAREFULLY: DSC Software purchased with or without Products and Components is copyrighted and is purchased under the following license terms:

• This End-User License Agreement ("EULA") is a legal agreement between You (the company, individual or entity who acquired the Software and any related Hardware) and Digital Security Controls, a division of Tyco Safety Products Canada Ltd. ("DSC"), the manufacturer of the integrated security systems and the developer of the software and any related products or components ("HARDWARE") which You acquired. • If the DSC software product ("SOFTWARE PRODUCT") or "SOFTWARE" is intended to be accompanied by HARDWARE, and is NOT accompanied by new HARDWARE, You may not use, copy or install the SOFTWARE PRODUCT. The SOFTWARE PRODUCT includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.

Any software provided along with the SOFTWARE PRODUCT that is associated with a separate end-user license agreement is licensed to You under the terms of that license agreement. • By installing, copying, downloading, storing, accessing or otherwise using the SOFTWARE PRODUCT, You agree unconditionally to be bound by the terms of this EULA, even if this EULA is deemed to be a modification of any previous arrangement or contract. If You do not agree to the terms of this EULA, DSC is unwilling to license the SOFTWARE PRODUCT to You, and You have no right to use it.

LICENSE

The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold. 1. GRANT OF LICENSE This EULA grants You the following rights:
(a) Software Installation and Use - For each license You acquire, You may have only one copy of the SOFTWARE PRODUCT installed.

(b) Storage/Network Use - The SOFTWARE PRODUCT may not be installed, accessed, displayed, run, shared or used concurrently on or from different computers, including a workstation, terminal or other digital electronic device ("Device"). In other words, if You have several workstations, You will have to acquire a license for each workstation where the SOFTWARE will be used.

(c) Backup Copy - You may make back-up copies of the SOFTWARE PRODUCT, but You may only have one copy per license installed at any given time. You may use the back-up copy solely for archival purposes. Except as expressly provided in this EULA, You may not otherwise make copies of the SOFTWARE PRODUCT, including the printed materials accompanying the SOFTWARE.

2. DESCRIPTION OF OTHER RIGHTS AND LIMITATIONS

(a) Limitations on Reverse Engineering, Decompilation and Disassembly - You may not reverse engineer, decompile, or disassemble the SOFTWARE PRODUCT, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation. You may not make any changes or modifications to the Software, without the written permission of an officer of DSC. You may not remove any proprietary notices, marks or labels from the Software Product. You shall institute reasonable measures to ensure compliance with the terms and conditions of this EULA.
(b) Separation of Components - The SOFTWARE PRODUCT is licensed as a single product. Its component parts may not be separated for use on more than one HARDWARE unit.

(c) Single INTEGRATED PRODUCT - If You acquired this SOFTWARE with HARDWARE, then the SOFTWARE PRODUCT is licensed with the HARDWARE as a single integrated product. In this case, the SOFTWARE PRODUCT may only be used with the HARDWARE as set forth in this EULA.

(d) Rental - You may not rent, lease or lend the SOFTWARE PRODUCT. You may not make it available to others or post it on a server or web site.
(e) Software Product Transfer - You may transfer all of Your rights under this EULA only as part of a permanent sale or transfer of the HARDWARE, provided You retain no copies, You transfer all of the SOFTWARE PRODUCT (including all component parts, the media and printed materials, any upgrades and this EULA), and provided the recipient agrees to the terms of this EULA. If the SOFTWARE PRODUCT is an upgrade, any transfer must also include all prior versions of the SOFTWARE PRODUCT.

(f) Termination - Without prejudice to any other rights, DSC may terminate this EULA if You fail to comply with the terms and conditions of this EULA. In such event, You must destroy all copies of the SOFTWARE PRODUCT and all of its component parts.

(g) TRADEMARKS - This EULA does not grant You any rights in connection with any trademarks or service marks of DSC or its suppliers.

3. COPYRIGHT

All title and intellectual property rights in and to the SOFTWARE PRODUCT (including but not limited to any images, photographs, and text incorporated into the SOFTWARE PRODUCT), the accompanying printed materials, and any copies of the SOFTWARE PRODUCT, are owned by DSC or its suppliers. You may not copy the printed materials accompanying the SOFTWARE PRODUCT. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE PRODUCT are the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants You no rights to use such content. All rights not expressly granted under this EULA are reserved by DSC and its suppliers.

4. EXPORT RESTRICTIONS

You agree that You will not export or re-export the SOFTWARE PRODUCT to any country, person, or entity subject to Canadian export restrictions.

5. CHOICE OF LAW

This Software License Agreement is governed by the laws of the Province of Ontario, Canada.

6. ARBITRATION

All disputes arising in connection with this Agreement shall be determined by final and binding arbitration in accordance with the Arbitration Act, and the parties agree to be bound by the arbitrator's decision. The place of arbitration shall be Toronto, Canada, and the language of the arbitration shall be English.

7. LIMITED WARRANTY

(a) NO WARRANTY - DSC PROVIDES THE SOFTWARE "AS IS" WITHOUT WARRANTY. DSC DOES NOT WARRANT THAT THE SOFTWARE WILL MEET YOUR REQUIREMENTS OR THAT OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR-FREE.

(b) CHANGES IN OPERATING ENVIRONMENT - DSC shall not be responsible for problems caused by changes in the operating characteristics of the HARDWARE, or for problems in the interaction of the SOFTWARE PRODUCT with non-DSC-SOFTWARE or HARDWARE PRODUCTS.

(c) LIMITATION OF LIABILITY; WARRANTY REFLECTS ALLOCATION OF RISK - IN ANY EVENT, IF ANY STATUTE IMPLIES WARRANTIES OR CONDITIONS NOT STATED IN THIS LICENSE AGREEMENT, DSC'S ENTIRE LIABILITY UNDER ANY PROVISION OF THIS LICENSE AGREEMENT SHALL BE LIMITED TO THE GREATER OF THE AMOUNT ACTUALLY PAID BY YOU TO LICENSE THE SOFTWARE PRODUCT AND FIVE CANADIAN DOLLARS (CAD\$5.00). BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

(d) DISCLAIMER OF WARRANTIES - THIS WARRANTY CONTAINS THE ENTIRE WARRANTY AND SHALL BE IN LIEU OF ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED (INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF DSC. DSC MAKES NO OTHER WARRANTIES. DSC NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON PURPORTING TO ACT ON ITS BEHALF TO MODIFY OR TO CHANGE THIS WARRANTY, NOR TO ASSUME FOR IT ANY OTHER WARRANTY OR LIABILITY CONCERNING THIS SOFTWARE PRODUCT.

(e) EXCLUSIVE REMEDY AND LIMITATION OF WARRANTY - UNDER NO CIRCUMSTANCES SHALL DSC BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT

DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY. SUCH DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS, LOSS OF THE SOFTWARE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE OR REPLACEMENT EQUIPMENT, FACILITIES OR SERVICES, DOWNTIME, PURCHASERS TIME, THE CLAIMS OF THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY.

WARNING: DSC recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this SOFTWARE PRODUCT to fail to perform as expected.

Always ensure you obtain the latest version of the User Guide. Updated versions of this User Guide are available by contacting your distributor.

© 2018 Tyco International Ltd. and its Respective Companies. All Rights Reserved. The trademarks, logos, and service marks displayed on this document are registered in the United States (or other countries).

Any misuse of the trademarks is strictly prohibited and Tyco International Ltd. will aggressively enforce its intellectual property rights to the fullest extent of the law, including pursuit of criminal prosecution wherever necessary. All trademarks not owned by Tyco International Ltd. are the property of their respective owners, and are used with permission or allowed under applicable laws. Product offerings and specifications are subject to change without notice.

Actual products may vary from photos. Not all products include all features. Availability varies by region; contact your sales representative.
Toronto, Canada • www.dsc.com • Printed in Israel • Tech. Support: 1-800-387-3630 (Canada, US), 905-760-3000



D-307587



29010617R001



©2019 Johnson Controls. All rights reserved.

Tech. Support: 1-800-387-3630

www.dsc.com

D-307587 Rev. 0 06/19



