HSM3105 Expansion Module Installation Guide

29011148R003

HSM3105 introduction

HSM3105 is an expansion module intended to provide MX addressable device expansion to the IQ Pro and IQ Pro P security system. The module connects to the panel using the corbus interface and provides connectivity for two 2-wire MX addressable buses. The two MX buses that are left and right can be configured to operate as a single loop or as separate left and right spurs.

ⓘ **Note:** The reference in this manual to model IQ Pro is also representative for model IQ Pro P unless stated differently. Refer to the IQ Pro Reference Manual for further mounting/wiring/programming details when using HSM3105 module in conjunction with models IQ Pro and IQ Pro P.

Compatible devices

The following wired devices and modules are compatible with the HSM3105.

Table 1: HSM3105 compatible devices

Model	Description	Standby current (mA)	Alarm current (mA) (including LED as applicable)
MX916	Addressable smoke heat detector with base	0.35	4.00
MX862	Addressable ceiling mount PIR	0.30	3.50
MX920	Line isolator module	0.09	16.00
MX922	Addressable glassbreak	0.30	6.00
MX926	Addressable smoke detector with base	0.35	4.00
MX936	Addressable heat detector with base	0.35	4.00
MX975	Addressable door/window contact sensor	0.20	3.00
MX975i	Addressable universal input with status buffer	0.20	3.00
MX974	Addressable PIR with animal immunity	0.30	3.50
MXBASE	Addressable 4” continuity fire base	N/A	N/A

ⓘ **Note:** For the MX920 device, the alarm current (16 mA) is due to a loop fault. This fault occurs when the isolator is triggered (loop in short condition).

ⓘ **Note:** The MX920 does not enroll to the MX loop.

Specifications

- Temperature range: -10°C to + 55°C
- Relative Humidity: 5% to 93% RH non-condensing
- Input rating: 11.3 to 12.5 VDC / 350 mA to 325 mA (provided by the alarm controller)

  ⓘ **Note:** Higher loading is possible when using a separate power supply, refer to further instructions in this manual. For details of the maximum loading of the MX loop refer to the MX loop maximum loading table below.

- Board current draw: 100 mA (with no devices on the MX loop) + MX Loop current draw (depending on the connected loop devices)
- Board dimensions: 83 mm x 145 mm (3.25 in x 5.7 in)
- Corbus wire distance: 0.9 m maximum (3 ft) between the panel and the module
- The ROHS compliant hardware.
- This equipment must be installed by skilled service persons in non-hazardous, indoor locations.
- You can add a maximum of 126 devices to the HSM3105. Refer to the spreadsheet linked in the Current loading on the MX loop section of this document for the accurate number of devices that can be enrolled based on current availability.

Table 2: MX Loop maximum loading @ 40V

Application	Standby time + alarm	4Ah	7Ah	17Ah
Resi fire/ULC Com burg	24 h + 5 min	-	50 mA	170 mA
Resi/Com burg	4 h + 15 min	230 mA	400 mA	400 mA

ⓘ **Note:** For applications where the MX loop current loading exceeds 67 mA @ 40 V, use approved external power supply models HSM2300 or HSM2204. See the System configuration section for details.

Enclosures

The HSM3105 must be installed within 0.9 m (3ft) of the panel. For high power mode, a separate enclosure (listed below) must be used. For low power mode, there is an option to use an internal mount (inside the IQ Pro metal enclosure) or a external mount (using one of the enclosures listed below). The plastic enclosure configuration for the IQ Pro P does not support the installation of HSM3105 inside the cabinet and a separate enclosure must be used. Internal and/or external wiring for this module must be routed, supported, clamped or secured in a manner that reduces the likelihood of excessive strain on wire and terminal connections, loosening of terminal connections, and damage of conductor insulation.

To mount the enclosure use four screws appropriate for the mounting surface. Ensure they are inserted through the four mounting holes provided on the back of the enclosure. Use plastic wall plugs if the cabinet is being mounted on a brick, cinder block, drywall or plaster wall.

ⓘ **Note:** The minimum screw size is #6 (3.5 mm) pan head, with a minimum length of 1 in (25 mm).

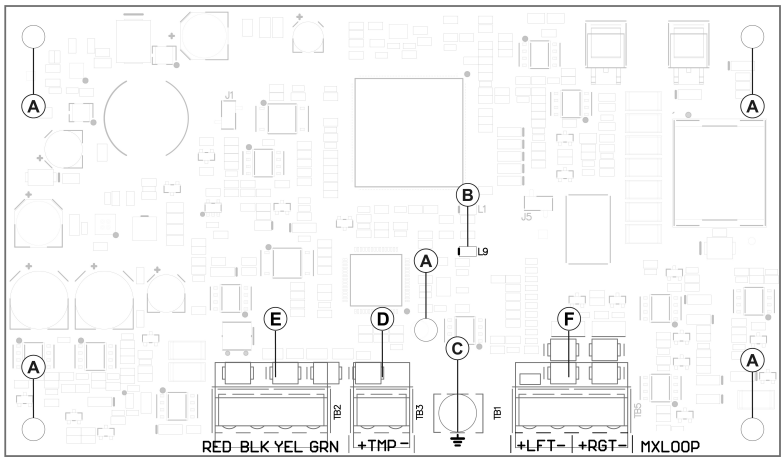
The HSM3105 can be installed in the enclosures listed below. Tamper protection switches can be installed on all enclosures, including door opening protection or removal from the mounting position. Doors can be secured using screws or keylock.

- Model HSC3010C (hinged door) made of 18 Ga steel, painted white, dimensions 372 mm x 412 mm x 114 mm , weight: 9.75 lb or 4.2 Kg
- Model HSC3010CR (hinged door) made of 18 Ga steel, painted red, dimensions 372 mm x 412 mm x 114 mm, weight: 10.0 lb or 4.5 Kg
- Model HSC3030CAR (hinged door) made of 18 Ga steel (base) and 16 Ga (door), painted white, dimensions 375 mm x 412 mm x114 mm, weight 11.45 lb or 5.2 Kg
- Model HSC3020C (removable door) made of 18 Ga steel, painted white, dimensions 459 mm x 414 mm x 103 mm, weight: 11.5 lb or 4.3 Kg
- Model HSC3001C (hinged door) made of 22Ga steel, dimension 260mm x 237 mm x 69 mm, weight 1.2kg
- Model HSC3001CP (removable cover) made of ABS, color white, dimensions 254 mm x 177.8 mm x 62 mm, weight: 350g
- Model HSC3020CP (removable door) made of PC-ABS, color white, dimensions 368 mm x 489 mm x 108 mm, weight: 4.7 lb or 2.1 Kg
- Model PC4050CAR - Made of 18Ga steel, painted. 376 mm x 305 mm x 125mm
- Model PC4050CR - Made of 18Ga steel, painted. 376 mm x 305 mm x 128mm
- Model PC5003C - Made of 22Ga steel, painted. 288 mm x 298mm x 78mm

Connecting the HSM3105 module

This section provides details about the HSM3105 in relation to terminal descriptions, module compatibility, system configuration, and MX addressable loop wiring configurations.

Terminal descriptions



Callout	Component
A	Mounting holes
B	Status LED
C	Earth Ground connection. The IQ Pro panel and HSM3105 module must both be connected to the same earth ground.
D	Tamper (TMP) is used to connect to the tamper switch that protects against the unauthorized opening of the enclosure in which the HSM3105 is mounted. Connect a normally closed (NC) switch across +TMP and -TMP. If the tamper is not being used, connect a piece of wire across +TMP and -TMP to remove the trouble condition. ⓘ **Note:** Tamper protection is required for UL/ULC commercial/residential burglary installations.
E	Corbus - the panel uses the four-wire Corbus to communicate with the module. Connect the RED, BLK, YEL and GRN terminals to the Corbus terminals on the IQ Pro main control.
F	MX loop connection - there are LFT (left) and RGT (right) terminals for the MX loop connection that are used to connect the compatible MX devices. Each loop has **+** and **-** terminals. Refer to MX addressable loop wiring configuration for further information.

Compatibility

The table below outlines the HSM3105 module compatibility.

Table 3: Compatibility

Component	Compatibility details
Panel Compatibility	IQ Pro and IQ Pro P
Enclosure Compatibility	The module can be installed in the same enclosure with IQ Pro (if it is a metal configuration enclosure) or by itself in any of the following, separately listed compatible enclosures: HSC3010C, HSC3010CR, HSC3030CAR, HSC3020C, HSC3001C, HSC3001CP, PC4050CAR, PC4050CR, PC5003C.
Connectivity Compatibility	Corbus
Auxiliary Power Supply	HSM2300, HSM2204

System configuration

Low power mode

Mount the HSM3105 in an IQ Pro enclosure (metal configuration only) or in a separate enclosure (see Enclosures) from the control panel, as shown in Figure 1 and 2 respectively. The Corbus wire runs between the control panel and the HSM3105 and shall not exceed 3ft using 22AWG wire.

The MX loop is powered from the Corbus supply power, and can have a maximum MX loop current draw of 67 mA @ 40 V (equivalent to 360 mA @11.3 V or 325 mA @ 12.5 V)

Figure 1: Low power mode – internal mount

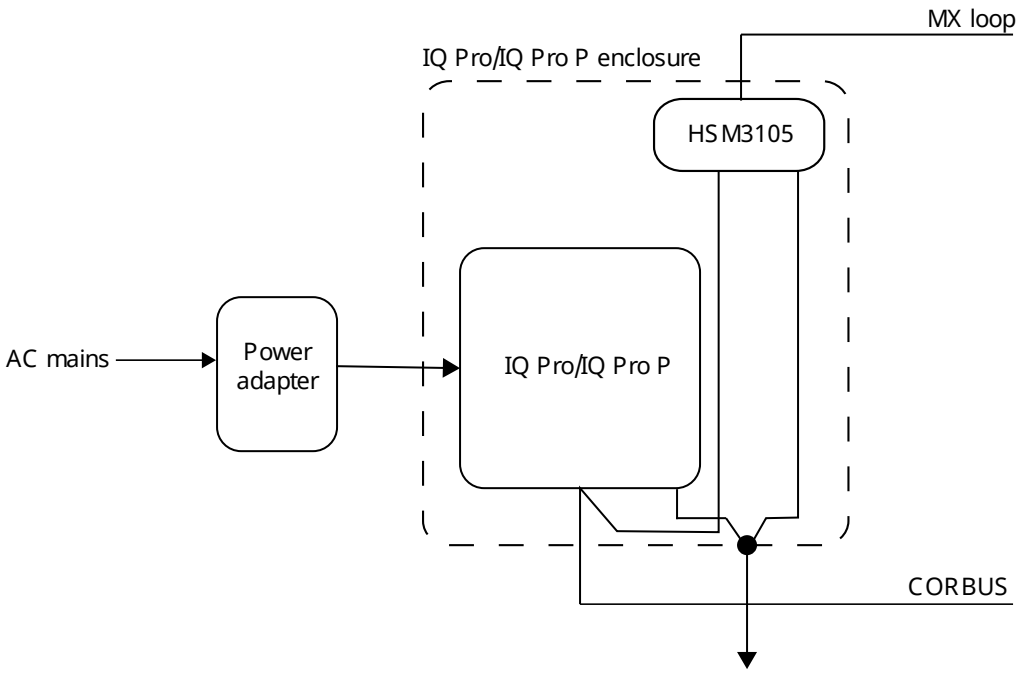
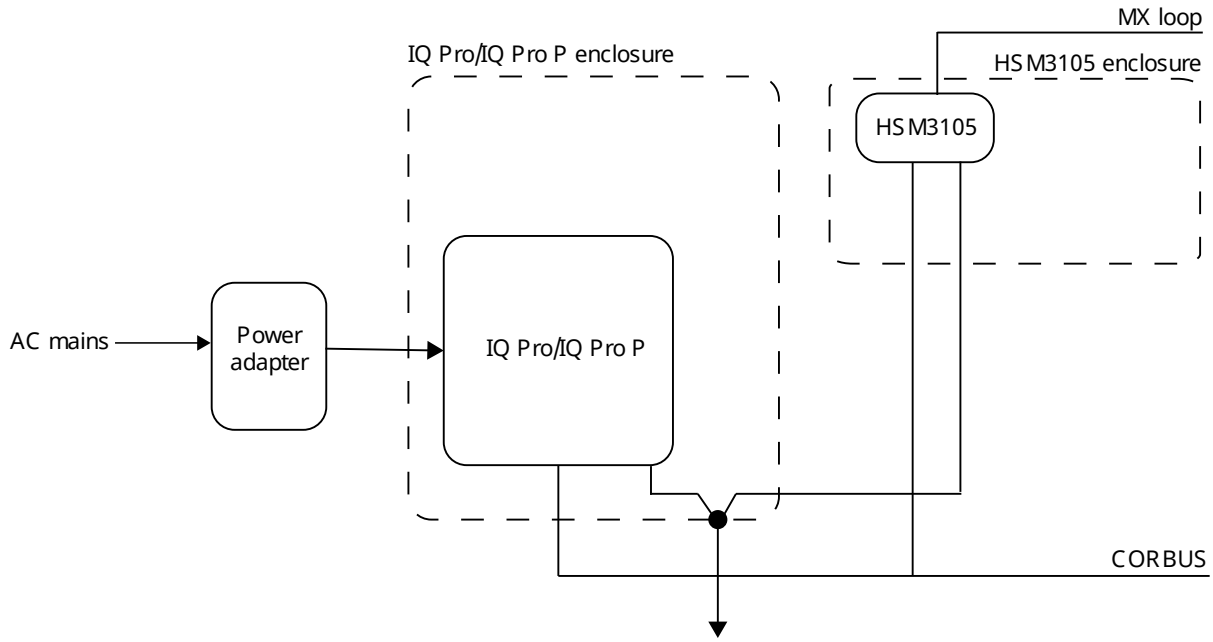


Figure 2: Low Power Mode – External Mount



High power mode – external mount

Only mount the HSM3105 module in an external enclosure (See Enclosures) along with one of the following approved auxiliary power supply units: HSM2204, HSM2300. The power supply unit provides power to the HSM3105 module and the MX loop. The Corbus wire runs between the control panel and the HSM3105 must not exceed 3ft using 22AWG wire.

The HSM3105 is designed to handle a maximum allowable MX loop current draw of 400 mA @ 40 V (equivalent to 1600 mA @11.3 V or 1500 mA @ 12.5 V). Check the manual for the chosen power supply unit to understand how much current would be available for the MX loop.

ⓘ **Note:** HSM2300 and HSM2204 can only provide up to 228 mA @ 40 V (1000 mA @ 12.5 V) or 260 mA @ 40 V (1000 mA @ 11.3 V)

Figure 3: High Power Mode – External Mount

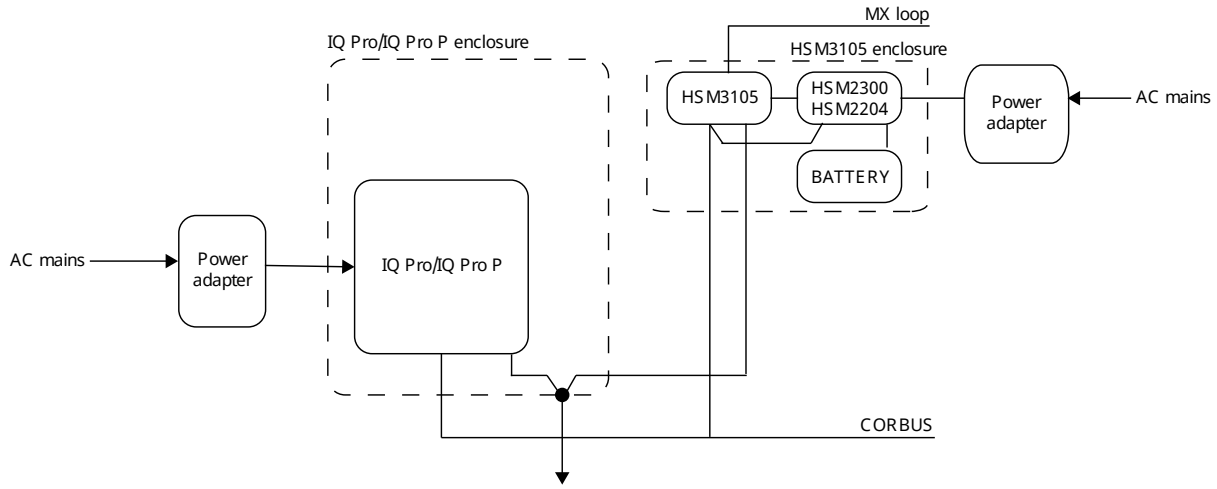
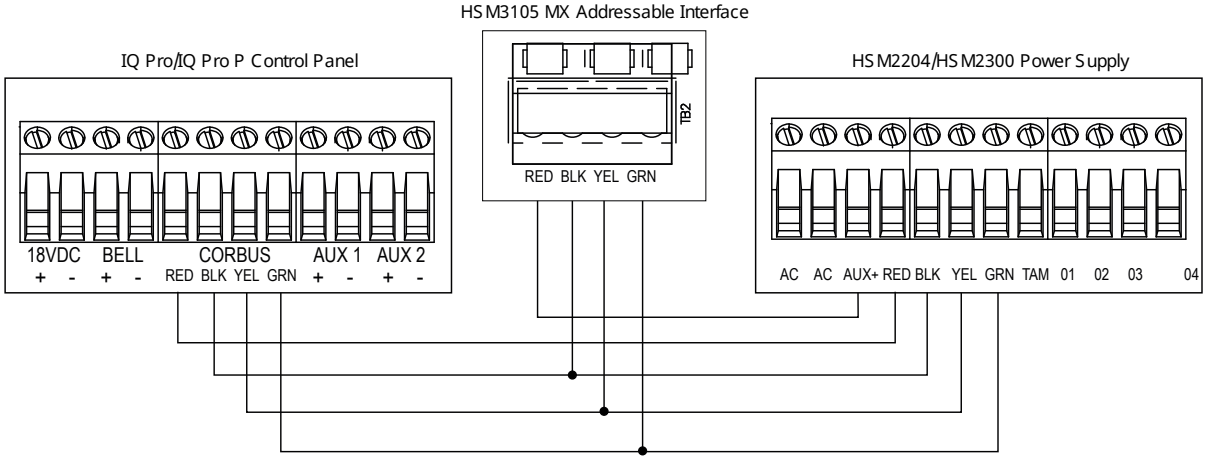


Figure 4: High Power Mode - wiring diagram



MX addressable loop wiring configuration

The HSM3105 supports two wire and four wire wiring configurations. You can configure the HSM3105 to manage a spur or two wire wiring scheme. See Figure 5.

Figure 5: Two wire wiring

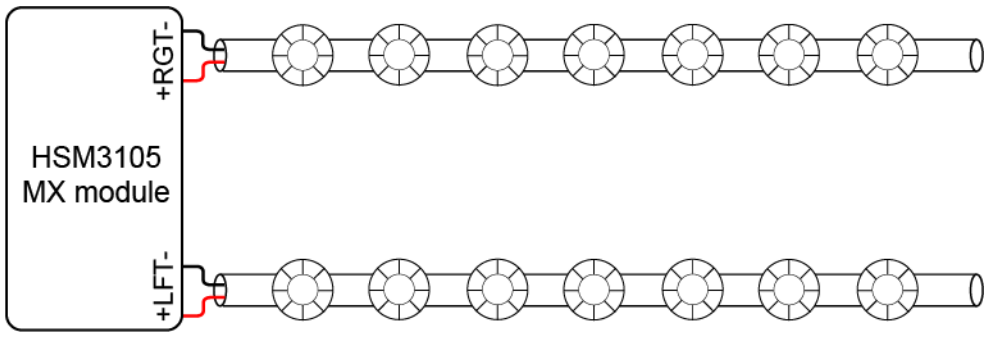
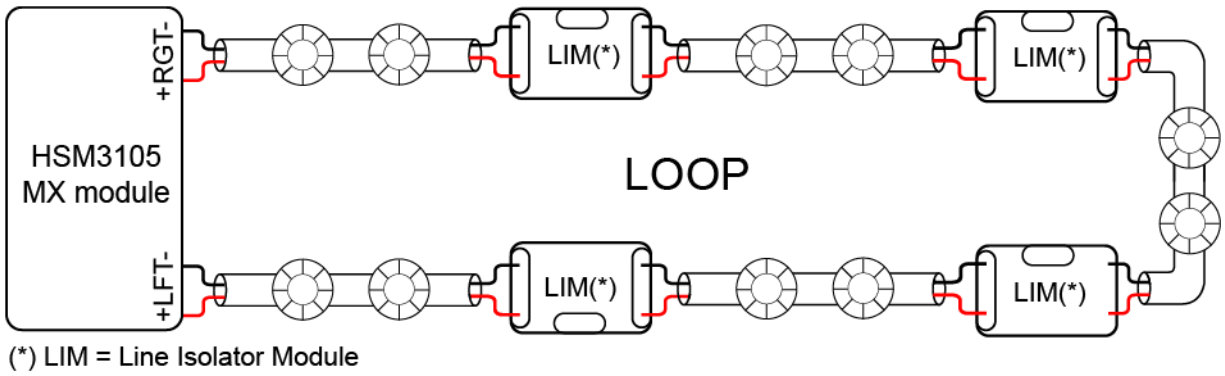


Figure 6: Four wire wiring

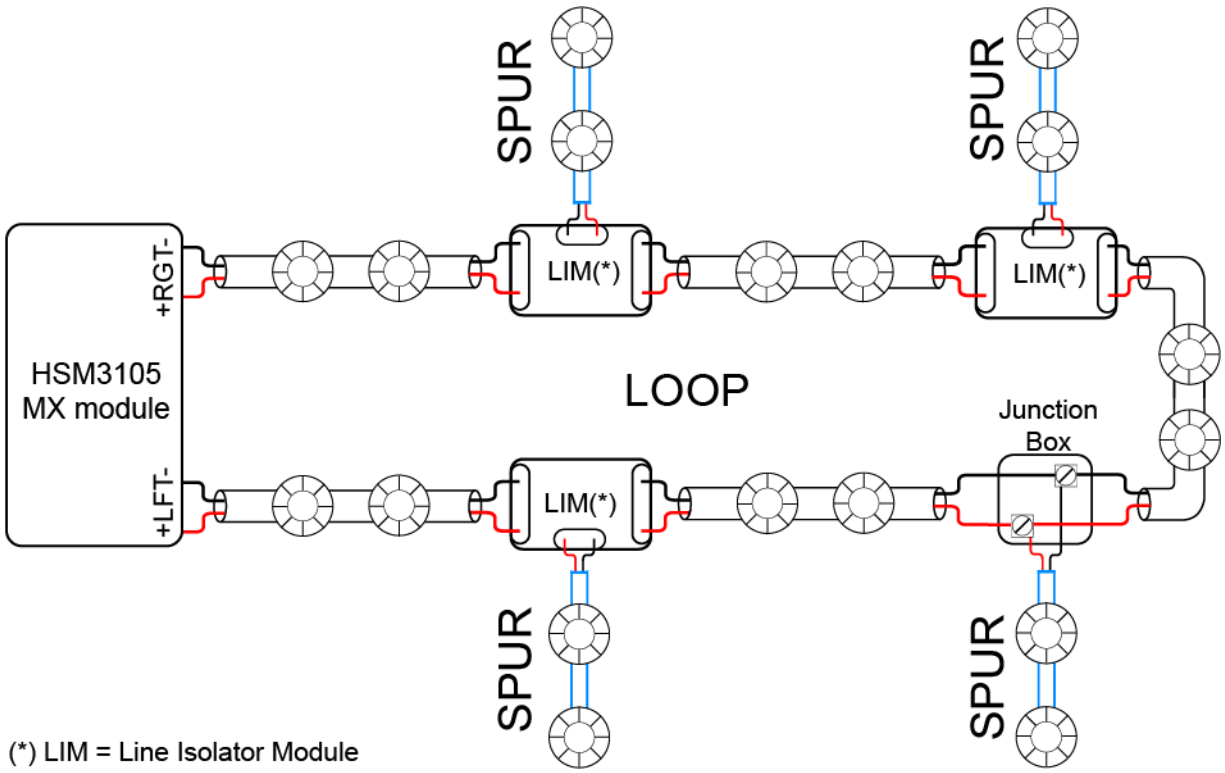


You can configure a HSM3105 module using a loop configuration or four wire wiring. See Figure 6. In the case of a single wiring trouble, for example a cable break or short circuit trouble, all the devices can still be managed, depending on the isolators that are present on the loop.

Configure the MX loop by selecting the spur for two wire configuration and loop for a four wire configuration with the IQ Pro installer app.

1. Open the IQ Pro installer app.
2. Select **Installation** > **Devices** > **Security Sensors** > **MX Module.**
3. Click **Configuration.**
4. Click **Bus Configuration** and select the required Spur or Loop configuration based on the site requirement.

Figure 7: Line T- Tapping



If multiple spurs are required for the installation, then you can use multiple MX920 Isolator modules. These spurs can be applied to either two wire or four wire MX loop configurations. Refer to the MX920 manual for more details on the isolator modules. See Figure 7.

You can now wire the MX devices to the HSM3105 based on the chosen configuration.

Current loading on the MX loop

The following information describes the HSM3105 MX Loop Current Load Calculator tool provided to calculate the current loading on the MX loop.

Note: To use this tool, the installer will require access to Microsoft Excel or an equivalent spreadsheet reader.

The linked spreadsheet must be used as a tool by the installer to properly calculate the current load on the MX loop and avoid overloading the system. Further details and instructions can be found on the spreadsheet at. www.dsc.com/m/29011178

The spreadsheet allows the installer to:

1. Input the MX devices that will be installed
2. Define the system configuration (low power or high power mode) as well as the auxiliary power supply unit used (for high power mode only)
3. Specify the expected maximum percentage of devices that can turn ON the Alarm LED at the same time.

The output would be the current loading on the MX loop and the percentage of max load used. The installer can pick and choose which MX devices to be added/removed on the MX loop to avoid overloading the system.

For the MX920 device, the loop fault current (16mA) occurs when the isolator is triggered (loop in short condition). As a result, the MX loop Current Load Calculator tool does not account for this value during alarm current calculation. The installer must account for this fault separately.

MX Bus Wire Length

The following table outlines the maximum MX bus wire length that can be used depending on the maximum load on the MX loop (obtained from the load calculation spreadsheet, using the maximum value between inrush current or alarm current) and the wire gauge used in the installation.

Table 4: Max. MX Bus Wire Length

	Max. allowable wire pair length					
LOOP maximum loads (mA)	Cable 2.5 square mm	14AWG (2.08 mm2)	16AWG (1.31 mm2)	18AWG (0.823 mm2)	20AWG (0.518 mm2)	22AWG (0.324 mm2)
10	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m
20	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m
30	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m
40	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m
50	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m
60	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m
70	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5732 FT 1745 m
80	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5015 FT 1527 m
90	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	4458 FT 1358 m
100	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6404 FT 1952 m	4012 FT 1222 m
110	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5822 FT 1772 m	3648 FT 1111 m
120	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5337 FT 1627 m	3344 FT 1018 m
130	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	6435 FT 1961 m	4926 FT 1502 m	3086 FT 940 m
140	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5975 FT 1821 m	4574 FT 1394 m	2866 FT 873 m
150	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5577 FT 1699 m	4269 FT 1301 m	2675 FT 815 m
160	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	5228 FT 1593 m	4002 FT 1220 m	2508 FT 764 m
170	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	4921 FT 1499 m	3767 FT 1148 m	2360 FT 719 m

Table 4: Max. MX Bus Wire Length

	Max. allowable wire pair length					
200	6562 FT 2000 m	6562 FT 2000 m	6562 FT 2000 m	4183 FT 1275 m	3202 FT 976 m	2006 FT 611 m
250	6562 FT 2000 m	6562 FT 2000 m	5317 FT 1625 m	3346 FT 1020 m	2562 FT 781 m	1605 FT 489 m
300	6562 FT 2000 m	6562 FT 2000 m	4431 FT 1354 m	2789 FT 850 m	2135 FT 651 m	1337 FT 407 m
350	6562 FT 2000 m	6049 FT 1839 m	3798 FT 1161 m	2390 FT 728 m	1830 FT 558 m	1146 FT 349 m
400	6562 FT 2000 m	5293 FT 1609 m	3323 FT 1026 m	2091 FT 637 m	1601 FT 488 m	1003 FT 305 m

Note: The table above was calculated considering a maximum voltage drop on the loop of 13 V. The burglary devices can house a maximum cable section of 16AWG.

Automatically enrolling on the alarm panel

To enroll the HSM3105, complete the following steps:

1. Ensure that the system is not powered.
2. Connect the HSM3105 to the Corbus.
3. Power up the system.
4. Open the IQ installer app.
5. Tap **Installation** > **Devices** > **Security Sensors** > **Add Device** > **Autolearn** > **Start Autolearn**.

Result
This HSM3105 module is enrolled on the panel.

What to do next:
After the MX module is enrolled and the loop configuration settings are complete, see MX addressable loop wiring configuration, open the installer app, go to **Installation > Devices > Security Sensors > Add Device "+" > Autolearn + MX > Start Autolearn** . This enrolls all of the MX devices connected to the HSM3105. When enrollment of all the MX devices connected has completed, the IQ Installer app shows this message: **MX Autoenrollment completed**.

Status LED

The HSM3105 is equipped with a status LED to indicate the current condition of the module. If the HSM3105 is operating correctly, the status LED flashes 120 ms ON and 10 seconds OFF. When a trouble condition is present, the status LED displays a series of flashes then remains blank for 1.7 seconds. The number of flashes indicates the trouble condition as outlined below.

Number of Flashes	Trouble Condition
1	Module not enrolled
2	Alarm Panel supervision trouble
3	Corbus low voltage
7	MX bus fault
8	Device trouble (this status is indicated if there are troubles with an MX Device.

Firmware update indications

During a firmware upgrade process the Status LED flash: 800 ms on / 800 ms off This cadence shall clear at the end of the firmware upgrade process. If the firmware upgrade fails, the status LED flash: 200 ms on / 200 ms off. This cadence shall clear when the firmware upgrade process is reattempted

MX diagnostics

Access MX diagnostics in the installer app.

1. Open the IQ installer app.
2. Tap **Installation** > **Devices** > **Security Sensors** > **MX module** > **Diagnostics**.
3. For a device count, tap **Run**.
4. For noise level in the MX Loop, tap **Run**.
5. For smoke and heat diagnostics, tap **Run**.

FCC and ISED Canada Information

This information applies to model HSM3105.

Modification statement

Tyco Safety Products Canada Ltd. has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

Tyco Safety Products Canada Ltd. n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.

FCC class B digital device notice

This equipment 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 a residential installation. 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 communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED Canada

CAN ICES-3(B)/NMB-3(B)

HSM3105 MX EN Certification

The model HSM3105 MX addressable expander module has been certified by Kiwa according to EN50131- 1:2006+A1:2009 +A2:2017+A3:2020 and EN50131- 3:2009 for Grade 2, Class II.

Limited warranty

Digital Security Controls (“DSC”), a division of Tyco Safety Products Canada Ltd, a part of the Johnson Controls group of companies (“JCI”), warrants the original purchaser that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, JCI shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labor and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original purchaser must promptly notify JCI in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period. There is absolutely no warranty on software and all software products are sold as a user license under the terms of the software license agreement included with the product. The Customer assumes all responsibility for the proper selection, installation, operation and maintenance of any products purchased from JCI . Custom products are only warranted to the extent that they do not function upon delivery. In such cases, JCI can replace or credit at its option.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that JCI shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to JCI must first obtain an authorization number. JCI will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of JCI such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by JCI.);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Items Not Covered by Warranty

In addition to the items which void the Warranty, the following items shall not be covered by Warranty: (i) freight cost to the repair centre; (ii) products which are not identified with JCI's product label and lot number or serial number; (iii) products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection or testing to verify any warranty claim. Access cards or tags returned for replacement under warranty will be credited or replaced at JCI's option. Products not covered by this warranty, or otherwise out of warranty due to age, misuse, or damage shall be evaluated, and a repair estimate shall be provided. No repair work and will be performed until a valid purchase order is received from the Customer a Return Merchandise Authorization number (RMA) is issued by JCI's Customer Service.

JCI's liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall JCI be liable for any special, incidental, or consequential 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 product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim by or against JCI, the limitations and disclaimers contained here shall be to the greatest extent permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that the above may not apply to you.

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 JCI. JCI 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. This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

⚠ **WARNING:** JCI 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.

Out of Warranty Repairs

JCI will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to JCI must first obtain an authorization number. JCI will not accept any shipment whatsoever for which prior authorization has not been obtained. Products which JCI determines to be repairable will be repaired and returned. A set fee which JCI has pre-determined and which may be revised from time to time, will be charged for each unit repaired.

Products which JCI determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

WARNING - READ CAREFULLY Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

Inadequate Installation

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

Criminal Knowledge

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.

Access by Intruders

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

Power Failure

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

Failure of Replaceable Batteries

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

Compromise of Radio Frequency (Wireless) Devices

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

System Users

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

Smoke Detectors

Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors. Smoke detectors may not detect smoke from fires on another level of the residence or building. Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson. Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

Motion Detectors

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation. Passive infrared motion detectors operate by sensing changes in temperature. However, their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbeques, fireplaces, sunlight, steam vents, lighting and so on.

Warning Devices

Warning devices such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

Telephone Lines

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also, an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

Insufficient Time

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

Component Failure

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

Inadequate Testing

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

Security and Insurance

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

End-user license agreement

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., a part of Johnson Controls group of companies (“JCI”), 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 JCI 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

SOFTWARE PRODUCT 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:

Software Installation and Use - For each license You acquire, You may have only one copy of the SOFTWARE PRODUCT installed.

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.

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

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.

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.

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.

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.

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.

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.

Trademarks - This EULA does not grant You any rights in connection with any trademarks or service marks of DSCor 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 installation manual of the arbitration shall be English.

7. LIMITED WARRANTY

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.

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.

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.

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.

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, DOWN TIME, 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.

Copyright and Trademark

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 Johnson Controls (JCI) 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 JCI 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.

© 2022 Johnson Controls. All rights reserved. Johnson Controls, Tyco and DSC are trademarks and/or registered trademarks. Unauthorized use is strictly prohibited.

Tech support: 1-800-387-3630 (Canada and U.S), or 1-905-760-3036 (International)

This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer. The entire manual should be carefully read.