



Installation Guide



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Glossary

ACP Access Control Panel

COM Common

DAC **Door Access Control** DOS Door Open Schedule DSP Door Strike Power

EGND Earth Ground

ESD Electrostatic Discharge

GND Ground IXM INVIXIUM

LED Light Emitting Diode NC Normally Closed NO Normally Open OTG On-the-Go

RLY Relay RX Receive

SGND Signal Ground

SPI Specific Purpose Input SPO Specific Purpose Output

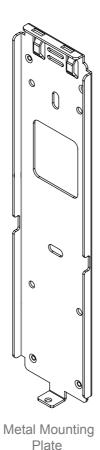
TX Transmit

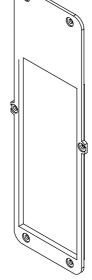
USB Universal Serial Bus

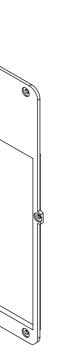
WDATA Wiegand Data **WGND** Wiegand Ground **VDC Volts Direct Current**

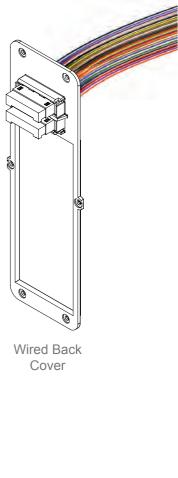
VIN+ Power Positive (12-24 VDC)

VIN-Power Return









Temporary Back Cover



Earth Ground

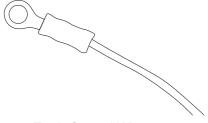
For protection against ESD, which may cause damage or malfunction to the IXM device, Invixium recommends the use of the ground connections between each IXM device and a high quality Earth Ground available at the install site. Please note that installation of any IXM device should be performed by licensed electricians.

An Earth Ground wire with lug is provided in the IXM Install Kit. The lug of the Earth Ground wire should be fastened with a screw to the front of the mounting plate. The other end of the Earth Ground wire should be connected to the high quality Earth Ground connection on site. When the IXM device is installed onto the mounting plate, this Earth Ground lug will make direct contact with the Metal Back plate of the IXM device, thus allowing for proper grounding.

Please refer to page 21 onwards for step-by-step instructions for mounting plate, device and Earth Ground wire installation.







Earth Ground Wire



Device Handling Do's

Handle with care, ensure not to drop or step on the device.

Perform occassional cleaning to eliminate a build-up of dust, dirt, oil and residual grime.

Device Handling Don'ts

Do not install in areas with direct sunlight, high levels of humidity, extreme dust or flammable vapours.

Do not allow magnetic objects to come in close contact to any device.

Do not install near any heating elements or equipment.

Do not attempt to open or disassemble the device, as this will void the product warranty.

Do not deploy for any use other than its intended purpose.

Do not insert anything other than the correct fitting USB plug into the USB port, located at the bottom of the device.

Device Cleaning

The component that will require most frequent cleaning is the sensor, as it experiences the most contact. The cleaning should be performed with care and attention, as improper cleaning may damage the sensor or surrounding components.

Follow the steps below for proper sensor cleaning procedure:

- 1. Lightly moisten a new cotton swab or lint free polishing cloth with water or isopropyl alcohol.
- 2. Gently wipe the surface of the sensor with the moistened cotton swab or cloth.
- 3. Finish wiping the sensor again with a dry cotton swab or cloth.

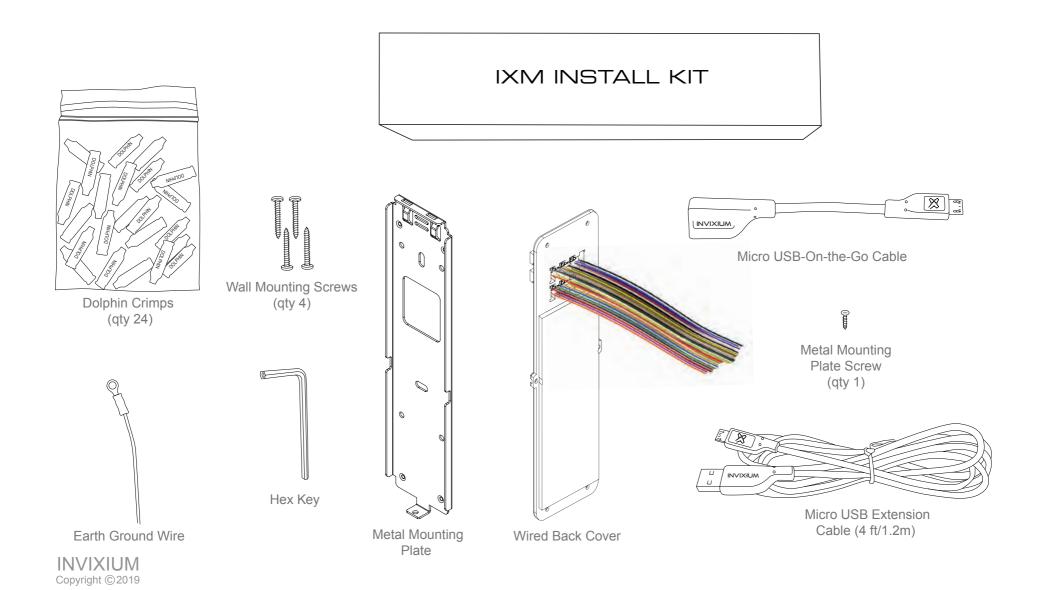


Do not use harsh or abrasive chemicals to clean the surface of the sensor, as this may cause permanent damage to the device. Do not use sandpaper, steel wool, scouring pads, chlorine, ammonia, bleach, or any inappropriate products for cleaning.





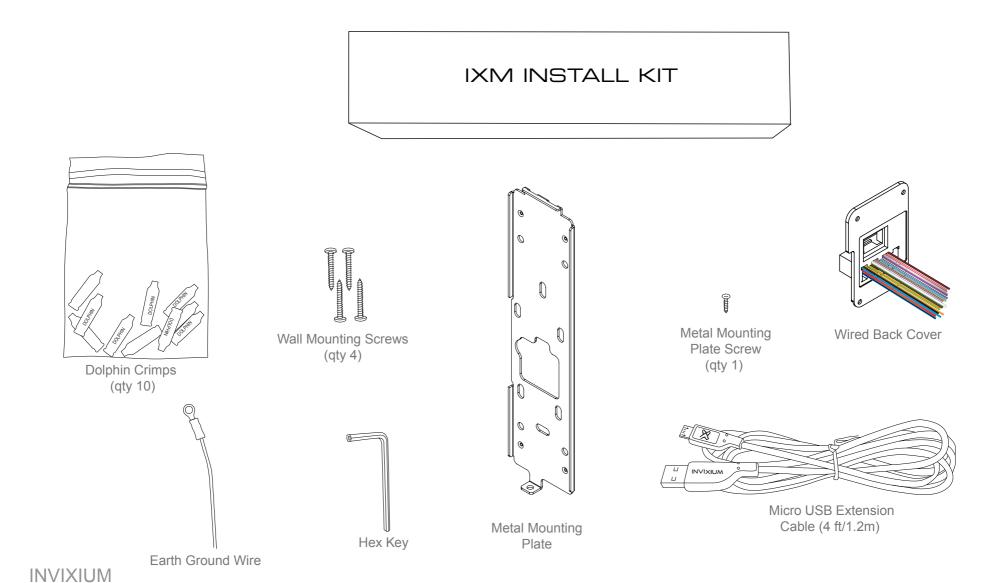
The IXM Install Kit for MYCRO, SENSE, TOUCH, SENSE 2 and TOUCH 2 includes:





The IXM Install Kit for MERGE includes:

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Multi-color LEDs Sensor MUIXIVAI

MYCRO









SENSE 2 Product & Mounting Plate Actual Dimensions in mm INVIXIUM recommends printing this page in Actual Size





TOUCH 2 Product & Mounting Plate Actual Dimensions in mm INVIXIUM recommends printing this page in Actual Size

MERGE Monday, 02 April **NEXT** Sensor Multi-color LEDs

MERGE

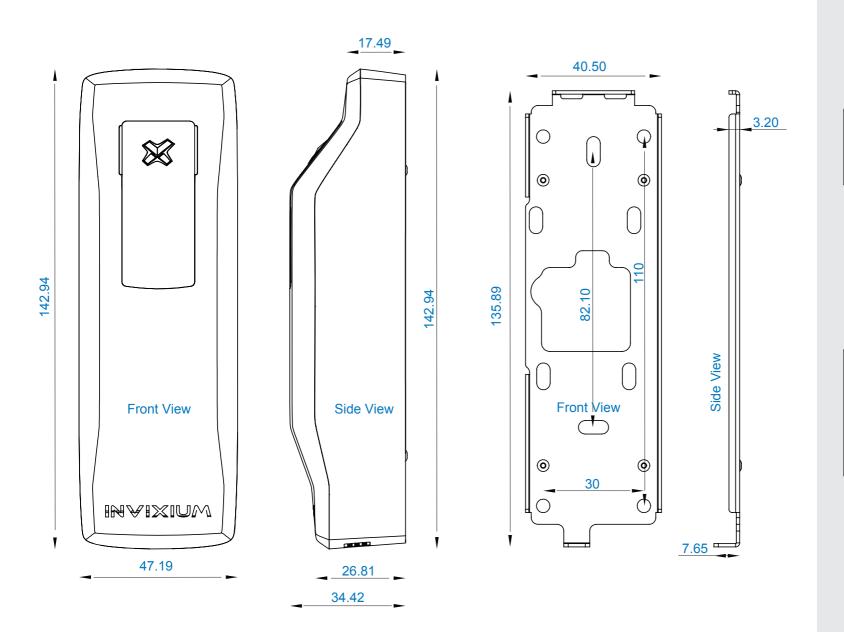


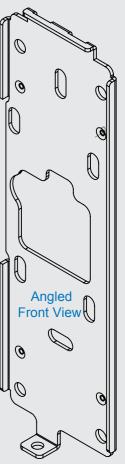
MERGE Product & Mounting Plate Actual Dimensions in mm INVIXIUM recommends printing this page in Actual Size

MERGE CR



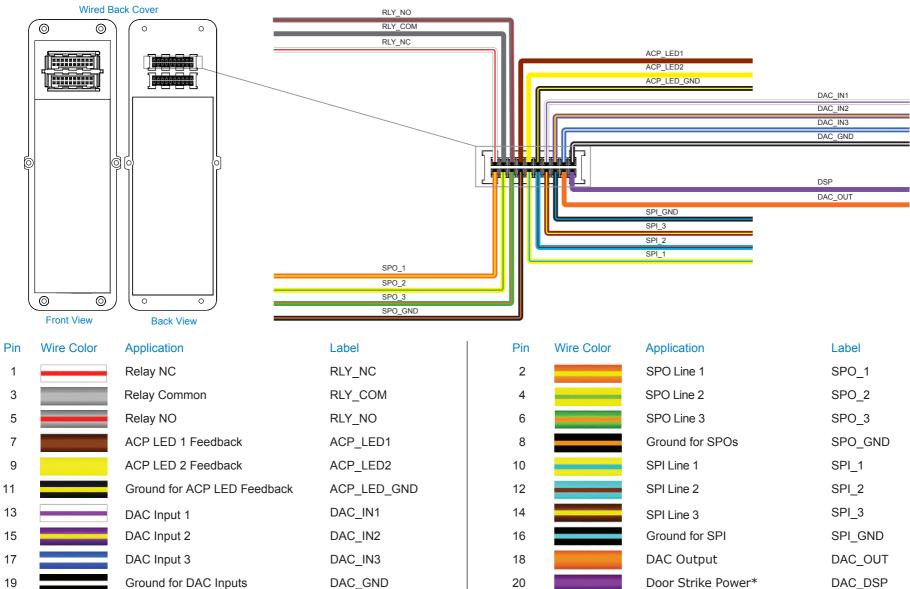








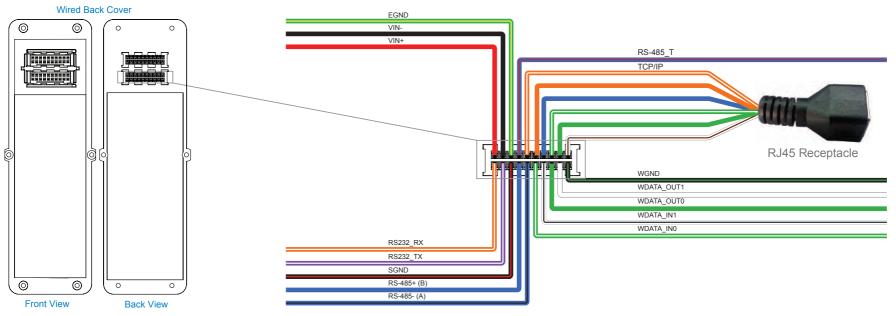
I/O Cable: Top Connector Pin Out for MYCRO, SENSE, TOUCH, SENSE 2 and TOUCH 2



*For SENSE 2 and TOUCH 2 models only



I/O Cable: Bottom Connector Pin Out for MYCRO, SENSE, TOUCH, SENSE 2 and TOUCH 2



Pin	Wire Color	Application	Label	
1		Power (+12-24 VDC)	VIN+	
3		Power Ground	VIN-	
5		Earth Ground	EGND	
7		RS-485 Terminated (Optional)*	RS-485_T	
9, 11, 13, 15, 17, 19,		Ethernet or PoE†	TCP/IP	
*This pin is optional and should be used if 120Ω termination is required. To do this, short the RS-485_T wire with RS-485+ wire.				

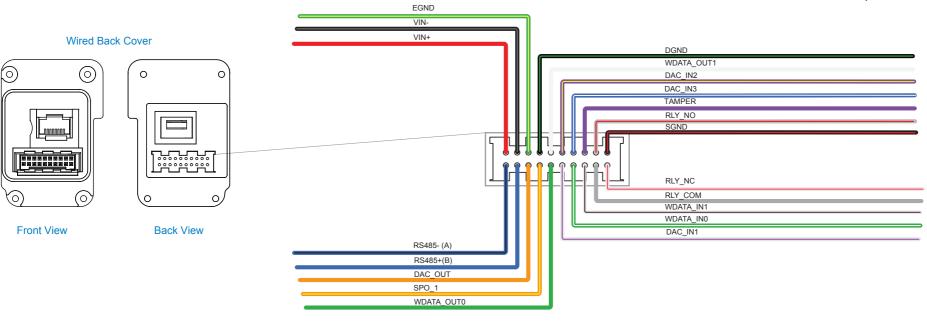
NOTE †PoE only available for SENSE 2 and TOUCH 2

Pin	Wire Color	Application	Label
2		RS-232 Data Receive	RS-232_RX
4		RS-232 Data Transmit	RS-232_TX
6		Signal Ground	SGND
8		RS-485 Non-Inverting Line	RS-485+ (B)
10		RS-485 Inverting Line	RS-485- (A)
12		Wiegand Data Input Line 0	WDATA_IN0
14		Wiegand Data Input Line 1	WDATA_IN1
16		Wiegand Data Output Line 0	WDATA_OUT0
18		Wiegand Data Output Line 1	WDATA_OUT1
20		Ground for Wiegand	WGND





I/O Cable: Connector Pin Out for MERGE

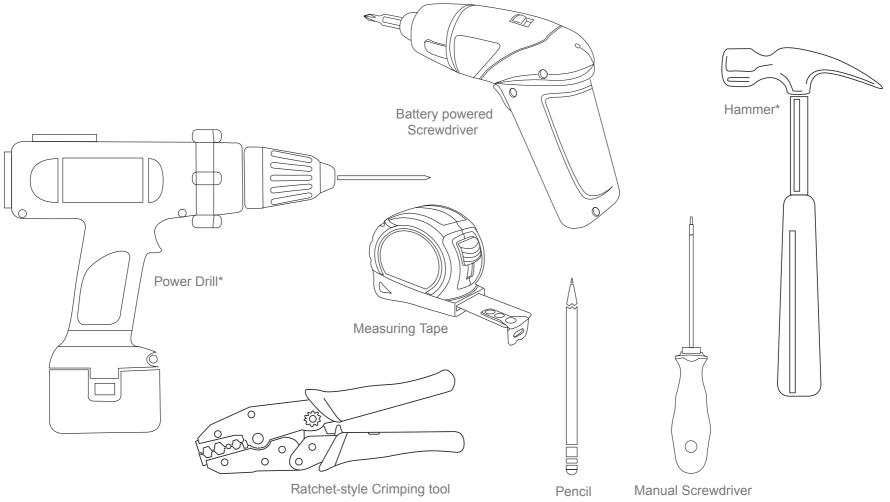


Pin	Wire Color	Application	Label	Pin	Wire Color	Application	Label
1		Power (+12-24 VDC)	VIN+	2		RS-485 Inverting Line	RS485- (A)
3		Power Ground	VIN-	4		RS-485 Non-Inverting Line	RS485+(B)
5		Earth Ground	EGND	6		Door Access Control Output	DAC_OUT
7		Ground for Wiegand	DGND	8		Specific Purpose Output Line 1	SPO_1
9		Wiegand Data Output Line 1	WDATA_OUT1	10		Wiegand Data Output Line 0	WDATA_OUT0
11		Door Access Control Input 2	DAC_IN2	12		Door Access Control Input 1	DAC_IN1
13		Door Access Control Input 3	DAC_IN3	14		Wiegand Data Input Line 0	WDATA_IN0
15		Tamper Line	TAMPER	16		Wiegand Data Input Line 1	WDATA_IN1
17		Relay Normally Open	RLY_NO	18		Relay Common	RLY_COM
19		Signal Ground	SGND	20		Relay Normally Closed	RLY_NC





Hardware Tools Required For Installation





Installation of any IXM device should be performed by licensed electricians.

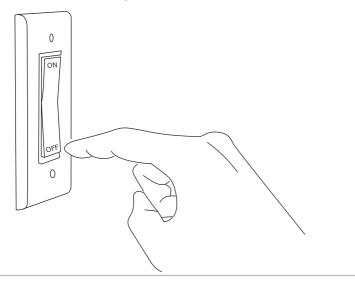
*Depending on the mounting surface, the Power Drill and Hammer may not be required.





1 Ensure Power is Off

This protects the device being installed.



3 Mark the Screw Holes

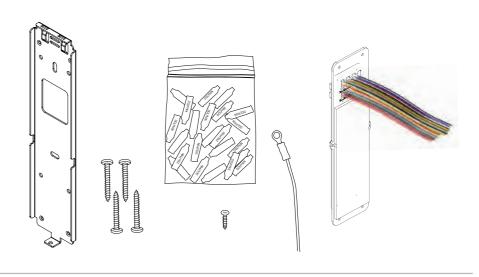
INVIXIUM recommends the use of the 4 circular holes for mounting. Refer to diagrams from page 9 onwards for actual dimensions

Ideal mounting height is 135 - 140 cm from the ground to the top of the device. But also be sure to align the device in case of multiple installations.



2 IXM Install Kit

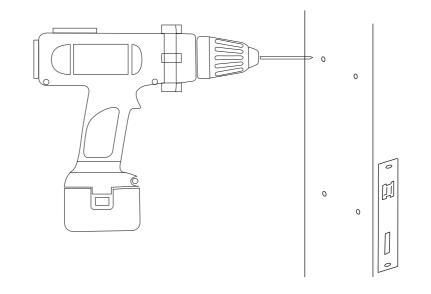
Remove the following items from the kit:



4 Drill Holes

35-140 cms

If required, drill holes where marked and install the appropriate wall anchors (not included) using the hammer.

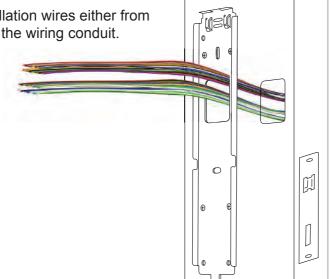




5 Get Wires

Get access to the installation wires either from behind the wall of from the wiring conduit.

Feed wires through the square hole of the mounting plate.



6 Insert Screws

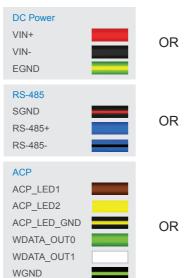
Align the holes of the mounting plate with the wall anchors and attach the mounting plate with the screws provided in the IXM Install Kit. **INVIXIUM** recommends the use of an electric or battery-powered screwdriver for this step.

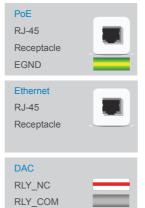
7 Identify the Connections:

Power & Grounding

Communications

Operations









OR





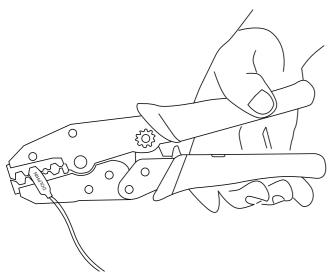
Refer to pages 26 & 27 for Power connections, pages 28-31 for Network or Serial Communication connections and pages 32-35 for Operation connections.





8A Make the Connections

Connect the required wires using the Dolphin[®] crimps provided in the IXM Install Kit (or any similar crimps) and a ratchet style crimping tool. Insert two wires (no stripping required) into the open end of the crimp and then using the crimping tool, clamp down on the middle of the crimp.



8B Connect Earth Ground

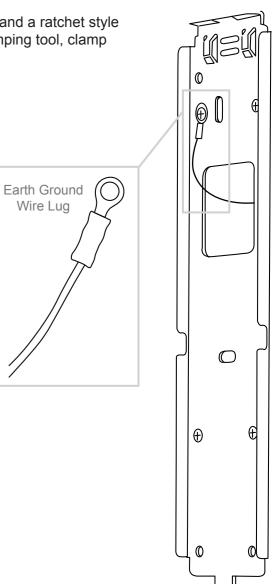
Connect the lug of the Earth Ground wire directly to the front of the mounting plate using one of the Wall mounting screws. Ensure that the lug is secured tightly as to make the necessary contact between the device and the mounting plate. Connect the other end of the Earth Ground wire to the Earth Ground connection of the install site with a crimp.

Ensure all required connections are made to each device in the setup prior to turning on the power.

Checklist: Connections for Power & Grounds (DC or PoE)

Connections for Communications (Ethernet, RS-485 or RS-232)

Connections for Operation (ACP or DAC)

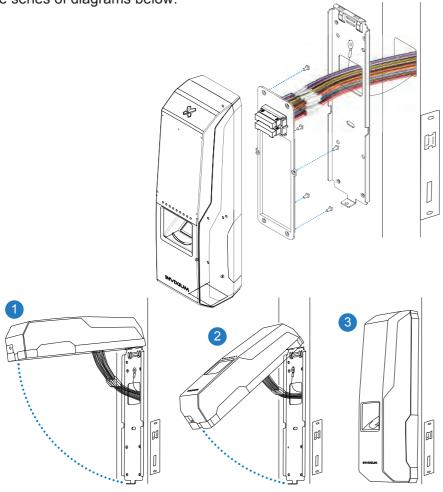




9 Attach the Device

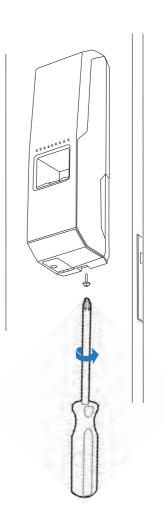
INVIXIUM Copyright © 2019

Take the IXM device and unscrew the Temporary Back Cover, keeping the screws handy. Connect the Wired Back Cover to the back of the device by lining up the connectors. Secure the Wired Back Cover with the same screws. Next, hang the IXM device onto the mounting plate as shown in the series of diagrams below.



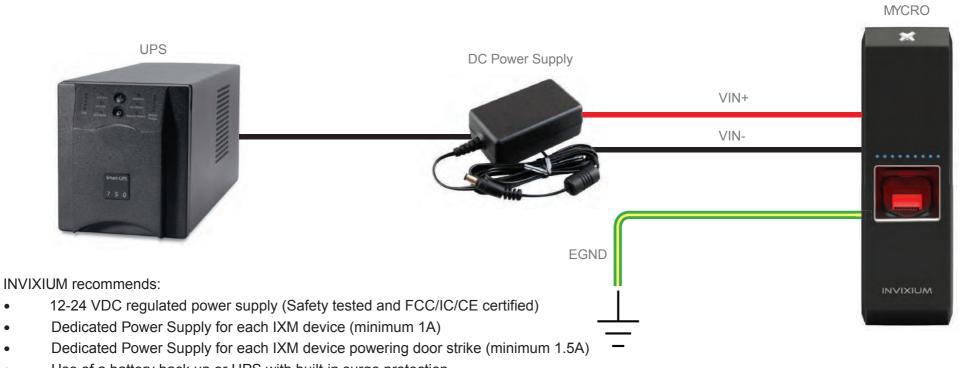
10 Secure the Device

Finally, secure the device on the bottom to the mounting plate with the Metal Mounting Plate screw provided in the IXM Install Kit.





Connections for Power



Use of a battery back-up or UPS with built-in surge protection
 If sharing power supplies, ensure that each device is supplied

If sharing power supplies, ensure that each device is supplied with minimum 1A per device (i.e. Powering 2 devices will require a supply with output current of 2A)



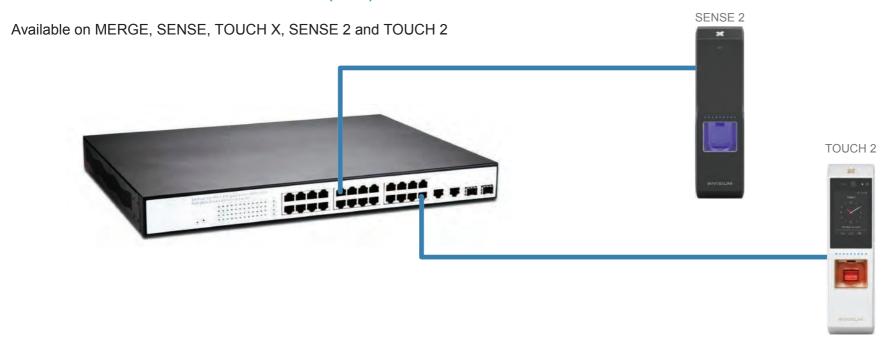
Product Warranty is void if improper power (under or over) is supplied to the device.

Power Connections VIN+ VIN EGND





Connections for Power Over Ethernet (PoE)



INVIXIUM recommends:

- A centralized Power Sourcing Equipment (PSE) for full PoE deployments (not included)
- Use of a battery back-up or UPS with built-in surge protection



Both IEEE 802.3af power transmission modes (A and B) are supported.



Ethernet/PoE Connections





IXM WEB

Ethernet and Wi-Fi Communication

Ethernet:

- Switch/Router required
- CAT 5 cabling or better

WiFi:

- Wireless router to LAN/WAN
- 802.11b/g/n protocol
- WEP, WPA and WPA2 encryptions supported
- DHCP enabled by default



Router connected





RS-485 Network Communication

INVIXIUM recommends:

- Daisy chain configuration
- Maximum 31 devices in the network
- Both RS-485 converter and the last device in the chain should be terminated (not included, refer to NOTE below for correct Resistor vaues)
- Connect the IXM device to PC via RS-485-to-Serial (RS-232 or USB) Converter
- Maximum cable length of 1200m (4000 ft.) at 9600 bps baud rate





R = 120 ohms for Standard RS-485 Cabling

R = 100 ohms for CAT5/6 Cabling

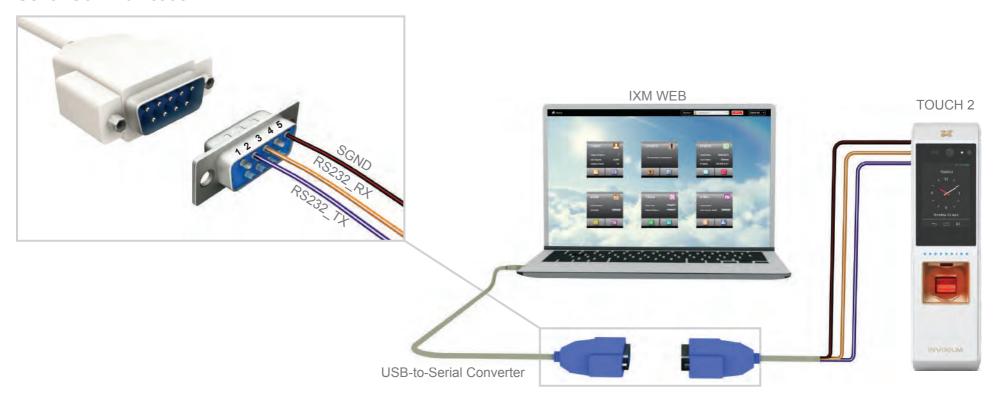
RS-485 Connections

SGND RS-485+ RS-485-





Serial Communication



RS-232:

- Connect IXM device directly to the DB9 Serial port of the PC (if available)
- DB9 connectors and cables are not included



MYCRO, SENSE 2 and TOUCH 2 only

RS-232 Connections

RS-232_RX RS-232_TX **SGND**





USB Communication



USB:

- Connect a Flash Drive via Micro USB OTG cable and perform functions like upgrading firmware and downloading transaction logs
- USB port can also be used to connect to a PC running IXM WEB via Micro USB cable
- Driver installation is required and will automatically initiate once the device is connected





Access Control Panel Connections for MERGE



ACP:

- Wiegand connections available for ACP operation
- INVIXIUM recommends the use of Wiegand Output Data 0, 1 and GND connection

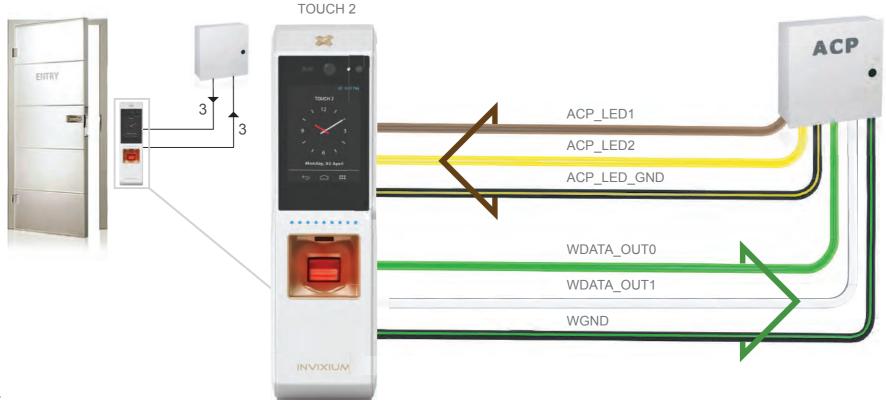
Wiegand Connections

WDATA_OUT0
WDATA_OUT1
DGND





Access Control Panel Connections for MYCRO, SENSE, TOUCH, SENSE 2 and TOUCH 2



ACP:

- LED and Wiegand connections available for ACP operation
- INVIXIUM recommends the use of Wiegand Output Data 0, 1 and GND connection



ACP_LED signals can be used if available on the Access Control Panel.

IXM devices support up to 2 wires + GND for LED status.

Top Connector LED

ACP_LED1

ACP_LED2

ACP_LED_GND

Bottom Connector Wiegand

WDATA_OUT0

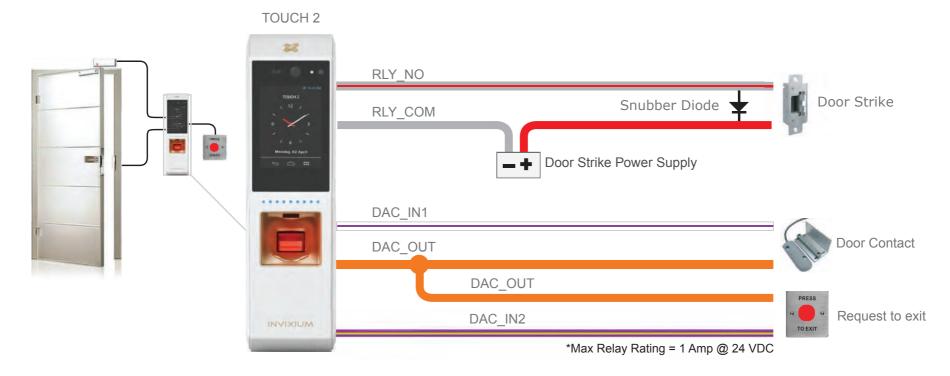
WDATA_OUT1

WGND





Door Access Control Connections for MYCRO, MERGE, SENSE, TOUCH, SENSE 2 and TOUCH 2



DAC:

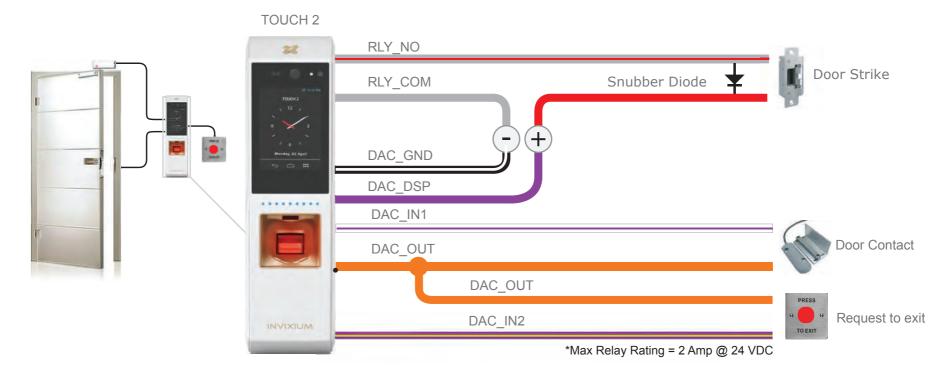
- INVIXIUM recommends a separate power supply for Door Strike (not included) for this configuration
- Snubber Diode required for Door Strike (not included)
- · Example above shows use of RLY_NO, but RLY_NC may be used instead if required by the Door Strike
- Internal Relay rated upto max of 1A @ 24VDC
- For motion detector instead of Request-to-Exit-buttom, connect the following signals:
 (1) DAC_OUT to the COM and (2) DAC_IN2 to the Relay NO of the motion detector

DAC Connections

RLY_NC	
RLY_COM	
RLY_NO	
DAC_IN1	
DAC_IN2	
DAC_OUT	



DAC Connections for Device Powers Door Strike (SENSE 2 and TOUCH 2 only)



DAC:

- The IXM device powers the door strike in this configuration. Only applicable to SENSE 2 and TOUCH 2.
- Device can supply 500mA@12V
- Snubber Diode required for Door Strike (not included)
- Example above shows use of RLY_NO, but RLY_NC may be used instead if required by the Door Strike
- Internal Relay rated upto max of 2A @ 24 VDC
- For motion detector instead of Request-to-Exit-buttom, connect the following signals:
 (1) DAC_OUT to the COM and (2) DAC_IN2 to the Relay NO of the motion detector

DAC Connections

RLY_NC	
RLY_COM	
RLY_NO	
DAC IN1	
_	
DAC_IN2	
DAC_OUT	
DAC_DSP	
DAC_GND	





Software Installation System Requirements

To successfully install and run IXM WEB, the system must meet the following minimum requirements:

PC Workstation:

- 2 GHz Intel® Pentium® 4 or equivalent (2.4 GHz or higher recommended)
- 4 GB RAM (6 GB or higher recommended)
- 2 GB Free Hard Disk Space
- 850 MB Hard Disk Space for x86 systems or 2 GB Hard Disk Space for x64 systems Microsoft[®].NET Version 4.0
- 2 GB Hard Disk Space recommended for SQL Server™ 2008 Express Edition SP1
- Available COM or USB Port
- Ethernet Card (10/100 Mbps Ethernet connections)
- Monitor capable of displaying at least 1024 x 786 high color resolution

IXM WEB will install the following:

Microsoft®.NET Framework (version 4.0)

SQL Server™ 2008 Express Edition Service Pack 1

Microsoft®Internet Information Services (version 7.5)

Windows[®] Installer (version 4.5)

One of the following Operating Systems

- Windows[®] 10, 8.1 and 7[†] (32-Bit & 64-Bit)
- Windows® 7 Home Premium Edition
- Windows[®] Vista Service Pack 2 or higher versions
- Windows[®] Server 2016, 2012, 2012 R2, 2008, 2008 R2

One of the following Web Browsers (Client):

- Internet Explorer® version 11.0
- Google Chrome[™] version 40.0 and above
- Mozilla Firefox[®] version 40.0 and above
- Microsoft Edge[®] version 38.14393 and above
- Apple Safari® (MAC OS only) version 5.1.7 and above



†Windows Professional or Enterprise Editions



Software Installation Steps

Step 1 Go to ixmweb.invixium.com. Click Get IXM WEB. Provide the required details and Click "Submit". An email with the latest IXM WEB Package will be sent to the email ID provided. (Contact Support if using a customized solution).

Step 2 Download and Extract the package. Run IXM WEB.exe file.



Step 3 There are two installation options: Install or Advanced. INVIXIUM recommends selecting INSTALL option for rapid installation.

The ADVANCED process allows for:

- entering a different install path checkbox for installing SQL Server database
- entering a specific Port number checkbox for installing Certificates



A Windows dialog may pop up to provide a warning about installing from an unreliable source. Click "Yes" to proceed with the install.



Step 4 During the installation process, the status of the install will be shown.



Step 5 When the installation is complete, click EXIT. IXM WEB icon is now on the desktop.



Step 6 Run IXM WEB to launch the application in the default web browser to setup the Database and Admin credentials.





FCC Information to Users (English)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

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

Informations de la FCC aux Utilisateurs (en Français)

Cet appareil est conforme à la partie 15 des règles de la FCC. Son fonctionnement est soumis aux deux conditions suivantes:

- 1. Cet appareil ne doit pas provoquer d'interférences nuisibles
- 2. Cet appareil doit accepter toute interférence reçue, incluant toute interférence pouvant causer un fonctionnement indésirable





NOTIFICATION



Cet équipement a été testé et s'est avéré conforme aux limites pour un appareil numérique de Classe B, conformément à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions, il peut causer des interférences nuisibles pour les communications radio. Cependant, il n'existe aucune garantie que des interférences ne se produiront pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, ce qui peut être déterminé en l'éteignant et rallumant, l'utilisateur est encouragé à essayer de corriger l'interférence par une ou plusieurs des mesures suivantes:

- · Réorienter ou déplacer l'antenne de reception
- · Augmentez la distance entre l'équipement et le récepteur
- Connecter l'équipement à une sortie sur un circuit différent de celui sur lequel le récepteur est branché
- Pour obtenir de l'aide, consulter le revendeur ou un technicien radio / TV expérimenté

FCC RF Radiation Exposure Statement (English)

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Industry Canada RF Radiation Exposure (English)

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Industrie Canada exposition aux radiations RF (en Français)

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20cm de distance entre la source de rayonnement et votre corps.





CE Information to Users (English)

All INVIXIUM devices have the CE mark for conformance with EMC Directive 89/336/EEC, and Low Voltage Safety Directive 73/23/EEC. Device with RFID components are compliant with R&TTE Directive 1999/5/EC, and are Class 1 Devices.

Informations de la CE aux Utilisateurs (en Français)

Tous les dispositifs de INVIXIUM ont le marquage CE de conformité à la directive CEM 89/336/CEE et basse tension de sécurité Directive 73/23/CEE. Les appareils avec composants RFID sont conformes aux Directive R & TTE 1999/5/CE. et sont des appareils de classe 1.

ISED Information to Users (English)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- 1. This device may not cause interference.
- 2. This device must accept any interference, including interference that may cause undesired operation of the device.

Industrie Canada Information pour les Utilisateurs (en Français)

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- 1. L'appareil ne doit pas produire de brouillage;
- 2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



Warning to Users (English)



WARNING

Changes or modifications not expressly approved by INVIXIUM could void the user's authority to operate the equipment.

Avertissement aux Utilisateurs (en Français)



WARNING

Les changements ou modifications non expressément approuvés par INVIXIUM pourraient annuler l'autorité de l'utilisateur à utiliser l'équipement.

For Technical or Customer Support issues, please contact your Local Authorized Reseller.

For all other inquiries, please contact us at support@invixium.com

For detailed information, please visit our website: invixium.com



Enjoy the Experience.

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