IXM ROSTO

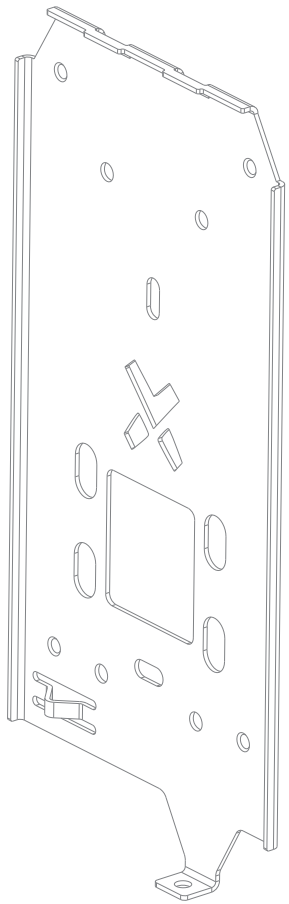
IXM TOUCH 3

Enterprise Series Installation Guide

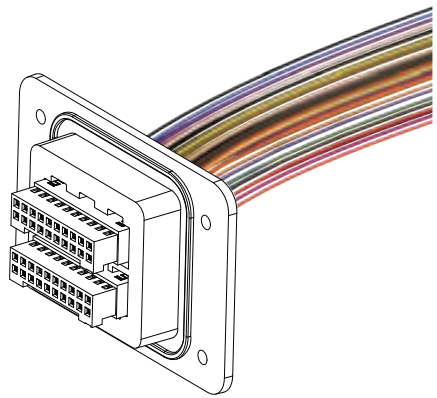
Table of Contents

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



Metal Mounting Plate



Wired Back Cover

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.

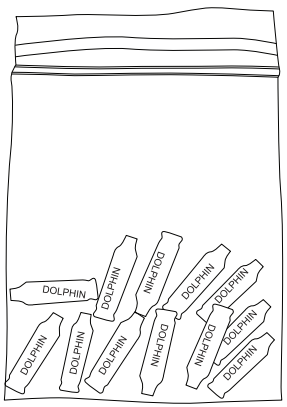
WARNING

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.

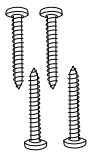
ROSTO Components

The following components are included in the ROSTO Box -

IXM INSTALL KIT



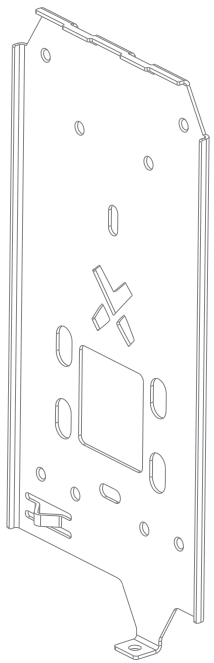
Dolphin Crimps
(qty 12)



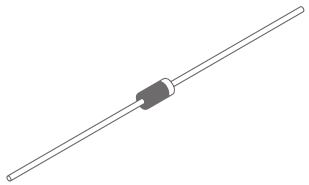
Wall Mounting Screws
(qty 4)

Metal Mounting
Plate Screw
(qty 1)

Hex Key

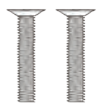


Metal Mounting
Plate

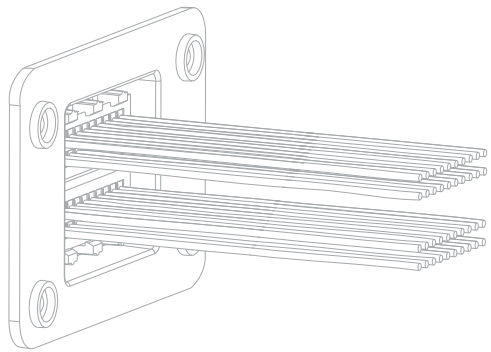


Snubber Diode

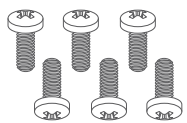
Security Hex Screw
(qty 1)



Gang Box
Mounting Screws
(qty 2)



Wired Back Cover

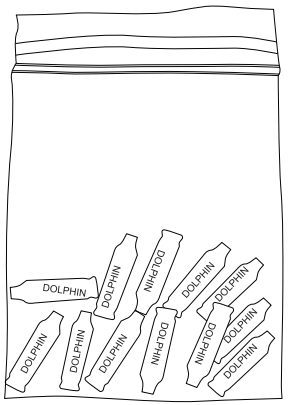


Wired Back
Cover Screws
(qty 6)

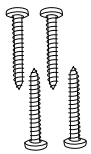
TOUCH 3 Components

The following components are included in the TOUCH 3 Box -

IXM INSTALL KIT



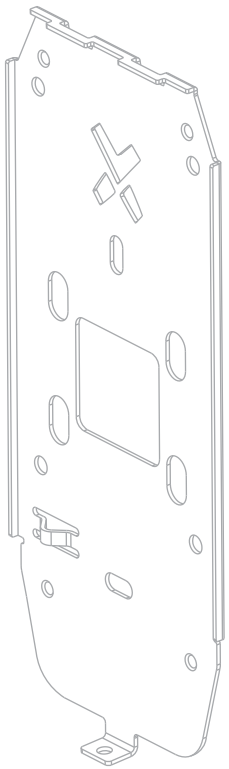
Dolphin Crimps
(qty 12)



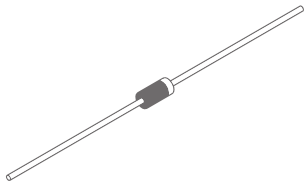
Wall Mounting Screws
(qty 4)

Metal Mounting
Plate Screw
(qty 1)

Hex Key

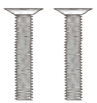


Metal Mounting
Plate

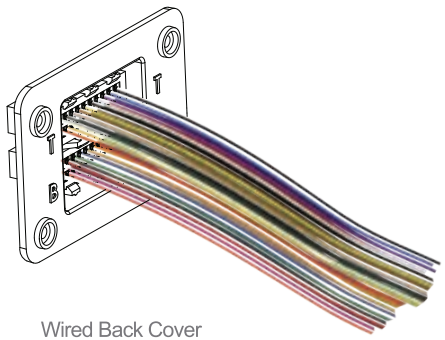


Snubber Diode

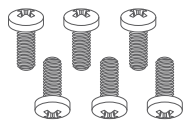
Security Hex Screw
(qty 1)



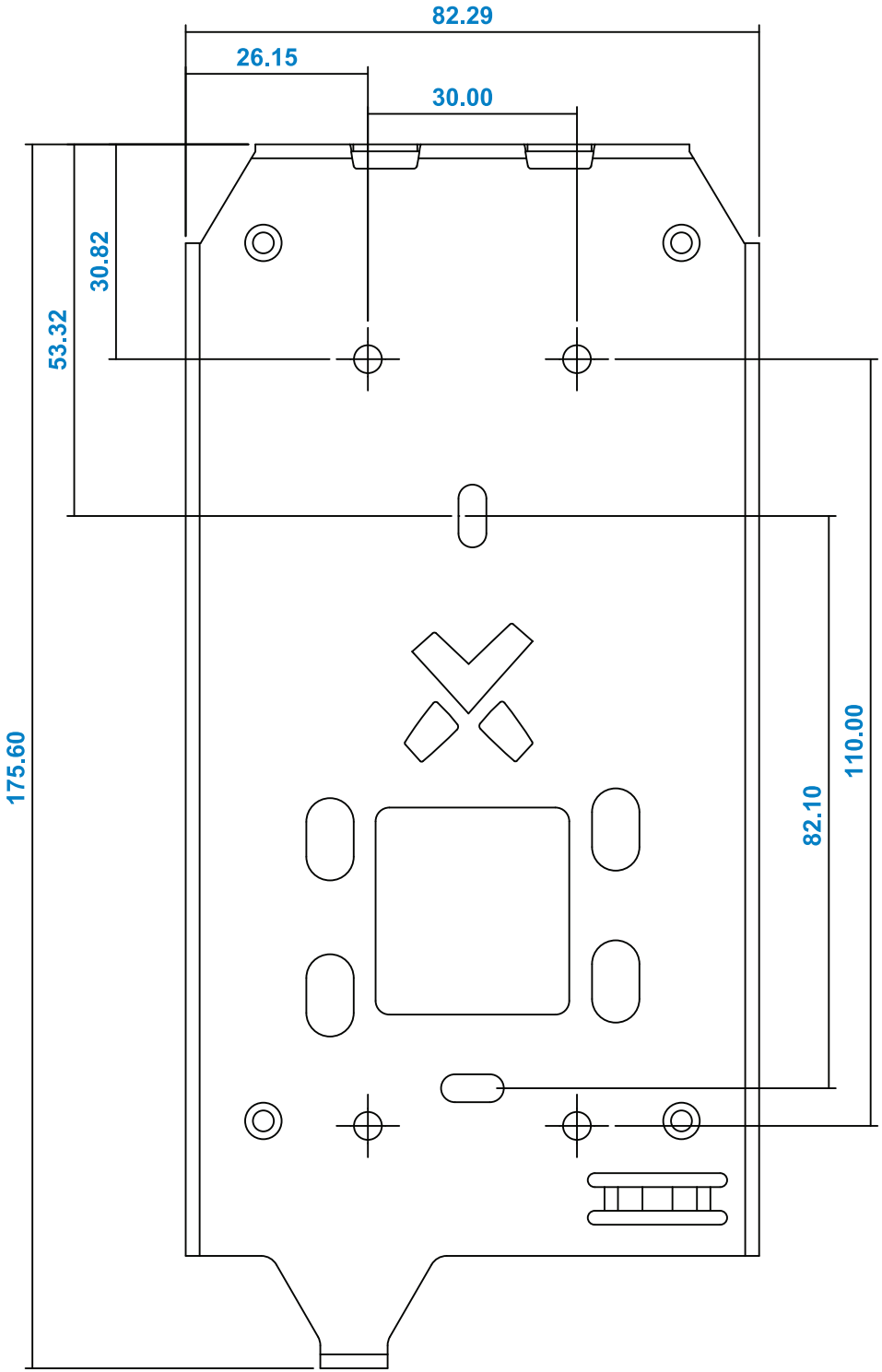
Gang Box
Mounting Screws
(qty 2)

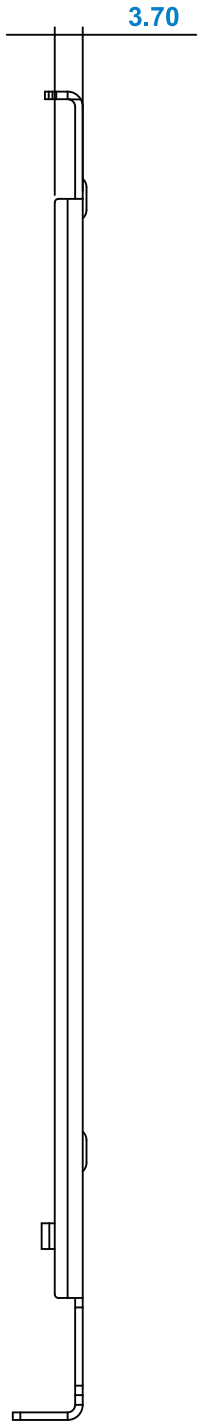


Wired Back Cover

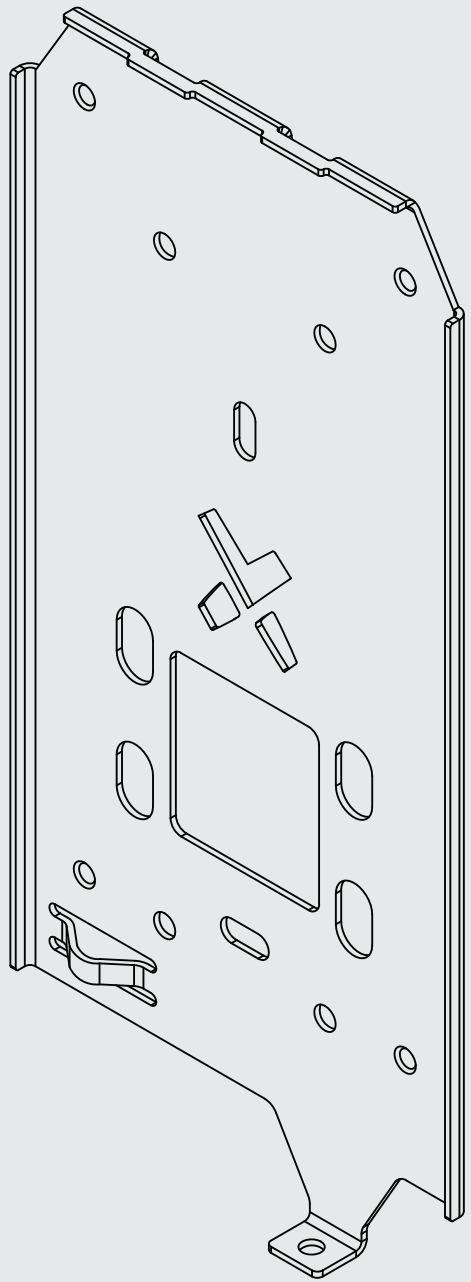


Wired Back
Cover Screws
(qty 6)





Angled
Front View



ROSTO Mounting Plate Actual Dimensions in mm

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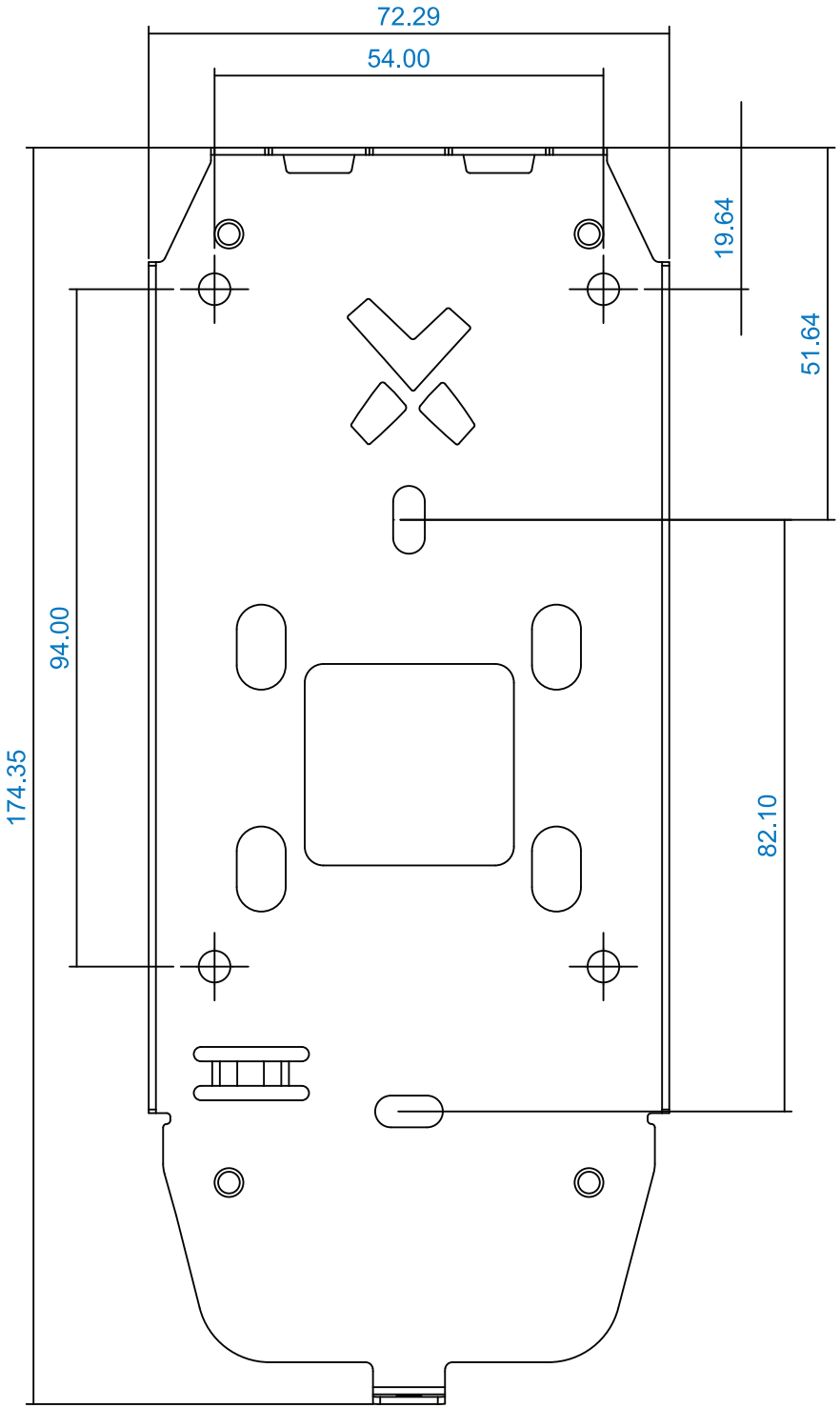
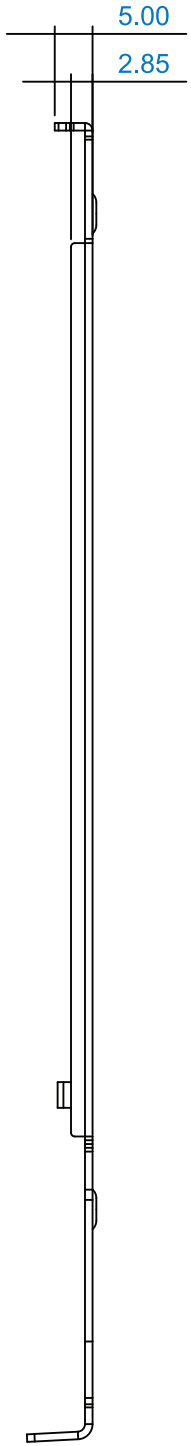
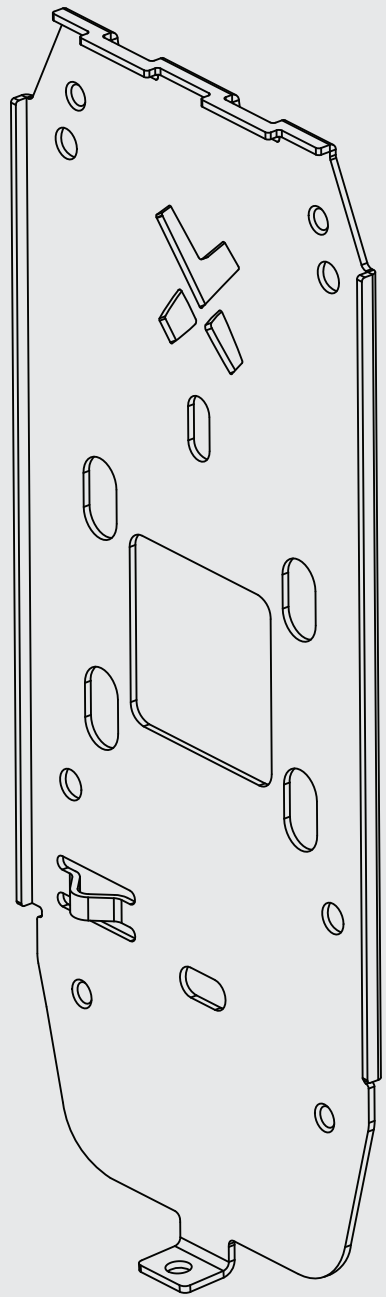




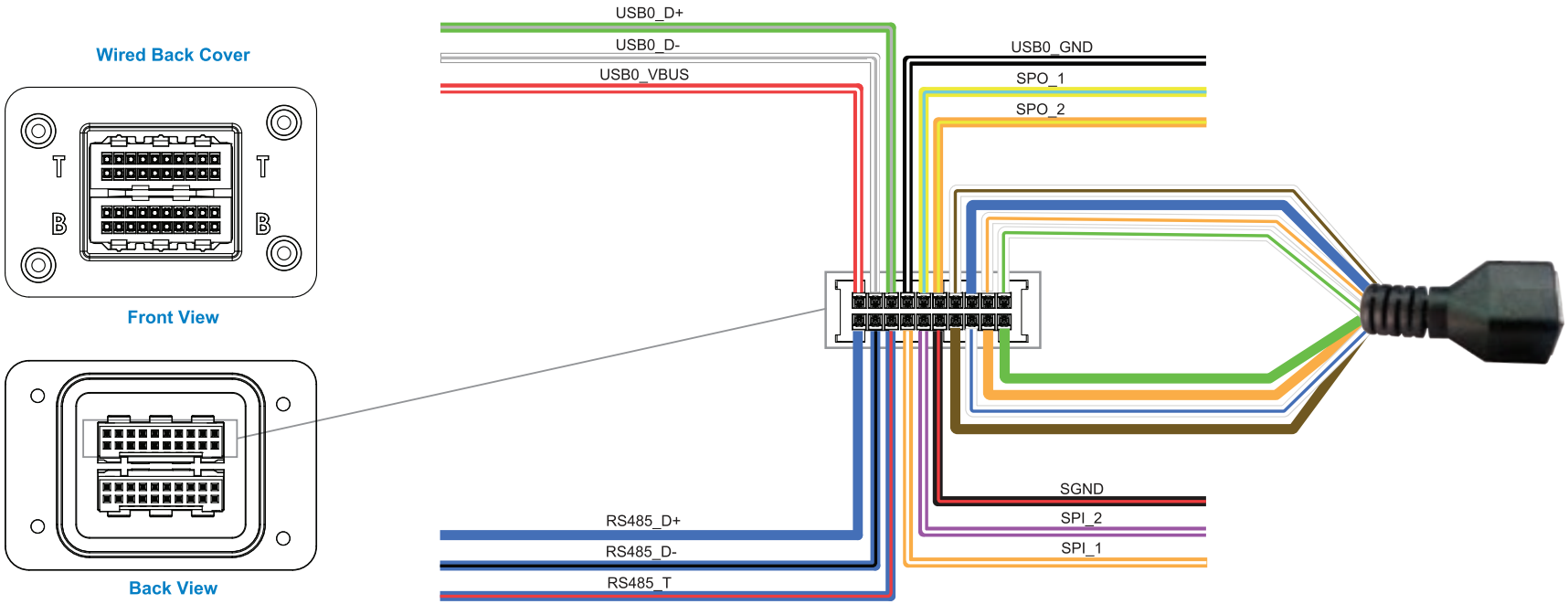
Angled
Front View



TOUCH 3 Mounting Plate Actual Dimensions in mm

INVIXIUM recommends printing this page in Actual Size

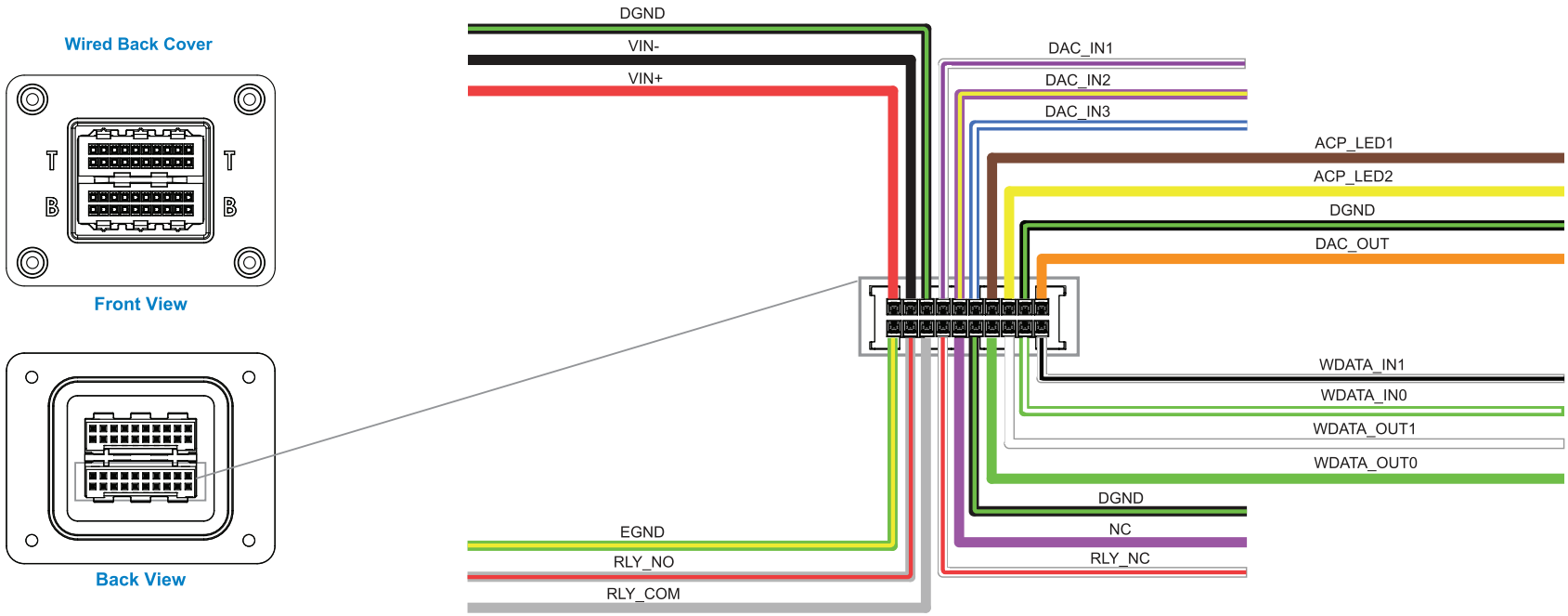
I/O Cable: Top Connector Pin Out for ROSTO and TOUCH 3



Wire Color	Wire	Label	Pin(s)
Red/White		USB0_VBUS	1
Blue		RS485_D+	2
White/Grey		USB0_D-	3
Blue/Black		RS485_D-	4
Green/Grey		USB0_D+	5
Blue/Red		RS485_T	6
Black/White		USB0_GND	7
Orange/White		SPI_1	8
Yellow/Cyan		SPO_1	9
Purple/White		SPI_2	10

Wire Color	Wire	Label	Pin(s)
Orange/Yellow		SPO_2	11
Black/Red		SGND	12
RJ 45 Receptacle		TCP/IP	13-20

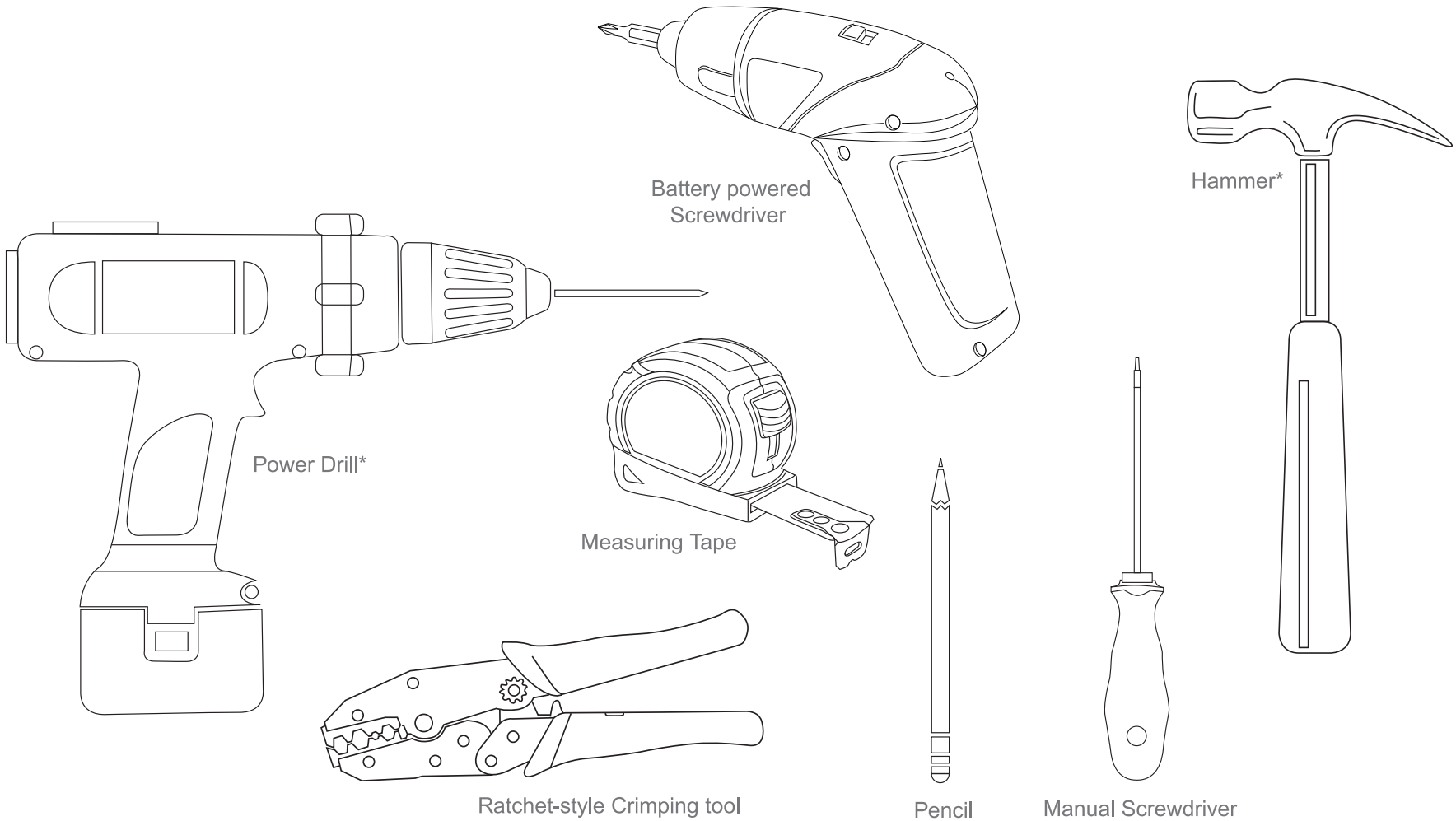
I/O Cable: Bottom Connector Pin Out for ROSTO and TOUCH 3



Wire Color	Wire	Label	Pin(s)
Red		VIN+	1
Green/Yellow		EGND	2
Black		VIN-	3
Grey/Red		RLY_NO	4
Black/Green		DGND	5
Grey		RLY_COM	6
White/Purple		DAC_IN1	7
White/Red		RLY_NC	8
Purple/Yellow		DAC_IN2	9
Purple		NC	10

Wire Color	Wire	Label	Pin(s)
Blue/White		DAC_IN3	11
Black/Green		DGND	12
Brown		ACP_LED1	13
Green		WDATA_OUT0	14
Yellow		ACP_LED2	15
White		WDATA_OUT1	16
Black/Green		DGND	17
Green/White		WDATA_IN0	18
Orange		DAC_OUT	19
White/Black		WDATA_IN1	20

Hardware Tools Required For Installation



NOTE

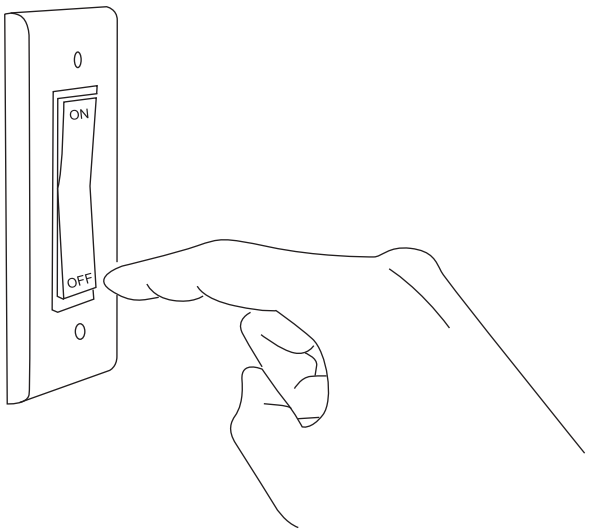
Installation of any IXM device should be performed by licensed electricians.

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

Installation Steps

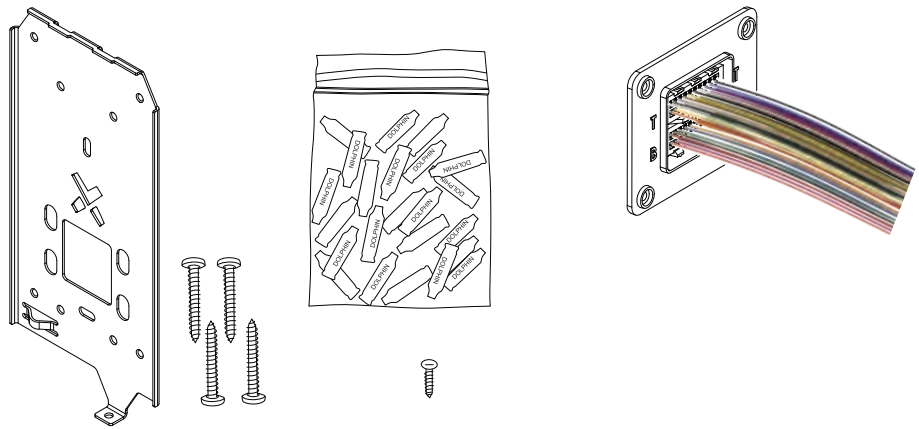
1 Ensure Power is Off

This protects the device being installed.



2 IXM Install Kit

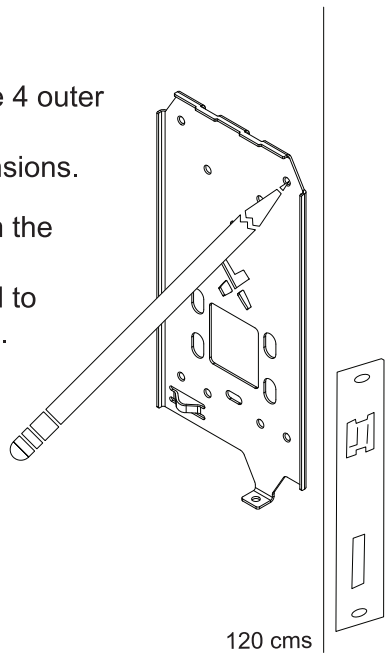
Remove the following items from the kit:



3 Mark the Screw Holes

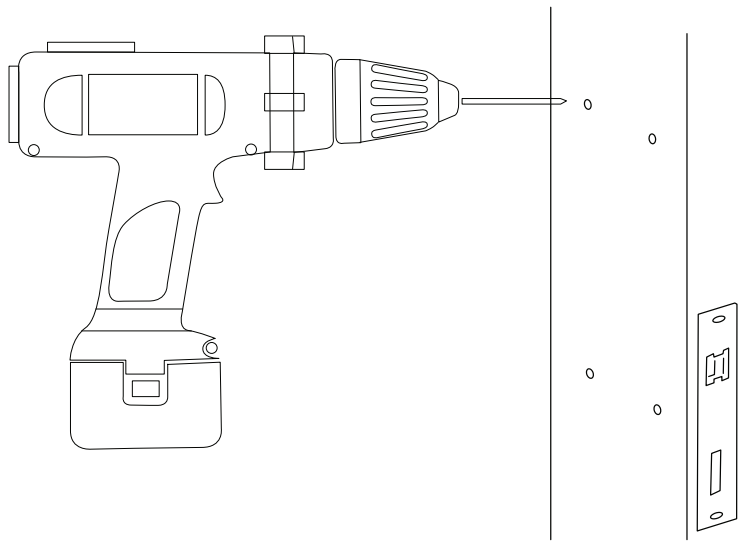
INVIXIUM recommends the use of the 4 outer holes for mounting. Refer to diagrams from page 9 onwards for actual dimensions.

Ideal mounting height is 125 cms from the ground to the bottom of the device for ROSTO and 120 cms from the ground to the bottom of the device for TOUCH 3. But also be sure to align the devices in case of multiple installations.



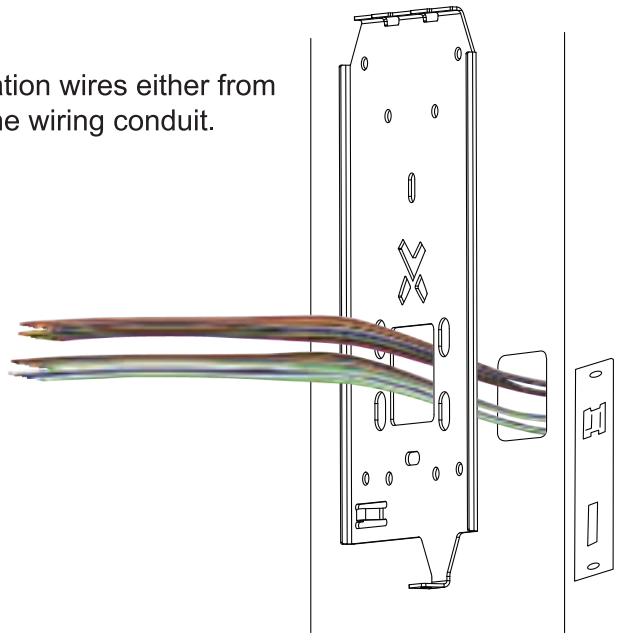
4 Drill Holes

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



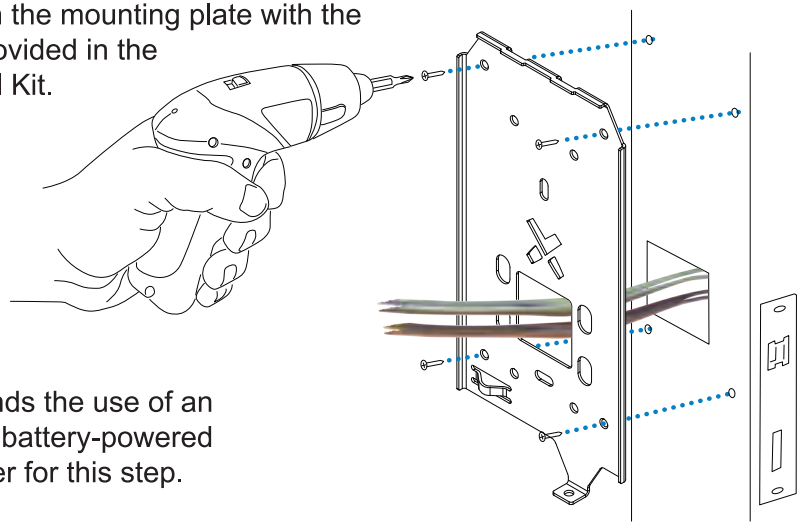
5 Get Wires

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:

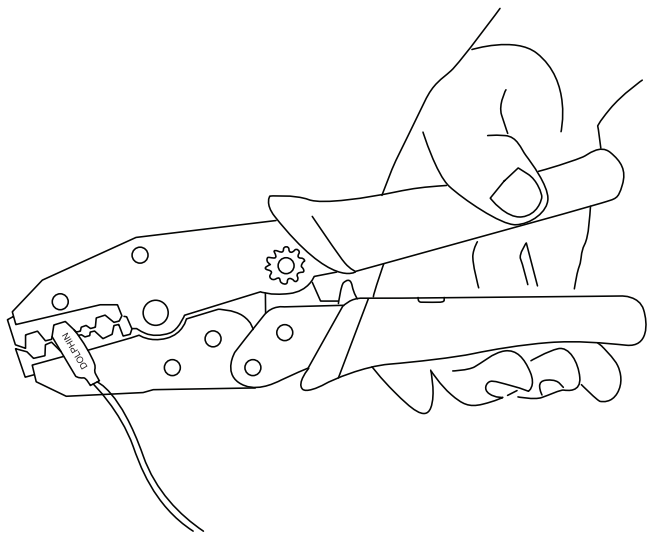
1. Power & Grounding
2. Communications
3. Operations

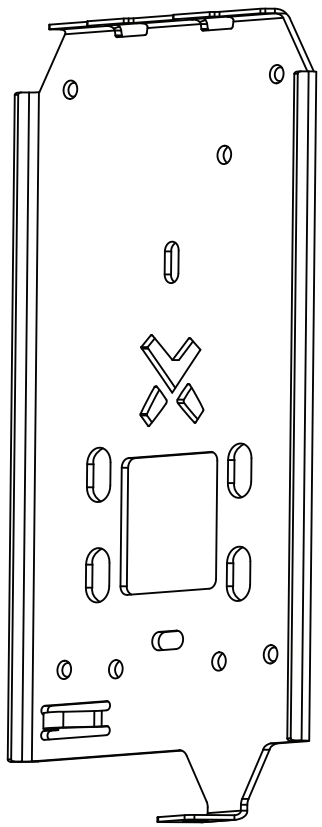
DC Power VIN+ VIN- EGND	OR	**PoE** RJ-45 Receptacle EGND	OR	 USB-C
RS-485 SGND RS-485+ RS-485-	OR	**Ethernet** RJ-45 Receptacle		
ACP ACP_LED1 ACP_LED2 ACP_LED_GND WDATA_OUT0 WDATA_OUT1 WGND	OR	**DAC** RLY_NC RLY_COM RLY_NO DAC_IN1 DAC_IN2 DAC_OUT		

Refer to pages 16 & 17 for Power connections, pages 18-20 for Network or Serial Communication connections and pages 21-24 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 into the open end of the crimp and then using the crimping tool, clamp down on the middle of the crimp.

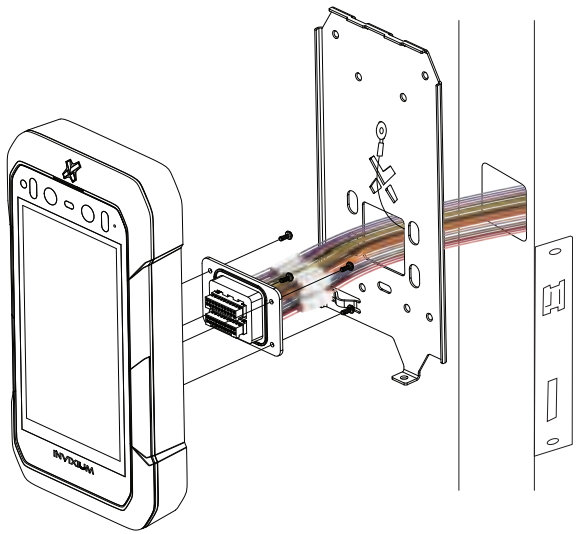


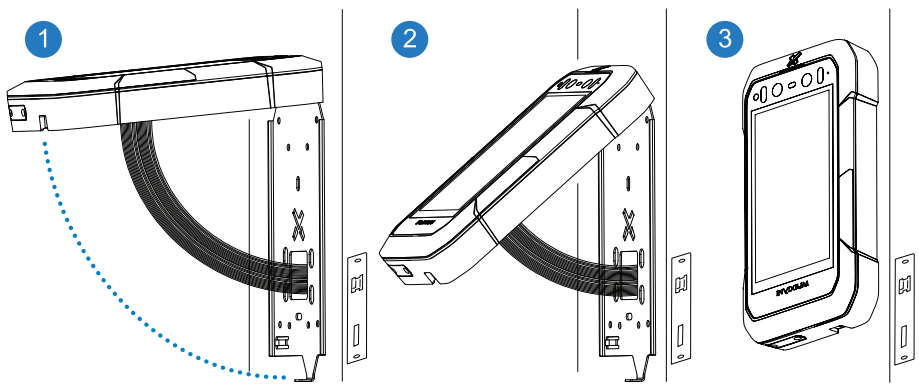


Checklist:
- ☐ Connections for Power & Grounds (DC or PoE)
- ☐ Connections for Communications (Ethernet, RS-485)
- ☐ Connections for Operation (ACP or DAC)

9 Attach the Device

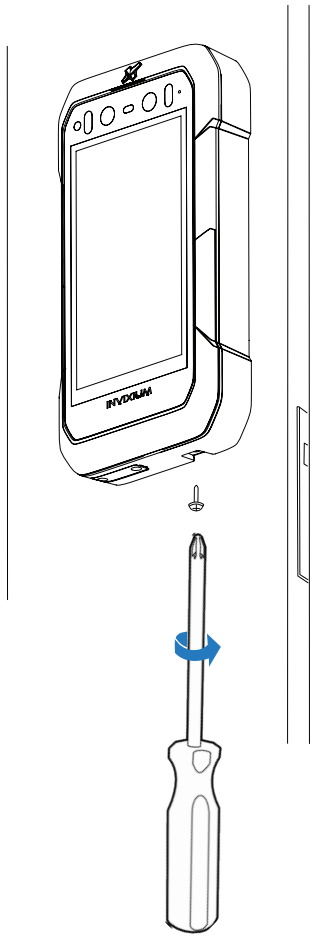
Take the IXM device and while keeping the screws handy, connect the Wired Back Cover to the back of the device by lining up the connectors. Secure the Wired Back Cover with the same screws. Next, hang the IXM device onto the mounting plate as shown in the series of diagrams below.





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

INVIXIUM recommends:

- 12-24 VDC regulated power supply (Safety tested and FCC/IC/CE certified)
- Dedicated Power Supply for each IXM device (minimum 1A)
- Consider cable loss while using long wire connections. Device needs a minimum of 1A at 12 VDC at the device end after all cable losses.
- Dedicated Power Supply for each IXM device powering door strike (minimum 1.5A)
- Use of a battery back-up or UPS with built-in surge protection
- 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)

Power Connections

VIN+

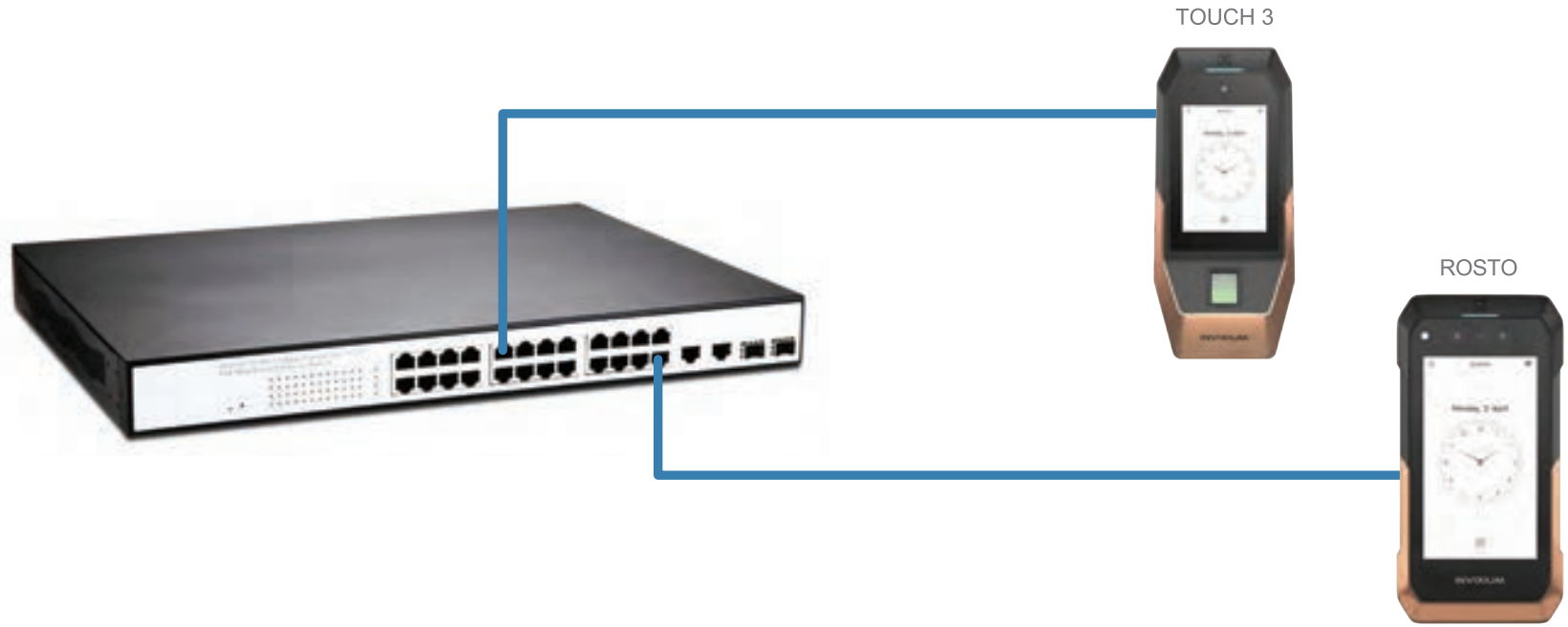
VIN-

WARNING

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

Connections for Power Over Ethernet (PoE+)

PoE+ is available on all ROSTO models and PoE is available on selected models of TOUCH 3



INVIXIUM recommends:

- A centralized Power Sourcing Equipment (PSE) for full PoE deployments (not included)
- Calculating ideal power input to each device. Each port of the PoE switch must have 15W power in balance to provide IXM Device. For example, an 8-Port PoE switch with 100W power output can only power up to a maximum of 6 Invixium Devices.
- Use of a battery back-up or UPS with built-in surge protection

Ethernet/PoE Connections

NOTE

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

Ethernet and Wi-Fi Communication

Ethernet:

- Switch/Router required
- CAT 5 cabling or better

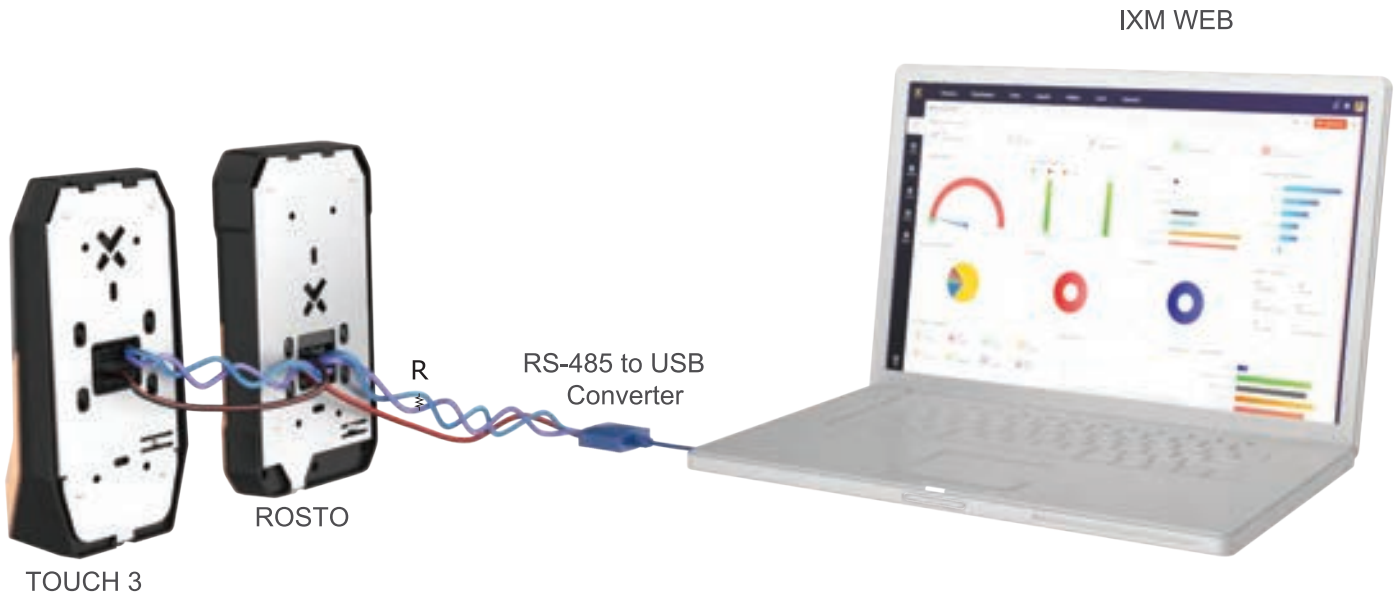
WiFi:

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

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



NOTE

R = 120 ohms for Standard RS-485 Cabling
R = 100 ohms for CAT5/6 Cabling

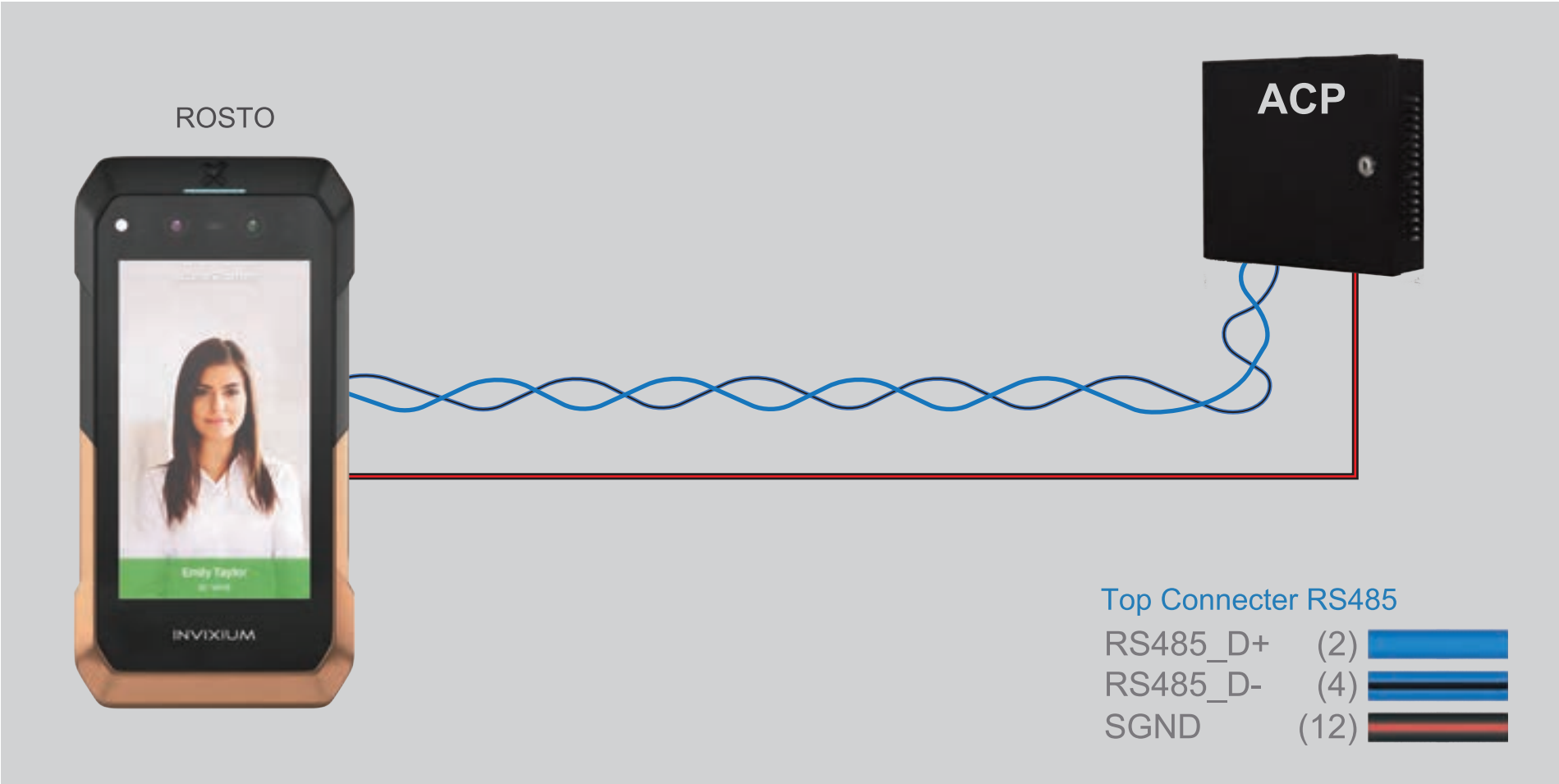
RS-485 Connections

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

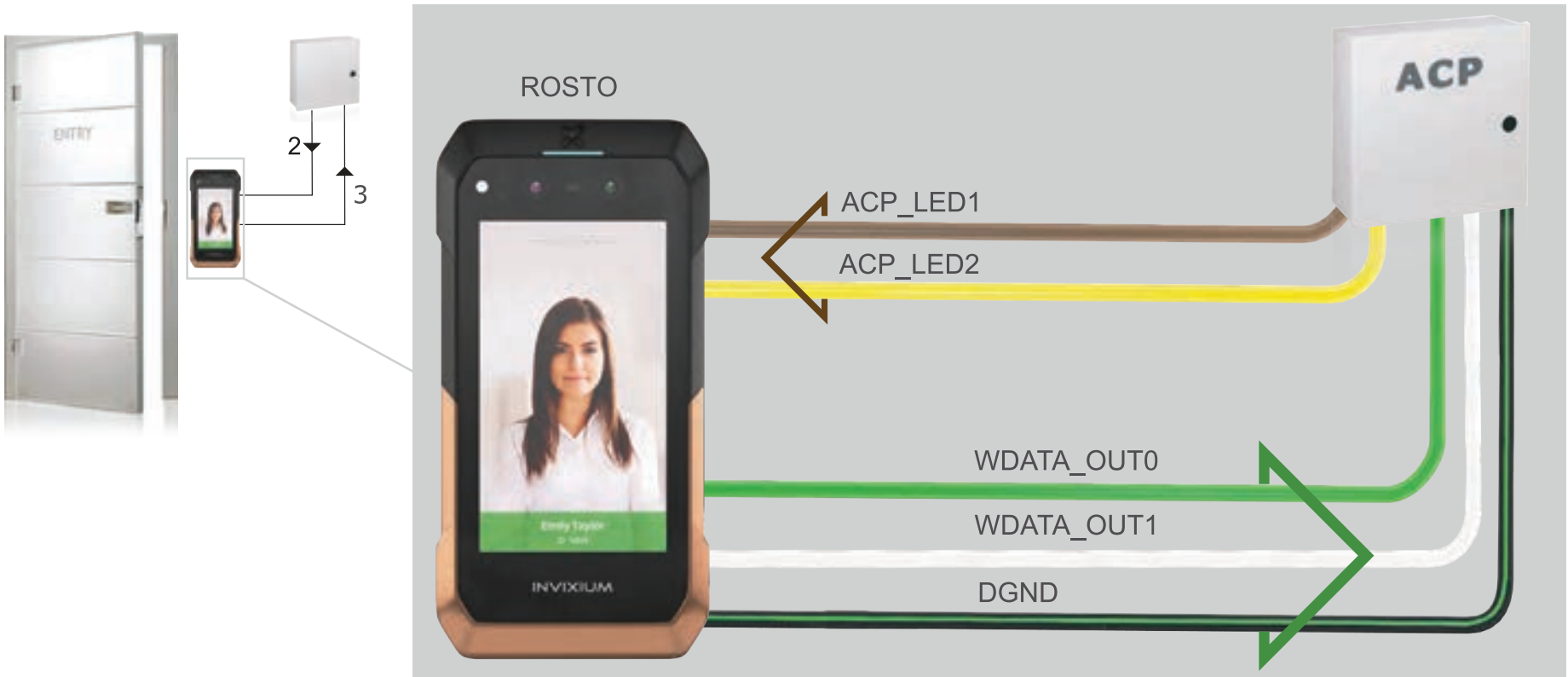
Access Control Panel Connections (OSDP) for ROSTO and TOUCH 3



- OSDP requires RS485 wiring connections between device and ACP.
- Use a 4 conductor 24 AWG twisted pair overall shielded and UL approved, Belden 9842 or equivalent cable.
- With an RS485 daisy chain, connect up to a maximum of 31 devices and connect the termination resistor (120Ω) to both ends of the daisy chain connection.
- Connect SGND cable with the ground cable of access control panel to equalize possible voltage potential difference between nodes.
- At a baud rate of 9600 bps, ensure that the maximum cable length is not longer than 1200m (4000 ft).

NOTE: Do Not Use Ethernet cable for RS485 communication.

Access Control Panel Connections (Wiegand) for ROSTO and TOUCH 3

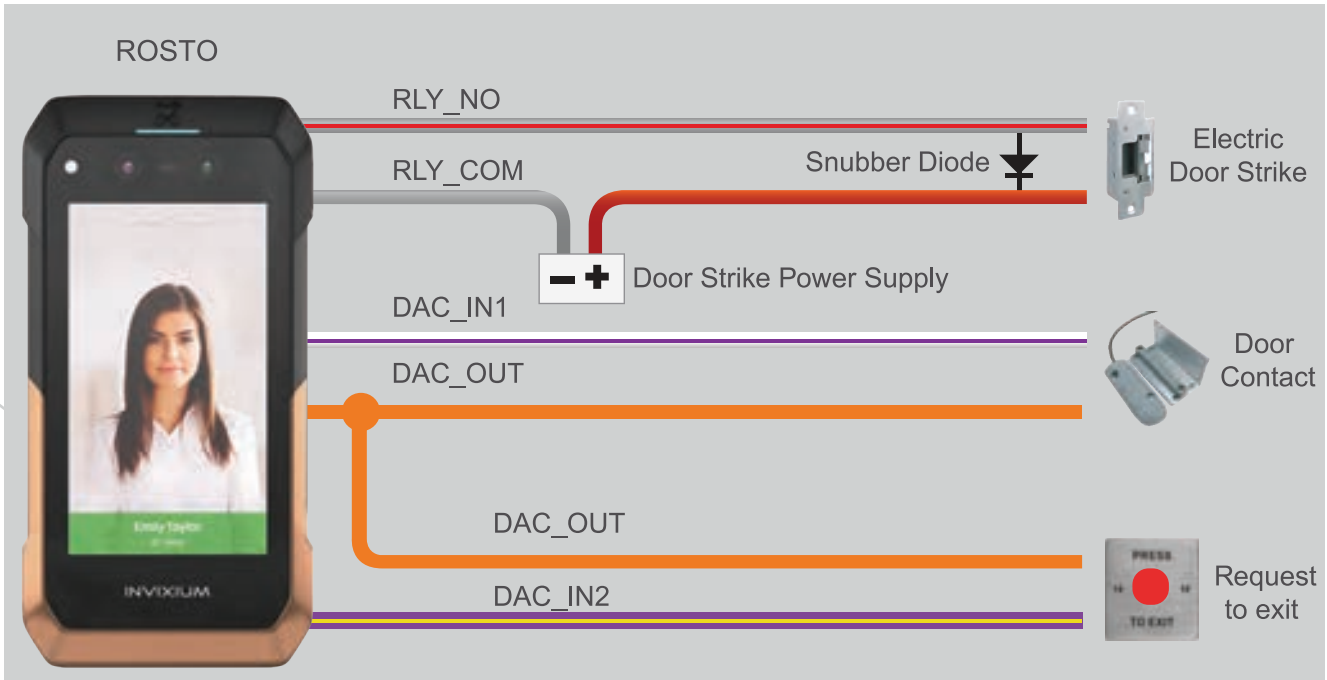


ACP_LED signals can be used if available on the Access Control Panel. IXM devices support up to 2 wires for LED status.

Bottom Connector

ACP_LED1	(13)
WDATA_OUT0	(14)
ACP_LED2	(15)
WDATA_OUT1	(16)
DGND	(17)

Door Access Control Connections (Electric Lock) for ROSTO and TOUCH 3



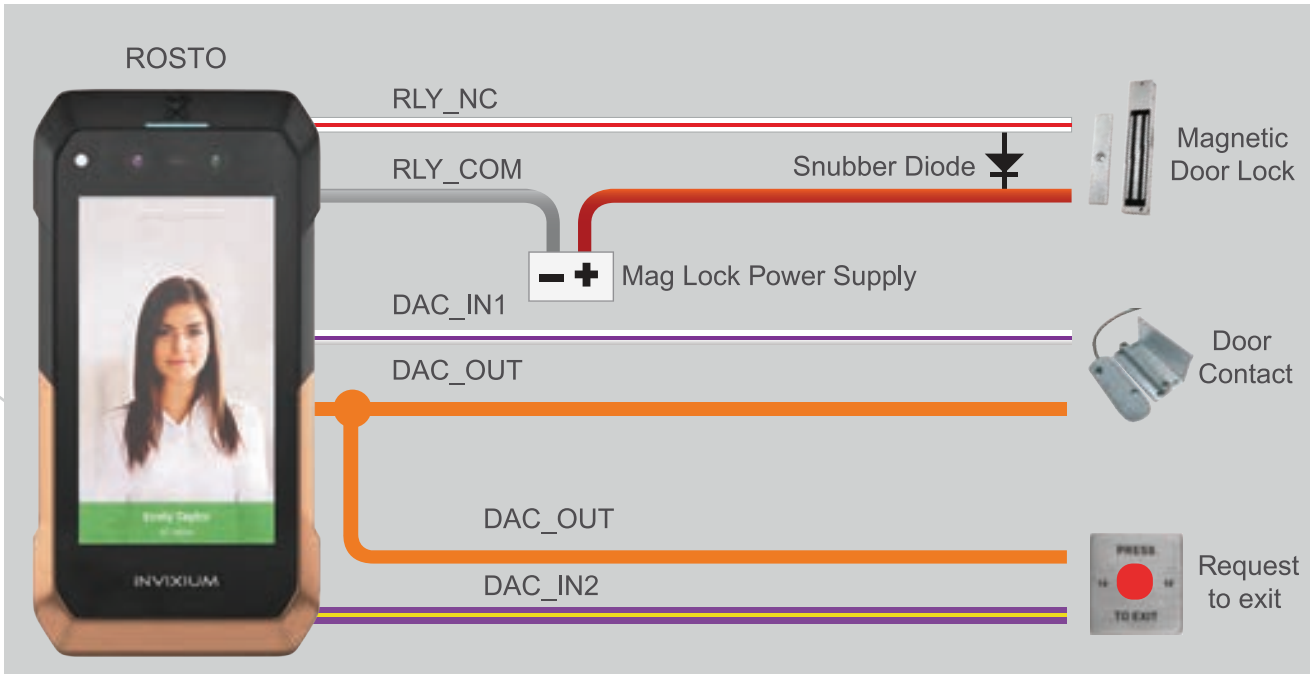
Max Relay rating = 24VDC @ 2A

NOTE: A separate power supply is required for the door strike

Bottom Connector

RLY_NO	(4)
RLY_COM	(6)
DAC_IN1	(7)
DAC_IN2	(9)
DAC_OUT	(19)

Door Access Control Connections (Magnetic Lock) for ROSTO and TOUCH 3



Max Relay rating = 24VDC @ 2A

NOTE: A separate power supply is required for the magnetic lock

Bottom Connector

RLY_COM	(6)
DAC_IN1	(7)
RLY_NC	(8)
DAC_IN2	(9)
DAC_OUT	(19)

IXM WEB Installation System Requirements

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

PC Workstation or Server:

- 2 GHz Intel® Pentium® 4 or equivalent (2.4 GHz or higher recommended)
- 6 GB RAM (8 GB or higher recommended)
- 10 GB Free Hard Disk Space on a PC
- 50 GB Free Hard Disk Space if installed on a Server
- 850 MB Hard Disk Space for x86 systems or 2 GB Hard Disk Space for x64 systems Microsoft®.NET Version 4.0
- 80 MB Hard Disk Space for x86 and 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

One of the following Web Browsers (Client):

- Internet Explorer® version 11.0
- Google Chrome™ version 70.0 and above
- Mozilla Firefox® version 70.0 and above
- Microsoft Edge® version 40.0 and above
- Apple Safari® (MAC OS only) version 10.1.2 and above

Supported Operating Systems (32-bit and 64-bit)

(NOTE: Windows Home Premium, Professional or Enterprise versions only)

- Windows® 8.1
- Windows® 10 (Build 1709 or higher) Professional Version
- Windows® Server 2012 R2
- Windows® Server 2012
- Windows® Server 2016 Standard
- Windows® Server 2019

Microsoft® .NET Framework: .NET Framework 4.7.2.0

Database Engine: SQL Server™ 2014 Express Edition (Default Installation) or higher

Microsoft® Internet Information Services version 7.5 or higher

Windows® Installer (Installs automatically) version 4.5 or higher

Software Installation Steps

Step 1 Go to www.invixium.com >> IXM WEB >> Get IXM WEB. You will be redirected to ixmweb.invixium.com. Click on the IXM WEB Tab. Provide the required details and Click “Submit”. An email with the latest IXM WEB package will be sent to the email ID provided.

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.

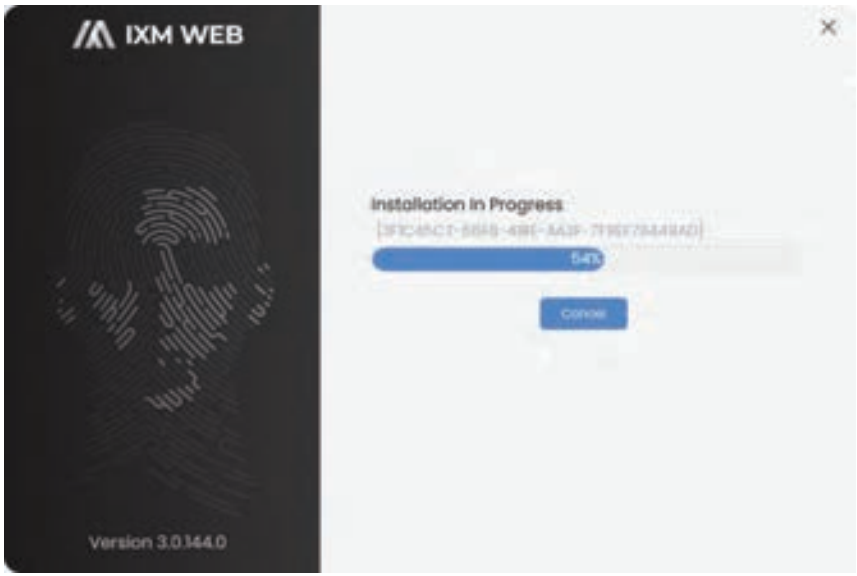
The ADVANCED process allows for:

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

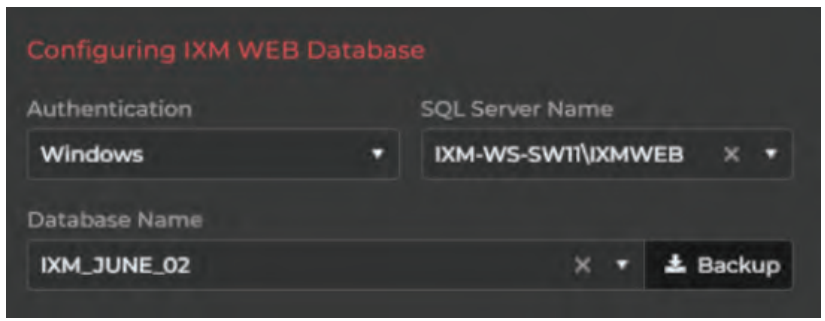
NOTE

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. When the installation is complete, click Complete. IXM WEB icon is now on the desktop.



Step 5 Run IXM WEB to launch the application in the default web browser to setup the Database and Admin credentials.



Step 6 Refer the FDD on IXM WEB Installation available on the Customer Portal for detailed instructions with screenshots.

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.

NOTE

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

NOTE

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 20 cm 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.

INSTALLATION GUIDE

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

Visit the Customer Portal for more Invixium resources at
www.invixium.com/support

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

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

Contact Invixium Support at:


support@invixium.com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Enjoy the Experience.

Some features may vary based on device models.

invixium.com

P/N XAD-00E-371-02G