

MX3Plus

Hand-Held Computer

Microsoft® Windows® CE 5 Operating System

Cradle Reference Guide

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Lithium Battery Safety Statement

Caution: Lithium battery inside. Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by battery manufacturer. (US)

Attention: Contient une pile de lithium. Risque d'explosion dans le cas où la pile ne serait pas correctement remplacée. Remplacer uniquement avec une pile semblable ou équivalente au type de pile recommandé par le fabricant. (FR)

Forsigtig: Indeholder lithiumbatterier. Risiko for eksplosion, hvis batteriet udskiftes forkert. Må kun udskiftes med samme eller tilsvarende type, som anbefalet af fabrikanten. (DK)

Varoitus: Tämä tuote käyttää laservaloa. Skannerissa on jokin seuraavista tarroista. Lue Huomio-kohta. (FI)

Vorsicht: Enthält Lithium-Batterie. Bei unsachgemäßem Ersatz besteht Explosionsgefahr. Nur durch gleichen oder vom Hersteller empfohlenen Typ ersetzen. (DE)

Attenzione: Batteria al litio. Pericolo di esplosione qualora la batteria venga sostituita in maniera scorretta. Sostituire solo con lo stesso tipo o equivalente consigliato per il fabbricante. (IT)

Atenção: Contém pilha de lítio. Há perigo de explosão no caso de uma substituição incorreta. Substitua somente pelo mesmo tipo, ou equivalente, recomendado pelo fabricante. (PT)

Varning: Innehåller litiumbatteri. Fara för explosion om batteriet är felaktigt placerat eller av fel typ. Använd endast samma eller motsvarande typ batterier rekommenderade av tillverkaren. (SE)

Advarsel: Innmontert Lithium batteri. Eksplosjonsfare ved feil montering av batteri. Benytt kun batteri anbefalt av produsent. (NO)

Cuidado: Pila de litio adentro. Peligro de explosión si la pila se reemplaza incorrectamente. Reemplace solamente con el mismo tipo o equivalente recomendado por el fabricante. (ES)

Oppassen: Bevat Lithium-batterij. Incorrecte plaatsing van batterij kan leiden tot explosiegevaar. Alleen vervangen door hetzelfde of door fabrikant aanbevolen gelijkwaardig type. (NL)

<p>Προσοχή: Υπάρχει μπαταρία από λίθιο εσωτερικά. Υπάρχει κίνδυνος έκρηξης εάν η μπαταρία αντικατασταθεί με λανθασμένο τρόπο. Αντικαταστήστε μόνο με τον ίδιο ή ισοδύναμο τύπο που συνιστάται από τον κατασκευαστή. (GR)</p>	<p>주의: 리튬 배터리 내부. 배터리가 잘못 설치되었을 경우 폭발의 위험이 있습니다. 동일한 배터리, 또는 배터리 제조업체가 권장하는 배터리로 교체하십시오. (KR)</p>
<p>注意: リチウム電池が入っています。間違った種類の電池を使用すると、破裂する恐れがあります。同じ電池、または電池製造元が推奨する同等の電池を使用してください。 (JP)</p>	<p>小心: 内装锂电池。如电池更换不当，则有发生爆炸的危险。只能用电池制造商推荐的相同或同等电池进行更换。 (CN)</p>
<p>Dikkat: İçinde lityum bataryası bulunur. Bataryanın yanlış değiştirilmesi patlama tehlikesi yaratır. Aynıyla veya üreticinin önerdiği eşdeğer tiplerle değiştirin. (TR)</p>	

Legend: Chinese – CN; Danish – DK; Dutch – NL; English – US; Finnish – FI; French – FR; German – DE; Greek – GR; Italian – IT; Japanese – JP; Korean – KR; Norwegian – NO; Portuguese – PT; Spanish – ES; Swedish – SE; Turkish – TR.

Vehicle Power Supply Connection Safety Statement

Vehicle Power Supply Connection: If the supply connection is made directly to the battery, a five A slow-blow fuse should be installed in the positive lead within 5 inches (12.7 cm.) of the battery positive (+) terminal. (US)

Raccordement de l'alimentation du véhicule Si l'alimentation est raccordée directement à la batterie, un fusible à action retardée de 5 A doit être installé sur le câble positif à moins de 12,7 cm de la borne positive (+) de la batterie. (FR)

EL forsyning af køretøjet. Er forsyningsforbindelsen direkte tilknyttet til batteriet og og tilsluttet til den positive part indenfor 12,7 cm (+ delen). vil der være en langsom tændelse af 5 ampere. (DK)

Kytkentä ajoneuvon virtalähteeseen Jos virtaa otetaan suoraan akusta, 5 ampeerin hidas sulake on asennettava positiiviseen johtoon enintään 12 cm:n etäisyydelle akun positiivisesta (+) navasta. (FI)

Anschluss an Fahrzeugbatterie Bei direktem Anschluss an die Fahrzeugbatterie sollte eine träge 5 A-Sicherung in die positive Leitung zwischengeschaltet werden, und zwar nicht weiter als ca. 13 cm von der positiven (+) Batterieklemme entfernt. (DE)

Σύνδεση Τροφοδοτικού Ισχύος Οχήματος Αν η σύνδεση του τροφοδοτικού γίνει κατευθείαν στη μπαταρία, μια ασφάλεια βραδείας πήξης των 5 Α θα πρέπει να τοποθετηθεί στο θετικό καλώδιο εντός 5 ιντσών (12,7 εκ.) του θετικού (+) ακροδέκτη της μπαταρίας. (GR)

Collegamento dell'alimentazione del veicolo Se il collegamento dell'alimentazione viene stabilito direttamente con la batteria, è necessario installare un fusibile ad azione lenta da 5 A nel conduttore positivo a meno di 5 in. (12,7 cm) dal terminale positivo (+) della batteria. (IT)

Tilkople strømforsyningen til kjøretøyet Hvis strømforsyningen koples direkte til batteriet, skal det installeres en 5 A treg sikring i den positive ledningen innen 12,7 cm fra pluspolen (+) på batteriet. (NO)

Ligação do fornecimento de corrente do veículo Se a ligação de fornecimento de corrente for ligada directamente à bateria, deve instalar-se um fusível de 5 A no terminal positivo, a 12,7 cm. do terminal positivo (+) da bateria. (PT)

Conexión de suministro eléctrico para el vehículo Si el suministro eléctrico se proporciona directamente a la batería, se debe instalar un fusible de retardo de 5 A en el conductor positivo, como máximo a 12,7 cm (5 pulgadas) del terminal positivo (+). (ES)

Fordonets strömförsörjningskoppling Om strömkopplingen görs direkt till batteriet, måste en 5 A-säkring installeras i den positivt laddade ledningen inom 12.7 cm från batteriets pluspol (+). (SE)

Taşıt Güç Kaynağı Bağlantısı Kaynak bağlantısı doğrudan aküye yapılırsa, pozitif bağlantı kablosu üzerinde akünün pozitif (+) kutbuna 12.7 cm mesafede 5 A'lık yavaş atan bir sigorta monte edilmelidir. (TR)

Legend: Danish – DK; English – US; Finnish – FI; French- - FR; German – DE; Greek – GR; Italian – IT; Norwegian – NO; Portuguese – PT; Spanish – ES; Swedish – SE; Turkish – TR.



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Chapter 1: Introduction

The MX3Plus is a rugged, portable, hand-held computer with a Microsoft® Windows® CE 5 operating system. There are two optional cradles available for the MX3Plus:

- A [desktop cradle](#) that secures the MX3Plus, recharges batteries and enables communications between the MX3Plus and another device.
- A [powered vehicle-mount cradle](#) that secures the MX3Plus, isolates it from shock and vibration and recharges the battery.

About This Guide

This MX3Plus Cradle Reference Guide provides instruction for the end-user, installer or system administrator to follow when setting up or using an MX3Plus cradle.



Chapter 2: Desktop Cradle

Unpacking Your Desktop Cradle

After you open the shipping carton containing the product, take the following steps:

- Check for damage during shipment. Report damage immediately to the carrier who delivered the carton.
- Make sure the items in the carton match your order.
- Save the shipping container for later storage or shipping.

The MX3Plus cradle is available in three configurations:

- Without a power supply. A power supply must be ordered separately.
- With a power supply and a US power cord.
- With a power supply but without a power cord. A country specific power cord must be provided.

Communications cables for the MX3Plus are available separately.

Overview

The desktop cradle gives the MX3Plus the ability to communicate with a host computer and other equipment. In addition, using wall AC adapters or DC/DC converters, the cradle transfers power to the internal charging circuitry of the MX3Plus and the device, in turn, recharges the MX3Plus Main Battery.

The MX3Plus can be either on or off while in the cradle. Cables are available from Honeywell for connecting the cradle to a printer, a personal computer or a bar code printer. Tethered scanners (for RS232 serial port connection) are also available from Honeywell.

Wireless host/client communications can occur whether the cradle is receiving external power or not as wireless functions draw power from the main battery in the MX3Plus.

The MX3Plus cradle is not certified for use in Hazardous Locations.

Preparing the Cradle for Use

Note: Keep dirt and foreign objects out of the cradle. Do not short circuit any of the charging terminals (pins), as this action could result in injury or property damage.

Honeywell recommends a stable, horizontal surface out of the way of:

- inclement weather conditions,
- extremely high concentrations of dust or wind blown debris,
- accidental knocks, bumps or other shocks to the cradle and items in the cradle bays.
- Leave enough space at cable connectors to ensure cables are protected from jostling, tugging or being disconnected by passing objects.

Note: The MX3Plus must have a main battery installed when it is docked in a cradle.

The main battery in the MX3Plus is recharged when the MX3Plus is docked in a powered desktop cradle and when it is docked in a powered vehicle cradle.

Quick Start - MX3Plus Desktop

1. [Attach the bracket](#) to the cradle.
2. Place the cradle on a stable surface. If AC power is required, place the cradle close to an uninterrupted AC power source.
3. If required, connect the AC/DC power supply to the cradle. The LED indicator on the front of the powered cradle will illuminate orange.
4. The Desk Top cradle is ready for use.

The cradle can be [mounted](#) to a stable, flat surface if desired.

Desk Top Cradle Footprint

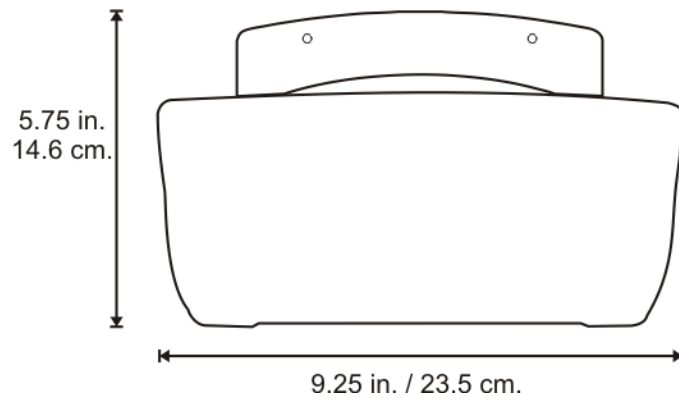


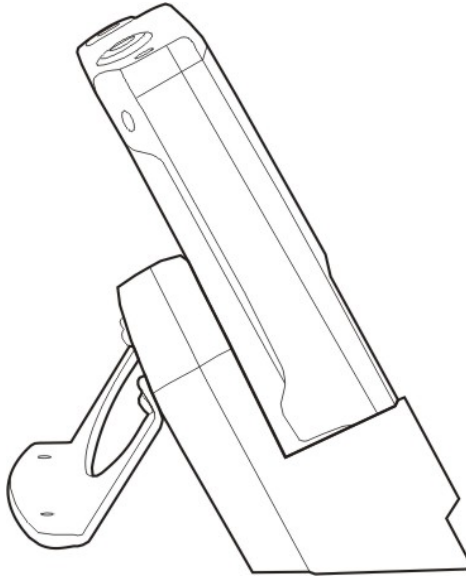
Table Mounting

The cradle can be mounted to a flat, stable surface using the two holes in the desktop cradle bracket (mounting hardware is not supplied by Honeywell).

Periodically check the cradle connection and table connection for stability. Re-tighten as necessary.

Attach Desktop Bracket

Note: This cradle cannot secure the VX3X or VX3Plus mobile devices.



You will need a torque wrench capable of torquing at 6 ± 1 IN/LB when assembling the cradle bracket. Honeywell does not supply the tools (torque wrench, screwdrivers) required for assembly.

How To

Attach the bracket to the back of the Desk Top cradle, torquing both screws to 6 in/lbs.

Place the Desk Top cradle on a stable surface, away from the flow of traffic and protected from inclement weather.

If the cradle is to be secured to a flat surface, make sure there is enough room at the back of the cradle (approximately 2") to allow cables to be connected/disconnected easily.

Check the cradle bracket connection periodically and re-tighten as necessary.

Assemble/Attach the AC Power Adapter

Note: Connect the cable to the cradle first, then to an AC source.

The external Power Supply for the cradle is shipped with the cradle. Contact [Technical Assistance](#) if there is no AC cable.

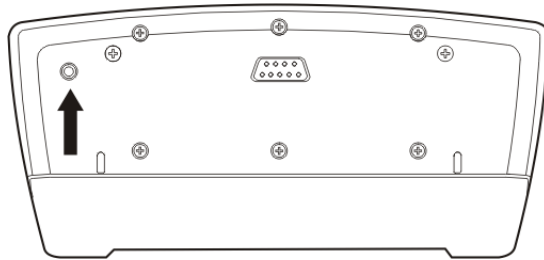
The Power connector is located on the back of the cradle.

When powered, the cradle transfers power to the internal charging circuitry of the MX3Plus allowing it to recharge the Main Battery. A powered cradle supports RS232 and IR communications.

Plug the AC power plug into any AC wall outlet with a dependable power source.

Firmly press the cradle end of the power cable into the single connector on the back of the cradle.

AC power is now being supplied to the AC power adapter and the cradle.

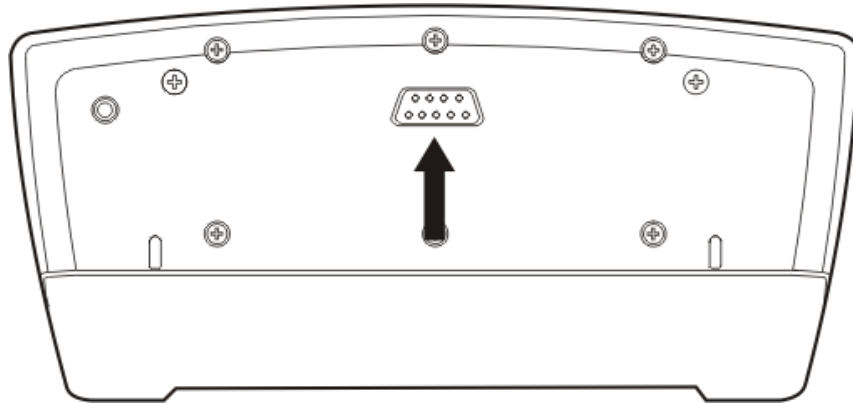


Connect Cables

Note: Route all cables to ensure they are protected from jostling, tugging or being disconnected by passing objects.

The cradle must be receiving power from an external power source before MX3Plus battery charging can begin.

RS232 Connector



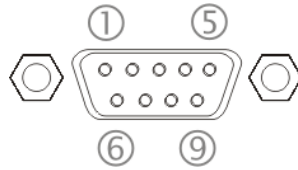
The RS232 connector is located on the back of the cradle.

When the MX3Plus is properly docked, the bi-directional half-duplex transceivers in the mobile device and cradle are aligned through their IR windows.

The half-duplex IR signals from the MX3Plus are converted to RS232 signals in the cradle and available at this connector.

The cradle supports only the Transmit, Receive and Ground signals on this port.

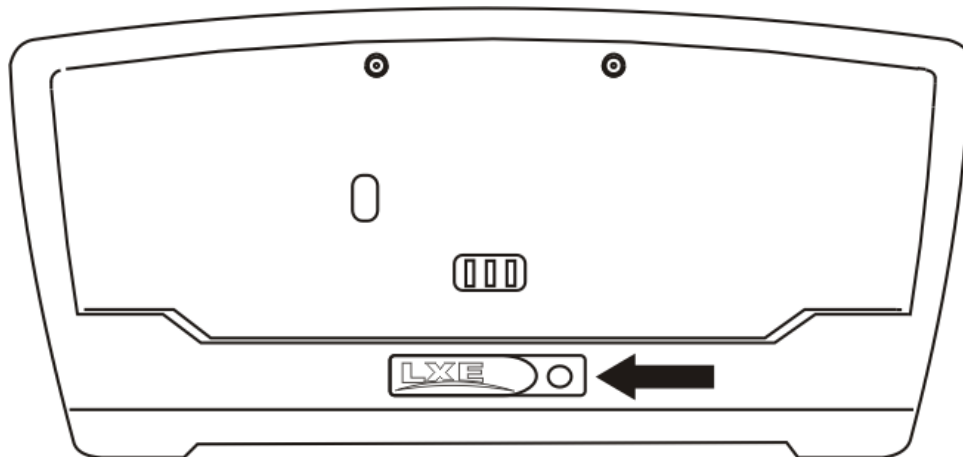
The connector is an industry-standard RS232. The connector includes a PC/AT standard 9-pin "D" male connector.



Pin	Signal	Description
1	DCD	Not Connected
2	RXD	Receive Data - Input
3	TXD	Transmit Data - Output
4	DTR	Not Connected
5	GND	Signal/Power Ground
6	DSR	Not Connected
7	RTS	Not Connected
8	CTS	Not Connected
9	+5VDC	+5VDC at 200mA continuous (see note below)

Note: Pin 9 of this port is connected to +5VDC and is only approved Honeywell cables are to be used for communication between the cradle and external devices.

Status LED



An indicator on the cradle shows the status of the docked MX3Plus. When the indicator is not illuminated, there is no external power source connected to the cradle.

Cradle Power	Orange	Power applied to the cradle.
Docked	Green	Power applied to the cradle and connection made with the MX3Plus.
IR Active	Red	IR communication active.

Docking and Undocking the MX3Plus

Lower the MX3Plus straight into the cradle, tilt it forwards and then let it rest backwards into the cradle.

Ensure that the mobile device is properly seated on the charging contacts.

The CHGR LED on the MX3Plus will illuminate green when the device is correctly seated in a powered cradle.

To remove the MX3Plus, tilt it forward slightly and lift it straight up out of the cradle.

Note: Do not "slam" or slide the MX3Plus sideways into the cradle. Damage may result.

Maintenance

Inspect the rubber feet and replace them if missing, broken or cracked. Check the cradle regularly for excessive wear at pressure points. If the cradle is mounted to a stable surface, check surface mounting connections periodically and re-tighten as necessary.

Check the cradle bracket connection periodically and re-tighten as necessary.

If the cradle becomes cracked or broken at any time, it must be taken out of service and replaced. Contact [Technical Assistance](#) for a replacement cradle.

There are no serviceable parts in the desktop cradle. Do not attempt to open the unit.

Cleaning

Do not use paper towels or harsh-chemical-based cleaning fluids since they may result in damage to the surfaces and/or battery charging terminals (pins).

Use a clean soft cloth to wipe any dirt, moisture or grease from the MX3Plus, spare battery packs, charging contacts (pins) or the cradle.

Do not use any liquid to clean the battery pack, MX3Plus, cradle, or charging pockets. Spray or dampen the cleaning cloth with liquids/sprays. If possible, clean only those areas which are soiled.

Lint/particulates can be removed from the connectors, charging terminals and charging/docking pockets with clean, filtered canned air.

MX3Plus Desk Top Cradle/MX3Plus Power Supply, External, AC

Honeywell offers two types of external power supplies for the MX3Plus desk top cradle:

The external power supply may be connected to either a 120V, 60Hz supply or, outside North America, to a 230V, 50Hz supply, using the appropriate detachable cord set.

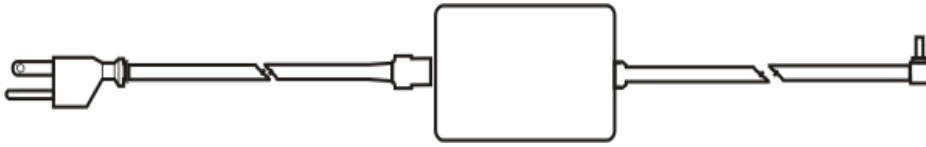
In both cases, connect the external AC supply to a properly grounded source of supply provided with maximum 15 Amp over current protection (10 Amp for 230V circuits).

1. Insert the barrel connector into the desk top cradle power jack (located on the back of the cradle) and push in firmly.
2. When a docked MX3Plus is receiving power from a cradle, the cradle Status LED is green and the CHGR LED on the mobile device are illuminated.

US AC to DC Adapter Specifications

Feature	Specification
Input Power Switch	None
Power "ON" Indicator	None
Input Fusing	Thermal Fuse
Input Voltage	108VAC min - 132VAC max
Input Frequency	47 - 63 Hz
Input Connector	North American wall plug, no ground
Output Connector	Barrel connector, female, 5.5 x 2.5 x 11.5mm, Center Positive
Output Voltage	+12VDC, unregulated
Output Current	0 Amps min, 1.5 Amps max
Operating Temperature	32° F to 104° F 0° C to 40° C
Storage Temperature	-13° F to 158° F -25° C to 70° C
Humidity	Operates in a relative humidity of: 5 – 95% (non-condensing)

Worldwide AC to DC Adapter Specifications



Feature	Specification
Operating Temperature	32°F to 104°F (-0°C to 40°C)
Storage Temperature	-13°F to 158°F (-25°C to 70°C)
Operating Humidity	Up to 90% non-condensing at 104°F (40°C)
Input Power Switch	None
Power "ON" Indicator	None
Input Voltage	108VAC min - 264VAC max
Input Frequency	47 - 63 Hz
Input Connector	Customer supplied
Output Connector	Barrel connector, female, 5.5 x 2.5 x 11mm, Center Positive
Output Voltage	+12VDC, regulated
Output Voltage Regulation	+/- 5%
Output Current	0 Amps min, 1.00 Amps max

Chapter 3: Powered Vehicle Mount Cradle

Overview

Vehicle mounted cradles and brackets are specifically designed for vehicle mount applications. The vehicle mounted assembly restrains the MX3Plus and isolates it from shock and vibration.

Overhead, dash and roof support pillar mounting is via a RAM Mount accessory which includes all the hardware and squeeze plates required for vehicle mounting.

In most cases, disconnect any power and peripheral cables from the MX3Plus before it is secured in the vehicle mounted assembly.

Never put the MX3Plus into the vehicle mounted assembly until the assembly is securely fastened to the vehicle.

The MX3Plus must have a main battery installed when it is docked in a vehicle mounted cradle.

Preparing the Powered Vehicle Mounted Cradle for Use

The powered vehicle mounted assembly should be secured to an area in the vehicle where it:

- Does not obstruct the driver's vision or safe vehicle operation .
- Will be protected from rain or inclement weather.
- Will be protected from extremely high concentrations of dust or wind-blown debris.
- Can be easily accessed by a user seated in the driver's seat while the vehicle is not in operation.

Quick Start

The following list outlines, in a general way, the process to follow when preparing the MX3Plus powered vehicle mounted cradle for use. Refer to the following sections in this document for more details.

1. Attach the RAM base vehicle mounting assembly to the vehicle.
2. Attach the RAM arm assembly to the vehicle mounting assembly.
3. Attach the MX3Plus assembly to the RAM arm.
4. Adjust the MX3Plus to the best viewing angle.
5. Connect antenna. Note: The vehicle remote mount antenna cannot be used by devices with an internal antenna.
6. Connect peripheral cables.
7. Secure the DC/DC or 12 VDC power connector from the vehicle mounted power supply to the Power port.
8. Secure all cables in strain relief cable clamps.

The MX3Plus in the powered vehicle mounted assembly is ready for use.

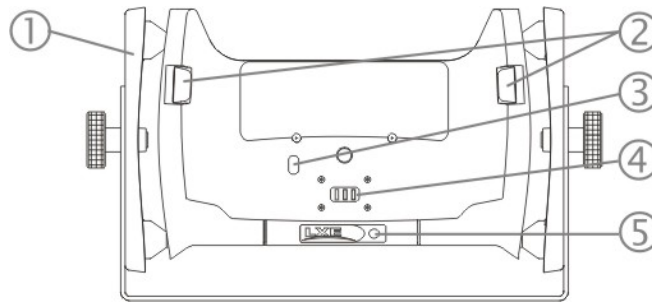
Components

Several types of vehicle mounting assemblies are provided for the MX3Plus:

- U-Bracket Cradle Assembly
- Remote mount for external antenna

Before installation begins, verify you have the applicable vehicle mounting bracket assembly components necessary for your mount type.

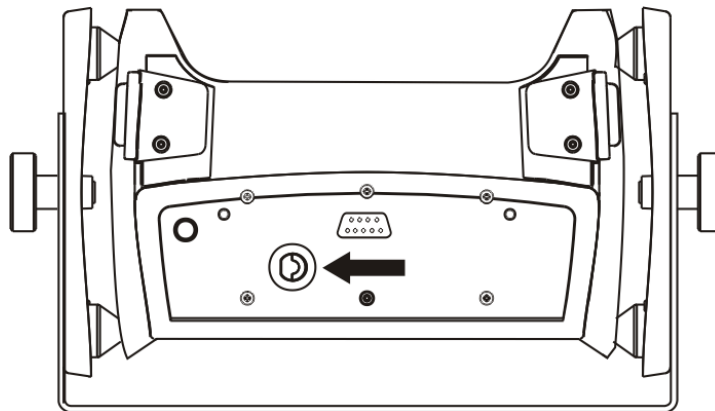
MX3Plus Vehicle Mount Components



Front of Cradle:

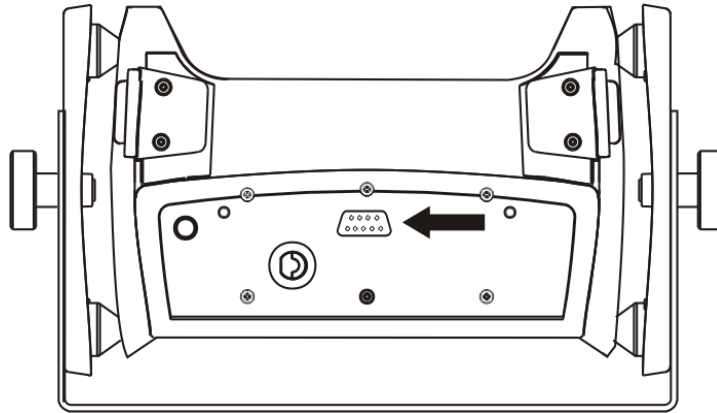
1. Vehicle Mount Bracket Assembly
2. MX3Plus Release Mechanism
3. IR Port
4. Battery Power Connection
5. Vehicle Cradle Status LED

Vehicle Cradle Power Connector



The Power Connector is on the back of the cradle.

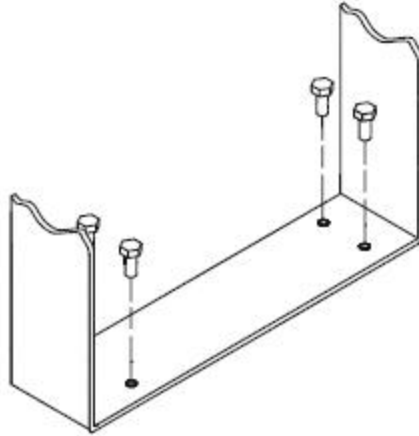
Vehicle Cradle RS232 / IR Port Connector



The connectors are on the back of the cradle.

Attach Mounting Bracket to Vehicle

Note: Bolts, washers, and wrench needed when attaching the vehicle mounting bracket to the vehicle are not supplied by Honeywell.

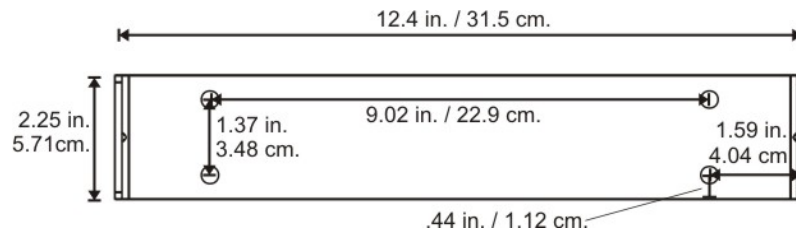


There must be at least 2" clearance at the back of the bracket for the cables. Position the bracket to allow access to the ports on the back of the Vehicle Mount Cradle.

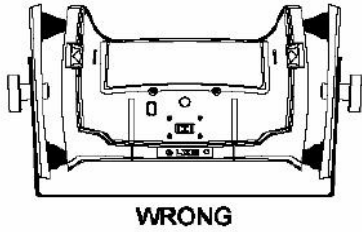
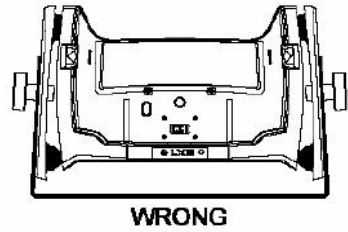
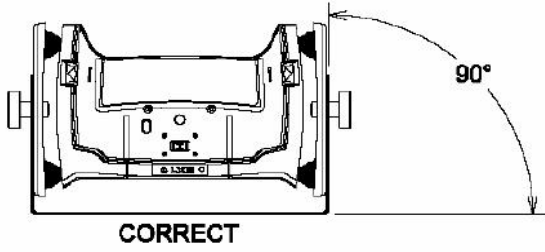
Using the mounting dimensions on the following diagram, mount the bottom mounting bracket to the vehicle, using 1/4" bolts (not supplied by Honeywell).

Note: Mount to the most rigid surface available.

Vehicle Cradle Mounting Bracket Dimensions



Measurements are not to scale.



Care must be taken to avoid bending or warping the bottom “U” shaped bracket when attaching the cradle to a lift truck or other vehicle.

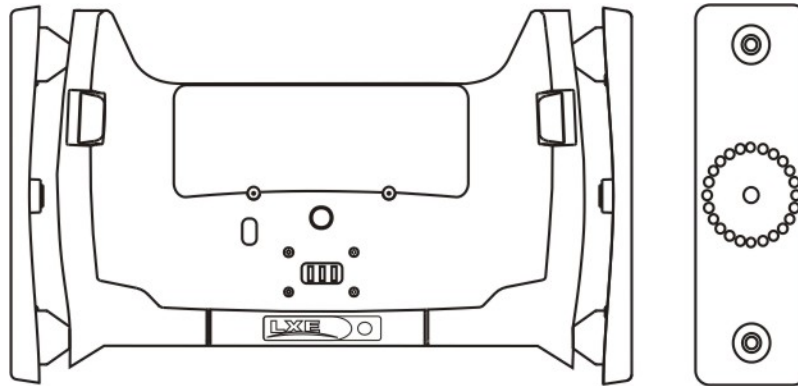
A bent “U” bracket can over-compress or over-extend the rubber isolators leading to failure of the isolators.

Assemble Vehicle Cradle

Prerequisite: Bottom Mounting Bracket is secured to the vehicle.

Before installation begins, make sure you have the following Vehicle Mount Cradle assembly components:

Cradle



Adjusting Knobs

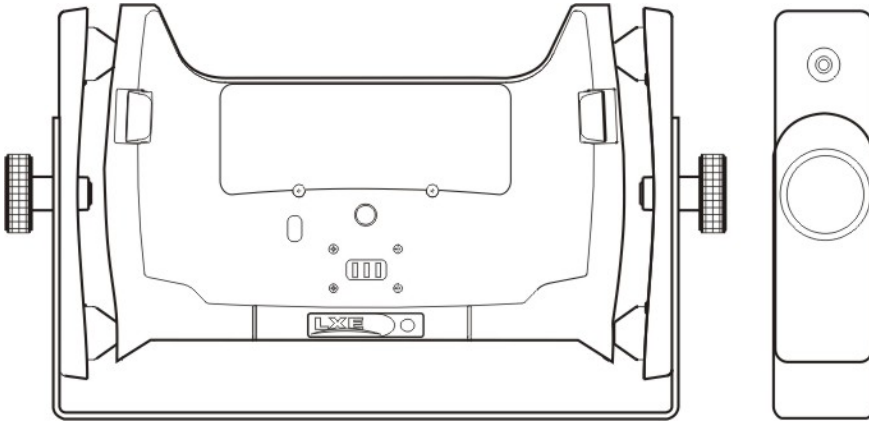


Procedure

Attach the Bottom Mounting Bracket (currently secured to the vehicle) to the Vehicle Mount Cradle with the Adjusting Knobs. Insert one Adjusting Knob in each side of the mounting assembly.

Adjust the cradle as desired by loosening the Adjusting Knobs, angling the cradle, then re-tightening the Adjusting Knobs.

Assembled Vehicle Mount Cradle



Periodically test the connection of the vehicle mounted bolts and the Adjusting Knobs and retighten if necessary.

Power Supplies

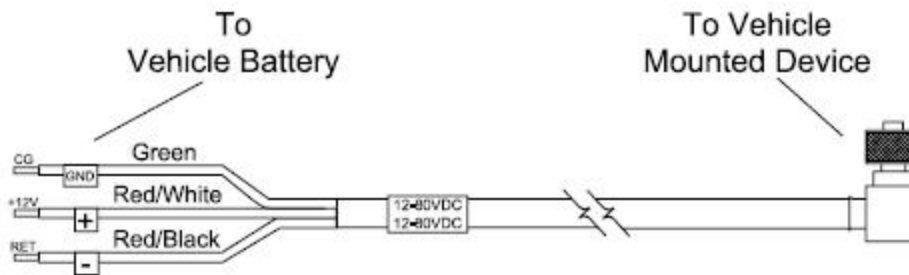
Note: When an external power supply is used to power these products, the external power supply should be UL Listed, with LPS or Class 2 outputs rated 12V, minimum 1Amp.

The MX3Plus must have a main battery installed before inserting the MX3Plus in a cradle.

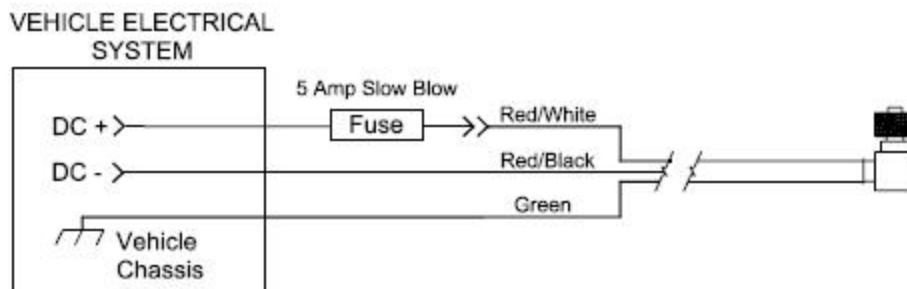
When powered, the cradle transfers power to the internal charging circuitry of the MX3Plus allowing it to recharge the main battery.

Vehicle Cradle 10.8-16 VDC Direct Connection

Direct Vehicle Power Connection Cable (12 Ft.)



Connect Power Cable to Vehicle



Note: Correct electrical polarity is required for safe and proper installation. Connecting the cable to the vehicle cradle with the polarity reversed will cause the vehicle cradle fuse to be blown. See the following table for wire color-coding specifics.

Wiring color codes for Honeywell supplied DC input power cabling:

Vehicle Supply	Wire Color
+10.8 - 16VDC (DC +)	Red with White Stripe
Return (DC -)	Red with Black Stripe
Vehicle Chassis (GND)	Green

Input Power Specifications

Honeywell Part Number: 1300A053CBL12ML3

Feature	Specification
DC Input Voltage	10.8 - 16 VDC
Input Current	1.25 Amps
Input Fuse	5A Time Delay

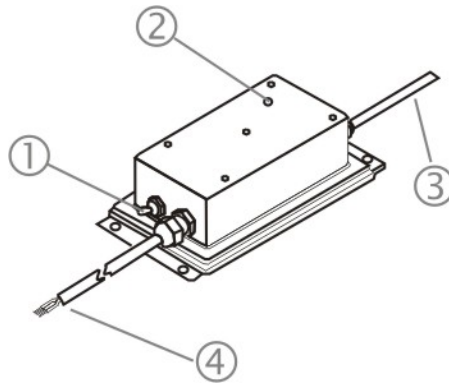
Vehicle Cradle 24/72 Maximum VDC Input Cable Connection

Caution

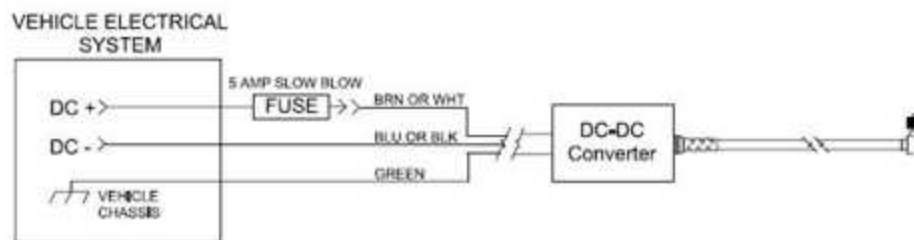


For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. This fused circuit requires a 5 Amp maximum time delay (slow blow) fuse. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery positive (+) terminal. Recommended for vehicle electrical systems that use between 2 and 5 twelve volt batteries in series.

Vehicle Power Supply, 24 - 72 Maximum VDC (Fuse Not Shown)



1. Power Switch
2. Power On Indicator
3. Output to Vehicle Cradle
4. Input from Vehicle Battery



Honeywell Part Number: 9000A316PS24V72MX13 (Replaces 1300A301PS24WW).

1. If the MX3Plus is in the cradle, it can be either On or Off during this process.
2. Turn the Power Supply toggle switch to the Off position.
3. While observing the fuse requirements specified above, connect the power cable as close as possible to the actual battery terminals of the vehicle. When available, always connect to un-switched terminals in the vehicle fuse panel, after providing proper fusing.

IMPORTANT:

For uninterrupted power, electrical supply connections should not be made at any point after the ignition switch of the vehicle.

4. Route the cable the shortest way possible. The input cable from the connection to the battery is rated for a maximum temperature of 60°C (140°F). When routing this cable it should be protected from physical damage and from surfaces which might exceed this temperature.

Additionally do not expose the cable to chemicals or oil that may cause the wiring insulation to deteriorate.

Always route the cable so that it does not interfere with the driver's safe operation and maintenance of the vehicle.

Use proper electrical and mechanical fastening means for terminating the cable. Properly sized "crimp" type electrical terminals are an accepted method of termination.

Wiring color codes for Honeywell supplied DC input power cabling:

Vehicle Supply		Wire Color
+24-72 Max VDC	(DC +)	Brown or White
Return	(DC -)	Blue or Black
Vehicle Chassis	(GND)	Green

Note: The input power cord for the DC-DC Power Supply uses white, black and green wires. Some Honeywell products have DC input power cords with brown, blue and green wires. The previous table shows the correct electrical connection for either type of cable.

5. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate outer cable jacket.
6. Connect the Power Supply to the cradle by aligning the keyed water tight connector pins to the power connector; push down on the keyed water tight connector and twist it to fasten securely.
7. Turn the Power Supply on. The ON LED on the Power Supply illuminates when it is receiving power from the vehicle.
8. The Cradle Status LED illuminates green.
9. The MX3Plus CHGR LED illuminates.

Vehicle Power Supply Footprint

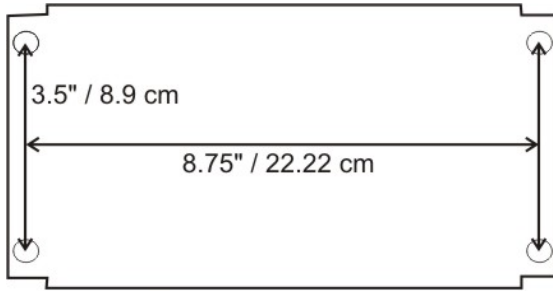


Diagram is not to scale

Power Supply Dimensions

Length: 9.25" / 23.5 cm

Height: 2.5" / 6 cm

Width: 4.7" / 12 cm

Mounting hole center

Width: 3.5" / 9 cm

Length: 8.75" / 22.2 cm

Vehicle Cradle External AC Power Supply

Note: The external AC supply may be connected to either a 120V, 60Hz supply or, outside North America, to a 230V, 50Hz supply, using the appropriate detachable cord set. In all cases, connect the external AC supply to a properly grounded AC source provided with maximum 15 Amp over current protection (10 Amp for 230V circuits).

How To

- If the MX3Plus is in the cradle, it can be either On or Off during this process.
- Connect the detachable cord set provided by Honeywell to the external AC supply (IEC 320 connector).
- Plug cord set into appropriate, grounded, electrical supply receptacle.
- Connect the keyed water tight connector end to the Cradle by aligning the connector pins to the power connector; push down on the keyed water tight connector and twist it to fasten securely.
- The Status LED on the cradle illuminates green.
- The MX3Plus CHGR LED illuminates.

DC to DC Power Supply Installation

For use with Honeywell power supplies:

- 9000301PWRSPPLY – Power Supply, 18-60VDC with cable
- 9000302PWRSPPLY – Power Supply, 60-110VDC with cable



Connecting Electrical Cables to Power Sources

The DC to DC power supply is used to provide vehicle power to the MX3Plus when placed in a DC powered vehicle dock.

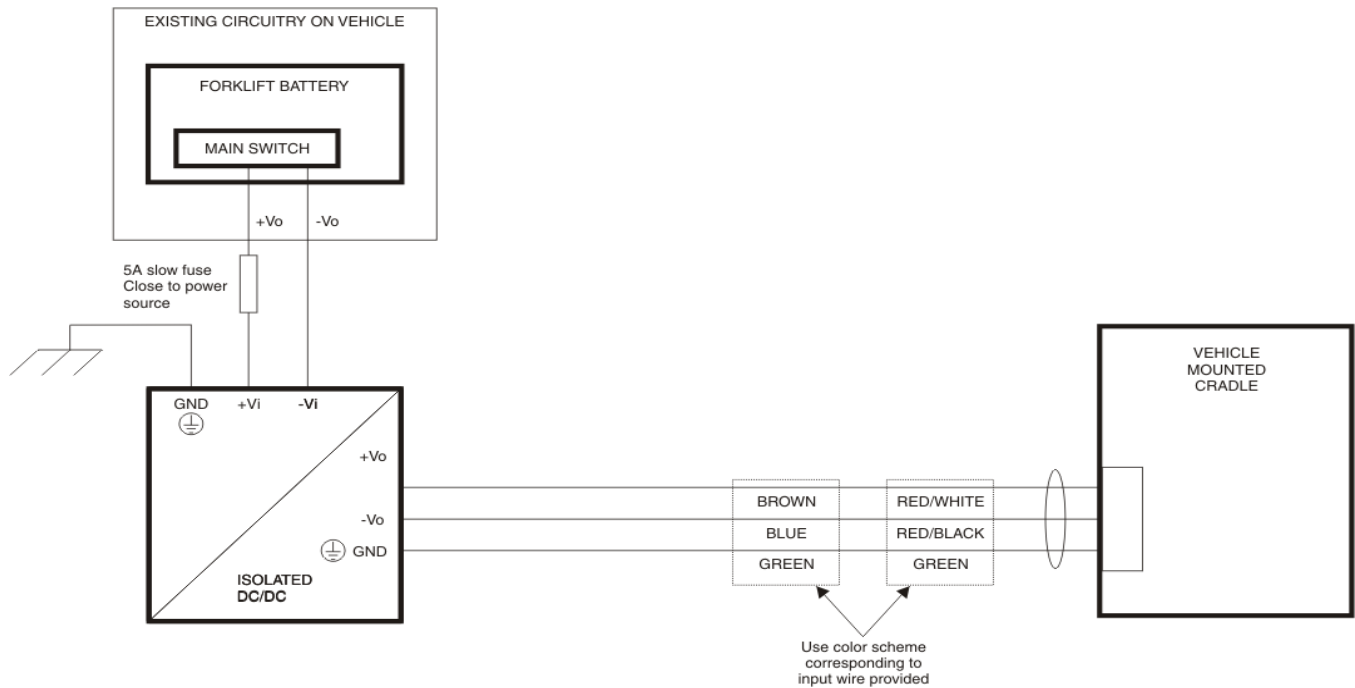
Specifications for Electrical Supply

Input Voltage	Always observe input voltage range specified on the DC to DC power supply.
Output Voltage	12 VDC \pm 10%
Power	50 W
Fuse	5 A (slow blow fuse). Fuses are USER SUPPLIED

Note: Refer to the [Wiring Schematic](#) for wiring colors and connections.

Caution: 	For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. This fused circuit requires a five Amp maximum time delay (slow blow) high interrupting rating fuse. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery positive (+) terminal. Note: For North America, a UL Listed fuse is to be used.
Caution: 	For installation by trained service personnel only.

Wiring Schematic



How To Connect Vehicle Electrical Connection

1. The vehicle cradle must be empty.
2. Begin by connecting the power cable to the MX3Plus's vehicle cradle. Work from this connection with the last connection being to the vehicle's power source.
3. Route the cable from the cradle to the DC to DC converter.
4. Cut the cable to length and strip the wire ends. Route the power cable the shortest way possible. The cable is rated for a maximum temperature of 105°C (221°F). When routing this cable it should be protected from physical damage and from surfaces that might exceed this temperature. Do not expose the cable to chemicals or oil that may cause the wiring insulation to deteriorate. Always route the cable so that it does not interfere with safe operation and maintenance of the vehicle.
5. Remove the DC to DC converter lid screws. Put them in a safe place.
6. Remove the lid from the DC to DC converter.
7. Attach the stripped wire ends to the **output** side of the DC to DC converter.
8. Attach the stripped wire ends to the **input** side of the DC to DC converter.
9. The input and output blocks each have two + plus and two – minus connectors. Either connector in the block can be used to connect the matching polarity wire. The input and output blocks also each have two chassis ground connections. When connecting the MX3Plus cradle to vehicle power, use one chassis ground connector in each block.
10. Wire colors depend on the type of device attached. Please refer to [this illustration](#) for wire colors.
11. Use the looms and wire ties to secure all wiring as shown above, then reattach the cover with the screws.
12. Connect the DC to DC converter to the vehicle's electrical system.





-
13. While observing the fuse requirements specified [here](#), connect the power cable as close as possible to the actual battery terminals of the vehicle. When available, always connect to unswitched terminals in the vehicle fuse panel, after providing proper fusing.

Note: ATTENTION: For uninterrupted power, electrical supply connections should not be made at any point after the ignition switch of the vehicle.

14. Use proper electrical and mechanical fastening means for terminating the cable. Properly sized “crimp” type electrical terminals are an accepted method of termination. Please select electrical connectors sized for use with 18AWG (1mm²) conductors.
15. Provide mechanical support for the cable by securing it to the vehicle structure at approximately one foot intervals, taking care not to over tighten and pinch conductors or penetrate the outer cable jacket.

Vehicle Cradle LED

The cradle LED is located at the front center of the cradle.

When Cradle LED is ...	It means
 Off	No power applied to the cradle.
 Red	IR communication active.
 Orange	Power applied to the cradle.
 Green	Power applied to the cradle and connection made with the MX3Plus.

Dock MX3Plus in Cradle

Note: Do not put the MX3Plus into the vehicle cradle until the cradle is securely fastened to the vehicle.

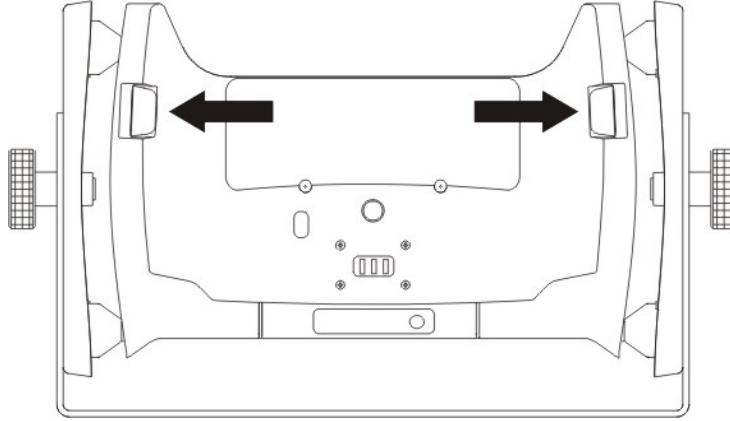
The MX3Plus is inserted into the cradle by placing the base of the MX3Plus in the charging pocket and then firmly pressing the MX3Plus backwards until the release mechanisms latch and secure the MX3Plus in the cradle.

Do not slam the MX3Plus into the cradle pocket. Damage to the cradle and MX3Plus components may occur.

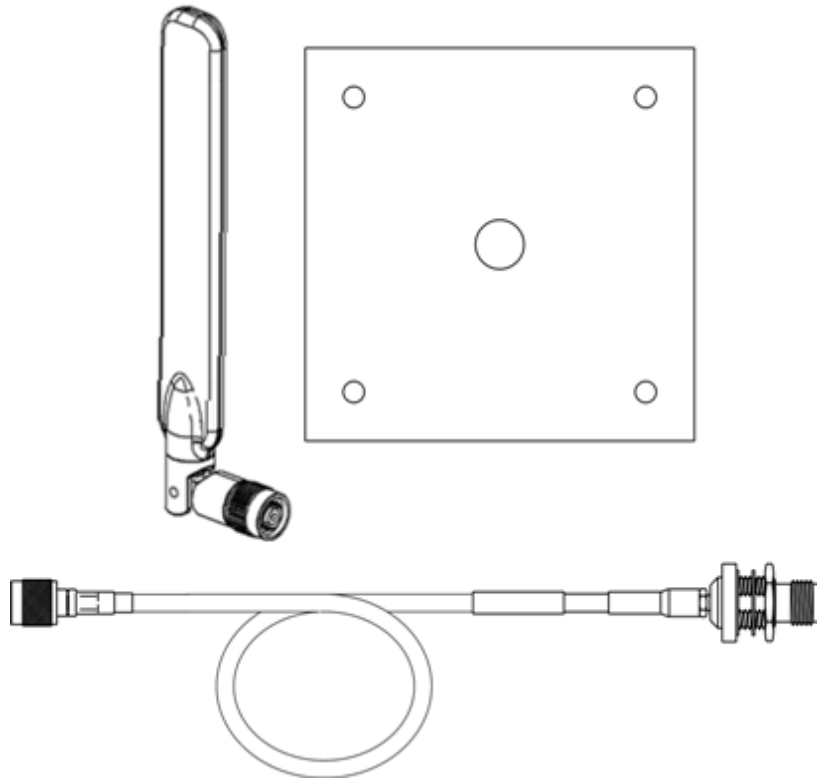
Do not slam the MX3Plus into the cradle pocket. Damage to the cradle and MX3Plus components may occur. If the vehicle cradle or MX3Plus is damaged, it must be removed from service and repaired before placing it into service again.

Remove MX3Plus from the Vehicle Cradle

The MX3Plus is removed from the vehicle cradle by releasing the catch mechanisms next to the Scan buttons and pulling the MX3Plus up and away from the vehicle cradle.



Remote Antenna Installation Kit

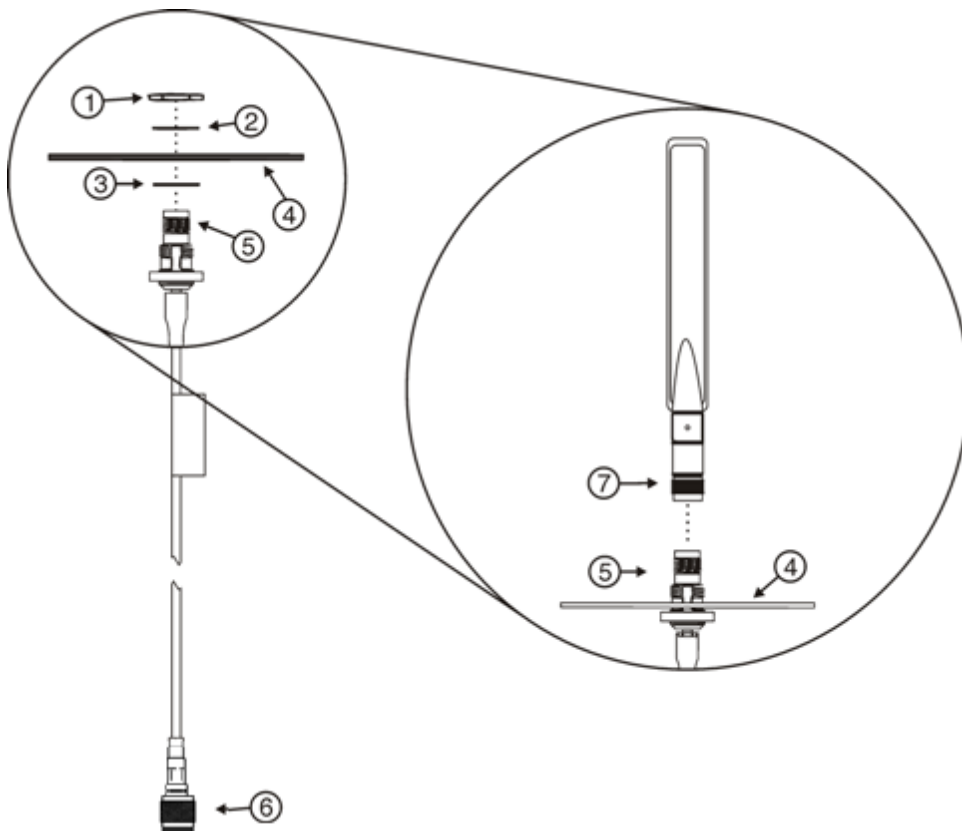


- The Remote Antenna Installation Kit consists of the base plate and cable.
- Depending on the antenna kit selected, the connector to the MX3Plus is either straight or a 90° angle.
- Antenna is sold separately. Cable length varies by kit.
- Tools are not included.

The remote antenna base is mounted on the top of a forklift, truck or other vehicle and cabled to the MX3Plus inside the vehicle. The cable is available in different lengths and with a straight or right angle adapter on the end.

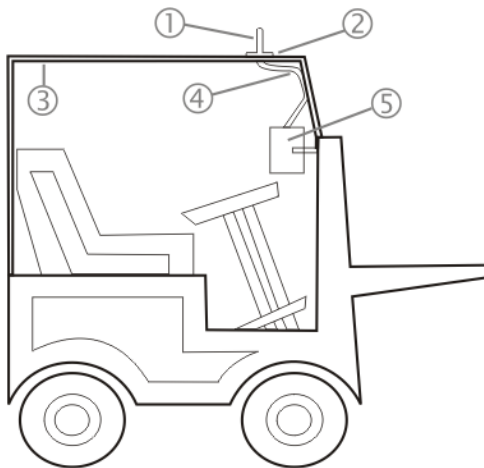
The Vehicle Remote Mount Antenna cannot be used by devices with an internal antenna.

Components and Mounting Diagram



1. Nut
2. Washer
3. Washer
4. Mounting Plate
5. To Antenna
6. To MX3Plus Antenna Connector
7. Antenna

Typical Installation



1. Antenna
2. Mounting Plate
3. Vehicle Safety Cage
4. Coaxial Cable
5. Vehicle Mounted MX3Plus

Remote Antenna Mounting Instruction

1. Attach and secure the mounting plate to the highest point on the safety cage, following these precautions:
 - The plate must be mounted so the antenna is not damaged while the vehicle or any of its parts are moving.
 - The mounting plate must be parallel to the floor.
 - If the MX3Plus requires two antennas, they must be mounted at least 12 inches (304.8mm) apart.
2. Attach the female connector of the coaxial cable to the antenna connector on the vehicle mounted MX3Plus.
3. Insert the male connector on the coaxial cable through the hole in the mounting plate.
4. Secure the connector to the mounting plate with the washer and hex nut.
5. Use cable ties to secure the coaxial cable to the vehicle as necessary. Make sure the cable is routed so it is not damaged by any moving parts of the vehicle.
6. Attach the antenna to the male connector on the end of the coaxial cable. The antenna must be mounted in a vertical position.
7. If the MX3Plus is using dual antennas (diversity option), repeat these steps for the second antenna.

Maintenance - Vehicle Mounted Devices

Check the vehicle bottom bracket fasteners and re-tighten if necessary. Pay particular attention to the condition of the rubber vibration isolators. If the rubber isolators become damaged in any way, the vehicle bracket must be taken out of service and the isolators replaced. Contact [Technical Assistance](#) for assistance.

There are no serviceable parts in the vehicle cradles. Do not attempt to open the units.

If the vehicle mounting hardware and cradle connections become broken, loose or cracked, the assembly must be taken out of service and replaced.

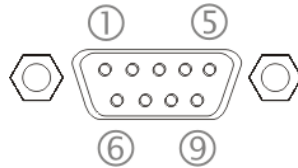
Cleaning

Do not use paper towels or harsh-chemical-based cleaning fluids since they may result in damage to the surfaces and/or battery connectors.

Use a clean soft cloth to wipe any dirt, moisture or grease from the MX3Plus, charging contacts or the vehicle mounted cradle. Do not use any liquid to clean the cradle, battery pack, MX3Plus, or charging terminals (pins). Spray or dampen the cleaning cloth with a cleaning liquid. If possible, clean only those areas which are soiled. Lint/particulates can be removed from the connectors and charging pockets with clean, filtered canned air.

Vehicle Cradle Port Pinout

MX3Plus Vehicle Cradle RS232 Serial / IR Port Pinout



The connector is industry-standard RS232 and is a PC/AT standard 9-pin D male connector.

Note: Tethered scanners must be connected to powered cradles.

Pin	Signal	Description
1	DCD	Not Connected
2	RXD	Receive Data - Input
3	TXD	Transmit Data - Output
4	DTR	Not Connected
5	GND	Signal/Power Ground
6	DSR	Not Connected
7	RTS	Not Connected
8	CTS	Not Connected
9	+5VDC	+5VDC at 200mA continuous (see note below)

Note: Pin 9 of this port is connected to +5 VDC and only approved Honeywell cables are to be used for communication between the cradle and external devices.



Chapter 4: Technical Assistance

If you need assistance installing or troubleshooting your device, please contact us by using one of the methods below:

Knowledge Base: www.hsmknowledgebase.com

Our Knowledge Base provides thousands of immediate solutions. If the Knowledge Base cannot help, our Technical Support Portal (see below) provides an easy way to report your problem or ask your question.

Technical Support Portal: www.hsmsupportportal.com

The Technical Support Portal not only allows you to report your problem, but it also provides immediate solutions to your technical issues by searching our Knowledge Base. With the Portal, you can submit and track your questions online and send and receive attachments.

Web form: www.hsmcontactsupport.com

You can contact our technical support team directly by filling out our online support form. Enter your contact details and the description of the question/problem.

Telephone: www.honeywellaidc.com/locations

For our latest contact information, please check our website at the link above.

Product Service and Repair

Honeywell International Inc. provides service for all of its products through service centers throughout the world. To obtain warranty or non-warranty service, please visit www.honeywellaidc.com and select **Support > Contact Service and Repair** to see your region's instructions on how to obtain a Return Material Authorization number (RMA #). You should do this prior to returning the product.

Limited Warranty

Honeywell International Inc. ("HII") warrants its products to be free from defects in materials and workmanship and to conform to HII's published specifications applicable to the products purchased at the time of shipment. This warranty does not cover any HII product which is (i) improperly installed or used; (ii) damaged by accident or negligence, including failure to follow the proper maintenance, service, and cleaning schedule; or (iii) damaged as a result of (A) modification or alteration by the purchaser or other party, (B) excessive voltage or current supplied to or drawn from the interface connections, (C) static electricity or electro-static discharge, (D) operation under conditions beyond the specified operating parameters, or (E) repair or service of the product by anyone other than HII or its authorized representatives.

This warranty shall extend from the time of shipment for the duration published by HII for the product at the time of purchase ("Warranty Period"). Any defective product must be returned (at purchaser's expense) during the Warranty Period to HII factory or authorized service center for inspection. No product will be accepted by HII without a Return Materials Authorization, which may be obtained by contacting HII. In the event that the product is returned to HII or its authorized service center within the Warranty Period and HII determines to its satisfaction that the product is defective due to defects in materials or workmanship, HII, at its sole option, will either repair or replace the product without charge, except for return shipping to HII.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER COVENANTS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, ORAL OR WRITTEN, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

HII'S RESPONSIBILITY AND PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT WITH NEW OR REFURBISHED PARTS. IN NO EVENT

SHALL HII BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, AND, IN NO EVENT, SHALL ANY LIABILITY OF HII ARISING IN CONNECTION WITH ANY PRODUCT SOLD HEREUNDER (WHETHER SUCH LIABILITY ARISES FROM A CLAIM BASED ON CONTRACT, WARRANTY, TORT, OR OTHERWISE) EXCEED THE ACTUAL AMOUNT PAID TO HII FOR THE PRODUCT. THESE LIMITATIONS ON LIABILITY SHALL REMAIN IN FULL FORCE AND EFFECT EVEN WHEN HII MAY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH INJURIES, LOSSES, OR DAMAGES. SOME STATES, PROVINCES, OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

All provisions of this Limited Warranty are separate and severable, which means that if any provision is held invalid and unenforceable, such determination shall not affect the validity of enforceability of the other provisions hereof. Use of any peripherals not provided by the manufacturer may result in damage not covered by this warranty. This includes but is not limited to: cables, power supplies, cradles, and docking stations. HII extends these warranties only to the first end-users of the products. These warranties are non-transferable.

The duration of the limited warranty for the MX3Plus is 1 year.

The duration of the limited warranty for the MX3Plus Desktop Cradle is 1 year.

The duration of the limited warranty for the MX3Plus Vehicle Cradle is 1 year.

The duration of the limited warranty for the MX3Plus Battery Charger is 1 year.

The duration of the limited warranty for the MX3Plus 1900 Ah Li-Ion Battery is 6 months.

The duration of the limited warranty for the MX3Plus AC power supply and cables is 1 year.

The duration of the limited warranty for the MX3Plus DC-DC Converter and cable is 1 year.

The duration of the limited warranty for the MX3Plus cables (USB, Serial, Communication, Power) is 1 year.



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E-EQ-MX3PLUSOGWW
Rev E
10/12