

TC56/TC57 Vehicle Cradle



ZEBRA

Installation Guide

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possibility of such damages. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Warranty

For the complete Zebra hardware product warranty statement, go to: zebra.com/warranty.

Service Information

Before you use the unit, it must be configured to operate in your facility's network and run your applications.

If you have a problem using your equipment, contact your facility's Technical or Systems Support. If there is a problem with the equipment, they will contact the Zebra Global Customer Support at zebra.com/support.

For the latest version of this guide go to: zebra.com/support.

Provide Documentation Feedback

If you have comments, questions, or suggestions about this guide, send an email to EVM-Techdocs@zebra.com.

Introduction

This guide describes how to install and use a CRD-TC56-CVCD2-02 vehicle cradle with a TC56/TC57 touch computer.

Install the cradle into a vehicle. Once installed, the cradle:

- holds the TC56/TC57 securely in place
- provides power for operating the TC56/TC57 and re-charges the battery in the TC56/TC57 when connected to the USB cable (CBL-TC5X-USBC2A-01) and a cigarette lighter adapter (CHG-AUTO-USB1-01)
- provides communication when connected to the USB cable (CBL-TC5X-USBC2A-01) and a laptop or desktop.

The cradle is powered by the vehicle's 12V or 24V electrical system. The voltage input range is 12V to 24V (3.5A). The voltage output is 5V (+/- 5%) (2.5A).

Requirements

For mounting onto a twist-lock suction cup RAM Mount® (RAM-B-166U):

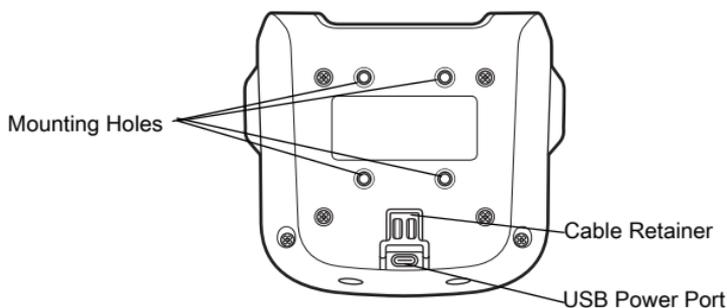
- RAM Mount (sold separately)
- Two M5 screws (included with RAM Mount).

Parts

Figure 1 Front View

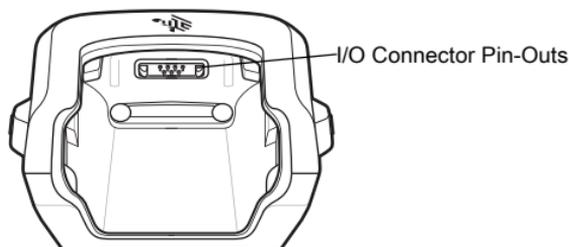


Figure 2 Rear View



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Figure 3 Inside View



CAUTION: ROAD SAFETY - Do not operate the TC56/TC57 while the vehicle is in motion. Park the vehicle first. Always ensure the TC56/TC57 is fully inserted into the cradle. Do not place it on the seat or where it can break loose in a collision or sudden stop. Lack of proper insertion may result in property damage or personal injury. Zebra is not responsible for any loss resulting from the use of the products while driving. Remember: Safety comes first.

Mounting the Vehicle Cradle to a RAM Mount

To mount the vehicle cradle to a RAM Mount:

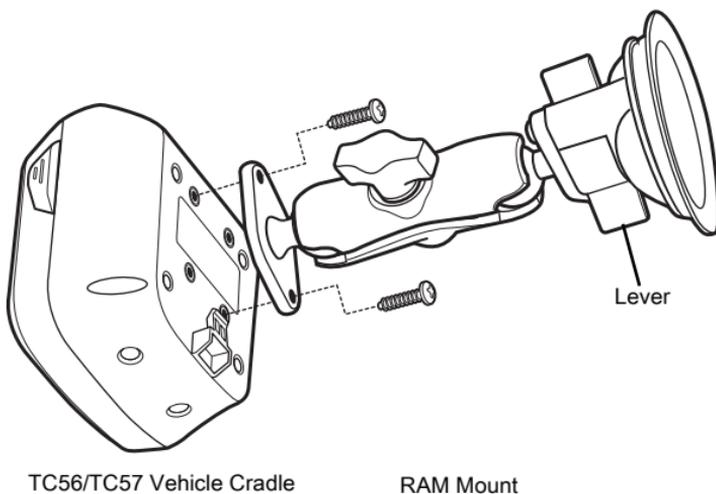
CAUTION: Only mount the vehicle cradle in a vertical position. Never mount the vehicle cradle on the side or upside down or on a wall that can be subject to impact or collision of greater than 10Gs, in accordance with SAE J1455 Section 4.10.3.5.

1. Follow the instructions that are provided with the RAM Mount for RAM Mount mounting instructions.
2. Align the back of the vehicle cradle with the RAM Mount diamond plate.

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3. Attach and secure the vehicle cradle to the diamond plate using two M5 screws.

Figure 4 Attach and Secure Vehicle Cradle to the RAM Mount

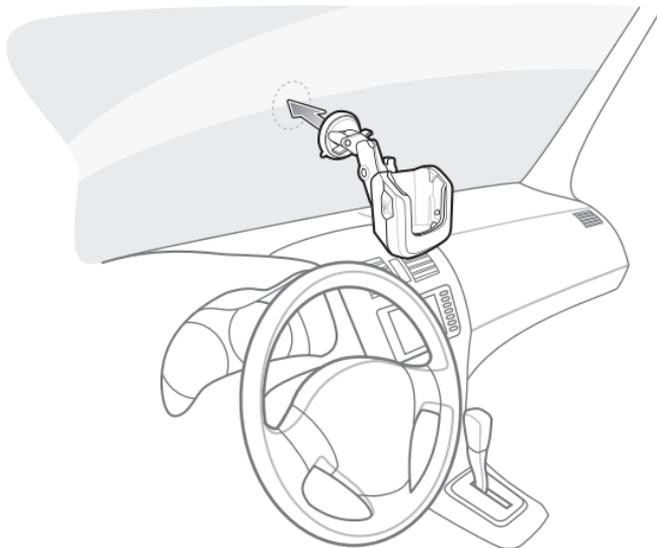


4. Secure the RAM Mount to the vehicle depending upon the type of RAM Mount. See instructions provided with the RAM Mount.
5. Adjust the RAM Mount according to the RAM Mount instructions.

Mounting to a Windshield

- CAUTION:** Do not install a vehicle cradle on or near an air bag cover plate or within an aerobic zone. Also, do not install it in a location that affects vehicle safety or drivability.
1. Fix the RAM Mount to the selected area.

Figure 5 Mounting to a Windshield



2. Twist the lever on the RAM Mount suction cup base to create a vacuum between the suction cup and the windshield.

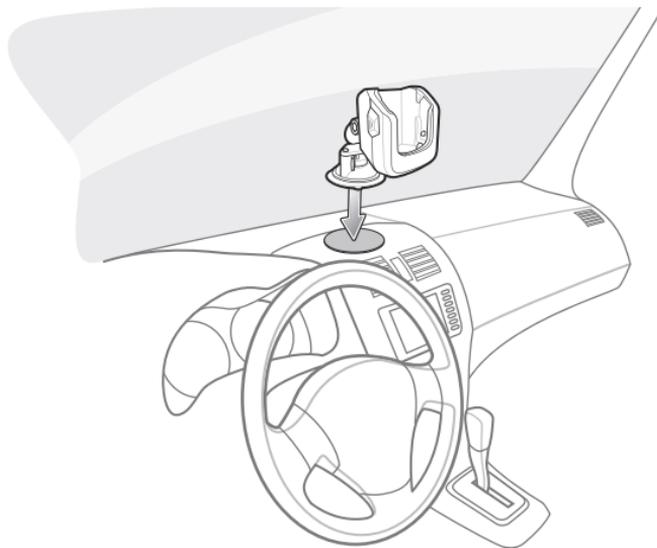
- CAUTION:** To prevent suction cups from falling off the windshield due to bleeding air over time and with extreme heat:
- 1) Ensure the glass and the suction cup are completely clean and free of oils and debris before installing.
 - 2) Periodically remove, clean, and re-seat the suction cup on the glass (more frequently in the summer and hot, sunny climates).
3. Adjust the vehicle cradle in a vertical position and ensure that the suction bond is strong enough before installing the device.
 4. To connect power, see [Connecting Power on page 9](#).
 5. To insert the device, see [Inserting and Removing the TC56/TC57 on page 13](#).

Mounting to a Dashboard

- CAUTION:** Do not install a vehicle cradle on or near an air bag cover plate or within an aerobic zone. Also, do not install it in a location that affects vehicle safety or drivability.
1. Fix the RAM Mount to the selected area.

NOTE: Ensure that the installed vehicle cradle does not rest on the dashboard or other structure that can transmit the vehicle vibrations that would normally be reduced by the suction cup.

Figure 6 Mounting to a Dashboard



2. Twist the lever on the RAM Mount suction cup base to create a vacuum between the suction cup and the dashboard.
3. Adjust the vehicle cradle in a vertical position and ensure that the suction bond is strong enough before installing the device.
4. To connect power, see [Connecting Power on page 9](#).
5. To insert the device, see [Inserting and Removing the TC56/TC57 on page 13](#).

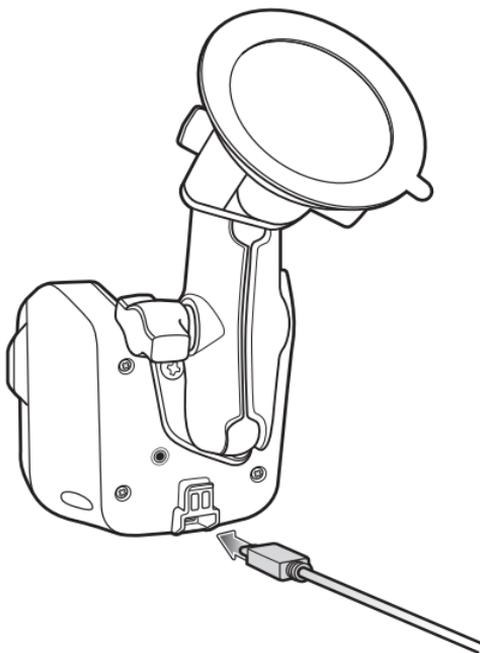
Connecting Power

To connect power with a CLA or a laptop:

1. Connect the USB Type C connector of the USB charge cable (CBL-TC5X-USBC2A-01) to the USB power port of the vehicle cradle.

 **NOTE:** Ensure that the USB cable is not pinched between the vehicle cradle and any other structure where it can be damaged or wear through.

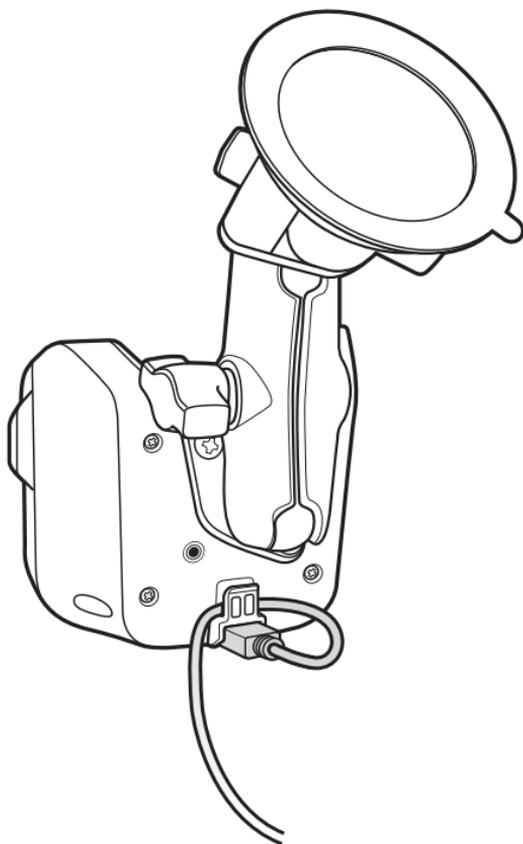
Figure 7 Connect USB Charge Cable to USB Power Port



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2. Secure the USB cable on the cable retainer. Ensure that the USB cable is not too taut, in order to prevent kinks or bends in the cable.

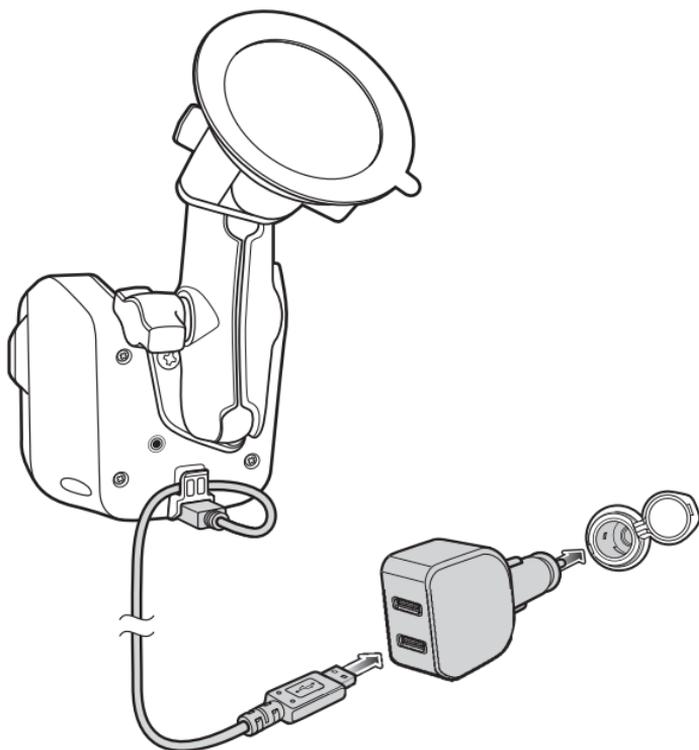
Figure 8 Secure the USB Cable on the Cable Retainer



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3. Connect the other end of the USB charge cable (USB Type A connector) to the cigarette lighter adapter (CLA) for charging or to a laptop for communication.
 - To connect to a CLA for charging:
 - a. Connect the USB Type A connector of the charge cable to the CLA.
 - b. Plug the CLA into a power outlet (cigarette lighter receptacle).

Figure 9 Connect the USB Charge Cable to a CLA

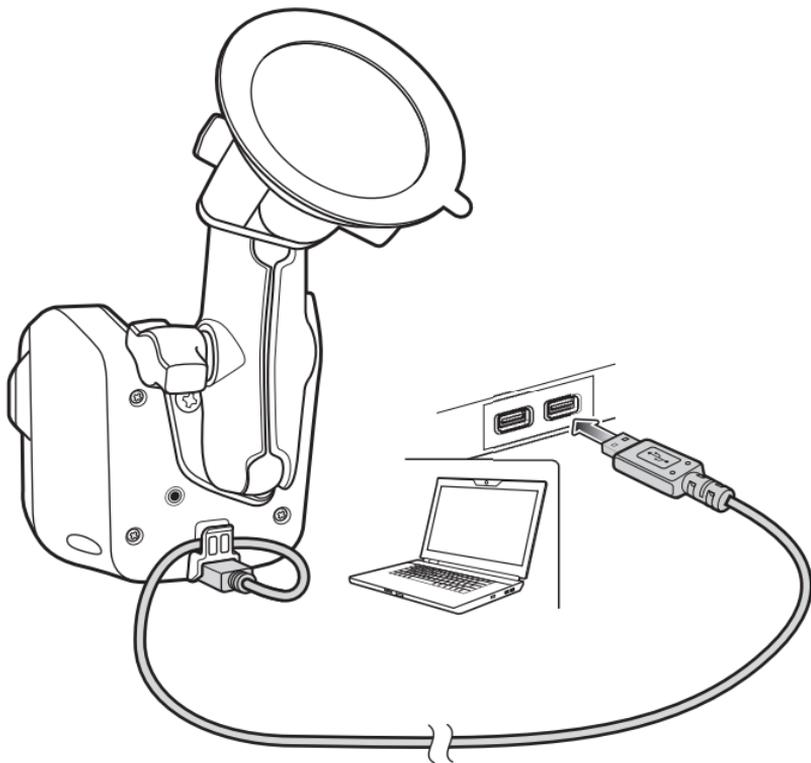


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- To connect to a laptop for communication:
 - a. Connect the USB Type A connector of the charge cable to the laptop's USB port.

 **NOTE:** The USB charge cable only supports standard charging when used with a laptop.

Figure 10 Connect the USB Charge Cable to a Laptop



4. If the device was previously inserted in the vehicle cradle, the LED flashes amber indicating the device is charging.
5. Route the USB charge cable so that it does not interfere with driving.

Inserting and Removing the TC56/TC57

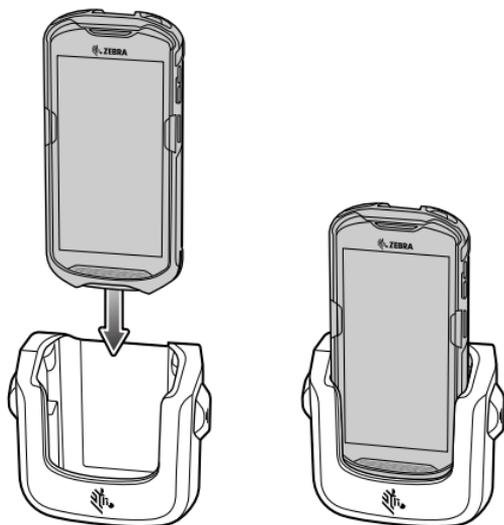
 **NOTE:** The vehicle cradle only supports the insertion and charging of a TC56/TC57 with a standard Zebra Technologies battery in the device's protective boot (SG-TC5X-EXO1-01).

 **CAUTION:** Do not leave the device in the cradle in direct sunlight for a long period of time as it may cause the device to exceed proper operating temperature, overheat, or UV rays may lessen the life of the touch panel.

To insert the TC56/TC57 in the vehicle cradle:

1. Insert the TC56/TC57 in the vehicle cradle in a vertical position, and push down until the Release Latches click and the device is secured in place.

Figure 11 Insert TC56/TC57 in Vehicle Cradle



To ensure the TC56/TC57 is inserted correctly, listen for the audible click that signifies that the TC56/TC57 button release locking mechanism is enabled and the TC56/TC57 is locked into place.

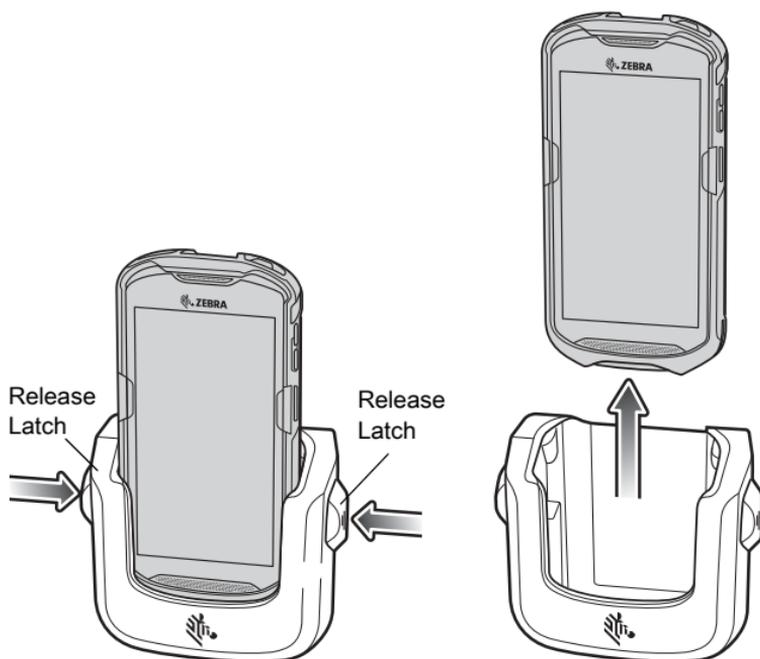
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 **NOTE:** Ensure that the TC56/TC57 is fully inserted into the cradle. Lack of proper insertion may result in property damage or personal injury. Zebra Technologies Corporation is not responsible for any loss resulting from the use of the products while driving.

To remove the TC56/TC57 from the vehicle cradle:

1. Push both the left and right Release Latch on each side of the vehicle cradle simultaneously, until the TC56/TC57 is unlocked in place.
2. Lift the TC56/TC57 upright out of the vehicle cradle.

Figure 12 Remove the TC56/TC57 from the Vehicle Cradle



TC56/TC57 Battery Charging

1. Ensure the cradle is connected to a power source. See [Connecting Power on page 9](#).
2. Insert the TC56/TC57 into the vehicle cradle. See [Inserting and Removing the TC56/TC57 on page 13](#).

The TC56/TC57 starts to charge through the vehicle cradle as soon as it is inserted. This does not deplete the vehicle battery significantly. The battery charges in approximately three hours. See [LED Indicators on page 15](#) for all charging indications.

The vehicle cradle operating temperature is -20°C to +50°C. When in the cradle, the TC56/TC57 will only charge when its temperature is between 0°C to +40°C. The TC56/TC57 always performs battery charging in a safe and intelligent manner. At excessive high or low temperatures, the TC56/TC57 may for small periods of time alternately enable and disable battery charging to keep the battery at acceptable temperatures. The TC56/TC57 indicates when charging is disabled due to abnormal temperatures via its LED and a notification appears on the display.

LED Indicators

LED	Indication
TC56/TC57 Battery Charging (LED is on TC56/TC57)	
Off	TC56/TC57 is not charging. TC56/TC57 is not inserted correctly in the vehicle cradle or connected to a power source. Charger/cradle is not powered.
Slow Blinking Amber (1 blink every 4 seconds)	TC56/TC57 is charging.
Slow Blinking Red (1 blink every 4 seconds)	TC56/TC57 is charging but the battery is at end of useful life.
Solid Green	Charging complete.
Solid Red	Charging complete but the battery is at end of useful life.

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LED	Indication
Fast Blinking Amber (2 blinks/second)	Charging error, e.g.: <ul style="list-style-type: none">• Temperature is too low or too high.• Charging has gone on too long without completion (typically eight hours).
Fast Blinking Red (2 blinks/second)	Charging error but the battery is at end of useful life., e.g.: <ul style="list-style-type: none">• Temperature is too low or too high.• Charging has gone on too long without completion (typically eight hours).

Care and Cleaning

Avoid getting oils, grease or gasoline on the vehicle cradle, and do not let debris gather in the bottom of the vehicle cradle slot. When necessary, clean the vehicle cradle with a mild cleaner. Ensure any cleaner used is approved before using by contacting Zebra for advice.

Troubleshooting

Symptom	Possible Cause	Action
TC56/TC57 charging LED does not light up.	Vehicle cradle is not receiving power.	Ensure the TC56/TC57 is inserted correctly in the vehicle cradle or connected to a power source.

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Symptom	Possible Cause	Action
TC56/TC57 battery is not charging.	TC56/TC57 was removed from the vehicle cradle too soon.	Replace the TC56/TC57 in the vehicle cradle; you may have removed it before it was recharged. If a TC56/TC57 battery is fully depleted, it can take three hours to fully recharge the battery.
	Battery is faulty.	Replace the battery.
	TC56/TC57 was not placed correctly in the vehicle cradle.	Remove the TC56/TC57 from the cradle, and re-insert correctly. If the battery still does not charge, contact your system administrator. The TC56/TC57 battery charging LED slowly blinks amber when the TC56/TC57 is correctly inserted and charging.
	Ambient temperature is too high or too low.	Ambient temperature within the vehicle may be too high or too low. Charging will begin when temperature within the vehicle is within the TC56/TC57 charging temperature range (0 °C to 40 °C).

Regulatory Information

This device is approved under Zebra Technologies Corporation.

This guide applies to Model Number CRD-TC56-CVCD2-02.

All Zebra devices are designed to be compliant with the rules and regulations in the locations they are sold and will be labeled as required.

Local language translations are available at the following website:

zebra.com/support.

Any changes or modifications to Zebra equipment, not expressly approved by Zebra, could void the user's authority to operate the equipment.

Declared maximum operating temperature: 50°C.

For use only with Zebra approved and UL Listed mobile computers, Zebra approved, and UL Listed/Recognized battery packs.

Health and Safety Recommendations

Ergonomic Recommendations

 **CAUTION:** In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

Potentially Hazardous Atmospheres – Vehicles Use

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders) and any other area where you would normally be advised to turn off your vehicle engine.

Radio Frequency Interference Requirements-FCC

Note: 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.

Radio Frequency Interference Requirements - Canada

Innovation, Science and Economic Development Canada ICES - 003 Compliance Label: CAN ICES-3 (B)/NMB-3(B)

Radio Transmitters

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause

interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi même si le brouillage est susceptible d'en compromettre le fonctionnement.

Marking and European Economic Area (EEA)

Statement of Compliance

Zebra hereby declares that this device is in compliance with all applicable directives, 2014/30/EU, 2014/35/EU and 2011/65/EU.

The full text of the EU Declaration of Conformity is available at the following internet address: zebra.com/doc.

Japan (VCCI) - Voluntary Control Council for Interference

Class B ITE

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

Korea Warning Statement for Class B ITE

기종별	사용자 안내문
B급 기기 (가정용 방송 통신기자재)	이 기기는 가정용 (B급) 전자파 적합 기기로서, 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

China

通过访问以下网址可下载当地语言支持的产品说明书

zebra.com/support

合格证：



Eurasian Customs Union

Данный продукт соответствует требованиям знака ЕАС.



公司資訊

台灣斑馬科技股份有限公司 / 台北市信義區松高路 9 號 13 樓

Thailand

เครื่องโทรคมนาคมและอุปกรณ์ นี้ มีความสอดคล้อง อกตามข้อกำหนดของ กทช .

Waste Electrical and Electronic Equipment (WEEE)



English: For EU Customers: All products at the end of their life must be returned to Zebra for recycling. For information on how to return product, please go to: zebra.com/weee.

Français: Clients de l'Union Européenne: Tous les produits en fin de cycle de vie doivent être retournés à Zebra pour recyclage. Pour de plus amples informations sur le retour de produits, consultez : zebra.com/weee.

Español: Para clientes en la Unión Europea: todos los productos deberán entregarse a Zebra al final de su ciclo de vida para que sean reciclados. Si desea más información sobre cómo devolver un producto, visite: zebra.com/weee.

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Bulgarish: За клиенти от ЕС: След края на полезния им живот всички продукти трябва да се връщат на Zebra за рециклиране. За информация относно връщането на продукти, моля отидете на адрес: zebra.com/weee.

Deutsch: Für Kunden innerhalb der EU: Alle Produkte müssen am Ende ihrer Lebensdauer zum Recycling an Zebra zurückgesandt werden. Informationen zur Rücksendung von Produkten finden Sie unter zebra.com/weee.

Italiano: per i clienti dell'UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Zebra al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: zebra.com/weee.

Português: Para clientes da UE: todos os produtos no fim de vida devem ser devolvidos à Zebra para reciclagem. Para obter informações sobre como devolver o produto, visite: zebra.com/weee.

Nederlands: Voor klanten in de EU: alle producten dienen aan het einde van hun levensduur naar Zebra te worden teruggezonden voor recycling. Raadpleeg zebra.com/weee voor meer informatie over het terugzenden van producten.

Polski: Klienci z obszaru Unii Europejskiej: Produkty wycofane z eksploatacji należy zwrócić do firmy Zebra w celu ich utylizacji. Informacje na temat zwrotu produktów znajdują się na stronie internetowej zebra.com/weee.

Čeština: Pro zákazníky z EU: Všechny produkty je nutné po skončení jejich životnosti vrátit společnosti Zebra k recyklaci. Informace o způsobu vrácení produktu najdete na webových stránkách: zebra.com/weee.

Eesti: EL klientidele: kõik tooted tuleb nende eluea lõppedes tagastada taaskasutamise eesmärgil Zebra'ile. Lisainformatsiooni saamiseks toote tagastamise kohta külastage palun aadressi: zebra.com/weee.

Magyar: Az EU-ban vásárlóknak: Minden tönkrement terméket a Zebra vállalathoz kell eljuttatni újrahasznosítás céljából. A termék visszajuttatásának módjával kapcsolatos tudnivalókért látogasson el a zebra.com/weee weboldalra.

Svenska: För kunder inom EU: Alla produkter som uppnått sin livslängd måste returneras till Zebra för återvinning. Information om hur du returnerar produkten finns på zebra.com/weee.

Suomi: Asiakkaat Euroopan unionin alueella: Kaikki tuotteet on palautettava kierrätettäväksi Zebra-yhtiöön, kun tuotetta ei enää käytetä. Lisätietoja tuotteen palauttamisesta on osoitteessa zebra.com/weee.

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Dansk: Til kunder i EU: Alle produkter skal returneres til Zebra til recirkulering, når de er udtjent. Læs oplysningerne om returnering af produkter på: zebra.com/weee.

Ελληνικά: Για πελάτες στην Ε.Ε.: Όλα τα προϊόντα, στο τέλος της διάρκειας ζωής τους, πρέπει να επιστρέφονται στην Zebra για ανακύκλωση. Για περισσότερες πληροφορίες σχετικά με την επιστροφή ενός προϊόντος, επισκεφθείτε τη διεύθυνση zebra.com/weee στο Διαδίκτυο.

Malti: Għal klijenti fl-UE: il-prodotti kollha li jkunu waslu fl-aħħar tal-ħajja ta' l-użu tagħhom, iridu jiġu rritornati għand Zebra għar-riċiklaġġ. Għal aktar taġħrif dwar kif għandek tirritorna l-prodott, jekk jogħġbok żur: zebra.com/weee.

Românesc: Pentru clienții din UE: Toate produsele, la sfârșitul duratei lor de funcționare, trebuie returnate la Zebra pentru reciclare. Pentru informații despre returnarea produsului, accesați: zebra.com/weee.

Slovenski: Za kupce v EU: vsi izdelki se morajo po poteku življenjske dobe vrniti podjetju Zebra za reciklažo. Za informacije o vračilu izdelka obiščite: zebra.com/weee.

Slovenčina: Pre zákazníkov z krajín EU: Všetky výrobky musia byť po uplynutí doby ich životnosti vrátené spoločnosti Zebra na recykláciu. Bližšie informácie o vrátení výrobkov nájdete na: zebra.com/weee.

Lietuvių: ES vartotojams: visi gaminiai, pasibaigus jų eksploatacijos laikui, turi būti gražinti utilizuoti į kompaniją „Zebra“. Daugiau informacijos, kaip gražinti gaminį, rasite: zebra.com/weee.

Latviešu: ES klientiem: visi produkti pēc to kalpošanas mūža beigām ir jānogādā atpakaļ Zebra otrreizējai pārstrādei. Lai iegūtu informāciju par produktu nogādāšanu Zebra, lūdzu, skatiet: zebra.com/weee.

Türkçe: AB Müşterileri için: Kullanım süresi dolan tüm ürünler geri dönüşürme için Zebra'ya iade edilmelidir. Ürünlerin nasıl iade edileceği hakkında bilgi için lütfen şu adresi ziyaret edin: zebra.com/weee.

Turkish WEEE Statement of Compliance

EEE Yönetmeliğine Uygundur.

Brazil

The following signifies approval in Brazil.



CMM Disclosure

部件名称 (Parts)	有害物质 					
	铅 (P b)	汞 (H g)	镉 (C d)	六价 铬 (Cr VI)	多溴联 苯 (PB B)	多溴二 苯醚 (PBD E)
金属部件 (Metal Parts)	X	O	O	O	O	O
电路模块 (Circuit Modules)	X	O	O	O	O	O
电缆及电缆组件 (Cables and Cable Assemblies)	O	O	O	O	O	O
塑料和聚合物部件 (Plastic and Polymeric Parts)	O	O	O	O	O	O
光学和光学组件 (Optics and Optical Components)	O	O	O	O	O	O
电池 (Batteries)	O	O	O	O	O	O

本表格依据SJ/T 11364 的规定编制。

- O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。
- X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。(企业可在此处, 根据实际情况对上表中打“X”的技术原因进行进一步说明。)

This table was created to comply with China RoHS requirements.



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