BARTEC

User Manual - TRANSLATION

Mobile Computer MC92N0ex

Type 17-A1A.-..../.....

Type B7-A2A.-..../.....

ATEX/IECEx Zone 1

ATEX Zone 2 / 22

UL Class I, II, III Division 1

UL Class I, II, III Division 2

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Appendix: Declaration of Conformity

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1. Basic Security Information

1.1 Information on this User Manual

Read carefully before putting the devices into operation.

The User Manual is a fixed part of the product. It must be kept in the direct vicinity of the device and the installation, operating and service staff must have access to it at all times.

The User Manual contains important information, safety instructions and test certificates which are necessary for the perfect function of the device in operation.

The User Manual is directed at all individuals concerned with the assembly, installation, commissioning and servicing of the product. The applicable guidelines and standards for areas with gas and dust atmosphere (99/92/EC, EN 60079-17, EN 60079-19, IEC 60079-17, IEC 60079-19) must be observed when conducting this work.

Knowledge of the safety and warning information in this User Manual and the strict compliance with it is essential for safe installation and commissioning. Accidents, injuries and material damage can be avoided by circumspect handling and systematically following the instructions.

The figures in this User Manual serve to illustrate the information and descriptions. They are not necessarily completely transferrable and may differ slightly from the actual execution of the device.

Safety and warning information is particularly emphasised in this User Manual and marked by symbols.

⚠ DANGER

DANGER describes a directly imminent danger. If not avoided, death or severe injury will be the consequence.

⚠ WARNING

WARNING describes a possibly imminent danger. If not avoided, death or severe injury may be the consequence.

⚠ CAUTION

CAUTION describes a possibly imminent danger. If not avoided, mild or slight injury may be the consequence.

ATTENTION

ATTENTION describes a possibly damaging situation. If not avoided, the plant or objects in its vicinity may be damaged.

ⓘ Important information on effective, economic & environmentally compliant handling.

1.1.1 Languages

The original User Manual is written in German. All other available languages are translations of the original User Manual.

The User Manual is available in German and English. If further languages are required, these must be requested from BARTEC or stated on placing an order.

1.1.2 Changes in the document

BARTEC reserves the right to change the content of this document without notification. No warranty is assumed for the correctness of the information. In cases of doubt, the German safety instructions apply because it is not possible to rule out errors of translation or printing. In the case of legal disputes, the “General Terms and Conditions of Business” of the BARTEC Group also apply.

The current versions of the datasheets, operating instructions, certificates and EC declarations of conformity can be downloaded from www.bartec-group.com under Products and Solutions in the product area “Automation technology” or may be requested directly from BARTEC GmbH.

1.2 Handling the product

The product described in this User Manual left the factory in a perfect and tested state in terms of safety. To maintain this state and to achieve a perfect and safe operation of this product, it may only be operated in the manner described by the manufacturer. In addition, the perfect and safe operation of this product requires correct transportation, proper storage and careful operation.

The safe and perfect handling of the Mobile Computer is a prerequisite for its perfect and correct functioning.

1.3 Intended use

1.3.1 Exclusive purpose

The Mobile Computer MC92N0ex is a handheld piece of electrical equipment. It serves the purpose of the mobile recording, processing and radio transmission of data within potentially explosive atmospheres.

It is used exclusively in combination with devices which comply with the requirements placed on the overvoltage category I.

The admissible operating data of the device used must be considered.

1.3.2 Unintended use

Any other use is unintended and may lead to damage and accidents. The manufacturer shall not be liable for any use extending beyond the exclusive purpose.

1.4 Duties of the operator

The operator undertakes to only permit persons to work with the Mobile Computers who

- are acquainted with the basic regulations on safety and accident prevention, and who have been inducted in the use of the Mobile Computer;
- have read and understood the documentation, the safety chapter and the warnings.

The operator checks that the safety and accident prevention regulations applicable to the respective case of use have been observed.

1.5 Safety information

1.5.1 General safety information

- Do not dry wipe or clean devices in potentially explosive atmospheres!
- Do not open devices in potentially explosive atmospheres.
- General statutory provisions or guidelines on occupational health and safety, accident prevention provisions and environmental protection laws must be heeded, e.g. German Industrial Health and Safety Ordinance (BetrSichV) and nationally applicable ordinances.
- Use suitable clothing and shoes with respect to the danger of hazardous electrostatic charges.
- Avoid heat influences outside the specified temperature range.
- Protect device from external influences! Do not expose device to caustic/aggressive liquids, vapours or spray. In the case of malfunction or damaged enclosure, remove the device immediately from the potentially explosive atmosphere and bring it to a safe place.

1.6 Maintenance

The pertinent erection and operating provisions for electrical systems must be observed! (e.g. Directive 99/92/EC, Directive 94/9/EC, BetrSichV and nationally applicable ordinances EN 60079-14, IEC 60079-14 and the series DIN VDE 0100)!

Observe the national waste disposal regulations when disposing of the devices.

1.6.1 Servicing

No constant servicing will be necessary if operated correctly under consideration of the assembly instructions and environmental conditions. See Chapter “Service, inspection, repair” in this respect.

1.6.2 Inspection

According to EN 60079-17, IEC 60079-17, EN 60079-19 and IEC 60079-19, the operator of electrical systems in potentially explosive atmospheres is obliged to have these inspected by an electrician to ensure correct condition.

1.6.3 Repairs

Repairs to explosion-protected devices may only be performed by authorised personnel with original spare parts and according to the state of the art. The applicable provisions must be observed in this respect.

1.6.4 Commissioning

It must be checked that all components and documents are available before commissioning.

1.7 Protection type, test certificate and standards

Labels on explosion protection and the test certificate are attached to the device. See Chapter 3 “Technical data” with respect to labelling.

The guidelines and standards applicable to the Mobile Computer for devices and protected systems for intended use in potentially explosive atmospheres are provided in Chapter 3 “Technical data”.

1.8 Warranty

WARNING

No changes or conversions may be made without the manufacturer’s written consent.

If components other than those specified are used, explosion protection will no longer be assured. It cannot be guaranteed that parts procured from other suppliers have been designed and manufactured in conformance to safety requirements and with the necessary stress tolerance.

▶ Contact the manufacturer and obtain his approval before performing any changes or retrofits. Use only original spare and expendable parts.

The manufacturer shall exclusively assume the complete warranty only for spare parts ordered from him.

Our “General Terms and Conditions of Sale and Delivery” shall apply in principle. These shall be made available to the operator on signing of contract at the latest. Warranty and liability claims in the case of injury and damage to property shall be excluded if they are attributable to one or several of the following causes:

Unintended use of the Mobile Computers.

- Incorrect assembly, commissioning, operation and servicing.
- Failure to observe the information in the User Manual with respect to transport, storage, assembly, installation, commissioning, operation and service.
- Independent structural changes.
- Faulty monitoring of parts subject to wear and tear.
- Incorrectly performed repairs.
- Cases of disaster through the impact of foreign bodies and force majeure.

We grant a warranty period of one year starting from the date of delivery from the Bad Mergentheim factory on the Mobile Computers and their accessories (exception: battery 6 months). This warranty covers all parts of the delivery and shall be restricted to the free replacement or repair of the defective parts in our Bad Mergentheim factory. For this purpose, any packaging supplied must be kept where possible. In the case of warranty, the goods must be returned to us after written agreement. There shall be no claim to repair at the sight of erection.

The versions, components, monitors and windows shown in this User Manual are merely examples and may deviate from the actual display.

The information contained herein refers to the explosion-protected version of series MC92N0ex.

This User Manual contains all important information on the subject of explosion protection. The original user manuals and product information of ZEBRA with information on handling and commissioning are also available. In the case of overlaps, the information in this User Manual shall take priority and shall supersede the information from ZEBRA.

1.9 Co-applicable documents – Set of documents

BARTEC

- User Manual to the Mobile Computer series MC92N0ex – The use of the explosion-protected version of the Mobile Computer series MC92N0ex is described in this User Manual.
- Technical datasheet for the explosion-protected version of the Mobile Computer series MC92N0ex – This technical datasheet contains the most important explosion-relevant technical data as well as general technical data.

ZEBRA

The set of documentation of the MC9200 contains information on the respective user requirements and covers the following:

- Quick Start Guide for the MC9200 – The commissioning of the Mobile Computer MC9200 is described in this User Manual.
- User Manual for the MC92N0 – The use of the Mobile Computer MC MC9200 is described in this User Manual.
- Integration Manual for the MC9200 – The setting up of the Mobile Computer MC9200 including accessories is described in this User Manual.
- User Manual for Microsoft® applications for Windows Embedded Handheld 6.5.3 for Enterprise Mobility devices – The use of Microsoft applications is described in this User Manual.

1.10 Definitions

Some abbreviations are used in the documentation.

IS =	Intrinsically Safe / Intrinsic Safety => is used as an umbrella term for Zone 1 and Division 1 versions
NI =	Non-Incendive / non-sparking => is used as an umbrella term for Zone 2 and Division 2 versions
MC92N0ex =	Stands for the entire explosion-proof product series.

1.11 Configuration

This Manual refers to the following configurations:

Configuration	Version
Wireless	■ WLAN: 802.11 a/b/g/n ■ WPAN: Bluetooth 2.1 EDR
Reader options	■ RFID-LF 125 kHz / 134 kHz ■ RFID-HF 13.56 MHz ■ RFID-UHF (EU) 865.6 to 867.5 MHZ ■ RFID-UHF (US) 902 to 928 MHz ■ RuBee 65.5 kHz / 131 kHz
Display	■ 3.7" VGA Color Display
Memory	■ 1 GB RAM / 2 GB Flash Memory
Scanner options	■ 1D-Laser Scanner Normal Range ■ 1D-Laser Scanner Long Range ■ 1D-/2D-Imager Short Range ■ 1D-/2D-Imager Mid Range (only NI-version) ■ 1D-/2D-Long Range Imager (only NI-version) ■ 1D-/2D-Imager DPM (Direct Part Marking)
Operating system options	■ Windows WEH 6.5.3 ■ Windows CE 7.0 ■ Android KitKat 4.4
Keypad options	■ 28 Keypad (Numeric keys can be used direct, Alpha keys and other key functions can be used via function keys) ■ 43 Keypad (Numeric- and function keys can be used direct, alpha keys and other key functions can be used via function keys) ■ 53 Keypad (Numeric- and alpha keys cen be used direct, other key functions can be used via function keys) ■ 53 Keypad with layout for VT Emulation ■ 53 Keypad with layout for 3270 Emulation ■ 53 Keypad with layout for 5250 Emulation

The Emulation software is not part of the device.

Other specific information on the keypad is provided under Technical Data or in the ZEBRA documentation.

2. Product Description

2.1 Definition MC92N0ex-IS Version

The MC92N0ex-IS Mobile Computer is a robust mobile computer designed for industrial use and has been specially modified by BARTEC for use in hazardous (potentially explosive) areas in

- ATEX and IECEx Zone 1
- UL Class I, II Division 1
- UL Class III

This means that the extensive communication and data acquisition options which are already standard in other areas are available to the user in hazardous areas also.

Its ergonomic design and easy operation make it an ideal support in the attainment of fast data availability in enterprise processes. Various versions of keypad are available for manual data capture.

Other data capture options are provided by the integrated 1D or 1D/2D scan engine for capturing barcodes and various optional RFID/RuBee readers.

The ergonomically mounted scan triggers on the MC92N0ex-IS allow data to be captured easily in one-hand operation. Several technologies are available for data communication with other systems and company divisions.

- Wireless LAN (WLAN),
- Wireless PAN (WPAN) (Bluetooth)
- Ethernet or USB connection through docking station

These modules, which are integrated in the device, allow a seamless transmission of voice and data into the company's network.

Other advantages in use are its sturdy construction, easy-to-read 3.7" VGA colour display with touch technology and highly efficient lithium-ion battery.

A 1 GHz dual-core processor in the MC92N0ex-IS ensures fast process execution. Easy application development is facilitated by the three operating systems, Microsoft Windows WEH 6.5.3, CE 7.0 or Anroid KitKat 4.4, in conjunction with the Enterprise Mobility Developer Kits (EMDK) or RohMobile Suite from Zebra.

1 GB RAM and 2 GB flash memory are integrated in the device for storing user-defined applications and data. For larger applications and volumes of data, BARTEC offers SD memory cards.

2.2 Definition MC92N0ex-NI Version

The MC92N0ex-NI Mobile Computer is a robust mobile computer designed for industrial use and has been specially modified by BARTEC for use in hazardous (potentially explosive) areas in

- ATEX Zone 2 / 22
- UL Class I, II Division 2
- UL Class III.

This means that the extensive communication and data acquisition options which are already standard in other areas are available to the user in hazardous areas also.

Its ergonomic design and easy operation make it an ideal support in the attainment of fast data availability in enterprise processes. Various versions of keypad are available for manual data capture.

Other data capture options are provided by the integrated 1D or 1D/2D scan engine for capturing barcodes, RuBee reader and various optional RFID readers.

The ergonomically mounted scan triggers on the MC92N0ex-NI allow data to be captured easily in one-hand operation. Several technologies are available for data communication with other systems and company divisions.

- Wireless LAN (WLAN),
- Wireless PAN (WPAN) (Bluetooth)
- Ethernet or USB connection through docking station

These modules, which are integrated in the device, allow a seamless transmission of voice and data into the company's network.

Other advantages in use are its sturdy construction, easy-to-read 3.7" VGA colour display with touch technology and highly efficient lithium-ion battery.

A 1 GHz dual-core processor in the MC92N0ex-NI ensures fast process execution. Easy application development is facilitated by the three operating systems, Microsoft Windows WEH 6.5.3, CE 7.0 or Android KitKat 4.4, in conjunction with the Enterprise Mobility Developer Kits (EMDK) or RohMobile Suite from Zebra.

1 GB RAM and 2 GB flash memory are integrated in the device for storing user-defined applications and data. For larger applications and volumes of data, BARTEC offers SD memory cards.

2.3 Operation

The Mobile Computer MC92N0ex-IS is a handheld electrical device. It serves the purposes of the mobile entry, processing and radio transmission of data within potentially explosive atmospheres.

It is used exclusively in combination with devices which comply with the requirements placed on the overvoltage category I.

⚠ VORSICHT – CAUTION – PRUDENCE

VORSICHT Abweichungen von den hier angegebenen Verfahren oder Einstellungen können zu einer gesundheitsgefährdenden Strahlenbelastung führen.

CAUTION Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

PRUDENCE L'usage de commandes ou de réglages, ou la réalisation de procédures autres que ceux spécifiés dans le présent document peuvent exposer l'utilisateur à des radiations dangereuses.

The Mobile Computer MC92N0ex-IS, Type 17-A1A.-..../…….. have been modified for use in the following potentially explosive atmospheres

- ATEX/IECEx Zone 1
- UL Class I Division 1 Groups C and D
- UL Class II Division 1 Groups F and G
- UL Class III
- ATEX/IECEx Zone 2
- UL Class I Division 2 Groups C and D
- UL Class II Division 2 Groups F and G

The Mobile Computer MC92N0ex-IS, Type 17-A1A.-..../…….. may not be used in the following zones:

- ATEX/IECEx Zone 0
- ATEX/IECEx Zone 21/22
- UL Class I Division 1 Groups A and B
- UL Class II Division 1 Group E
- UL Class II Division 2 Group E

The Mobile Computer MC92N0ex-NI, Type B7-A2A.-..../…….. have been modified for use in the following potentially explosive atmospheres

- ATEX Zone 2
- ATEX Zone 22
- UL Class I Division 2 Groups A, B, C and D
- UL Class II Division 2 Groups F and G
- UL Class III

The Mobile Computer MC92N0ex-NI, Type B7-A2A.-..../…….. may not be used in the following zones:

- ATEX/IECEx Zone 0 and 1
- ATEX/IECEx Zone 21
- UL Class II Division 1 Groups A, B, C, D, E, F and G
- UL Class II Division 2 Group E

2.3.1 RFID / RuBee

The RFID- and RuBee-Reader in the Mobile Computer MC92N0ex-IS is triggered only by manual operation (with outstretched hand).

3. Technical Data

3.1 Explosion protection IS

ATEX Zone 1		
Type	17-A1A3-0…/S…… 17-A1A3-R…/S……	MC92N0ex-IS MC92N0ex-IS RFID
Ex protection		Ex II 2G Ex q [ib] IIC T4 Gb
Type	17-A1A3-R..C/S…… 17-A1A3-R..D/S……	MC92N0ex-IS RFID
Ex protection		Ex II 2G Ex q [ib] IIB T4 Gb
Certificate		PTB 13 ATEX 2019 X
Standards		EN 60079-0:2012 EN 60079-5:2007 EN 60079-11:2012
IECEx Zone 1		
Type	17-A1A3-0…/S…… 17-A1A3-R…/S……	MC92N0ex-IS MC92N0ex-IS RFID
Ex protection		Ex q [ib] IIC T4 Gb
Type	17-A1A3-R..C/S…… 17-A1A3-R..D/S……	MC92N0ex-IS RFID
Ex protection		Ex q [ib] IIB T4 Gb
Certificate		IECEx PTB 13.0043X
Standards		IEC 60079-0:2011 Edition 6 IEC 60079-5:2007 Edition 3 IEC 60079-11:2011 Edition 6
ATEX and IECEx Directives		ATEX 94/9/EC EMV 2004/108/EC R&TTE 1999/5/EC RoHS 2002/95/EC
Product labelling		CE 0044
UL Class I, II, III Division 1		
Type	17-A1A2-0…/S…… 17-A1A2-R…/S……	MC92N0ex-IS MC92N0ex-IS RFID/RuBee
Ex protection		Class I Division 1 Groups C and D Class II Division 1 Groups F and G Class III
Certificate USA and Canada		E226123
Standards		USA Standard UL 913, 5 Edition. National Standard of Canada C22.2 No. 157-92

3.2 Explosion protection NI

ATEX Zone 2/22		
Type	B7-A2A4-0…/S…… B7-A2A4-R…/S…….	MC92N0ex-NI MC92N0ex-NI RFID/RuBee
Ex protection		Ex II 3G Ex nA IIC T6 Gc Ex II 3D Ex tc IIIC T80 °C Dc -20 °C ≤ Ta ≤ +50 °C
Certificate		B1-A2A3-7C0001
Type	B7-A2A4-R..C/S……. B7-A2A4-R..D/S…….	MC92N0ex-NI RFID
Ex protection		Ex II 3G Ex nA IIB T6 Gc Ex II 3D Ex tc IIIB T80 °C Dc -20 °C ≤ Ta ≤ +50 °C
Certificate		B1-A2A3-7C0002
Standards		EN 60079-0:2009 EN 60079-15:2010 EN 60079-31:2009
UL Class I, II, III Division 2		
Type	B7-A2A4-0…/S…… B7-A2A4-R…/S…….	MC92N0ex-NI MC92N0ex-NI RFID/RuBee
Ex protection		Class I Division 2 Groups A, B, C and D Class II Division 2 Groups F and G Class III
Certificate USA and Canada		E226123
Standards		ANSI/ISA 12.12.01, UL 60950, Canada National Standard C22.2 No. 60950-1-07 2nd edition

3.3 Other applicable standards

Electrical safety	
EN 60950-1:2006 +A12:2011	Information technology equipment - Safety - Part 1: General requirements
Radio Specification - WLAN / Bluetooth	
EN 300 328 V1.8.1	Electromagnetic compatibility and Radio spectrum Matters (ERM) - Wideband transmission systems - Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques
EN 301 893 V1.7.1	Broadband Radio Access Networks (BRAN) - 5 GHz high performance RLAN
Safety Specifications – Specific Absorption Rate (SAR)	
EN 50364:2010	Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 300 GHz, used in Electronic Article Surveillance
EN 62479: 2010	Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
EN 62311: 2008	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz - 300 GHz)
Saftey Specifications – Laser and/or LED Products:	
EN 60825-1: 2007 (Laser)	Safety of laser products - Part 1: Equipment classification and requirements
EN 60825-1: 2001 (LED)	Safety of laser products - Part 1: Equipment classification, requirements and user's guide

Electro Magnetic Compatibility (EMC) Specifications	
EN 301 489-1 V1.9.2	EMC Tests on Radio and Telecommunications Terminal Equipment Part 1: Common EMC Requirements
EN 301 489-3 V1.6.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services
EN 301 489-1-3	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services
EN 301 489-17 V2.2.1	ElectroMagnetic Compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services. Part 17: Specific conditions for Wideband data and HIPERLAN equipment.
EN 55022: 2010 +AC:2011 Class B	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
EN 55024: 2010	Information technology equipment - Immunity characteristics - Limits and methods of measurement
EN 61000-3-3 :2008	Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <=16 A per phase and not subject to conditional connection
EN 61000-3-2:2006 +A2:2009	Limits - Limits for harmonic current emissions (equipment input current <= 16 A per phase)
47 CFR Part 15, Subpart B, Class B	
ICES 003 Issue 5, Class B	
EN 300 330-1 V1.8.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz
EN 300 330-2 V1.6.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz
EN 302 208-2 V1.4.1 (2011-11)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W

3.4 Features

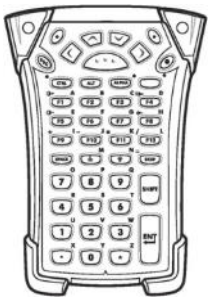
3.4.1 Performance features

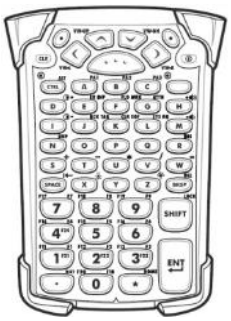
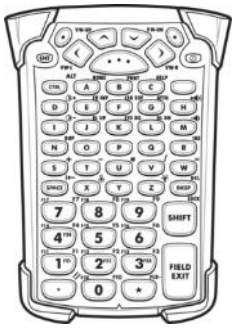
CPU	Dual-Core 1 GHz OMAP 4430-Processor
Operating system	Windows Embedded Handheld WEH 6.5.3 or Windows CE 7.0
Memory	1 GB RAM; 2 GB Flash
Extension slot	SD card slot with SDHC support (up to 32 GB) Optionally extendable with SD card: 1 GB Order number 17-28BE-F006/0002 2 GB Order number 17-28BE-F006/0003 4 GB Order number 17-28BE-F006/0004 8 GB Order number 17-28BE-F006/0005 16 GB Order number 17-28BE-F006/0006 32 GB Order number 17-28BE-F006/0007
Interfaces	RS232 USB

3.4.2 Physical features

Dimensions	in mm/inch	Height x width x depth	
	Gun:	231 x 91 x 193 mm	9.1 x 3.6 x 7.6 inch
	Gun RFID/RuBee:	231 x 115 x 193 mm	9.1 x 4.5 x 7.6 inch
Dimensions	in mm/inch	Height x width x depth	
	Brick:	231 x 91 x 59 mm	9.1 x 3.6 x 2.3 inch
	Brick RFID/RuBee:	231 x 115 x 105 mm	9.1 x 4.5 x 4.1 inch
Weight ATEX/IECEx (including battery)		Depends on version and configuration	
	Gun :	approx. 1060 g	approx. 37 oz
	Brick:	approx. 980 g	approx. 34 oz
	Gun RFID:	approx. 1400 g	approx. 49 oz
	Brick RFID:	approx. 1320 g	approx. 46 oz
Weight UL Division 1 (including battery)		Depends on version and configuration	
	Gun :	approx. 830 g	approx. 29 oz
	Brick:	approx. 700 g	approx. 24 oz
	Gun RFID/RuBee:	approx. 1170 g	approx. 41 oz
	Brick RFID/RuBee:	approx. 1040 g	approx. 40 oz
Weight UL Division 2 und ATEX Zone 2/22	(including battery)	Depends on version and configuration	
	Gun :	approx. 810 g	approx. 26 oz
	Brick:	approx. 680 g	approx. 22 oz
	Gun RFID/RuBee:	approx. 850 g	approx. 30 oz
	Brick RFID/RuBee:	approx. 720 g	approx. 26 oz

Display VGA mode: QVGA mode:	3,7"-VGA- colour display 480 (width) x 640 pixel (height) 240 (width) x 320 pixel (height) (Windows CE only)
Touchscreen	Analogue-resistive touchscreen
Background lighting	LED technology
Network connections	Ethernet (via charge station); Full-Speed USB, Host or Client
Interactive sensor technology	– Three-axes accelerometer for motion sensor application for dynamic screen orientation – power monitoring – recognition of free fall
Keypad versions	– 28 Keypad (Numeric keys can be used direct, Alpha keys and other key functions can be used via function keys) – 43 Keypad (Numeric- and Function keys can be used direct, Alpha keys and other key functions can be used via function keys) – 53 Keypad (Numeric- and Alpha keys can be used directly, other key functions can be used via function keys) – 53 Keypad with layout for VT Emulation – 53 Keypad with layout for 3270 Emulation – 53 Keypad with layout for 5250 Emulation

Numeric keypad	Numeric keypad with (F) function keys	Alpha numeric keypad
		
28 keys	43 keys	53 keys

Alpha numeric keypad with printing for VT emulation	Alpha numeric keypad with printing for 3270 emulation	Alpha numeric keypad with printing for 5250 emulation
		
53 keys	53 keys	53 keys

No emulation software is installed on the Mobile Computers with the emulation key version. The customer must order the emulation software separately from Zebra Solutions and its distributors and install it himself.

The devices are modified to suit the selected keypad version. The end user can replace the keypad later himself.

When replacing the keyboard, follow the instructions in this manual.

3.4.3 User environment

Operating temperature only IS Version	Type 17-A1A.-… -20 °C to +40 °C -4 °F to +104 °F
Operating temperature only NI Version	Type B7-A2A.-… -20 °C to +50 °C -4 °F to +122 °F
Operating temperature during charging	0 °C to +40 °C +32 °F to +104 °F
Storage temperature (without battery)	-40 °C to +70 °C -40 °F to +158 °F
Air humidity	5 % to 95 % (non-condensing)
Class of protection (EN 60529) only IS Version	IP 54 Type 17-A1A3-… (ATEX/IECEx Zone 1)
Class of protection (EN 60529) only IS Version only NI Version	IP 64 Type 17-A1A2-…. (UL Division 1) Type B7-A2A.-…

3.4.4 Application development

PSDK (Platform Software Development Kit) and EMDK (Enterprise Mobility Developer Kit) is available via the ZEBRA Solutions Website.	
Available for	– C – .Net
Browser support:	
Pocket Browser or “RhoMobile Suite” from ZEBRA Solutions for application development.	
RhoMobile Suite Toolkit consists of:	Technology-independent applications are prepared using this toolkit. Device type, operating system and screen size no longer play a role. RhoMobile applications run simply on all popular mobile devices used in your company.
– RhoStudio – Rhodes. – RhoElements – RhoConnect – RhoHub – RhoGallery	One tool simplicity for application development, debugging and testing. Open source cross-platform development framework for consumer applications Cross-platform development framework for enterprise applications. A mobile application and integration server for easy backend system integration and synchronization. Hosted services that simplify mobile application development and deployment. An enterprise app store to deploy, manage and secure mobile apps.
Further applications are available from ZEBRA Solutions, e.g.	CtLPanelWM – for the processing of device settings. Application Launcher – for the classification of applications in categories and access regulation for individual applications or operating system. Data Wedge – Barcodes in applications can be read such as Excel or Word using.
RFID	– SDK is available for C# – The SDK was created in Visual Studio 2008. – Includes all necessary drivers and DLL files for implementation. – A RFID demo available in open source to show how to implement the RFID reader in an application.

3.4.5 Voice and data transmission Wireless LAN

WLAN radio module	
Radio standard	Tri Mode IEEE 802.11a/b/g/n
Data rate	IEEE802.11a: up to 54 Mbit/sec. IEEE802.11b: up to 11 Mbit/sec. IEEE802.11g: up to 54 Mbit/sec. IEEE802.11n: up to 65 Mbit/sec.
Frequency range (country-dependent)	IEEE802.11a: 5 GHz IEEE802.11b: 2.4 GHz IEEE802.11g: 2.4 GHz IEEE802.11n: 2.4 GHz and 5 GHz
Operating channels IEEE802.11a IEEE802.11b/g	Channel 8 - 165 5040 MHz - 5825 MHz Channel 1 – 13 2412 MHz - 2472 MHz Channel 14 2484 MHz Japan only The actual operating channels and frequencies are subject to the applicable rules and the certification authorities
Safety	WPA2 Enterprise, 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (TLS, MSCHAPv2, EAP-GTC); LEAP, EAP-FAST (TLS, MS-CHAPv2, EAP-GTC), WPA2/AES, CCX v4, FIPS 140-2 conform and IPv6
Spread procedure	DSSS (Direct Sequence Spread Spectrum) and Orthogonal Frequency Division Multiplexing
Language support	Voice over IP
Antenna	internal

3.4.6 Voice and data transmission Wireless PAN

Bluetooth	Class II, version 2.1 with EDR
Maximum Output Power	2.5 mW
Maximale Datenrate	up to 2.1 Mbit/s
Maximum range	10 m 32.8 feet
Antenna	Internal chip aerial

3.4.7 Headset

Headset Connector			
Ex protection	Ex ib IIC		
	U0	=	8.6 V
	I0	=	354 mA
	P0	=	479 mW
	C0	=	930 nF
	L0	=	460 µH

3.4.8 Data Capture Options

Five available configuration possibilities	– 1D-Standard-Range Laser Scanner (SE965) – 1D-Long-Range Laser Scanner Lorax SE1524) – 1D-/2D-Imager (Blockbuster SE4500-SR) – 1D-/2D-Imager DPM (Direct Part Marking) (Blockbuster SE4500-HD) Only for NI Version – 1D-/2D-Long Range Imager (SE4600-LR)

The various scan engines maximum ranges depend on the bar code symbology/type and the module width (in mil) used.

3.4.8.1 1D- Standard-Range Laser Scanner (SE965)

SE965 1D scan engine decodes/reads 1D barcodes/symbols.

For MC92N0ex-K (Brick) and MC92N0ex-G (Gun) versions:
Further detailed information on the SE965 can be found in the “User Manual“ or “Integrator Guide” from Zebra Solutions.
The decode range depends on the quality and size of the bar code and on the scan engine’s software setting.

Laser class	CDRH Class II / IEC Class 2
Decode range with Code 39, 55 mil	up to approx. 2.5 m up to approx. 100 inch
Optical resolution	0.005 inch - minimum element width
Skew	± 40° from the vertical
Pitch	± 65° from the starting position
Roll	± 50° from the vertical
Ambient light immunity	86,111 lux
Scan rate	104 (± 12) scans/sec. (bi-directional)
Scan angle	47° ± 3° far range 35° ± 3° medium distance 10° ± 3° near range
Laser energy at 650 nm	1.7 mW peak

3.4.8.2 1D-Long-Range Laser Scanner (Lorax SE1524)

Lorax SE1524 1D scan engine decodes/reads 1D barcodes/symbols

For MC92N0ex-G (Gun) versions:
Further detailed information on the Lorax SE1524 can be found in the “User Manual“ or “Integrator Guide” from Zebra Solutions.
The decode range depends on the quality and size of the bar code and on the scan engine’s software setting.

Laser class	CDRH Class II / IEC Class 2
Decode range	up to approx. 13.7 m up to approx. 45 ft.
Ambient light immunity	86,111 lux
Scan rate	35 (± 5) scans/sec. (bi-directional)
Scan angle	13.5° ± 0.7°
Laser energy at 650 nm	1.0 mW nominal value

3.4.8.3 1D-/2D-Imager (Blockbuster SE4500-SR)

SE4500-SR 1D/2D Imager Engine (omni-directional) decodes/reads 1D and 2D barcodes/symbols

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick) versions:
Further detailed information on the SE4500-SR Blockbuster can be found in the “User Manual“ or “Integrator Guide” from Zebra Solutions.
The decode range depends on the quality and size of the bar code and on the scan engine’s software setting.

Laser class	CDRH Class II / IEC Class 2
Decode range, near with code 39, 5 mil	up to approx. 5.3 cm up to approx. 2.1 inches
Decode range, far with code 39, 5 mil	up to approx. 19.1 cm up to approx. 7.5 inches
Focus distance	From the centre of the scanner window SR --- 19 cm
Resolution	752 x 480 pixels HxV (grey phase)
Rotational tolerance	360°
Angle of inclination	± 60° from the starting position
Skew tolerance	± 60° from the starting position
Ambient light immunity	96,900 lux
Aiming LED (VLD)	655 Nm ± 10 nm
Exposure element (LED)	625 Nm ± 5 nm LEDs (2x)
Field of view	Horizontal 40 ° Vertical 25 °

3.4.8.4 1D-/2D-Imager DPM (Blockbuster SE4500-HD)

SE4500-HD 1D/2D Imager Engine with DPM decodes/reads a wide range of DPM markings on metal, plastic and glass surfaces, including dot peening, laser etching, casting, stamping or moulding.

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick) versions:
Further detailed information on the Blockbuster SE4500-HD can be found in the "User Manual" or "Integrator Guide" from Zebra Solutions.
The decode range depends on the quality and size of the bar code and on the scan engine's software setting.

Laser class	CDRH Class II / IEC Class 2
Decode range, near with code 39, 3 mil	up to approx. 4.1 cm up to approx. 1.6 inches
Decode range, far with code 39, 3 mil	up to approx. 9.7 cm up to approx. 3.8 inches
Focus distance	From the centre of the scanner window SR --- 19 cm
Resolution	752 x 480 pixels HxV (grey phase)
Roll tolerance	360°
Pitch angle	± 60° from the starting position
Skew tolerance	± 60° from the starting position
Ambient light immunity	96,900 lux
Aiming LED (VLD)	655 Nm ± 10 nm
Exposure element (LED)	625 Nm ± 5 nm LEDs (2x)
Field of view	Horizontal 40 ° Vertical 25 °

3.4.8.5 1D-/2D-Imager (Blockbuster SE4750-SR)

SE4750-SR 1D/2D Imager Engine (omni-directional) decodes/reads 1D and 2D barcodes/symbols

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick) versions:
Further detailed information on the SE4750-SR Blockbuster can be found in the "User Manual" or "Integrator Guide" from Zebra Solutions.
The decode range depends on the quality and size of the bar code and on the scan engine's software setting.

Laser class	CDRH Class II / IEC 825 Class 2
Decode range, near with 5 mil Code 128	up to approx. 5.8 cm up to approx. 2.3 inches
Decode range, far with 5 mil Code 128l	up to approx. 22.1 cm up to approx. 8.7 inches
Focus distance	From the centre of the scanner window SR --- 7.38 inches
Resolution	1280 x 960 pixels
Rotational tolerance	360°
Angle of inclination	± 60° from the starting position
Skew tolerance	± 60° from the starting position
Ambient light immunity	96,900 lux
Aiming LED (VLD)	655 Nm ± 10 nm
Field of view	Horizontal 48 ° Vertical 36.7 °

3.4.8.6 1D-/2D-Imager (Blockbuster SE4750-MR)

SE4750-MR 1D/2D Imager Engine (omni-directional) decodes/reads 1D and 2D barcodes/symbols

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick) versions:
Further detailed information on the SE4750-MR Blockbuster can be found in the “User Manual“ or “Integrator Guide” from Zebra Solutions.
The decode range depends on the quality and size of the bar code and on the scan engine’s software setting.

Laser class	CDRH Class II / IEC 825 Class 2
Decode range, near with 5 mil Code 128	up to approx. 18.8 cm up to approx. 7.4 inches
Decode range, far with 5 mil Code 128	up to approx. 40.6 cm up to approx. 16.0 inches
Focus distance	From the centre of the scanner window MR --- 14.2 inches
Resolution	1280 x 960 pixels
Rotational tolerance	360°
Angle of inclination	± 60° from the starting position
Skew tolerance	± 60° from the starting position
Ambient light immunity	96,900 lux
Aiming LED (VLD)	655 Nm ± 10 nm
Field of view	Horizontal 31 ° Vertical 23 °

3.4.8.7 1D-/2D-Long Range Imager (SE4600-LR)

SE4500-SR 1D/2D Imager Engine (omni-directional) decodes/reads 1D and 2D barcodes/symbols

For MC92N0ex-G (Gun), type B7-A2A4-.G.. versions:

Further detailed information on the SE4600-LR can be found in the “User Manual“ or “Integrator Guide” from Zebra Solutions.

The decode range depends on the quality and size of the bar code and on the scan engine’s software setting.

Laser class	CDRH Class II / IEC Class 2
Decode range, near with code 39, 5 mil	up to approx. 20.32 cm up to approx. 8 inches
Decode range, far with code 39, 5 mil	up to approx. 9.14 cm up to approx. 30 feet

3.4.9 Decodable barcode types

All supported 1D-Barcodes		All supported 2D-Barcodes (only supported with Imager versions)	
1D-Symbol/Codes		2D-Symbol/Codes	
Code 11	Code 39	Aztec	Micro PDF-417
Code 93	Code 128	Australian 4-state	Maxi Code
Codabar	Coupon code	Canadian 4-state	PDF-417
Chinesisch 2 of 5	Discrete 2 aus 5	Composite AB	QR Code
Interleaved 2 of 5	Trioptic 39	Composite C	TLC39
EAN-8	EAN-13	Data Matrix	UK 4-state
UPCA	UPCE	Dutch Kix	US Planet
UPC/EAN Supplementals	MSI	Japanese 4-state	US Postnet
Webcode	RSS-14	PDF-417 Macro	USPS 4-state (US4CB)
RSS Limited	RSS Expanded	(Macro) Micro PDF-417	microQR

3.4.10 RFID/RuBee Option

Five different RFID/RuBee options available	LF (Low Frequency) HF (High Frequency) UHF (EU) Ultra High Frequency) UHF (US) Ultra High Frequency) RuBee

The maximum read / write ranges of the different RFID/RuBee readers are dependent on various environmental and ambient conditions and refer in the following to office environment. e.g.

- Transponder (Tag), size
- Mounting surface (metal, wood or different)
- Environment conditions
- Magnetic influence from outside
- Temperature
- Humidity

RFID Option with internal reader	RFID Option with internal reader + mounted antenna	RFID Option with extended reader	RFID Option with extended reader + mounted antenna

3.4.10.1 LF Reader (internal module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)
Combination with Scan Engine is not possible!

Nominal reading / writing distance	up to approx. 5 cm up to approx. 1.9 inches
Antenna	Integrated as ferrite antenna or air coil antenna
Frequency range	125/134 kHz (automatic switching)
Transmitting power	100 mW ± 2dB

Supported standards		
HITAG S256	HDX - RO	EM 4450/4550
HITAG S 2 kbit	HDX (Multipage)	EM4xxx (UNIQUE)
HITAG 1	EM4xxx (UNIQUE)	FDX-B
HITAG 2	FDX-B	BDE
Q5	BDE	ISO 11784/5
ATA5567	ISO 117845	ISO Animal
EM4305	ISO Animal	

3.4.10.2 LF Reader (extended module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)

Nominal reading / writing distance	up to approx. 5 cm up to approx. 1.9 inches
Antenna	Integrated in the extended module as ferrite antenna or air coil antenna
Frequency range	125/134 kHz (automatic switching)
Transmitting power	100 mW ± 2dB

Supported standards		
HITAG S256	HDX - RO	EM 4450/4550
HITAG S 2 kbit	HDX (Multipage)	EM4xxx (UNIQUE)
HITAG 1	EM4xxx (UNIQUE)	FDX-B
HITAG 2	FDX-B	BDE
Q5	BDE	ISO 11784/5
ATA5567	ISO 117845	ISO Animal
EM4305	ISO Animal	

3.4.10.3 HF Reader (internal module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)
Combination with Scan Engine is not possible!

Supported standards HF ISO 15693 HF ISO 14443	 I-Code SLI, Tag-IT HFI, my-d vicinity, STM LRI512 mifare, mifare Ultra Light, my-d proximity, I-Code 1 (optional)
Nominal reader calibration width HF ISO 15693 HF ISO 14443	 up to approx. 5 cm up to approx. 1.97 inch up to approx. 5 cm up to approx. 1.97 inch (with tags in cheque card format)
Nominal writing distance HF ISO 15693 HF ISO 14443	 up to approx. 5 cm up to approx. 1.97 inch up to approx. 5 cm up to approx. 1.97 inch (with tags in cheque card format)
Antenna	integrated
Frequency range	13.56 MHz
Transmitting power	250 mW ± 2 dB

3.4.10.4 HF Reader (extended module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)

Supported standards HF ISO 15693 HF ISO 14443	 I-Code SLI, Tag-IT HFI, my-d vicinity, STM LRI512 mifare, mifare Ultra Light, my-d proximity, I-Code 1 (optional)
Nominal reader calibration width HF ISO 15693 HF ISO 14443	 up to approx. 2 cm up to approx. 4.72 inch up to approx. 6 cm up to approx. 2.36 inch (with tags in cheque card format)
Nominal writing distance HF ISO 15693 HF ISO 14443	 up to approx. 12 cm up to approx. 4.72 inch up to approx. 6 cm up to approx. 2.36 inch (with tags in cheque card format)
Antenna	integrated
Frequency range	13.56 MHz
Transmitting power	250 mW ± 2 dB

3.4.10.5 UHF Reader (internal module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)
Combination with Scan Engine is not possible!

Supported standards		EPC Class 1 Gen 2 tag
Nominal reading range		up to approx. 30 cm up to approx. 11.8 inch
Nominal writing distance		up to approx. 30 cm up to approx. 11.8 inch
Antenna		integrated
Frequency range	Europe USA	865.6 to 867.5 MHz (EN302 208) 902.0 to 928.0 MHz (FCC CFR 47 part 15.247)
Transmitting power		200 mW ± 2dB

3.4.10.6 UHF Reader (internal module + mounted antenna)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)
ATEX/IECEx protection type: Ex II 2G Ex q [ib] IIB T4 Gb

Supported standards		EPC Class 1 Gen 2 tag
Nominal reading range		up to approx. 150 cm up to approx. 59 inches
Nominal writing distance		up to approx. 150 cm up to approx. 59 inches
Antenna		external (UPM Raflatac)
Frequency range	Europe USA	865.6 to 867.5 MHz (EN302 208) 902.0 to 928.0 MHz (FCC CFR 47 part 15.247)
Transmitting power		200 mW ± 2dB

3.4.10.7 UHF Reader (extended module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)

Supported standards		EPC Class 1 Gen 2 tag
Nominal reading range		up to approx. 50 cm up to approx. 19.6 inch
Nominal writing distance		up to approx. 50 cm up to approx. 19.6 inch
Antenna		integrated
Frequency range	Europe USA	865.6 to 867.5 MHz (EN302 208) 902.0 to 928.0 MHz (FCC CFR 47 part 15.247)
Transmitting power		200 mW ± 2dB

3.4.10.8 UHF Reader (extended module + mounted antenna)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)
ATEX/IECEx protection type: Ex II 2G Ex q [ib] IIB T4 Gb

Supported standards		EPC Class 1 Gen 2 tag
Nominal reading range		up to approx. 150 cm up to approx. 59 inches
Nominal writing distance		up to approx. 50 cm up to approx. 59 inches
Antenna		external (UPM Raflatac)
Frequency range	Europe USA	865.6 to 867.5 MHz (EN302 208) 902.0 to 928.0 MHz (FCC CFR 47 part 15.247)
Transmitting power		200 mW ± 2dB

3.4.10.9 RuBee Reader (extended module)

For MC92N0ex-G (Gun) and MC92N0ex-K (Brick)
Combination with Scan Engine is possible!

Nominal reading / writing distance	up to approx. 5 cm up to approx. 1.9 inches
Antenna	Integrated as ferrite antenna and air coil antenna
Frequency range	65.5 kHz inductive power 131 kHz data communication
Transmitting power	

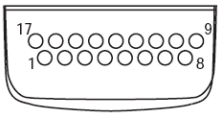
3.5 Battery

Battery Type 17-A1Z0-0001 Type 17-A1Z0-0002 Type B7-A2Z0-0006	(charge only outside of hazardous location) for type 17-A1A3-… for type 17-A1A2-…. for type B7-A2A4-... Lithium Ions 7.4 V / 2400 mAh
Operating temperature – During charging – During discharging	 0 °C to +40 °C +32 °F to 104 °F -20 °C to +50 °C -4 °F to 122 °F
Storage temperature	-20 °C to +50 °C -4 °F to 122 °F
Relative air humidity	20 % - 95 % (non-condensing)
Backup battery	Ni-MH battery 2.4 V/15 mAh (rechargeable) Integrated in the device and only replaceable in the factory.
Battery performance	approx. 8 hours depending on the device settings

The battery life depends on various usage factors and on the device settings such as e.g.

- Use and setting of WLAN / Bluetooth
- Backlighting
- Frequency of scanner utilisation
- Frequency of RFID utilisation

3.6 External interfaces



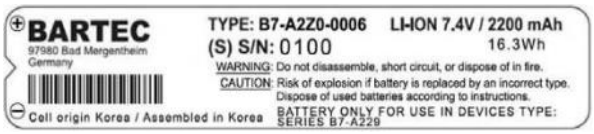
Restrictions:

– The 17-pole data interface should only be used outside the potentially explosive atmosphere and exclusively with the devices stated by the manufacturer!
– The headset connection should only be used outside the potentially explosive atmosphere and exclusively with the devices stated by the manufacturer!

PIN	Signal name	Function	PIN	Signal name	Function
1	USB_GND	USB	10	Cradle_DET	Grounded with device inside of cradle
2	USB_D_Plus	USB	11	DTR	RS232C
3	TxD	RS232C	12	Not assigned	Not assigned
4	RxD	RS232C	13	Power_IN	12 V / 2.5 A max.
5	DCD	RS232C	14	CTS	RS232C
6	RTS	RS232C	15	USB_5V_DET	USB
7	DSR	RS232C	16	USB_D_Minus	USB
8	GND	Ground, 2.5 A max.	17	EXT_Power_OUT	3.3 V / 500 mA
9	RI	RS232C			

3.7 Product labelling

A Laser warning	CAUTION - CLASS 3R LASER LIGHT WHEN OPEN. AVOID DIRECT EYE EXPOSURE. ATTENTION - LUMIÈRE LASER DE CLASSE 3R, EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU. VORSICHT - LASERLICHT KLASSE 3R, WENN ABDECKUNG GEÖFFNET. DIREKTE BESTRAHLUNG DER AUGEN VERMEIDEN.
B Laser Mark of Compliance	THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003. CET APPAREIL NUMÉRIQUE DE LA CLASSE B EST CONFORME À LA NORME NMB-003 DU CANADA. COMPLIES WITH 21 CFR1040.10 AND 1040.11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE No. 50, DATED JUNE 24, 2007, AND IEC/EN 60825-1:2001, 2007 & IEC/EN 62471:2006 WARNING: SUBSTITUTION OF PARTS MAY IMPAIR INTRINSIC SAFETY. TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTABLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING. READ, UNDERSTAND AND ADHERE TO THE OPERATIONAL MANUAL. AVOID EXPOSURE. LASER LIGHT IS EMITTED FROM THIS APERTURE. ATTENTION : TOUTE SUBSTITUTION DES COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSÈQUE. POUR ÉVITER L'INFLAMMATION D'ATMOSPHÈRES INFLAMMABLES OU COMBUSTIBLES, VEUILLEZ METTRE HORS TENSION AVANT L'ENTRETIEN VEUILLEZ LIRE, PRENDRE CONNAISSANCE ET RESPECTER LES CONSIGNES DU MODE D'EMPLOI. ÉVITEZ TOUTE EXPOSITION : CET APPAREIL ÉMET UNE LUMIÈRE LASER. THIS DEVICE CONTAINS AN APPROVED RADIO MODULE. SEE REGULATORY GUIDE FOR PATENT AND RADIO INFORMATION. SEALED! DO NOT OPEN! DO NOT CHARGE IN HAZ.LOC.! SEE MANUAL FOR SPECIAL CONDITIONS!
C Laser warning	LASERLICHT - NICHT IN DEN STRAHL BLICKEN! LASER KLASSE 2 LUMIERE LASER - NE PAS REGARDER DANS LE FAISCEAU APPAREIL A LASER DE CLASSE 2 CAUTION: LASER LIGHT. DO NOT STARE INTO BEAM. CLASS 2 LASER PRODUCT 630-680 nM, 1 mW
D Type label e.g. for: ATEX/IECEx Zone 1 RFID-LF internal	Ex II 2 G Ex q [ib] IIC T4 Gb PTB 13 ATEX 2019 X IECEx PTB 13.0043X MADE IN GERMANY MODEL: MC92N0ex NI RFID-LF INTERNAL (V2) ONLY USE BATTERY PACK P/N 17-A120-0001 WARNING: THIS ENCLOSURE IS FACTORY SEALED. DO NOT OPEN! DO NOT RECHARGE IN HAZ. LOC. ATTENTION: CE BOITIER EST SCELLE EN USINE, NE PAS TENTER D'OUVRIR! NE PAS RECHARGER EN ZONE A RISQUE D'EXPLOSION. SEE REGULATORY GUIDE FOR PATENT AND RADIO INFORMATION CONTAINS APPROVED RADIO MODULES TYPE: 21-148603 / 802.11 abcn, BLUETOOTH TYPE: 05-0080-0990 / MC92N0ex RFID-LF INTERNAL (V2) FCC ID TBUMC92N0EX IC: 5736C-MC92N0EX CONTAINS FCC ID TBULFG3 CONTAINS IC: 5736C-LFG3 BARTEC GmbH 97980 BAD MERGENTHEIM GERMANY CE 0044
E Laser warning	CAUTION - CLASS 2 LED LIGHT. WHEN OPEN. DO NOT STARE INTO THE BEAM. ATTENTION - LUMINERE LED DE CLASSE 2. EN CAS D'OUVERTURE. NE PAS REGARDER DANS LE FAISCEAU VORSICHT - LED LICHT KLASSE 2. WENN ABDECKUNG GEÖFFNET. NICHT IN DEN STRAHL BLICKEN.

Battery	
	Type 17-A1Z0-0001
	Type 17-A1Z0-0002
	Type B7-A2Z0-0006 

3.8 Laser labels

In compliance with IEC 60825 and EN 60825, Clause 5 the following information is provided:

DEUTSCH KLASSE 1 KLASSE 1 LASER PRODUKT KLASSE 2 LASERLICHT NICHT IN DEN LASERSTRAHL SEHEN KLASSE 2 LASER PRODUKT	
ENGLISH CLASS 1 CLASS 1 LASER PRODUCT CLASS 2 LASER LIGHT DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT	FRENCH / FRANÇAIS CLASSE 1 PRODUIT LASER DE CLASSE 1 CLASSE 2 LUMIERE LASER NE PAS REGARDER LE RAYON FIXEMENT PRODUIT LASER DE CLASSE 2
ITALIAN / ITALIANO CLASSE 1 PRODOTTO AL LASER DI CLASSE 1 CLASSE 2 LUCE LASER NON FISSARE IL RAGGIOPRODOTTO AL LASER DI CLASSE 2	PORTUGUESE / PORTUGUÊS CLASSE 1 PRODUTO LASER DA CLASSE 1 CLASSE 2 LUZ DE LASER NÃO FIXAR O RAIO LUMINOSO PRODUTO LASER DA CLASSE 2
DUTCH / NEDERLANDS KLASSE 1 KLASSE-1 LASERPRODUKT KLASSE 2 LASERLICHT NIET IN STRAAL STAREN KLASSE-2 LASERPRODUKT	DANISH / DANSK KLASSE 1 KLASSE 1 LASERPRODUKT KLASSE 2 LASERLYF SE IKKE IND I STRÅLEN KLASSE 2 LASERPRODUKT
NORWEGIAN / NORSK KLASSE 1 LASERPRODUKT, KLASSE 1 KLASSE 2 LASERLYS IKKE STIRR INN I LYSSTRÅLEN LASERPRODUKT, KLASSE 2	FINNISH / SUOMI LUOKKA 1 LUOKKA 1 LASERTUOTE LUOKKA 2 LASERVALO ÄLÄ TUIJOTA SÄDETTÄ LUOKKA 2 LASERTUOTE

4. Transport and Storage

4.1 Transport

Report any transport damage or incomplete deliveries immediately after receipt in writing to the forwarding company and BARTEC GmbH.

Any damage caused through incorrect storage shall not be covered by the warranty provisions of BARTEC GmbH.

4.2 Storage

ATTENTION

Property damage through incorrect storage!

- ▶ Observe storage temperatures.
- ▶ Keep humidity away from the Mobile Computers.

Additional information on the batteries

The batteries of BARTEC (Type 17-A1Z0-0001, 17-A1Z0-0002 and B7-A2Z0-0006) are developed and manufactured in accordance with the highest industrial standards. The operating time or storage period of a battery is restricted, however. The actual life of a battery is influenced by different factors, e.g. hot, cold, rough operating environment and falling from a great height. If a battery is kept longer than six months, the performance may be impaired on a permanent basis. Keep the batteries in a dry, cool place. For longer periods of storage, remove the batteries from the device to prevent self-discharge, rusting of metallic parts and the escape of electrolyte.

Batteries kept for the duration of 6 months or longer should be charged and then discharged again at least every 3 months. If electrolyte has escaped, do not touch the areas affected and dispose of the batteries as prescribed. Replace the battery if the operating time has shortened considerably.

The standard warranty period for all BARTEC batteries is 6 months, whereby it is irrelevant whether the battery was acquired separately or was contained in the scope of delivery of the MC92N0ex.

5. Commissioning

Before you assemble the device, make sure that all components and documents exist.

DANGER

Avoid electrostatic charging in potentially explosive atmosphere.
There is a risk of fatal injury in an explosive atmosphere!

- ▶ Do not wipe or clean the devices with a dry cloth.
- ▶ Wear suitable clothing and shoes.
- ▶ Do not use rubber gloves or similar.

DANGER

Unintended use endangers explosion protection.
There is a risk of fatal injury in an explosive atmosphere!

- ▶ Do not make any changes to the Mobile Computer.
- ▶ In the case of functional disturbances or damage to the enclosure, the device should be removed immediately from the potentially explosive atmosphere to a safe place. Remove battery to decommission the device!
- ▶ Do not use any battery replicas or batteries from other manufacturers.

5.1 Scope of delivery

1 x MC92N0ex

1 x Lithium-ion battery 7.4 V / 2400 mAh

1 x Stylus

1 x User Manual

5.1.1 Accessories optional

Authorised accessories from BARTEC:

- SD card
- Replacement stylus
- Battery 7.4 V / 2400 mAh
- Cradle for communication and charging
- Charging station
- Screen protector
- Leather holster

5.2 Requirements in potentially explosive atmosphere

Mobile Computer

1. The Mobile Computer may not be opened.
2. Do not use, swap or replace any non-specified components.
3. Do not retrofit any components to the internal plugs or slots.
4. Protect the Mobile Computer from impact!
5. Do not expose the Mobile Computer to caustic/aggressive liquids, vapours, mists!
6. Avoid the impact of moisture outside the specifications.
7. Avoid thermal impact outside the specified temperature range.
8. Use the 17-pole data interface only outside the potentially explosive atmosphere and exclusively with the devices specified by the manufacturer!
9. Use the headset connection only outside the potentially explosive atmosphere and exclusively with the devices specified by the manufacturer!

Battery

1. The battery may not be opened.
2. Change battery type 17-A1Z0-0001, 17-A1Z0-0002 and B7-A2Z0-0006 only outside of hazardous area.
3. Only charge the battery outside the potentially explosive atmosphere.
   Only use the battery for the purpose listed in this User Manual. Is only suitable for the Mobile Computer MC92N0ex.

- Battery type 17-A1Z0-0001 is only suitable for MC92N0ex-IS (type 17-A1A3-…./……..)
- Battery type 17-A1Z0-0002 is only suitable for MC92N0ex-IS (type 17-A1A2-…./……..)
- Battery type B7-A2Z0-0006 is only suitable for MC92N0ex-NI (type B7-A2A4-…./……..)

4. There is a danger of burning if used incorrectly. Do not expose the battery to temperatures of more than +50 °C (122 °F).
5. Battery acid may escape from the cells and cause burning in the case of damage.
6. Defective batteries must be disposed of immediately, whereby the provisions on battery disposal applicable in the respective region must be observed.
7. The battery may explode if it catches fire!
8. Do not short circuit the battery!

Accessories

1. Only install or replace accessories outside the potentially explosive atmosphere.
2. Use accessories exclusively which have been tested or certified by BARTEC for this purpose.
3. The end user can replace the SD card, screen protector, keypad and leather holster himself.

5.3 First steps

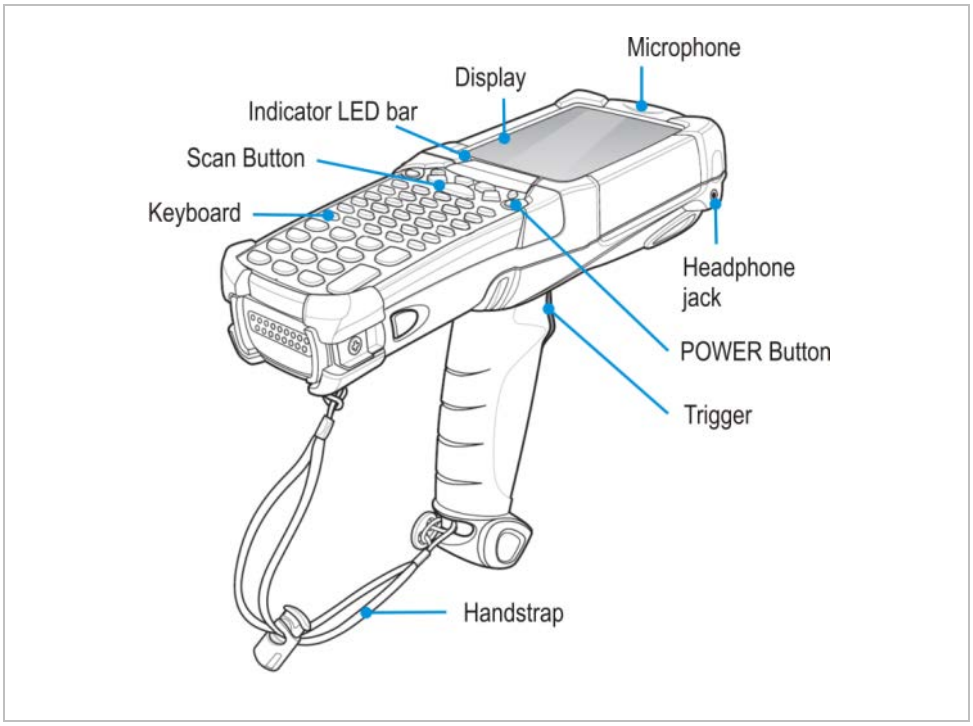
- ▶ Unpack the Mobile Computer.
- ▶ Insert the battery into the Mobile Computer.
- ▶ Charge the battery on the cradle.
- ▶ Switch on the Mobile Computer.

Optional:

- ▶ Charge the battery in a charger.
- ▶ Insert a SD card.
- ▶ Remove/replace screen protector.

The individual steps are explained on the following pages.

5.4 Structure



5.5 Handling accessories

DANGER

Non-certified accessories endanger explosion protection.
There is a risk of fatal injury in an explosive atmosphere!

- Only use original accessories from BARTEC/ZEBRA.

Only permitted outside the potentially explosive atmosphere:

- Charge battery.
- Insert/replace SD card.
- Remove/replace screen protector.

Further information is also provided by the ZEBRA documentation.

5.5.1 Insert battery

Depending on configuration, the MC92N0ex-IS is supplied with a 7.4 V/2200 mAh battery.

Type	Order number	Charge time
Battery (EU) for ATEX/IECEx Lithium-ion battery 7.4 V / 2400 mAh	17-A1Z0-0001	Less than 8 hours
Battery (US) fo UL Division 1 Lithium-ion battery 7.4 V / 2400 mAh	17-A1Z0-0002	Less than 8 hours
Battery for UL Division 2 and ATEX Zone 2/22 Lithium-ion battery 7.4 V / 2400 mAh	B7-A2Z0-0006	Less than 8 hours

Work steps:

1. Charge the battery only outside hazardous areas.
2. Use only batteries which have been tested or certified by BARTEC for this purpose.
3. Insert the battery with the battery contacts facing forwards into the battery compartment under the keypad.
4. Make sure that the battery's charging contacts agree with the charging contacts in the battery compartment.
5. Push the battery into the battery compartment until it locks into place.

5.5.2 Change keypad

The MC92N0ex has interchangeable modular keypads.

DANGER

Non-certified accessories endanger explosion protection.
There is a risk of fatal injury in an explosive atmosphere!

- ▶ It must be ensured that only original keypads are used in safety-oriented operation.
- ▶ The use of imitation keypads from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.

Only permitted outside the potentially explosive atmosphere:

- ▶ The keypad may only be changed outside the hazardous area!
- ▶ Follow proper ESD precautions to avoid damaging the SD card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is property grounded.

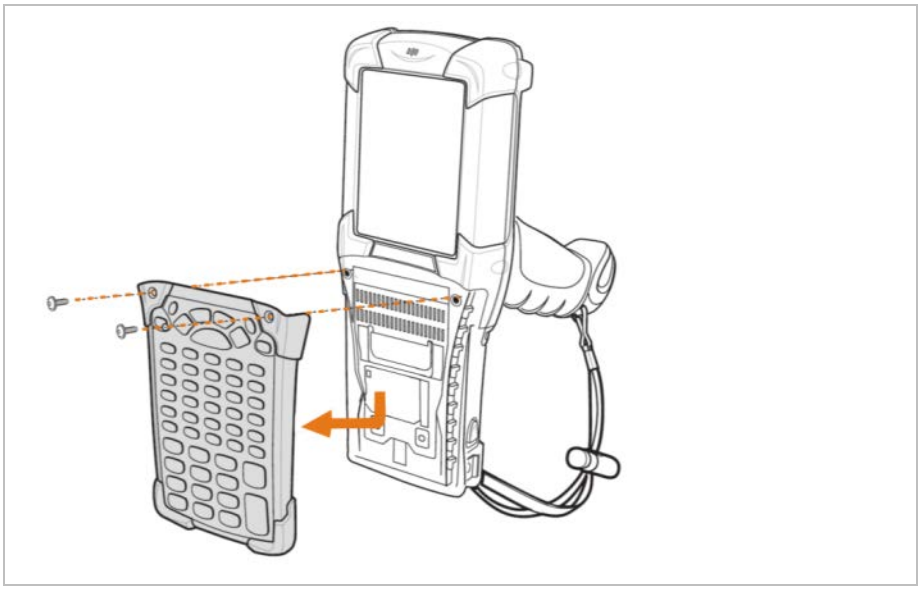
ATTENTION

Incorrect handling may cause damage to property!

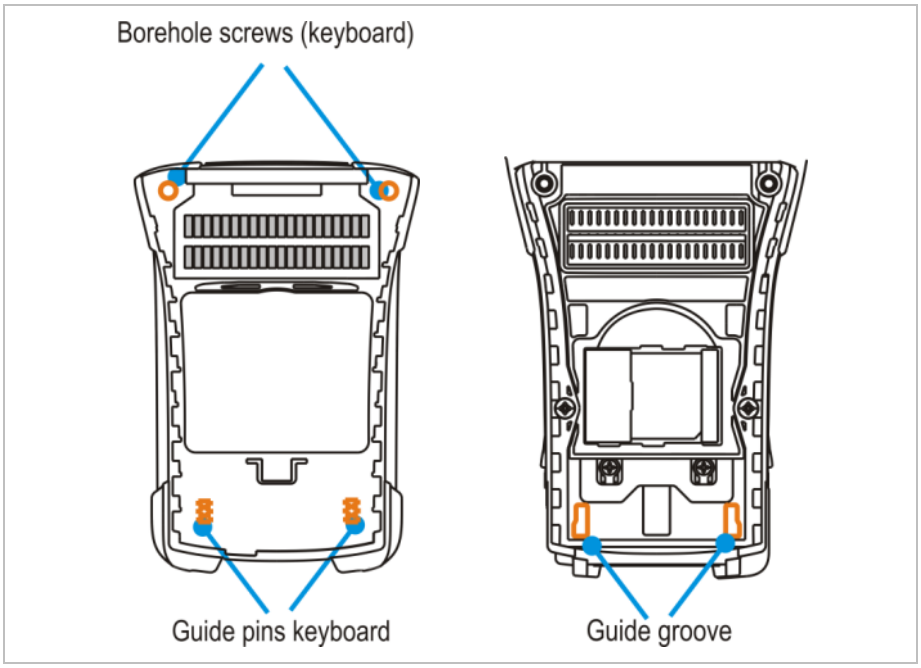
- ▶ Power off the MC92N0ex before start of change parts.
- ▶ Put the MC92N0ex into suspend mode before you remove the battery. Failure to properly remove the battery may cause the MC92N0ex to cold boot and potential loss of data.

Work steps:

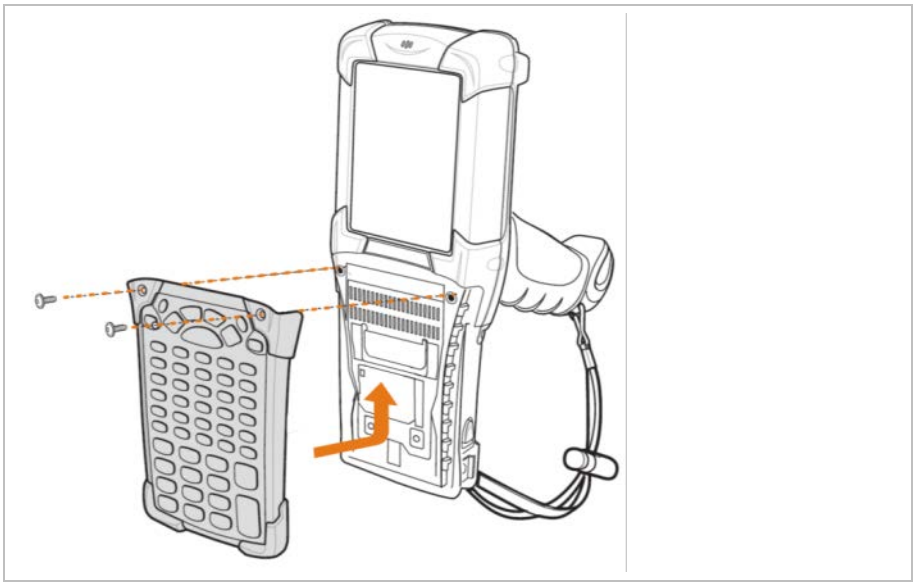
1. Turn off the MC92N0ex
2. Remove the battery (see chapter 5.5.1 "Insert battery").
3. Take out the screws at the top edge of the keypad.



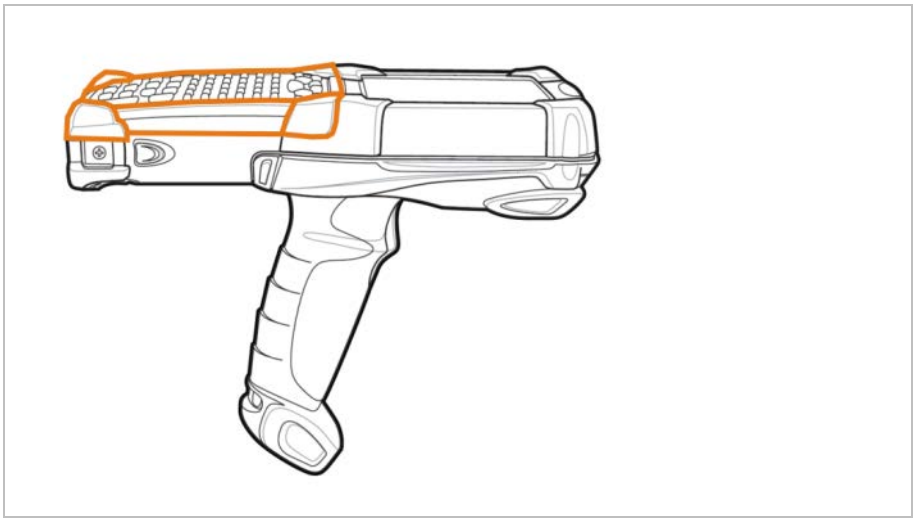
4. Pull the keypad downwards in the direction of the arrow and then forwards to take it out of the MC92N0ex.
5. Check that the contacts and seals are clean and in good condition.
6. Insert both of the keyboard's guide pins into the guide grooves (see illustration) on the mobile computer housing.



7. Snap on the keypad in the direction (see following illustration) of the arrow and push it upwards until the boreholes for the screws are over the threaded sleeves.



8. Check that the keypad is mounted correctly.



9. Tighten the screws (torque = 0.452 Nm / torque = 4.0 in-lbs); 0.5 Nm is advisable. Attention: Always use the correct torque.
10. After the exchange of the keyboard a cold boot (see chapter 7.1 "Resetting the MC92N0ex") must be performed.
11. The current drivers are installed on the unit and initialized automatically by the cold boot.

ATTENTION

Incorrect handling may cause damage to property!

▶ Do not apply more than 0.5 NM or 4 in-lbs of torque when tightening the keypad screws.

5.5.3 Insert SD card

ATTENTION

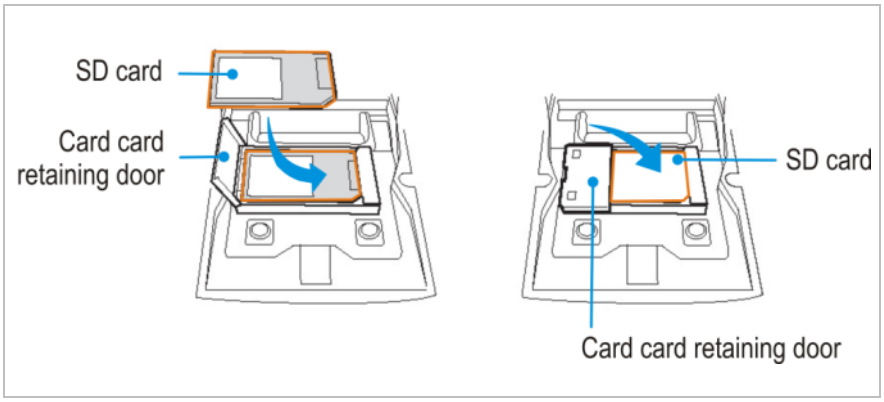
Damage to the SD card through electrostatic discharges!

- ▶ Use an antistatic base.
- ▶ Ensure that the operator is correctly earthed.
- ▶ Use only specified SD cards

1 GB	Order number 17-28BE-F006/0002
2 GB	Order number 17-28BE-F006/0003
4 GB	Order number 17-28BE-F006/0004
8 GB	Order number 17-28BE-F006/0005
16 GB	Order number 17-28BE-F006/0006
32 GB	Order number 17-28BE-F006/0007

Work steps:

1. Only install or replace the SD card outside the potentially explosive atmosphere.
2. Only use SD cards which have been tested and certified by BARTEC for this purpose.
3. Press the red button "ON/OFF" to suspend the MC92N0ex.
4. Remove the battery (see chapter 5.5.1 "Insert battery")
5. Remove the two keypad screws and slide the keypad down and lift off (see chapter 5.5.2 "Change keypad").
6. Lift the SD card retaining door and position the SD card, with the contacts down, into the SD card holder (shown in the illustration).
7. Snap the retaining door closed.
8. Replace the keypad and re-attach using the two screws (see chapter 5.5.2 "Change keypad")
9. Perform a warm boot that the keypad is recognized by the system (see chapter 7.1 "Resetting the MC92N0ex").
10. Check in the File Explorer or the settings, if the SD card has been recognized.



5.5.4 Remove/replace screen protector

The screen protector protects the touch screen and improves the user friendliness of the device. With its relatively hard surface, the screen protector offers a mechanical protection against scratches for example and reduces disturbing light reflections.

DANGER

Use of a screen protector changes the Ex protection type of the MC92N0ex to IIB. There is a risk of explosion when you use the MC92N0ex in combination with screen protector in hazardous area with gas group IIC.

- ▶ Use of screen protector change the Ex protection type of the MC92N0 from IIC to IIB.

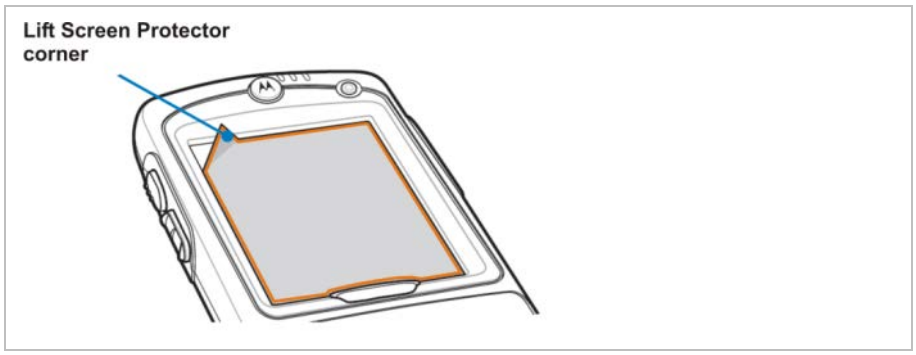
ATTENTION

Incorrect handling may cause damage to property!

- ▶ Use a screen protector so as not to impair the device warranty.
- ▶ Only use screen protector (Type 17-A1Z0-0003) from BARTEC.
- ▶ Observe the installation instructions for the screen protector.
- ▶ Do not use any sharp objects to remove the screen protector!

Work steps

1. Only remove or replace the screen protector outside the potentially explosive atmosphere.
2. Lift a corner of the screen protector and remove it from the display.
3. Attach the screen protector in accordance with the “Screen protector installation instructions”.



You can order screen protector from your customer consultant or from BARTEC. Installation instructions for the screen protector are part of the delivery scope. Part number: 17-A1Z0-0003 screen protector, pack of 5.

5.5.5 Leather holster

BARTEC offers holsters to protect the MC92N0ex series. The holsters are available in different versions.

DANGER

Non-certified accessories endanger explosion protection. There is a risk of fatal injury in an explosive atmosphere!

▶ Use only the original leather holsters.

Leather holster with ining

- for MC92N0ex-K RFID/RuBee 03-9809-0023
- for MC92N0ex-G RFID/RuBee 03-9809-0024
- for MC92N0ex-G and MC92N0ex-K with belt clip and turned part 03-9809-0026
- Turned part for holster 03-9809-0027

Leather holster with ining and keypad protection foil

- for MC92N0ex-K RFID/RuBee 03-9809-0019
- for MC92N0ex-G RFID/RuBee 03-9809-0020
- for MC92N0ex-G and MC92N0ex-K with belt clip and turned part 03-9809-0022
- Turned part for holster 03-9809-0027

5.5.6 Headset

DANGER

Headset what are not compliant to the safety data of the headset connector endanger a risk of explosion. There is a risk of fatal injury in an explosive atmosphere!

▶ Use only headsets which observe the safety data in the EC Type Examination Certificate.

Safety data of headset connector:

Ex protection	Ex ib IIC		
	U0	=	8.6 V
	I0	=	354 mA
	P0	=	479 mW
	C0	=	930 nF
	L0	=	460 µH

5.6 RFID/RuBee

The MC92N0ex can be optionally equipped with RFID/RuBee

This unique idea makes it possible to combine state-of-the-art technologies so that one device can capture barcode data or RFID/RuBee technology. Thanks to modular keyboards and a colour display, the data can be edited directly on the device. The data can be wirelessly transferred by means of WLAN or Bluetooth to other company divisions for further processing and accordingly be available in real time for further editing.

5.6.1 Versions

Several versions of the RFID option are available.

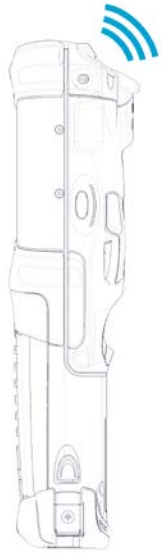
–	Internal RFID Reader	LF	125/134 kHz (without Scan Engine)
–	Extended RFID Reader	LF	125/134 kHz
–	Internal RFID Reader	HF	13,56 MHz (without Scan Engine)
–	Extended RFID Reader	HF	13,56 MHz
–	Internal RFID Reader	UHF EU	865.5 up to 867.5 MHz (without Scan Engine)
–	Extended RFID Reader	UHF EU	865.5 up to 867.5 MHz
–	Internal RFID Reader	UHF US	902 up to 928 MHz (without Scan Engine)
–	Extended RFID Reader	UHF US	902 up to 928 MHz
–	Internal RFID Reader	UHF EU	865.5 up to 867.5 MHz + mounted antenna (without Scan Engine)
–	Extended RFID Reader	UHF EU	865.5 up to 867.5 MHz + mounted antenna
–	Internal RFID Reader	UHF US	902 up to 928 MHz + mounted antenna (without Scan Engine)
–	Extended RFID Reader	UHF US	902 up to 928 MHz + mounted antenna
–	Extended RuBee Reader		65.5/131 kHz

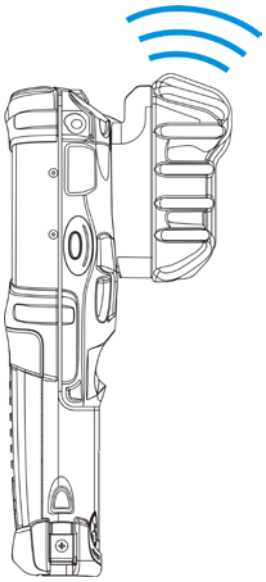
The customer cannot mount the RFID/RuBee option onto the mobile computer him/herself.

If the MC92N0ex is to be retrofitted at a later date, this may only be done in the factory.

5.6.2 Reading range/direction

The following specifications relating to ranges refer to an office environment and depend on the standard used, the tags and the environmental influences.

	Internal LF Reader
	up to 5 cm
	Internal HF Reader
	up to 5 cm
	Internal UHF Reader
	up to 30 cm
	Internal UHF Reader + mounted antenna
	up to 150 cm

	Extended LF Reader
	up to 5 cm
	Extended HF Reader
	up to 12 cm
	Extended UHF Reader
	up to 50 cm
	Extended UHF Reader + mounted antenna
	up to 150 cm
	Extended RuBee Reader
	up to 5 cm

5.6.3 Software

A demo in Open Source and an SDK (created in Visual Studio 2008) are available as software for developing applications. The SDK file is available in the C# programming language and contains all the resources necessary for developing applications. On the one hand, the Open Source Demo serves to show the reading process and on the other hand it serves as a good example for application developers for programming readers. The following operating systems are supported by the SDK and the Demo.

- WEH (Windows Embedded Handheld) 6.5.3
- Windows CE 7.0
- Android KitKat 4.4

The SDK, the demo and the relevant descriptions are available free of charge on the BARTEC Download page.

http://www.bartec.de/automation-download/

5.7 Connection to a PC

The MC92N0ex-IS series is supplied with the Microsoft WEH 6.5.3 or higher operating system. Microsoft provides software free of charge for connection to a PC for synchronisation, installation and data exchange.

5.7.1 Active Sync

It is recommended to install ActiveSync (Version 4.5 or higher) on the host computer for communication with different computers installed under Windows XP or earlier operating systems.
ActiveSync synchronises the information from the Mobile Computer with the host computer. Changes made on the Mobile Computer or the host computer exist on both devices after synchronisation.

ActiveSync is available for download as freeware at www.microsoft.com.
Supporting operating system: Windows XP or earlier operating systems

More information on ActiveSync is available in the ZEBRA Integration Manual or on the Microsoft website.

5.7.2 Windows Mobile Device Center

It is recommended to install the Windows Mobile Device Center on the host computer for the communication with different host computers installed under Windows Vista, Windows 7, 8 or Windows 10.
The Windows Mobile Device Center synchronises the data from the Mobile Computer with the host computer. Changes made on the Mobile Computer or the host computer exist on both devices after synchronisation.

The Windows Mobile Device Center is available for download as freeware at www.microsoft.com.
Supporting operating systems: Windows Vista, Windows 7, 8 or Windows 10

More information on Windows Mobile Device Center is available in the ZEBRA Integration Manual or on the Microsoft website.

6. Operation

The operator using an electric system in an potentially explosive environment must keep the accompanying operation equipment in a good condition, operate and monitor it correctly and conduct the requisite services and repairs. Before commissioning the devices, it must be checked that all components and documents are available.

6.1 Final inspection

The following aspects must be checked before putting the device into operation:

- Is there any damage to the display, scanner window or enclosure?
- Is the battery used certified?
- Is the battery compartment cover closed?
- Does the screen protector (if used) have the requisite certification?
- Is the SD card specified for the MC92N0ex-IS?

6.2 Handling

Optimum standby position

Right:

The Mobile Computer is protected from damage.

Wrong:

The Mobile Computer can be damaged by objects on the surface or may fall down.

6.3 Care and cleaning

We recommend that the devices be cleaned regularly depending on use and also treated with care to ensure smooth and trouble-free operation.

6.3.1 Care

Display	– Only use with supplied stylus for the touchscreen – Use screen protector – Use a soft cloth to clean and do not use aggressive cleaners
Enclosure	– Protect device from impacts – Do not expose to extreme load, e.g. strong knocks and falling from great heights
Environment	– Do not expose to extreme temperatures and – Do not leave in dirty, moist or wet environment
Battery	– Change regularly – Discharge and charge regularly (every 3 months) – If storing for a lengthy time, take the batteries out of the Mobile Computer and keep them in a cool environment at about 0°C to +10°C and at a state of charge of approximately 40-50 %. – It is recommendable to charge the battery again once the state of charge drops to approximately 5 %. It is not necessary to discharge the battery completely. Charging the battery every day doesn't do any damage either. Batteries nowadays do not have a "memory effect". – If the battery state of charge drops from 100 % to half of that too quickly, it is time to replace the battery. The battery's expected service life is approx. 500 charges with standard usage.

6.3.2 Cleaning

⚠ DANGER

There is a risk of fatal injury in an explosive atmosphere!

▶ Only clean the devices and the accessories outside the potentially explosive atmosphere.

The following precautionary measures should be taken for your own safety and to ensure the operational safety of the device:

ATTENTION

Devices and accessories can be destroyed if handled incorrectly.

- ▶ Generally separate the charger from the power supply.
- ▶ Only clean the cradle contacts if the battery has been removed.
- ▶ There should be no residue, e.g. fluff on the contacts.
- ▶ There should be no moisture residue on the contacts.
- ▶ Heed the safety precautions when drying with compressed air.

6.3.3 Suitable materials

- Alcohol cleaning cloths
- Lens cleaning cloths
- Cotton swabs
- Isopropanol
- Compressed air spray with tube

Enclosure	– With alcohol cleaning cloths
Keys and intermediate spaces	– With alcohol cleaning cloths
Screen	– With alcohol cleaning cloths Avoid collections of fluid and rub with smooth cloths
Scanner window	– Cleaning agent for optical devices
Battery contacts	Remove the battery from the device to clean. – Soak the cotton swabs in an alcohol solution to remove all grease and dirt deposits on the contacts. – Repeat cleaning several times Before replacing the battery, the contacts must be completely dry and no fluff should remain.
Cradle contacts	To clean the cradle contacts, remove the battery from the device. – Soak the cotton swabs in an alcohol solution to remove all grease and dirt deposits on the contacts. – Repeat cleaning several times Before the device is replaced in the cradle, the cradle contacts must be completely dry and no fluff should remain.

Charger plug-in connector	Separate the charger from the power supply to clean the charger contacts. – Soak the cotton swabs in an alcohol solution to remove all grease and dirt deposits on the contacts. – Repeat cleaning several times Before the charger is reconnected to the power supply, the contacts must be completely dry and no fluff should remain.

6.4 Operation recommendations and requirements

6.4.1 Basic safety and health protection requirements

Consult your local health and safety officer to ensure that you are acquainted with the safety regulations in your company which serve to protect employees at the work place.

6.4.1.1 Ergonomic recommendation

The following recommendations should be considered for everyday work at the workplace:

- Avoid one-sided, constantly repetitive movements.
- Body posture should be as neutral as possible.
- Avoid exercising great force.
- Keep objects which are used frequently within a functional distance.
- Adjust the working height to the body height and type of work.
- Erect objects without vibration.
- Avoid the exercise of direct pressure.
- Ensure that tables and chairs are adjustable.
- There must be sufficient room for body movements.
- Ensure that the working environment is suitable.
- Optimise workflows.
- Alternate between the left and right hand as frequently as possible when conducting repetitive tasks.

6.4.1.2 Vehicle installation

RF signals may impair incorrectly installed or inadequately shielded electronic systems in vehicles (including safety systems). If you have any questions on your vehicle, get in touch with the manufacturer or a sales person. You can also learn from the manufacturer whether additional equipment has been fitted to the vehicle. An airbag has a strong impact. Do NOT place objects, such as installed or portable radio equipment, in the area above the airbag or in the area of deployment of the airbag. If the radio equipment was not correctly installed in the vehicle, severe injuries may result if the airbag is triggered. Position the device within good range. Ensure that you have access to the device without having to take your eye off the road.

It is not permitted to connect a warning device which leads to horn sounds or light signals when receiving a call in road traffic.

Road traffic safety

Do not take any notes and do not use the device when driving. Making a list of to-do's or browsing through the address book when driving has a negative influence on safe driving. When driving on the roads, you must primarily think of your safety and that of the other road users. You should therefore concentrate completely on the road. Check the legal provisions on the use of wireless devices in road traffic of the respective region. Always observe these. If you use a wireless device during driving, rely on your good judgment and remember the following:

1. Become acquainted with the wireless device and its functions such as the shortcut dialing or dial repetition. These functions may prove to be useful if you would like to make a call without taking your eye off the road.
2. Where possible, use hands-free equipment.
3. Let your dialogue partner know that you are behind the steering wheel. Where necessary, discontinue the call in dense traffic or poor weather conditions. Rain, sleet, snow, ice and even very dense traffic represent dangers.
4. Dial the required numbers carefully and estimate the traffic situation. Make your calls when you have brought your car to a stop or before you leave. Plan your calls such that they can be made when the car is parked. If you really must make a call during the trip, only dial a part of the number, check the road and look in the rear view mirror and then dial the rest of the number.
5. Do not surccumb to stressful and emotional telephone conversations which could take your attention from the road. Let your dialogue partner know that you are in a car and refrain from conversations which could take your attention away from the road.

6. Call for help using your mobile device if necessary. Dial the emergency services (9-1-1 in the USA and 1-1-2 in Europe) or other local emergency service numbers in the event of fire, accidents or medical emergences. Remember that these calls are free of charge on the wireless device! The call can be made independently of security code or networks with or without the SIM card.
7. Help your fellow humans in emergency situations with your mobile device. If you witness a serious accident, crime or other emergency, call the emergency service (9-1-1 in the USA and 1-1-2 in Europe) or another local emergency service number because you could be the one who needs help next time.
8. Call the breakdown service or a special mobile radio number for support if you encounter problems on the road. If you pass a car with a breakdown, which does not represent a serious impediment to traffic, pass traffic lights which do not function, a traffic accident with slight damage and without injured people or a possibly stolen car, please get in touch with the road police or another special mobile radio number for support.

"The mobile communication industry requests you to give safety priority when using your device/telephone."

6.4.2 Instructions on the use of Wireless Devices

Observe all warnings relating to the use of wireless devices.

6.4.2.1 Safety in aircraft

Switch off the wireless device when asked to do so by the ground staff and by employees of the airline. If your device has a flight mode or a similar function, find out about its correct use from the aircraft staff.

6.4.2.2 Safety in hospitals

Wireless devices emit radio frequencies and can cause disturbances to medical technical electrical devices. Wireless devices should be switched off on request when you are in hospitals, clinics or health establishments. This is intended to avoid any possible interference with sensitive medical equipment.

6.4.2.3 Heart pacemakers

Manufacturers recommend that a minimum distance of 15 cm be observed between a wireless handheld device and a pacemaker to avoid potential interference. This guideline is in line with independent research results and recommendations of Wireless Technology Research.

- Wearers of heart pacemakers
- Persons with heart pacemakers should ALWAYS keep at least 15 cm away from the activated device.
- The device may not be worn by these persons in the breast pocket.
- The device should be held to the ear which is furthest away from the heart pacemaker.
- If you have reason to assume that interference has arisen, you should SWITCH OFF the device immediately.

6.4.2.4 Hearing aids

The wireless device may cause disturbances to hearing devices. Get in contact with the manufacturer of your hearing device in the case of disturbances to ask about possible solutions.

- The device may not be worn in the breast pocket of these persons.
- The device should be held to the ear which is furthest away from the heart pacemaker.
- If you have reason to assume that interference has arisen, you should SWITCH OFF the device immediately.

6.4.2.5 Other medical equipment

Ask your doctor or the manufacturer of the medical device to determine whether putting the wireless product into operation impairs the medical device.

6.4.3 Equipment of the laser devices

Devices from Symbol/ZEBRA equipped with lasers comply with the Guidelines 21CFR1040.10 and 1040.11. (with the exception of the deviations set out in the Laser Notice No. 50 dated 24 June 2007) and EN 60825-1:2001,2007 und EN 62471:2006. The classification of the laser device is stated on a plate attached to the device.

Class 1 Laser devices are not considered to be hazardous when used for their intended purpose.

CAUTION

Laser radiation! Risk of damage to eyesight!

▶ Do not look into the laser beam.

Laser devices of Class 2 work with a visible low volt light emitting diode. As for every bright light source, for example the sun, you should not look directly into the light beam. There is no information about the hazards of being briefly exposed to the laser light of a laser scanner of Class 2.

The use of control elements, adjustments or the application of procedures which do not comply with the instructions described here may lead to hazardous exposure to beams.

6.4.4 LED Devices

Complies with EN60825-1:2001 and EN 62471:2006.

6.4.5 Restrictions to wireless devices

The use of wireless devices is possibly forbidden or restricted. This applies primarily on board aircraft, in hospitals, in the vicinity of explosive substances or under other hazardous conditions. If you are not sure which regulations apply to the use of the device, ask permission before switching it on.

Radio Modules

The device contain approved radio module(s). These module(s) are identified below.

BARTEC/Zebra radio module supporting WLAN 802.11 a/b/g/n and Bluetooth.

Type(s): 21-148603-0B

Bluetooth® Wireless Technology

This is an approved Bluetooth® product. For more information or to view End Product Listing, please visit https://www.bluetooth.org/tpg/listings,cfm

Country-specific roaming

This device has the International Roaming function (IEEE802.11d) which ensures that the device is used on the channels prescribed for the respective country.

Ad-hoc operation

The ad-hoc operation is restricted to the channels 36–48 (5150–5250 MHz). The use of this bandwidth is restricted to indoor areas; use outdoors is not permitted.

6.5 Frequency of Operation – FCC and IC

5 GHz Only

The use in the UNII (Unlicensed National Information Infrastructure) band 1 5150 -5250 MHz band is restricted to Indoor Use Only; any other use will make the operation of this device illegal.

Industry Canada Statement

Caution: The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-Channel mobile satellite systems. High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Avertissement: *Le dispositive fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les memes canaux.*

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bands 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

2.4 GHz Only

The available channels for 802.11 b/g operation in the US are Channels 1 to 11. The range of channels is limited by firmware.

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.

FCC Note according to 15.21

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio Transmitters (Part 15)

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, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Radio Frequency Interference Requirements - Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Radio Transmitters

This device complies with RSS 210 of Industry & Science Canada. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference and

(2) this device must accept any interference received, including interference that may cause undesired operation.

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 radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Label Marking: The Term "IC:" before the radio certification only signifies that "Industry Canada" technical specifications were met.

Country approvals

Regulatory markings, subject to certification, are applied to the device signifying the radio(s) is/are approved for use in the following countries: United States, Canada, Japan, China, S. Korea, Australia, and Europe.

Detailed information on the test symbol for other countries is provided in the EC declaration of conformity.

– Note: For 2.4-GHz-products: Europe covers, Belgium, Bulgaria, Denmark, Germany, Estonia, Finland, France, Greece, Great Britain, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, ~~Austria,~~ Poland, Portugal, Romania, Sweden, Switzerland, Slovakia, Slovenia, Spain, Czech Republic, Hungary and Cyprus.

WARNING

Operation of the device without regulatory approval is illegal.

Radio Transmitters

For RLAN Devices:

The use of 5 GHz RLAN's, for use in Canada, have the following restrictions:

– Restricted Band 5.60 – 5.65 GHz

This device complies with RSS 210 of Industry Canada. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes:

(1) le dispositif ne doit pas produire de brouillage préjudiciable, et

(2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.

6.6 Electromagnetic fields

6.6.1 International

Reducing RF Exposure – Use Properly

Only operate the device in accordance with the instructions supplied.

International

The device complies with internationally recognized standards covering human exposure to electromagnetic fields from radio devices. For information on "International" human exposure to electromagnetic fields refer to the BARTEC and Zebra Declaration of Conformity (DoC) at

http://www.motorolasolutions.com/doc

For further information on the safety of RF energy from wireless devices – see http://responsibility.motorolasolutions.com/index.php/downloads/

located under Wireless Communications and Health.

Europe

Handheld Devices

This device was tested for typical body-worn operation. Use only BARTEC Zebra tested and approved belt-clips, holsters, and similar accessories to ensure EU Compliance.

US and Canada

Co-located statement

To comply with FCC RF exposure compliance requirement, the antenna used for this transmitter must not be co-located or operating in conjunction with any other transmitter/antenna except those already approved in this filling.

Handheld Devices

This device was tested for typical body-worn operation. Use only BARTEC tested and approved belt-clips, holsters, and similar accessories to ensure FCC Compliance. The use of third-party belt-clips, holsters, and similar accessories may not comply with FCC RF exposure compliance requirements, and should be avoided.

The MC92N0ex should only be worn on the body when switched off.

6.6.2 Handheld devices

To comply with the FCC guidelines for high frequency devices, the aerial of the transmitter should be used in the direct vicinity of, or in an operation unit with, other transmitters/aerials with the exception of those approved in this document.

SD card

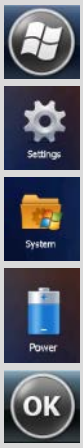
The SD card slot provides a secondary, non-volatile memory. The slot is under the keypad of the MC92N0ex. Further information is provided in the documentation supplied with the card. Observe the manufacturer's recommendations on use.

6.7 Optimise operating times/change energy settings (WEH 6.5.3 only)

Factory settings of the MC92N0ex-IS for the WWAN and WLAN radio devices: ON.

6.7.1 Automatic shutdown in the case of lengthy standby periods

Symbols



In the start menu under:

> **Settings** symbol

> **System** symbol

> **Power** symbol

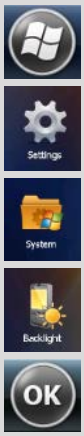
> **Advanced** tab

> Activate "**Turn off device if not used for**" box and select a value from the dropdown list.

> Confirm selection with "OK".

6.7.2 Change display backlight (increases the operating time of the battery)

Symbols



In the start menu under:

> **Settings** symbol

> **System** symbol

> **Backlight** symbol

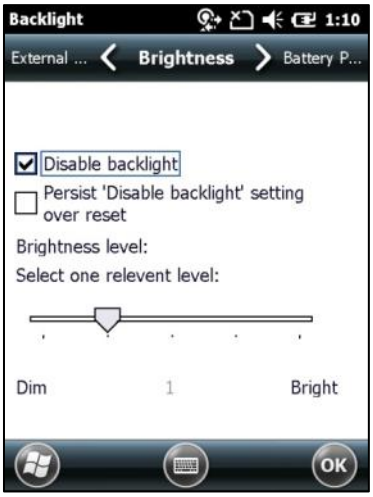
> **Battery Power** tab

> Activate "**Disable backlight if device is not used for**" box and select a value from the dropdown list.

> **Brightness** tab

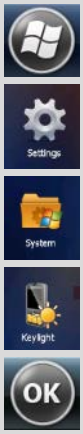
> Select **Disable backlight** option. The brightness of the backlight can be regulated with a controller.

> Confirm selection with "OK".



6.7.3 Change keypad background lighting (increases the operating time of the battery)

Symbols



In the start menu under:

> Settings symbol

> System symbol

> Keylight symbol

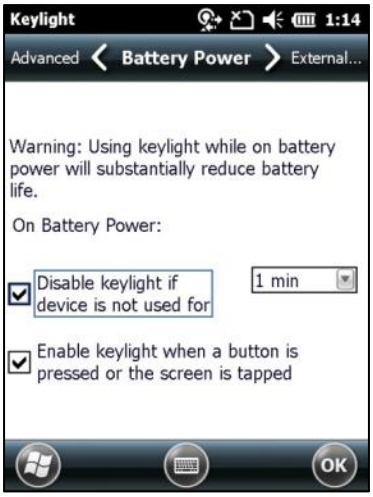
> Battery Power tab

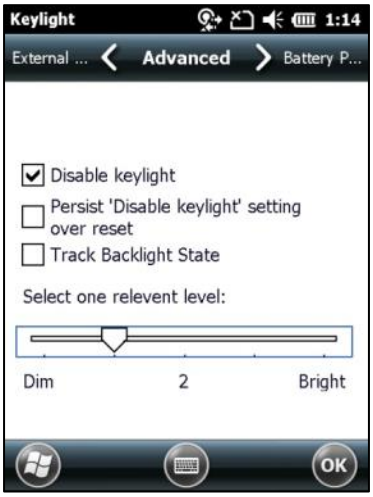
Activate **"Disable keylight if device if not used for"** option and select a value from the dropdown list.

> Advanced tab

Select "**Disable keylight**" option. The brightness of the backlight can be regulated with a controller or switched off.

> Confirm selection with "OK".

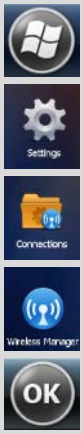




6.7.4 Switch off radio connections

Products with Bluetooth® Wireless technology:
This device is an approved Bluetooth® product. Further information is available at http://www.bluetooth.org/tpg/listings.cfm Manufacturer: ZEBRA

Symbols



Windows Embedded Handheld 6.5.3 devices have a simple and central possibility in the form of the **Wireless Manager** to deactivate and configure all wireless functions of the device.

In the start menu under:

> **Settings** symbol

> **Connections** symbol

> **Wireless Manager** symbol

Activate/deactivate wireless connection:

> activate respective button.

> **All** button

Wireless connections depend on the configuration.

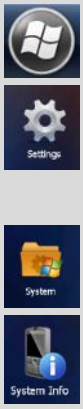
6.8 Software versions

Existing software versions and operating systems in the MC92N0ex–IS:

The software is not relevant to the explosion protection of the device.
See the ZEBRA documentation for further information.

6.8.1 OEM

Symbols



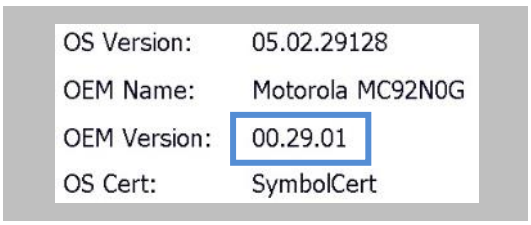
In the start menu under:

> **Settings** symbol

> **System** symbol

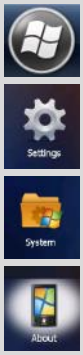
> **System Info** symbol

> **System** tab



6.8.2 AKU

Symbols



In the start menu under:

> Settings symbol

> System symbol

> About symbol

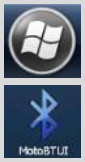
> Version tab

The last part of the build number contains storage battery number.

6.8.3 Bluetooth

The "BTExplorer" application is only available if the "StoneStreet One Bluetooth Stack" function is activated. Further information is provided in the ZEBRA "User Manual on Integration".

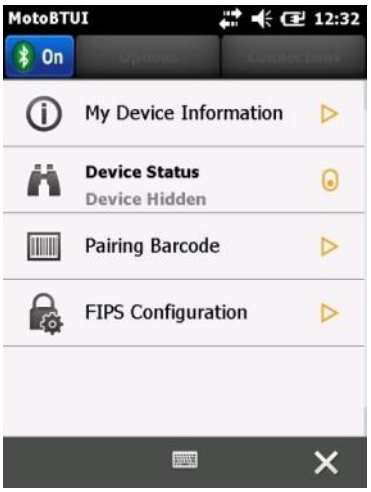
Symbols



In the start menu under:

> Moto BT UI Information symbol

> My Device Information symbol



The MC92N0 with Bluetooth technology uses either the StoneStreet Bluetooth stack or the Microsoft Bluetooth stack. To write an application that uses the StoneStreet One Bluetooth stack APIs refer to the Zebra Solutions Enterprise Mobility Developer Kit (EMDK) Help. Further information is provided in the ZEBRA "User Manual on Integration".

6.8.4 “Fusion”software

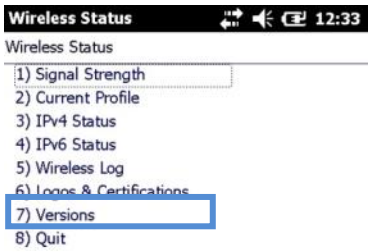
Symbols

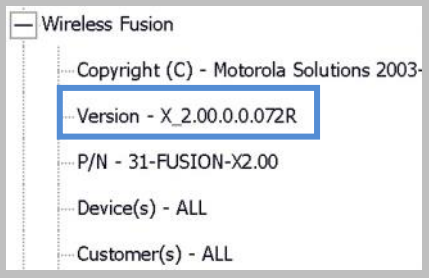
In the start menu under:

> Wireless Companion symbol

> Wireless Status symbol

> Point 7 “Versions”





7. Faults and Troubleshooting

DANGER

There is a risk of fatal injury in an explosive atmosphere!

▶ Examine defective devices and any accessories only outside the potentially explosive atmosphere.

Information on fault rectification is provided in the User Manual or the Integration Manual from ZEBRA.

http://www.motorola.com/Business/US-EN/Enterprise+Mobility

on the ZEBRA website.

ZEBRA website for the MC9200 manuals for the non-Ex protected version

- Support
- Mobile Computer, Barcode Scanners & RFID/RuBee => Get Product Manuals
- Product Manuals
- Mobile Computers
- MC9200
- Click on “More” to obtain the complete list.

7.1 Resetting the MC92N0ex

7.1.1 Windows Embedded Handheld and Windows CE Devices

If the applications stop working while the MC92N0ex is used, it is recommendable to reboot the device.

There are two re-booting functions: warm boot and cold boot. If these types of rebooting don’t help, the MC92N0ex operating system can be reset to the factory defaults by a „CleanBoot“.

7.1.2 On a Windows CE 7.0 device

- A warm boot starts the MC92N0ex again and shuts down all running programs.
- A cold boot also restarts the MC92N0ex, but erases all stored records and entries in RAM. Data saved in flash memory or a memory card is not lost. In addition it returns formats, preferences and other settings to the factory default settings.

ATTENTION

Incorrect handling may cause damage to property!

▶ Data stored in the flash memory or on a memory card is not lost. First perform a warm boot. The MC92N0ex is re-started and all stored data records and entries are preserved. If the MC92N0ex still does not respond after a warm boot, perform a cold boot.

Any data previously synchronized with a computer can be restored during the next ActiveSync operation.

7.1.2.1 Warm boot

To perform a warm boot

1. Hold down the Power button for approximately five seconds. As soon as the MC92N0ex starts to perform a warm boot release the Power button.

7.1.2.2 Cold Boot

ATTENTION

Incorrect handling may cause damage to property!

▶ Performing a cold boot restores formats, preferences and other settings to the default settings.

To perform a cold boot:

1. Press the red Power button. The PowerKey Action window appears.
2. Tap Safe Battery Swap.
3. Press the primary battery release on the MC92N0ex to partially eject the battery from the MC92N0ex (see chapter 5.5.1 Insert battery)
4. While the battery is partially released, simultaneously press and release the handle trigger and the Power button.
5. Push the battery to fully re-insert it in the MC92N0ex. One audible click can be heard as the battery is fully inserted.
6. The MC92N0ex reboots.
7. Calibrate the screen. See Calibrating the Screen in the Zebra User Guide to calibrate the MC92N0ex screen.

7.1.3 On a Windows Embedded Handheld 6.5.3 device

- A warm boot starts the MC92N0ex again and shuts down all running programs.
- A cold boot also restarts the MC92N0ex, but erases all stored records and entries in RAM. In addition, some new drivers are installed

ATTENTION

Incorrect handling may cause damage to property!

▶ Data stored in the flash memory or on a memory card is not lost. First perform a warm boot. The MC92N0ex is re-started and all stored data records and entries are preserved. If the MC92N0ex still does not respond after a warm boot, perform a cold boot.

Any data previously synchronized with a computer can be restored during the next ActiveSync operation.

7.1.3.1 Warm Boot

To perform a warm boot

1. Hold down the Power button for approximately five seconds. As soon as the MC92N0ex starts to perform a warm boot release the Power button.

7.1.3.2 Cold Boot

ATTENTION

Incorrect handling may cause damage to property!

▶ Performing a cold boot restores formats, preferences and other settings to the default settings.

To perform a cold boot:

2. Press the red Power button. The PowerKey Action window appears.
3. Tap Safe Battery Swap.
4. Press the primary battery release on the MC92N0ex to partially eject the battery from the MC92N0ex. (described in chapter 5.4.1 Insert battery)
5. While the battery is partially released, simultaneously press and release the handle trigger and the Power button.
6. Push the battery to fully re-insert it in the MC92N0ex. One audible click can be heard as the battery is fully inserted.
7. The MC92N0ex reboots.

7.1.3.3 Clean Boot

ATTENTION

Incorrect handling may cause damage to property!

▶ Performing a clean boot restores formats, preferences and other settings to the factory settings.

1. Download the Clean Boot Package from the Zebra Support Central. Follow the instructions included in the package for installing the package onto the MC92N0ex.

8. Service, Inspection, Repair

Commissioning and service of Mobile Computers may be conducted exclusively by trained and qualified staff! The staff is familiar with the installation, assembly, commissioning and operation of the Mobile Computers, has been informed about the risks and has the qualifications necessary for this work.

8.1 Service intervals

The mechanical state of the device should be regularly checked. The service intervals will depend on the ambient conditions. We recommend that a service be conducted at least once a year. Regular servicing is not necessary if the device is correctly operated in accordance with the installation instructions and under appropriate consideration of the ambient conditions.

DANGER

Prevent electrostatic charging in potentially explosive atmospheres.
There is a risk of fatal injury in an explosive atmosphere!

▶ Do not dry wipe or clean devices.

8.2 Inspection

According to EN 60079-17, IEC 60079-17, EN 60079-19 and IEC 60079-19, the owner/operator of electrical plants in potentially explosive atmospheres is obliged to have these plants checked by an electrician to ensure that they are in a correct condition.

8.3 Service and repair work

In addition to Directive 99/92/EC, standards EN 60079-17, IEC 60079-17, EN 60079-19 and IEC 60079-19 also apply to the servicing and repair as well as the testing of accompanying operating devices.

Work connected with assembly/dismantling, operation and servicing may only be conducted by trained specialists. All statutory requirements and other binding guidelines on occupational health and safety, accident prevention and environmental protection must be observed.

8.3.1 Information on sending in for repairs

The following information is required for the repair.

- Series number of the device (see manufacturer's label)
- Model number or product name (see manufacturer's label)
- Software type and version number (see Chapter 6.7)

Please read through the handling guidelines for the RMA process before you send in a defective device for repair. Then complete the RMA form (Return Merchandise Authorization), sign it and send it to our "Returns Centre".

E-Mail: services@bartec.de
Fax: +49 7931 597-119

We cannot guarantee the processing within the contractually agreed period for any returns received by us without RMA number.

The handling guidelines and the RMA form are available for download from our website:

http://www.bartec.de
> Quality and culture
> RMA form

If you have any questions, please send us an e-mail or give us a call.

E-Mail: services@bartec.de
Telephone: +49 7931 597-444

9. Disposal

The Mobile Computers contain metallic and plastic parts and electronic components.

Our devices are intended as professional electric devices for business use only, referred to as B2B devices under the WEEE-Directive. The WEEE directive sets the framework for waste electric and electronic equipment handling procedures which are to apply throughout the EU. This means that you are not permitted to dispose of this equipment in normal household refuse. It should not be given to the collection sites set up by the public waste management authorities either but instead it should be disposed of in a separate collection in an environmentally sound manner.

Any product we supply can be returned by our customers to us when the time has come to dispose of it. We will ensure that it is disposed of in accordance with the respective applicable statutory regulations.

The sender pays the costs of the dispatch/packaging.

10. Dispatch and Packaging Information

ATTENTION

Sensitive devices! Damage may be caused by incorrect packaging!

▶ Use original packaging for transport.

11. Accessories, Spare Parts

Mobile Computer MC92N0ex-IS		
Description		Order number
Spare battery		
7.4 V/2400 mAh, Li-Ion Battery	ATEX/IECEx	17-A1Z0-0001
7.4 V/2400 mAh, Li-Ion Battery	UL	17-A1Z0-0002
Spare keypad with blue overlay for ATEX / IECEx / UL - ATEX and Division 1		
with 28 keys		05-0080-0438
with 43 keys		05-0080-0440
with 53 keys		05-0080-0441
with 53 keys for VT Emulation		05-0080-0442
with 53 keys for 3270 Emulation		05-0080-0443
with 53 keys for 5250 Emulation		05-0080-0444

Mobile Computer MC92N0ex-NI		
Description		Order number
Spare battery		
7.4 V/2400 mAh, Li-Ion Battery	ATEX/IECEx	B7-A2Z0-0006
7.4 V/2400 mAh, Li-Ion Battery	UL	B7-A2Z0-0006
Spare keypad with green overlay for ATEX Zone 2 and Zone 22 / UL Division 2		
with 28 keys		05-0080-0577
with 43 keys		05-0080-0578
with 53 keys		05-0080-0579
with 53 keys for VT Emulation		05-0080-0580
with 53 keys for 3270 Emulation		05-0080-0581
with 53 keys for 5250 Emulation		05-0080-0582

General	
Description	**Order number**
SD cards	
with 1 GB	17-28BE-F006/0002
with 2 GB	17-28BE-F006/0003
with 4 GB	17-28BE-F006/0004
with 8 GB	17-28BE-F006/0005
with 16 GB	17-28BE-F006/0006
with 32 GB	17-28BE-F006/0007
Protective Display Foil	
for gas group IIA and IIB	17-A1Z0-0003
Leather Holster	
for MC92N0ex-K RFID	03-9809-0023
for MC92N0ex-G RFID	03-9809-0024
for MC92N0ex-G und MC92N0ex-K with belt clip and turned part	03-9809-0026
turned part for holster	03-9809-0027
Single Slot Cradle Set	
for the non Ex area	05-0079-0018
4-Slot Ethernet Cradle Set for the non Ex area	
4-Slot Ethernet Cradle	03-9849-0026
Power supply	03-9911-0021
DC Line cord Power supply <-> Cradle	03-9919-0010
AC Line cord - 3 wired - EU	03-9609-0011
AC Line cord - 3 wired - US	03-9609-0021
4-fach Charging station Set for the non Ex area	
4-Slot Charging station	03-9849-0052
Power supply	03-9911-0021
DC Line cord Power supply <-> Cradle	03-9919-0010
AC Line cord - 3 wired - EU	03-9609-0011
AC Line cord - 3 wired - US	03-9609-0021
4-Slot Rapid Charging Station UBC2000	
for the non Ex area incl. power supply and DC line cord	03-9915-0004
Battery adapter	03-9919-0007
AC Line cord - 3 wired - EU	03-9609-0011
AC Line cord - 3 wired - US	03-9609-0021

12. Additional Information

12.1 Links

http://www.bartec-group.com

BARTEC website

http://www.bartec.de/automation-download/

BARTEC Downoad website

http://www.motorolasolutions.com/US-EN/Enterprise+Mobility

ZEBRA website

The ZEBRA page for the MC9200 User Manuals and software of the non-explosion protected version

- Support
- Mobile Computers, Barcode Scanners => Selelect a Produkt
  Mobile Computers
- Handheld Computers
- MC9200
- Click on “More” for complete list

The ZEBRA product information page for the MC9200 of the non-explosion protected version

- Products
- Mobile Computers
- Handheld Computers
- MC9200

http://www.Microsoft.com

Microsoft page for Active Sync or Windows Mobile Device Center

Declaration of Conformity

Mobile Computer MC92N0ex-IS – Zone 1

Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N° 11-A1A3-7C0001

BARTEC
BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
MC92N0ex-IS Zone 1	**MC92N0ex-IS Zone 1**	**MC92N0ex-IS Zone 1**
Typenbezeichnung :	**17-A1A3-0**0/SY**A6** **17-A1A3-R***/SY**A6****	
auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 94/9/EG	**ATEX-Directive 94/9/EC**	**ATEX-Directive 94/9/CE**
EMV-Richtlinie 2004/108/EG	**EMC-Directive 2004/108/EC**	**CEM-Directive 2004/108/CE.**
R&TTE-Richtlinie 1999/5/EG	**R&TTE Directive 1999/5/EG**	**R&TTE-Directive 1999/5/CE**
und mit folgenden Normen oder normativen Dokumenten, soweit zutreffend, übereinstimmt	and is in conformity with the following standards or other normative documents, if applicable	et est conforme aux normes ou documents normatifs ci-dessous, le cas échéant
EN 60079-0:2012 EN 60079-5:2007 EN 60079-11:2012 EN 60950-1:2006 +A12:2011 EN 50364:2010 EN 62479:2010 EN 55024:2010	EN 62311:2008 EN 60825-1:2007 (Laser) EN 60825-1:2001 (LED) EN 61000-3-3:2008 EN 300 328 V1.8.1 EN 301 893 V1.7.1 EN 300 330-2 V1.5.1	EN 302 208-2 V1.4.1 EN 301 489-1 V1.9.2 EN 301 489-3 V1.6.1 EN 301 489-17 V2.2.1 EN 55022:2010 +AC:2011 (Class B) EN 61000-3-2:2006 +A2:2009
Kennzeichnung	**Marking**	**Marquage**

II 2G Ex q [ib] IIC T4 Gb
PTB 13 ATEX 2019 X
0102 PTB, Bundesallee 100, 38116 Braunschweig, D
CE 0044

Bad Mergentheim, den 12.12.2013
ppa. Ewald Warmuth
Geschäftsleitung / General Manager

03-0383-0299

Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N° 11-A1A3-7C0002

BARTEC
BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
MC92N0ex-IS externe Antenne	**MC92N0ex-IS external antenna**	**MC92N0ex-IS antenne externe**
Typenbezeichnung :	**17-A1A3-R**7/SY**A6** **17-A1A3-R**8/SY**A6****	
auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 94/9/EG	**ATEX-Directive 94/9/EC**	**ATEX-Directive 94/9/CE**
EMV-Richtlinie 2004/108/EG	**EMC-Directive 2004/108/EC**	**CEM-Directive 2004/108/CE.**
R&TTE-Richtlinie 1999/5/EG	**R&TTE Directive 1999/5/EG**	**R&TTE-Directive 1999/5/CE**
und mit folgenden Normen oder normativen Dokumenten, soweit zutreffend, übereinstimmt	and is in conformity with the following standards or other normative documents, if applicable	et est conforme aux normes ou documents normatifs ci-dessous, le cas échéant
EN 60079-0:2012 EN 60079-5:2007 EN 60079-11:2012 EN 60950-1:2006 +A12:2011 EN 50364:2010 EN 62479:2010 EN 55024:2010	EN 62311:2008 EN 60825-1:2007 (Laser) EN 60825-1:2001 (LED) EN 61000-3-3:2008 EN 300 328 V1.8.1 EN 301 893 V1.7.1 EN 300 330-2 V1.5.1	EN 302 208-2 V1.4.1 EN 301 489-1 V1.9.2 EN 301 489-3 V1.6.1 EN 301 489-17 V2.2.1 EN 55022:2010 +AC:2011 (Class B) EN 61000-3-2:2006 +A2:2009
Kennzeichnung	**Marking**	**Marquage**

II 2G Ex q [ib] IIB T4 Gb
PTB 13 ATEX 2019 X
0102 PTB, Bundesallee 100, 38116 Braunschweig, D
CE 0044

Bad Mergentheim, den 12.12.2013
ppa. Ewald Warmuth
Geschäftsleitung / General Manager

03-0383-0299

Mobile Computer MC92N0ex-NI – Zone 2/22

Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N° B1-A2A3-7C0001

BARTEC
BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
MC92N0ex-NI Zone 2 / 22	**MC92N0ex-NI Zone 2 / 22**	**MC92N0ex-NI Zone 2 / 22**
Typenbezeichnung :	**B7-A2A3-0**0/SY**A6** B7-A2A4-0**0/SY**A6** B7-A2A3-R***/SY**A6** B7-A2A4-R***/SY**A6****	
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EMV-Richtlinie 2004/108/EG	**EMC-Directive 2004/108/EC**	**CEM-Directive 2004/108/CE.**
R&TTE- Richtlinie 1999/5/EG	**R&TTE- Directive 1999/5/EC**	**R&TTE Directive 1999/5/CE**
RoHS-Richtlinie 2002/95/EG	**RoHS Directive 2002/95/EC**	**Directive Européenne de RoHS 2002/95/CE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous
EN 60079-0:2009	EN 60950-1:2006 +A11:2009; +A1:2010	EN 301 489-1 V1.8.1, EN 301 489-17 V2.1.1
EN 60079-15:2010	EN55022/AC:2011	EN55024: 2010
EN 60079-31:2009	EN 61000-3-2:2006 + A2:2009	EN 61000-3-3: 2008
	47 CFR Part 15, Subpart B, Class B	ICES 003 Issue4, ClassB

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EN 301 489-3 1.4.1 :2008	EN 300 330-1 1.3.1:2006	EN 300 330-2 1.3.1:2006
IEC 60825-1: (Ed 2.0) Laser	IEC Class2 Laser/2 LED Product	EN 60825-1:2007 LED
IEC 60825-1 (Ed.1) LED	21CFR1040.10 Laser	EN 60825-1: 2007 (Laser)
Kennzeichnung	**Marking**	**Marquage**
Ⓔx **II 3G Ex nA IIC T6 Gc** Ⓔx **II 3D Ex tc IIIC T80°C Dc** **-20°C ≤ Ta ≤ +50°C**		
Verfahren der internen Fertigungskontrolle	**Procedure of internal control of Production**	**Procédure de contrôle interne de fabrication**

CE

Bad Mergentheim, den 16.07.2013

ppa. Ewald Warmuth
Geschäftsleitung / General Manager

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Mobile Computer MC92N0ex-NI – Zone 2/22

Erklärung der Konformität
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BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
MC92N0ex-NI Zone 2 / 22	**MC92N0ex-NI Zone 2 / 22**	**MC92N0ex-NI Zone 2 / 22**
Typenbezeichnung :	**B7-A2A3-R**7/SY**A6** B7-A2A4-R**7/SY**A6** B7-A2A3-R**8/SY**A6** B7-A2A4-R**8/SY**A6****	
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R&TTE- Richtlinie 1999/5/EG	**R&TTE- Directive 1999/5/EC**	**R&TTE Directive 1999/5/CE**
RoHS-Richtlinie 2002/95/EG	**RoHS Directive 2002/95/EC**	**Directive Européenne de RoHS 2002/95/CE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous
EN 60079-0:2009	EN 60950-1:2006 +A11:2009; +A1:2010	EN 301 489-1 V1.8.1, EN 301 489-17 V2.1.1
EN 60079-15:2010	EN55022/AC:2011	EN55024: 2010
EN 60079-31:2009	EN 61000-3-2:2006 + A2:2009	EN 61000-3-3: 2008
	47 CFR Part 15, Subpart B, Class B	ICES 003 Issue4, ClassB

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EN 301 489-3 1.4.1 :2008	EN 300 330-1 1.3.1:2006	EN 300 330-2 1.3.1:2006
IEC 60825-1: (Ed 2.0) Laser	IEC Class2 Laser/2 LED Product	EN 60825-1:2007 LED
IEC 60825-1 (Ed.1) LED	21CFR1040.10 Laser	EN 60825-1: 2007 (Laser)
Kennzeichnung	**Marking**	**Marquage**
Ⓔx **II 3G Ex nA IIB T6 Gc** Ⓔx **II 3D Ex tc IIIB T80°C Dc** **-20°C ≤ Ta ≤ +50°C**		
Verfahren der internen Fertigungskontrolle	**Procedure of internal control of Production**	**Procédure de contrôle interne de fabrication**

CE

Bad Mergentheim, den 16.07.2013

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page 2 of 2

► All certification see www.bartec-group.com