BARTEC

ATEX Version **Zone 2 and Zone 22**

Mobile Computing

User Manual

MC 9090^{ex}-G	Type B7-A219-0G.0/H.....
MC 9090^{ex}-K	Type B7-A219-0K.0/H.....
MC 9090^{ex}-S	Type B7-A219-0S.0/H.....

BARTEC

User Manual

MC 9090ex-G Mobile Computer

Type B7-A219-0G.0/H…….

MC 9090ex-K Mobile Computer

Type B7-A219-0K.0/H…….

MC 9090ex-S Mobile Computer

Type B7-A219-0S.0/H…….

ATEX Zone 2 and Zone 22

Version 1.00
Document no. 11-B219-7D0001
Status: November 27th, 2007

Technical data subject to change!

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

Phone: +49 7931 597-0
Fax: +49 7931 597-183

Contact:
Service-Mobilecomputing@bartec.de

Before commissioning the devices, please read through the relevant documents carefully.

Target group: Experienced and trained specialists acting in compliance with the 99/92/EC directive, IEC 60079-19 and IEC 60079-17.

Important note:

This user manual contains important information, safety instructions and test certificates that are necessary for perfect functioning when operating and handling the Mobile Computer. If the information and safety instructions for the devices are not observed, its use to the intended purpose in hazardous (potentially explosive) zones can no longer be guaranteed.

Device modifications that are not expressly approved by BARTEC may invalidate the operating permit for the respective device. Non-conformance will also rule out claims under guarantee. The warranty will be rendered invalid if the delivered item is harmed because of inappropriate handling, excessive strain, inadequate servicing, abnormal operating conditions or transport damage. Natural wear is also excluded from warranty.

BARTEC reserves the right to alter the contents of the document without notice. No guarantee is given for the correctness of the information. In case of doubt the original German version of the safety information will apply because it is not possible to rule out errors in translation or in printing. In the event of a law case, the “General Terms and Conditions“ of the BARTEC Group will apply in addition.

If any differences emerge between the contents in the documents from Motorola and those from BARTEC, the information in this Mobile Computer MC 9090^{ex} user manual shall apply.

The respective up-to-date versions of data sheets, manuals, certificates and EC Declaration of Conformity may be downloaded from the “Ex Visualisation and Communication Systems“ product page at www.bartec-group.com, or ordered directly from BARTEC GmbH.

Information from the Manufacturer SYMBOL/Motorola

No licence is granted explicitly or implicitly or by tacit permission or in any other way in the context of a patent right or a patent referring to a combination, a system, a device, a machine, material, a procedure or a process in which products from Symbol could be used. There is merely an implicit licence for devices, electrical systems and subsystems that are contained in Symbol/Motorola products.

Documentation

This document is available in German and English at present. Visit our web site http://www.bartec-group.com and find out about your special product.

Contents

Contents

1 Product Description

1.1 General

The MC 9090ex-G, MC 9090ex-K and MC 9090ex-S Mobile Computers, type B7-A219-0..0/H……. each form a compact unit for high-standard barcode scanning in hazardous (potentially explosive) areas. The comfortably positioned scan trigger and the ergonomic design of the MC 9090ex device series allow the acquisition of data with one-hand operation.

The MC 9090ex device series is available in various versions.

MC 9090ex-G

MC 9090ex-K

MC 9090ex-S

All MC 9090ex Mobile Computer allow data to be exchanged with the host system in real time.

The devices in the innovative MC 9090ex series are powerful hand-held mobile computers that combine the advantages of the Microsoft Pocket PC platform and the strengths of the Intel® XScale™ PXA270 processor with 624 MHz.

They feature a large easy-to-read 1/4 VGA colour display with attractive touchscreen technology. The radio standard used is IEEE 802.11a/b/g (direct sequence).

1.2 Use

The Mobile Computer is a hand-guided electrical device used for the mobile acquisition, processing and radio transmission of data in hazardous areas. The Mobile Computer is used in areas designated for the use of devices from Equipment Group II, Category 3G.

For the dust-proof area, care must be taken that the device is only used in areas without conductive dust.

It is connected only to operating equipment that satisfies the requirements of Overvoltage Category I.

The MC 9090^{ex}, type B7-A219-0..0/H……. series is specially intended for use in the ATEX Zone 2 and Zone 22 hazardous area. It is not allowed to use the MC 9090^{ex} in zone(s) 0 / 1 / 20 / 21.

1.3 Advantages

- Data access is possible in real time
- Lithium-ion storage batteries allow maximum operating time between chargings
- WLAN radio technology IEEE 802.11a/b/g
- Bluetooth
- Additional memory with an SD card
- Different scan engines allow different barcode applications
- Replaceable keypads in 3 variants

2 Safety Instructions

2.1 Warnings about the Mobile Computers

- Take the device out of the hazardous areas before wiping it with a dry cloth or cleaning it!
- Do not exchange batteries of the type B7-A2Z0-0001 and B7-A2Z0-0003 in the hazardous area!
- Do not open or charge the device and do not exchange any data through the "cradle contacts" on the battery in the hazardous area! Operating the 17-pin data interface (see chapter 3.5 "Technical Data Battery, Article "External Battery Contacts") is only permissible outside the hazardous area and only with devices specified by the manufacturer!
- The device may not be opened by the user outside the hazardous area either! The user may not make any alterations to the device. Do not exchange or replace components and do not retrofit any components on internal plug connectors or slots. If components other than those specified are used, the protection against explosions can no longer be assured.

Exception: Keypad and SD card (see chapter 6.1 "Keypad and SD Card")

- Protect the device from impact effects! Do not expose the operating equipment to any caustic/aggressive liquids, vapours or mist! In the event of malfunctioning or damage to the enclosure, take the equipment out of the potentially explosive atmosphere immediately, bring it into a safe area and decommission it by removing the battery!
- If on account of adverse effects or conditions (e.g. penetration of water, fluids, exposure to temperatures outside the specified range etc.) there is a danger of not being able to operate the equipment safely, switch off the equipment instandly and remove it out of the hazardous area.
- General statutory regulations or directives on safety at work, accident prevention regulations and environmental protection legislation must be complied with, e.g. Ordinance on industrial health and safety (BetrSichV) or the national ordinances.
- Ensure safe handling of the equipment during operation by making sure the device in a steady position and the user has sufficient space to move!
- After use, the equipment must be placed where it will be sheltered from falling objects and out of danger of falling itself. This must also be ensured even if only putting it down for a short time when taking a break from work.

- When transporting the equipment in vehicles, it must be placed in appropriate compartments or fittings so that it can neither fall off during the drive nor be exposed to extreme vibrations.
- The rules for hazardous areas (see directive 99/92/EC) must be observed. In particular, appropriate clothing and footwear should be worn in view of the risk of dangerous electrostatic charges. Do not wear rubber gloves or suchlike during operation!
- Avoid the influence of heat that is higher or lower than the specified temperature range (see chapter 3.2 "General Data"). Do not place the devices anywhere near sources of heat, such as for example heaters, air exit openings in air-conditioners, or near cookers or other devices (including amplifiers) that radiate heat.
- Avoid the effects of moisture.
- Do not put any objects into the device, into the enclosure or other openings in the Mobile Computer. Openings in the device may not be blocked, obstructed or covered.

2.2 Warnings about the battery

- Do not exchange batteries in the hazardous area!
- The battery may only be charged outside the hazardous area!
- It must be ensured that only original batteries of the type B7-A2Z0-0001 with 7.4 V/2200 mAh for MC 9090^{ex}-G and MC 9090^{ex}-K and type B7-A2Z0-0003 with 7.4 V/1550 mAh for MC 9090^{ex}-S are used in safety-oriented operation. The use of imitation batteries or batteries from other manufacturers will render the type of ignition protection ineffective and there will then be a risk of fire or explosion.
- The battery should only be used for the purposes stated in the user manual and is only suitable for use with type 17-A116-0..0/H……. (MC 9060^{ex}-G and MC 9060^{ex}-K) and type 17-A119-0..0/H……. (MC 9090^{ex}-G and MC 9090^{ex}-K).
- The battery should not be exposed to any temperatures higher than +50 °C (122 °F).
- If used incorrectly, there is a risk of burning. The battery may not be disassembled. If the battery is damaged, battery acid can escape from the cells and cause corrosion. For that reason, extreme care must be taken in handling and disposing of a damaged or leaking Li-ion battery.
- Defective batteries must be disposed of immediately, whereby the battery disposal regulations that apply to the respective region must be observed.

2.3 Warnings about Laser Devices

Devices equipped with Symbol lasers conform to the US 21CFR1040.10 and IEC 825-1:1993, EN 60825-1:1994+A11:1996 standards. The laser classification is marked on one of the labels on the device. Class 1 laser devices are rated not hazardous when used in the manner intended. The following declaration is required to comply with US and international regulations:

The use of controls and adaptations or procedures other than those specified in these instructions may lead to a hazardous exposure to laser radiation.

Class 2 laser devices operate with a visible low-voltage light diode. As with any bright source of light, for example the sun, the user should avoid looking directly into the light beam. Momentary exposure to a Class 2 laser is not considered harmful.

2.4 Notes on installation

- The relevant installation and operating regulations for electrical systems must be observed! (e.g. Directive 99/92/EC, Directive 94/9/EC, BetrSichV [German Ordinance on Industrial Safety and Health] or the respective national ordinances, IEC 60 079-14 and the DIN VDE 0100 series).
- The operator of an electric plant in a potentially explosive environment must keep the operating equipment in an orderly condition, operate it correctly, monitor it and do the required maintenance and repairs.

The device is factory-sealed. Do not open!
The device may only be opened in the factory!

Exception: Keypad and SD card (see chapter 6.1 "Keypad and SD Card")

- **Maintenance**
  When doing maintenance or servicing or when checking associated equipment, comply with the applicable regulations in accordance with directive IEC 60079-19 and IEC 60079-17!

  Installation/dismantling, operating and maintenance work may only be carried out by trained specialists. Statutory regulations and other binding directives on workplace safety, accident prevention and environmental protection must be adhered to.

  Observe the national waste disposal regulations when disposing the equipment.

- **Servicing**
  Regular servicing is not necessary if the equipment is operated correctly in accordance with the installation instructions and environmental conditions.
- **Inspection**
  In accordance with IEC 60079-19 and IEC 60079-17, the owner-operator of the electrical installations in potentially explosive areas has an obligation to have these installations checked by a qualified electrician to ensure that they are in a proper condition.
- **Repairs**
  Repairs on explosion-protected operating equipment may only be done by authorised persons using original spare parts and working in accordance with the latest developments of technology. The relevant applicable regulations must be observed. Please direct any questions you may have to BARTEC GmbH.
- **Installation Directives**
  The safety and accident prevention regulations applicable to the respective application must be adhered to. The units must be completely assembled before they may be operated.
- **Commissioning**
  Before commissioning the devices, check that all components and documents are there.
  (Scope: 1 x MC 9090^{ex}, 1 x Battery, 1 x Stylus, 1 x User Manual and 1 x Quick-Start Guide)
- For **Software Installation** and **Adjustment Possibilities** refer to the Symbol/Motorola manual:

  www.symbol.com under
  - Support and Resources
  - Product Manuals
  - Mobile Computers
  - MC 9090 WM

2.5 Electromagnetic Fields

2.5.1 International

The device complies with internationally recognised standards covering human exposure to electromagnetic fields from radio devices.

Reducing RF Exposure - Use Properly

Only operate the device in accordance with the instructions supplied.

2.5.2 Portable Devices

This device was tested for typical body-worn operation. Use only BARTEC tested and approved beltclips, 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 Mobile Computer must be switched off before it may be carried on the body.

2.5.3 Handheld Devices

To comply with FCC RF exposure requirements, this device must be operated in the hand with a minimum separation distance of 20 cm or more from a person's body. Other operating configurations should be avoided.

2.6 Health and Safety Recommendations

Use only the accessories, batteries and battery chargers approved by BARTEC. Do not attempt to charge damp/wet Mobile Computers or batteries. All components must be dry before being connected to an external power supply.

2.6.1 Ergonomic Recommendations

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

2.6.2 Vehicle Installation

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles (including safety systems). Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

An air bag inflates with great force. DO NOT place objects, including either installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result. Position your device within easy reach. Be able to access your device without removing your eyes from the road.

2.7 Warnings for Use of Wireless Devices

Please observe all warning notices with regard to the usage of wireless devices.

2.7.1 Safety in Aircraft

Switch off your wireless device whenever you are instructed to do so by airport or airline staff. If your device offers a 'flight mode' or similar feature, consult airline staff as to its use in flight.

2.7.2 Pacemakers

If you have a cardiac pacemaker and are working with the Mobile Computer, you must maintain a minimum distance of 15 cm between a portable wireless device and the pacemaker to prevent any faults occurring in the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Electromagnetic waves, such as occur with the MC 9090^{ex} when using the WLAN or Bluetooth functions can cause faults and endanger your health! As it is not possible at this point of time to make any definite statement with regard to the interference immunity of pacemakers, we recommend that people wearing pacemakers should in general refrain from handling radio systems (transmission operation)!

Persons with Pacemakers:

- Should ALWAYS keep the device more than 15 cm (6 inches) from their pacemaker when turned ON
- Should not carry the device in a breast pocket
- Should use the ear furthest from the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, turn OFF your device

2.7.3 Hearing Aids

The wireless device may interfere with some hearing aids. In the event of interference you may want to consult your hearing aid supplier to discuss solutions.

2.7.4 Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.

3 Technical Data

3.1 Explosion Protection

Type	:	B7-A219-0G.0/H..... and B7-A219-0K.0/H..... and B7-A219-0S.0/H.....
Ex protection type	:	⟨Ex⟩ II 3G Ex nA nL IIC T4 X
	:	-20 °C ≤ Ta ≤ +50 °C
	:	⟨Ex⟩ II 3D Ex tD A22 IP54 T80 °C
Certification	:	EC-Declaration of Conformity

3.2 General Data

Dimensions (height x width x depth)				
Type B7-A219-0G.0/H.....	Version "Gun"	:	231 mm x 91 mm x 193 mm	9.1 inch x 3.6 inch x 7.6 inch
Type B7-A219-0K.0/H.....	Version "Brick"	:	231 mm x 91 mm x 56 mm	9.1 inch x 3.6 inch x 2.2 inch
Type B7-A219-0S.0/H.....	Version "Short"	:	201 mm x 91 mm x 56 mm	7.9 inch x 3.6 inch x 2.2 inch
Ambient temperature		:	-20 °C to +40 °C	-4 °F to 122 °F
Ambient temperature when charging		:	0 °C to +40 °C	32 °F to 104 °F
Storage temperature		:	-40 °C to +70 °C outside the hazardous area	-40 °F to 158 °F
Air humidity		:	5 % to 95 % (not condensing)	
Protection class		:	IP 54 (EN 60529)	
Weight including battery		:	configuration-dependent	
Type B7-A219-0G.0/H.....	Version "Gun"	:	approx. 810 g	approx. 26 oz
Type B7-A219-0K.0/H.....	Version "Brick"	:	approx. 680 g	approx. 22 oz
Type B7-A219-0S.0/H.....	Version "Short"	:	approx. 620 g	approx. 20 oz
Display		:	3.8 inch 65536 colours 240 x 320 pixels	¼ VGA colour display
Touch panel		:	Polycarbonate, analog resistive touch	
Processor		:	Intel® XScale Bulverde PXA270 processor with 624 MHz	
Operating system		:	Windows Mobile 2005 (English)	
Memory		:	ROM 128 MB	RAM 64 MB
optional extension with SD card		:	512 MB 1 GB 2 GB	Order number 17-28BE-F006/0001 Order number 17-28BE-F006/0002 NYA

Note:

The devices are modified to suit the selected memory versions. The end user can replace the SD card later himself, but must follow the instructions in chapter 6.1.4 "Inserting/Replacing the SD Card".

Interfaces : RS232, max. 115.2 kbps, min. 1200 bps
USB Vers. 1.1 (client)

Keypad versions

Version "Gun" and Version "Brick"

As an alternative, the 53-key version is also available with emulation key printing

28 keys

43 keys

53 key

No emulation software is installed on the Mobile Computers with the emulation key version. The customer must order the emulation software separately from Symbol/Motorola 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 chapter 6.1.3 "Removing/Changing Keypad".

Version "Short"

28 keys

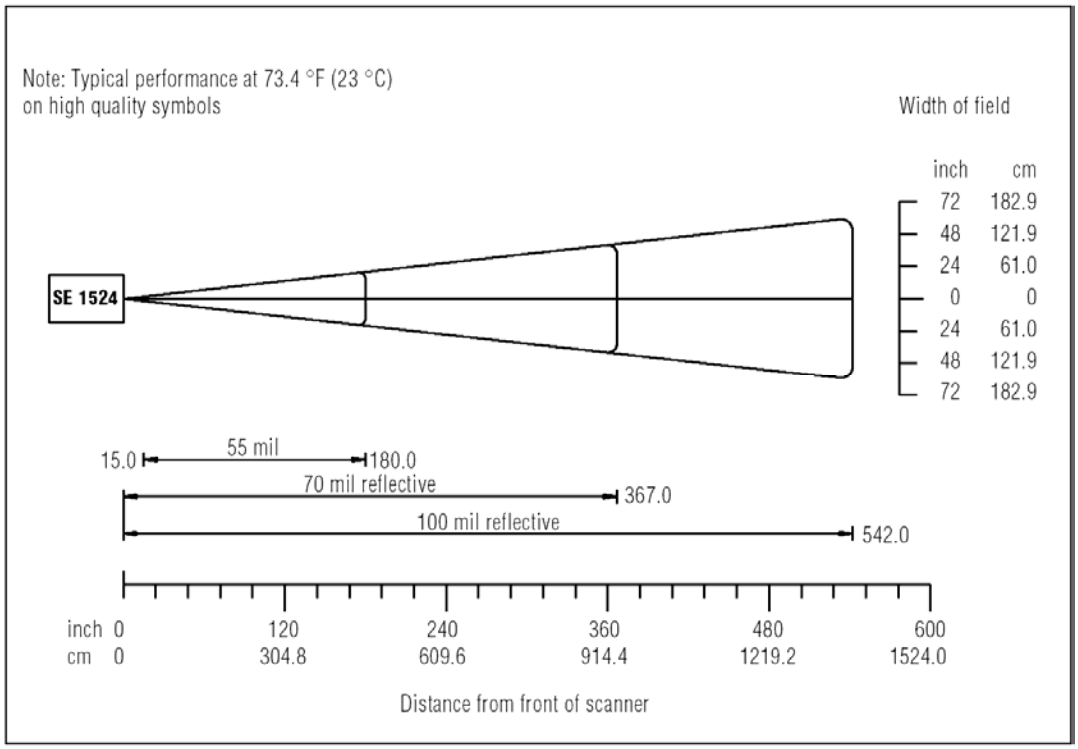
3.3 Technical Data Scan Engine and Decode Zone

3.3.1 Scan Engine for Version "Gun", type B7-A219-0GJ0/H.....

Long Range Scan Engine

Laser diode	:	Visible red light 650 nm
Scan rate	:	35 scans / sec. ± 5 (bi-directional)
Scan angle	:	13.5° ± 0.7°
Laser safety	:	Devices in CDRH Class II / IEC 825 Class 2

Decode zone "Lorax Extended Range Scan Engine"

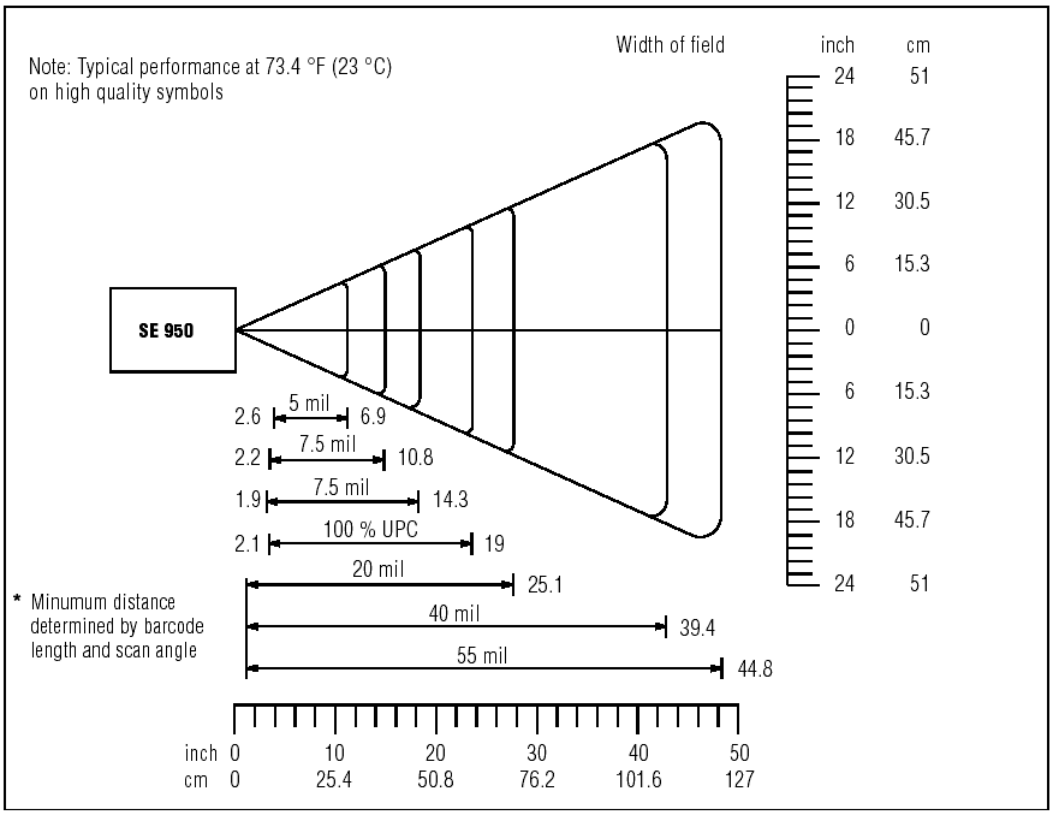


3.3.2 Scan Engine for Version "Brick" and Version "Short", type B7-A219-0.A0/H.....

Standard Range Scan Engine

Laser diode	:	Visible red light 650 nm
Scan rate	:	104 scans / sec. ± 12 (bi-directional)
Scan angle	:	47° ± 3° standard
		35° ± 3° reduced
Laser safety	:	Devices in CDRH Class II / IEC 825 Class 2

Decode zone "Standard Range Scan Engine"

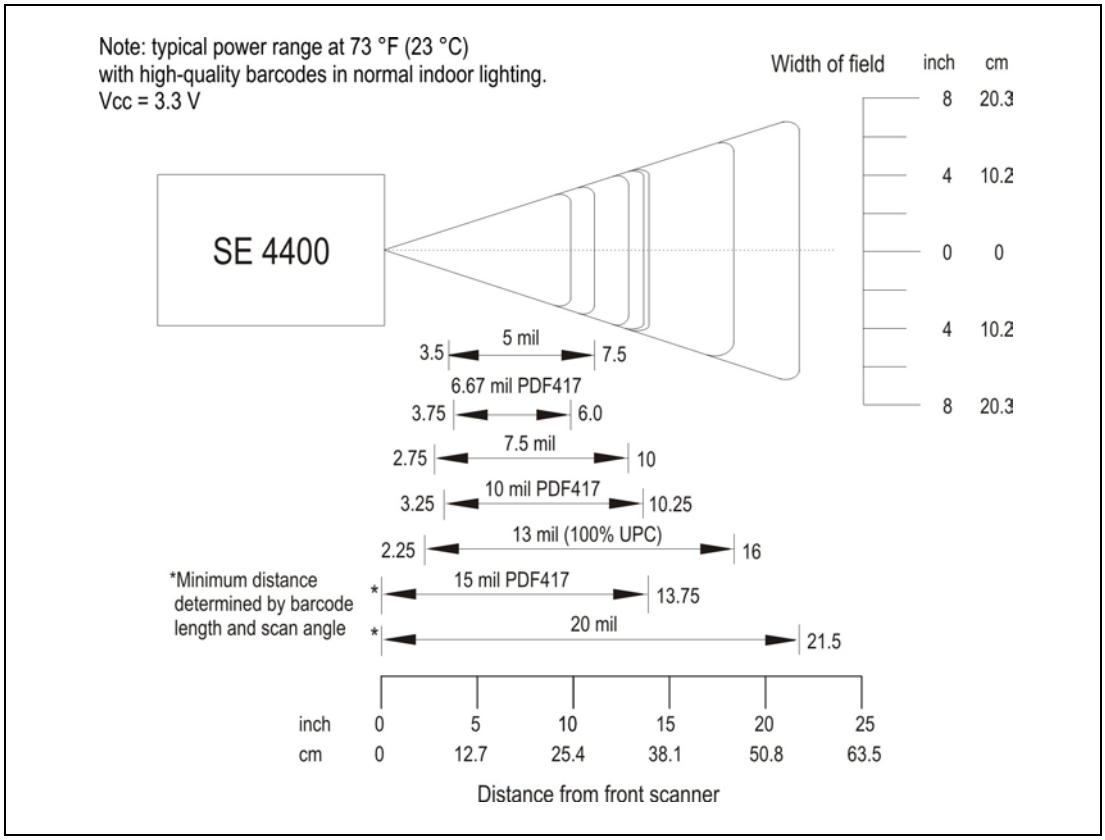


3.3.3 Scan Engine for Version "Gun", Version "Brick" and Version "Short", Type B7-A219-0.K0/H.....

Imager

Illumination element (LED)	:	Visible red light 635 nm +/- 20 nm
Target element (VLD)	:	Visible red light 635 nm +/- 20 nm
Field of vision	:	Horizontal 32,2 °
		Vertical 24,5 °
Laser safety	:	Devices in CDRH Class II / IEC 825 Class 1
Image resolution (grey scale)	:	640 (H) x 480 (V) pixel
Picture file formats	:	BMP, TIFF, JPEG

Decode zone "Imager"



3.4 Technical Data - WLAN / WPAN

WLAN (integrated radio module)

Radio standard		:	IEEE 802.11a/b/g (direct sequence topology)
Data rate		:	IEEE802.11a: up to 54 Mbit/Sek. IEEE802.11b: up to 11 Mbit/Sek. IEEE802.11g: up to 54 Mbit/Sek.
Frequency range		:	IEEE802.11a: 5 GHz IEEE802.11b: 2.4 GHz IEEE802.11g: 2.4 GHz
Output power (W or dBm)		:	100 mW (+20 dBm)
Antenna		:	integrated in the device
Radio channels	IEEE802.11a	:	Channel 8 - 64 (5040 MHz - 5350 MHz) (4920 MHz - 4980 MHz) only Japan
	IEEE802.11b/g	:	Channel 1 - 13 (2412 MHz - 2472 MHz) Channel 14 (2484 MHz) only Japan
			Note: The respective radio frequencies and usable channels depends on the respective national regulations.
Safety		:	WEP (40 or 128 Bit), TKIP, TLS, TTLS (MS-CHAP), TTLS (MS-CHAP v2), TTLS (CHAP), TTLS-MD5, TTLS-PAP, PEAP-TLS, PEAP (MS-CHAP v2), AES, LEAP
Voice communication		:	Integrated voice over IP (P2P, PBX, PPT), Wi-Fi certified, IEEE802.11a/b/g

Bluetooth (WPAN)	:	Bluetooth – Radio module version 1.2 with BTExplorer (incl. BTManager)
Antenna	:	Integrated in the device

3.5 Technical Data - Battery

Battery : Type B7-A2Z0-0001 and type B7-A2Z0-0003

Lithium Ionen 7.4 V / 2200 mAh, type B7-A2Z0-0001

(only rechargeable in the safe range) Lithium Ionen 7.4 V / 1550 mAh, type B7-A2Z0-0003

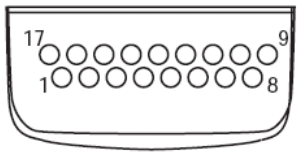
Operating temperature	when charging	:	0 °C to +40 °C	32 °F to 104 °F
	when discharging	:	-20 °C to +40 °C	-4 °F to 104 °F
Storage temperature	≤ 1 year	:	-25 °C to +20 °C	-13 °F to 68 °F
	≤ 3 months	:	-25 °C to +45 °C	-13 °F to 113 °F
	≤ 1 months	:	-25 °C to +60 °C	-13 °F to 140 °F
Relative air humidity		:	20 % - 85 %	(not condensing)

Backup Battery

Ni-MH battery (rechargeable) : 3.6 V / 15 mAh (3 cells)

integrated in the device, can be replaced only in the factory

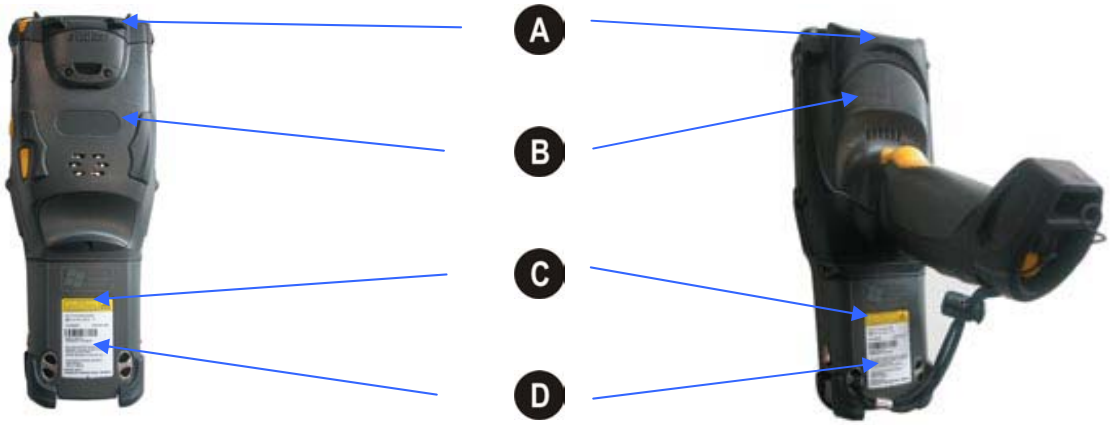
External Battery Contacts :



PIN	Signal Name	Function
1	USB_GND	USB
2	USB_D_Plus	USB
3	TxD	RS232C
4	RxD	RS232C
5	DCD	RS232C
6	RTS	RS232C
7	DSR	RS232C
8	GND	Earth, 2.5 A max.
9	RI	RS232C
10	Cradle_DET	If the Mobile Computer is in the cradle, it is earthed through the cradle
11	DTR	RS232C
12	Not assigned	Not assigned
13	Power_IN	12 V / 2.5 A max.
14	CTS	RS232C
15	USB_5V_DET	USB
16	USB_D_Minus	USB
17	EXT_Power_OUT	3.3 V @ 500 mA

3.6 Product Marking

3.6.1 Mobile Computer MC 9090ex

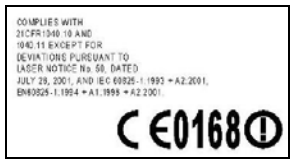


A **Warning Laser**

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.

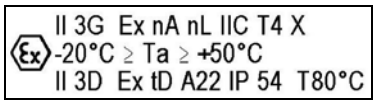
B **Laser Mark of Compliance**

MC 9090ex-K und MC 9090 ex-S:



MC 9090 ex-G:

C **Ex Kennzeichnung**

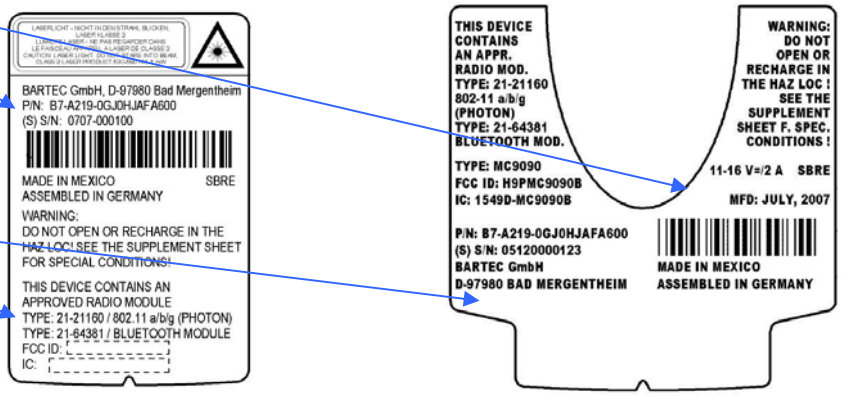


D **Warning Laser**

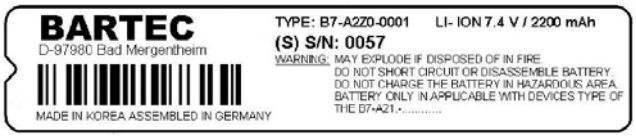
MC 9090 ex-G und MC 9090 ex-K:

MC 9090 ex-S:

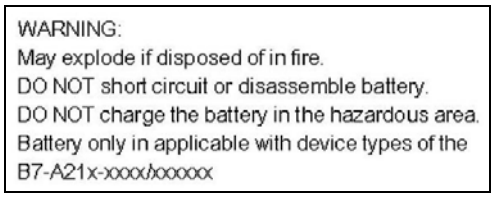
D **Type Lable**



3.6.2 Battery B7-A2Z0-0001



3.6.3 Battery B7-A2Z0-0003



3.7 Laser Labels

In accordance with Clause 5, IEC 825 and EN 60825, the following information is provided to the user:

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

DANISH / DANSK

KLASSE 1 KLASSE 1 LASERPRODUKT
KLASSE 2 LASERLYF
SE IKKE IND I STRÅLEN
KLASSE 2 LASERPRODUKT

ITALIAN / ITALIANO

CLASSE 1 PRODOTTO AL LASER DI CLASSE 1
CLASSE 2 LUCE LASER
NON FISSARE IL
RAGGIOPRODOTTO
AL LASER DI CLASSE 2

DUTCH / NEDERLANDS

KLASSE 1 KLASSE-1 LASERPRODUKT
KLASSE 2 LASERLICHT
NIET IN STRAAL STAREN
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

PORTUGUESE / PORTUGUÊS

CLASSE 1 PRODUTO LASER DA CLASSE 1
CLASSE 2 LUZ DE LASER NÃO FIXAR O RAIO
LUMINOSO
PRODUTO LASER DA CLASSE 2

FRENCH / FRANÇAIS

CLASSE 1 PRODUIT LASER DE CLASSE 1
CLASSE 2 LUMIERE LASER
NE PAS REGARDER LE RAYON
FIXEMENT
PRODUIT LASER DE CLASSE 2

3.8 WLAN / Bluetooth

3.8.1 Radio Modules

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

- Symbol Modular RLAN radio card, Type(s): 21-21160
- Symbol Bluetooth Terminal, Model: MC9090

3.8.2 Products Equipped with Bluetooth® Wireless Technology

This device contains the following Bluetooth Complimentary subsystems:

- BT ID:B01825
- BT ID:B02413

The use of wireless devices may be forbidden or restricted. This applies above all on board airplanes, in hospitals, in the vicinity of explosives or in other dangerous conditions. If you are not sure which instructions apply to the use of the device, ask for permission before switching on.

General and Country-specific Information on Wireless Devices:

Regulatory markings are applied to the device signifying the radio (s) are approved for use in the following countries:

- United States, Canada and Europe (Note 1 and 2).

Country Roaming

This device incorporates the international roaming feature (IEEE 802.11d) which will ensure the product operates on the correct channels for the particular country of use.

Ad-Hoc Operation – 802.11a Terminal Devices and Radio Modules only

Ad-Hoc operation is limited to channels 36-48 (5150-5250 MHz). Use of this band is restricted to indoor use only, any other use will make the operation of this device illegal.

Note 1: For 2.4 GHz Products: Europe includes Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

If using WLAN in accordance with IEEE802.11b (2.4 GHz) in the European Economic Area the following restrictions must be observed:

The maximum radiated transmitting power of 100 mW EIRP in a frequency range of 2.400 to 2.4835 GHz

France Devices are subject to a restricted frequency range of 2.4465 to 2.4835 GHz. Only certain channels are available (only channels 10, 11 , 12 and 13).

Special regulations from the ART (Autorité de régulation des télécommunications) apply to hotspots. Information about local regulations and the authorisation can be found under: http://www.art-telecom.fr

Italy A user licence is required for outdoor usage.

Mexico Frequency range is restricted to 2.450 to 2.4835 GHz .

Sri Lanka Frequency range is restricted to 2.400 to 2.430 GHz.

Note 2: If using WLAN (5 GHz) in the European Economic Area (EAA), there are varying restrictions that must be observed.
For details see the EC-Declaration of Conformity from BARTEC (Appendix A "Certificates") or view the Motorola (Symbol) web site http://www2.symbol.com/doc/ for the CE Declaration of Conformity for the standard version.

When using Bluetooth in the European Economic Area (EAA), the following restrictions must be observed.

Maximum radiated transmitting power of 100 mW EIRP in a frequency range of 2.400 to 2.4835 GHz.

France The radiated transmitting power outdoors is restricted to 10 mW EIRP.

Italy A user licence is required for outdoor usage.

4 Commissioning

4.1 Mobile Computer

To ensure that the devices function perfectly and have a long service life, they must be handled carefully. Chapter 5 "Handling" explains how to avoid inappropriate handling (e.g. by letting fall, damaging with objects).

Use the devices only if they are in a perfect technical condition.

Before using the Mobile Computer for the first time, charge the main battery (as described in chapter 4.3 "Battery").

4.2 Display

The display as supplied from the factory is covered with a protective film. Remove the protective film before using the device.

MC 9090ex with protective film

Take off the protective film

Use only the stylus included with the device to operate the touch screen. A biro, for example, could scratch or even destroy the touch screen.

The Mobile Computer must be treated carefully as the sensitive touch screen has a glass pane which can break if subjected to a lot of strain or let fall. The guarantee will be void if it is apparent that the damage to the touch screen is due to inappropriate use.

4.3 Battery

Please note that the batteries type B7-A2Z0-0001 with 7.4 V / 2200 mAh and B7-A2Z0-0003 with 7.4 V/1550 mAh may not be changed or replaced in the hazardous zone.

The Mobile Computer can be charged Using a Cradle or a Charging Station.

Note that battery type B7-A2Z0-0001 with 7.4 V/2200 mAh and B7-A2Z0-0003 may only be charged outside the hazardous zone. Use only accessories approved by BARTEC. Do not attempt to charge damp/wet Mobile Computers or batteries. All components must be dry before they are connected to an external power supply.

4.3.1 Cradles

The cradle may be used for charging and for data communication only outside the hazardous zone.

Insert the Mobile Computer into the cradle so that the battery will be recharged in the Mobile Computer (as well as any spare battery). A detailed description of the cradle configuration and the charging process can be found in the MC909X Integrator guide from Symbol/Motorola.

Recommended Cradles:

- Serial/USB single-slot cradle with a separate battery charging compartment
- 4-slot ethernet cradle
- 4-slot cradle

4.3.2 Charging Station

The charging stations may only be used outside the hazardous ranges.

The accessory part for recharging the spare battery for the Mobile Computers is used to recharge batteries that have been taken out of the Mobile Computer. A detailed description of the configuration of the accessories for charging spare batteries and of the charging process can be found in the MC909X Integrator Guide from Symbol/Motorola.

Recommended Charging Stations:

- 4-slot battery charger
- 4-slot quick-charging station for 4 adapters (adapters are not included in the scope of supply)

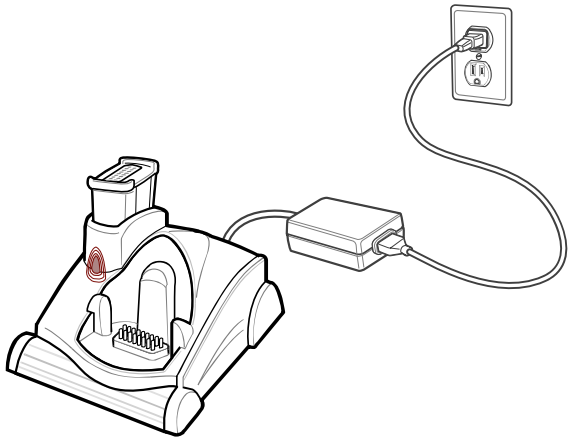
4.3.3 Power Supply

Use only the power packs approved by BARTEC/Motorola (50-14000-148, 12 Vdc and at least 3.33 A). The power pack is certified in accordance with EN 60950-1 and has SELV outputs.

The use of other power packs invalidates the permits granted for these devices and can be dangerous.

4.3.4 Charging the Battery

Make sure that the accessory part used for charging the battery is connected to a suitable power source.



Insert the battery into the cradle or charging station. As a rule the battery will recharge completely in less than 8 hours. When the yellow LED is on and steady, the battery has finished charging.

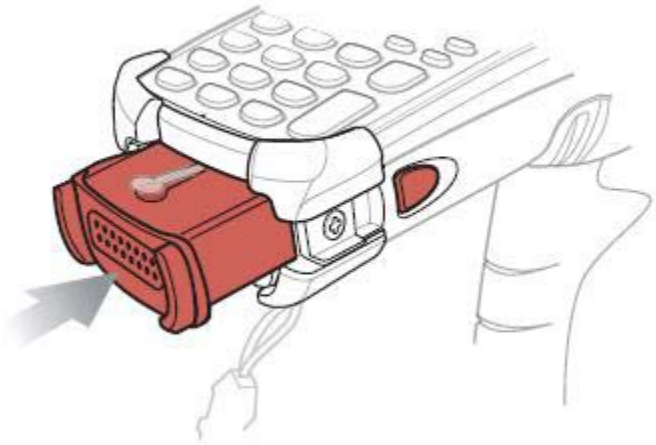
LED Status

LED	*Description*
Yellow light flashes slowly	The Mobile Computer is recharging.
Steady yellow light	The charging process has finished. **Note:** If the battery is inserted into the Mobile Computer for the first time, the yellow LED will flash once if the battery has a low charging state or is not inserted completely.
Doesn't light up	The Mobile Computer is not in the cradle. The Mobile Computer has not been inserted correctly. There is no power supply to the charger.
Yellow light flashes in quick succession	Charging error, check the position of the Mobile Computer.

4.4 Installing Battery

Do not remove the battery during the first 15 hours of operation. There is a risk of losing data if the battery is removed.

Sliding the battery into the Mobile Computer as shown in *Figure.*



Ensure the battery is fully inserted. Two audible clicks can be heard as the battery is fully inserted. A partially inserted battery may result in unintentional data loss.

When a battery is fully inserted in a mobile computer for the first time, upon the Mobile Computer's first power up, the device boots and powers on automatically.

5 Handling

Make sure that the Mobile Computer is set down on a stable supporting surface. Avoid putting it down on places such as e.g. tables, trolleys, stands or holders if they are not stable.

5.1 MC 9090ex-K and MC 9090ex-S Mobile Computer

In this position the device cannot be protected against damage.

The display can be damaged by objects lying on the supporting surface.

This is not a stable position for the device.

It can topple over or fall down.

5.2 MC 9090ex-G Mobile Computer

In this position the device cannot be protected against damage.

The scanner window can be damaged by objects lying on the supporting surface.

In this position the device cannot be protected against damage.

The display can be damaged by objects lying on the supporting surface.

5.3 Battery

5.3.1 Battery Informationen

BARTEC rechargeable battery packs (type B7-A2Z0-0001 and B7-A2Z0-0003) are designed and constructed to the highest standards within the industry. However, there are limitations to how long a battery can operate or be stored before needing replacement. Many factors affect the actual life cycle of a battery pack, such as heat, cold, harsh environmental conditions and falls from heights. When batteries are stored over 6 months, some irreversible deterioration in overall battery quality may occur.

Store batteries discharged in a dry, cool place, removed from the equipment to prevent loss of capacity, rusting of metallic parts and electrolyte leakage. When storing batteries for ½ year or longer, they should be charged and discharged at least every 3 months. If an electrolyte leakage is observed, avoid any contact with affected area and properly dispose of the battery. Replace the battery when a significant loss of run time is detected. Batteries must be charged within the 0° to +40 °C (32° to 104° F) temperature range.

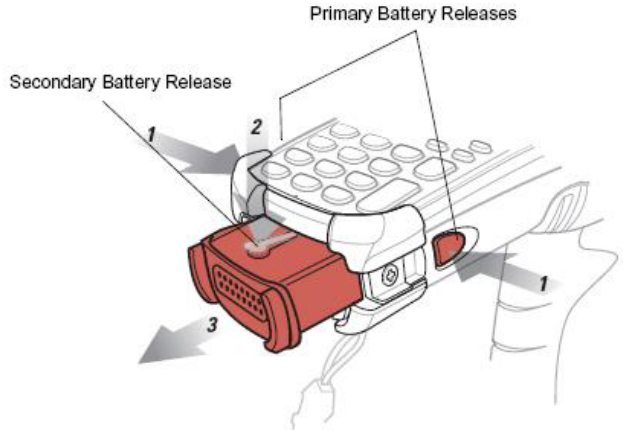
Standard warranty period for all BARTEC batteries is 1 year, regardless of whether the battery was purchased separately or included as part of the Mobile Computer.

5.3.2 Charging Processes

Charging the Battery Separately

Remove the battery, type B7-A2Z0-0001 as well as type B7-A2Z0-0003

1. Prior to removing the battery, press the red **Power** button. This sets the Mobile Computer to suspend mode.
2. Press the primary battery release(s). (***1*** in figure) The battery partially ejects from the Mobile Computer.

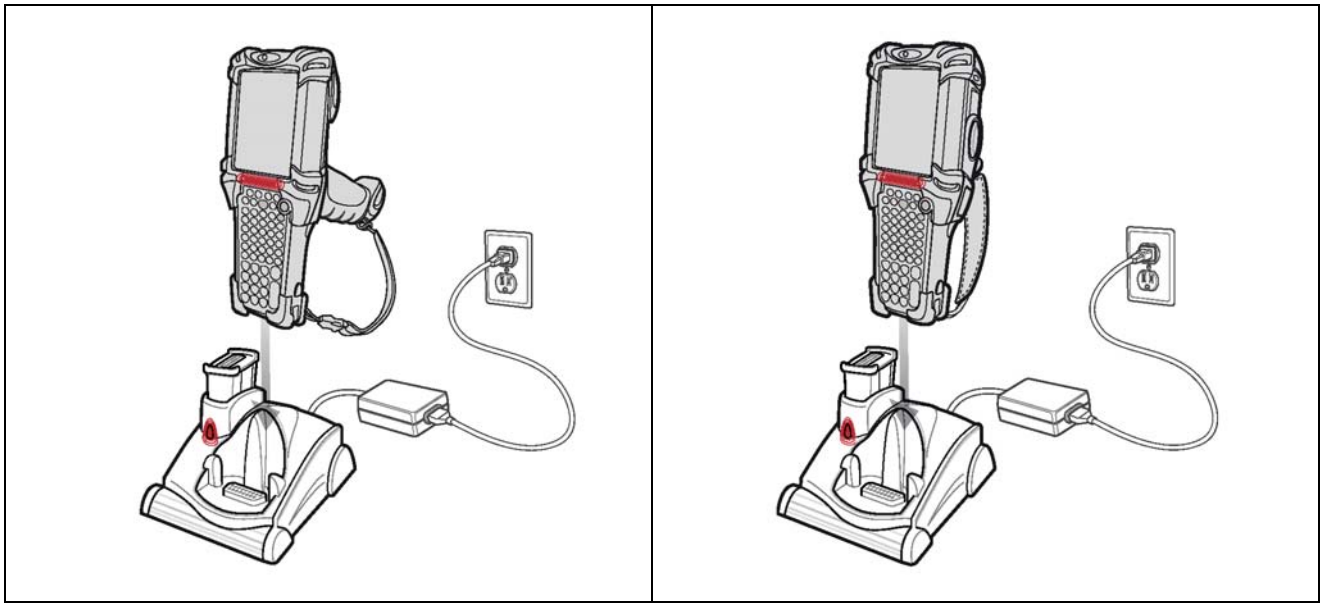


3. Pause 3 to 4 seconds while the Mobile Computer performs battery removal shutdown.
4. Press the secondary battery release (***2*** in figure), on top of the battery, and slide the battery out of the Mobile Computer (***3*** in figure).

Insert the battery into the cradle or charging station. The battery is normally completely recharged in less than 8 hours. The battery has finished charging if the yellow LED is on and steady. (Follow instructions in chapter 4.3.4 "Charging the Battery").

Charging the Battery in the Mobile Computer

Care must be taken that the devices to be charged are inserted into the charging station in the direction of the arrow.



The Mobile Computer starts the charging process automatically. The yellow charging LED in the LED display bar lights up to indicate the charging status. Information on the charging displays can be found in chapter 4.3.4 "Charging the Battery" under "LED Status".

Charging the Backup-Battery

The Mobile Computer has an integrated backup battery in addition to the main battery.

The backup battery is automatically recharged by the battery, irrespective of whether the Mobile Computer is in operation or in standby mode. The backup battery retains the data in memory for at least 30 minutes if the Mobile Computer's battery has been removed or completely discharged. If the Mobile Computer is being used for the first time or if it had been completely discharged, it will take about 15 hours to recharge the backup battery completely. Do not remove the battery from the Mobile Computer until after 15 hours to ensure that the backup battery has been completely recharged. If the battery is taken out of the Mobile Computer or if it was completely discharged, the backup battery will become discharged again in just a few hours.

When the main battery reaches a very low battery state, the combination of main battery and backup battery retains data in memory for at least 36 hours.

When the main battery reaches a critical, i.e. very low, state of charge, the combination of main battery and backup battery in stand-by mode retains the data in memory for at least 72 hours.

5.3.3 Tips on Optimising the Operating Time

- Leave the Mobile Computer connected to AC power at all times when not in use.
- Set the Mobile Computer to turn off after a short period of non-use.
- Set the display and keyboard backlight to turn off after a short period of non-use.
- Turn off all wireless radio activity when not in use.
- Power off the Mobile Computer when charging to charge at a faster rate.

5.4 Software Settings

5.4.1 Changing the Power Settings

To set the Mobile Computer to turn off after a short period of non-use:

➡ Tap **Start** > Settings
> **System** tab
> **Power** icon
> **Advanced** tab

➡ Select the **On battery power: Turn off device if not used for:** check box and select a value from the drop-down list box. (In battery operation: turn off device if … inactive), and select a value in the dropdown list.

➡ Tap **OK**.

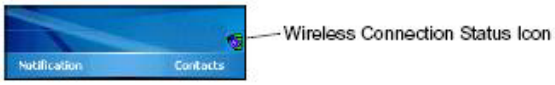
5.4.2 Changing the Display Backlight Settings

To change the display backlight settings in order to conserve more battery power:

- Tap **Start** > **Settings**
  > **System** tab
  > **Backlight** icon
  > **Battery Power** tab
- Select the **On battery power: Disable backlight if not used for:** check box and select a value from the drop-down list box. (In battery operation: turn off the backlight if … inactive), and select a value in the dropdown list.
- Tap the **Brightness** tab.
- Tap the **Disable backlight** check box to completely turn off the display backlight.
- Use the slider to set the brightness of the backlight. Set it to a low value to save battery power.
- Tap **OK.**

5.4.3 WLAN on Windows Mobile 5.0

To turn off the WLAN radio tap the wireless connection status icon at the bottom of the **today** screen and select "Disable Radio". A red "X" appears across the icon indicating that the radio is disabled (off).



To turn the radio back on, tap the wireless connection status icon at the bottom of the **today** screen and select "Enable Radio". The red "X" disappears from the icon indicating that the radio is enabled (on).

5.4.4 Bluetooth on Windows Mobile 5.0

The **Flight Mode** feature only turns off the Bluetooth. The WLAN radio must be turned off separately.

To turn off the bluetooth tap the **Connectivity icon** and select "**Turn On Flight Mode**".

To turn on the bluetooth tap the **Connectivity icon** and select "**Turn Off Flight Mode**".

5.4.5 Waking the Mobile Computer

The wake-up conditions define what actions wake-up the Mobile Computer. These settings are configurable and the factory default settings shown in the following table are subject to change/update.

Table Wake-up Conditions (Default Settings)

Status	Description	Conditions for Wakeup
Power Off	When the Mobile Computer is set to the suspend mode by pressing **Power**, these actions wake the Mobile Computer.	1. **Power** button is pressed. 2. AC power added or removed.
		Key or scan button is pressed.
		Real Time Clock set to wake-up.
Auto Off	When the Mobile Computer goes into suspend mode by an automatic power-off function, these actions wake the Mobile Computer.	1. **Power** button is pressed. 2. AC power added or removed.
		Key or scan button is pressed.
		Real-Time-Clock set to wake-up.

5.4.6 Connection with the PC via ActiveSync for OS Windows 98, NT, 2000 and XP

To sync or installation software/data use the Microsoft program ActiveSync. ActiveSync is available for a free download.

www.mircosoft.com

Note: To communicate with various host devices, install Microsoft ActiveSync (version 4.1 or higher) on the host computer. Use ActiveSync to synchronize information on the Mobile Computer with information on the host computer. Changes made on the Mobile Computer or host computer appear in both places after synchronization.

More information for ActiveSync can be found in the Motorola Integrator Guide.

5.4.7 Connection with the PC via Device Center for OS Windows Vista

To sync or installation software/data use the Microsoft program Mobile Device Center. It is available for a free download.

www.mircosoft.com

5.5 Booting Mobile Computer

5.5.1 Windows Mobile 5.0 Devices

If the functions stop working when you are using the Mobile Computer, it is recommendable to **REBOOT** the device.

There are two reset functions, warm boot and cold boot.

A warm boot restarts the Mobile Computer and closes all running programs.

A cold boot also restarts the Mobile Computer and closes all running programs but also resets the Real-Time-Clock (RTC).

Data saved in flash memory or a memory card is not lost. Perform a warm boot first. This restarts the Mobile Computer and saves all stored records and entries. If the Mobile Computer still does not respond, perform a cold boot.

5.5.2 Performing a Warm Boot

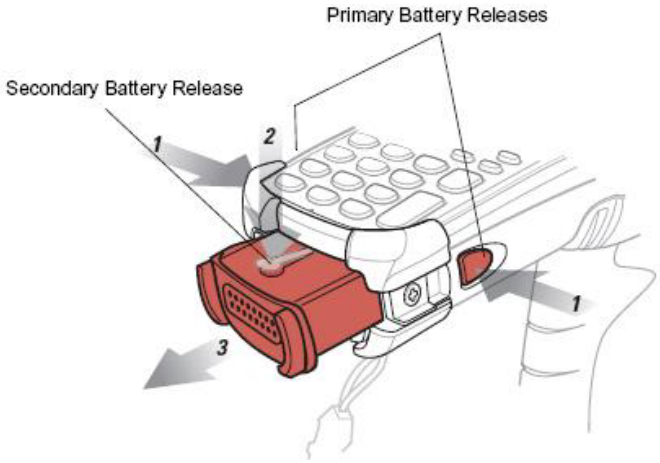
Hold down the **Power** button for approximately five seconds. As soon as the Mobile Computer starts to perform a warm boot release the **Power** button.

5.5.3 Performing a Cold Boot

Only perform a cold boot if a warm boot does not solve the problem.

To perform a Cold Boot on a MC 9090ex-G:

1. Press the primary battery release on the Mobile Computer to partially eject the battery from the Mobile Computer.



2. On an MC 9090ex-G, while the battery is partially released, simultaneously press and release the trigger and the **Power** button.
3. Only the battery may be pushed into the battery compartment in the Mobile Computer. One audible click can be heard as the battery is fully inserted.
4. The Mobile Computer initializes.

More information can be found in the original manual from Symbol/Motorola.

To perform a Cold Boot on a MC 9090ex-K or a MC9090ex-S:

1. Press the primary battery release on the Mobile Computer to partially eject the battery from the Mobile Computer. (see figure: cold boot MC 9090ex-G).
2. When the battery is partially released, simultaneously press the left trigger button and the Power button on the MC 9090ex-K or the MC 9090ex-S.
3. The Mobile Computer initializes.

More information can be found in the original manual from Symbol/Motorola.

6 Additional Components

6.1 Keypad and CD Card

6.1.1 Keypad with Green Overlay

	Options		Order number
MC 9090ex-G MC 9090 ex-K	28 keys		05-0080-0395
	43 keys		05-0080-0396
	53 keys		05-0080-0397
	53 keys keypad coding for	VT Emulation	05-0080-0398
	53 keys keypad coding for	3270 Emulation	05-0080-0399
	53 keys keypad coding for	5250 Emulation	05-0080-0400
MC 9090ex-S	28 keys		On request

When replacing the keypad, follow the instructions in chapter 6.1.3 "Removing/Changing the Keypad"

6.1.2 SD Cards

Memory card size	Order number
512 MB	17-28BE-F006/0001
1 GB	17-28BE-F006/0002
2 GB	NYA

Front view

Rear view

The hardware status of the SD card is specified in the type examination certificate. Only SD cards with the order number 17-28BE-F006/000x may be used.

6.1.3 Removing/Changing the Keypad

The keypad and SD card may only be replaced outside the hazardous area!

1. Turn off the MC 9090ex.
2. Remove the battery (see chapter 5.3.2 "Charging Processes").
3. Take out the screws at the top edge of the keypad.

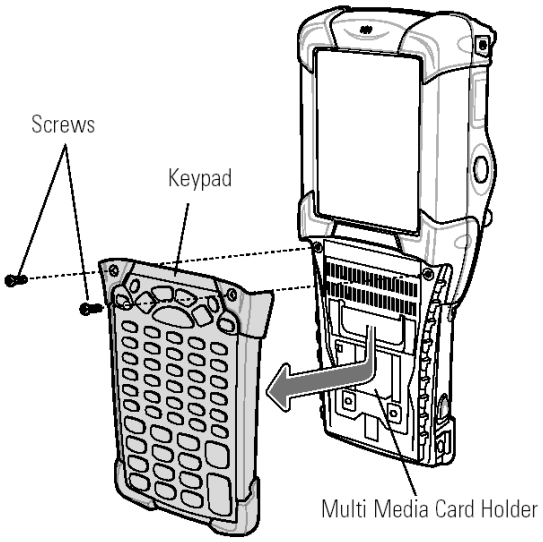


Fig. 1: Removing the keypad

4. Pull the keypad downwards in the direction of the arrow and then forwards to take it out of the MC 9090ex.
5. Check that the contacts and seals are clean and in good condition.
6. Put the keypad's two guide pins (fig. 3) into the guide ways (fig. 2) on the MC 9090ex enclosure.

Figure 2: Guideway

Figure 3: Guide pins

7. Snap on the keypad in the direction of the arrow (see fig. 4) and push it upwards until the boreholes for the screws are over the threaded sleeves.

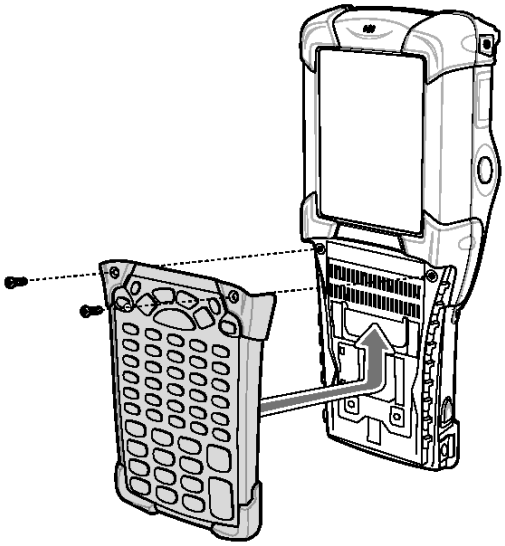


Fig. 4: Changing the keypad

8. Check that the keypad is mounted correctly.

Figure 5: Keypad mounted correctly

Figure 6: Keypad mounted incorrectly

9. Tighten the screws (torque = 0.565 Nm / torque = 5.0 in-lbs), 0.5 Nm advisable
Caution: The torque must be adhered to.

10. After the exchange of the keyboard a cold boot (see chapter 5.5 "Warm Boot and Cold Boot ") must be performed.

The current drivers of the new keyboard are initialized by the cold boot.

6.1.4 Inserting/Replacing the SD Card

The hardware status of the SD cards is specified in the test certificate. Accordingly only the SD cards with the order number 17-28BE-F006/000x are to be used.

1. Take off the keypad as instructed in chapter 6.1.3; repeat steps 1 - 4.

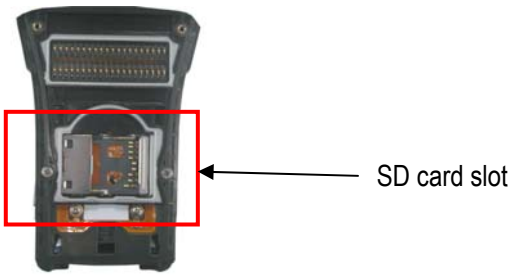


Figure 7: MC 9090ex without keypad

2. Lift up the card holder, insert the SD card under the clamp in the designated direction and position correctly. (The side with the gold contacts faces downwards)

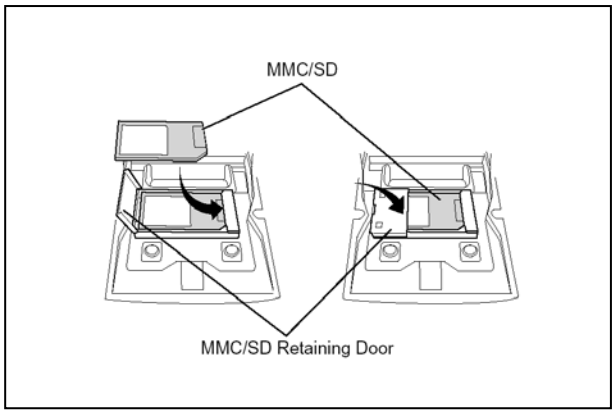


Figure 8: Replacing the SD card

3. Check that the keypad is mounted correctly.

Figure 9: SD slot with 512 MB card

4. Mount the keypad onto the MC 9090ex as shown in chapter 6.1.3; steps 5 - 10.

6.2 Open Case and Holster

6.2.1 Open Case for MC 9090ex "Version Gun"

Order No.:	03-9809-0009	Open Case for MC 90xxex-G
	03-9809-0011	Loop for Open Case (Gun)

The open case is made of leather and suitable for use in the hazardous area.

Do not use open cases or holsters that are not made of leather and not approved for use in hazardous areas.

The Mobile Computer must be switched off before it may be carried on the body.

Open case for MC 90xxex Gun

Loop for open case

Example of how the open case be worn

Front view

Side view

6.2.2 Holster for MC 9090ex "Version Brick"

Order No.: 03-9809-0010 Holster for MC 90xxex-K

The holster is made of leather and suitable for use in the hazardous area.

Do not use open cases or holsters that are not made of leather and not approved for use in hazardous areas.

The Mobile Computer must be switched off before it may be carried on the body.

Holster for MC 90xxex Gun

Example of how the holster can be worn

Front view

Side view

6.2.3 Holster for MC 9090ex "Version Short"

On request.

6.3 Stylus

6.3.1 Stylus for MC 9090ex-K

Order number for stylus (yellow):	
3-pack	3-pack
10-pack	10-pack
Stylus with holder	
3-pack	3-pack
50-pack	50-pack
	

6.3.2 Stylus for MC 9090ex-G

Order number for stylus (grey):	
10-pack	10-pack
50-pack	50-pack
Stylus with holder	
3-pack	3-pack
50-pack	50-pack
	

6.4 Headset or Other Audio Devices

Adjust the volume: Turn down the volume before using the headphones or other audio devices.

Do not use headsets or other audio devices that are not approved for the hazardous zone.

7 Maintenance

7.1 Care of the Battery

The battery should be completely charged before it is used for the first time. Note that the maximum capacity of the battery is not attained until after approx. 5 - 6 charging and discharging cycles.

As the battery power diminishes over the course of time, the batteries should be completely discharged and recharged every now and then in order to retain the full capacity. For that purpose the devices are left switched on until the devices switch off themselves. Then recharge the battery completely outside the Ex zone.

Before a lengthy idle time it is essential to charge the battery completely and to recharge it regularly (every 3 months).

7.2 Cleaning the Battery Contacts

- Check the battery contacts and the battery compartment regularly for:

  - rust, dust deposits and dirt

- To clean the contacts, use e.g. a rubber eraser, contact spray, cotton buds or a dry cloth.
- Avoid using water or chemical agents for cleaning

7.3 Information about Repairs

If you wish to send in a defective device for repairs please first read the RMA procedure guide. Then fill in and sign the RMA (Return Merchandise Authorisation) form and send it to our "Retouren Centre".

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

We cannot guarantee any contractually agreed processing times for devices that are sent in without an RMA number.

The RMA guide and the RMA form are available on our homepage for downloading.

http://www.bartec-group.com

- Quality and Culture
- RMA Form

Any questions? Send us an e-mail or call us.

E-mail: services@bartec.de
Phone: +49 7931 597-444

8 Additional Information

8.1 Links

http://www.bartec-group.com	BARTEC Homepage
http://www.symbol.com	Motorola Homepage
http://www.symbol.com/	The Motorola site for the MC 9000 ➡ Support and Resources ➡ Product Manuals ➡ Mobile Computers ➡ MC 9090 WM
http://www.symbol.com/	The Motorola site for the MC 9000 ➡ Products and Services ➡ Mobile Computers ➡ Industrial Class ➡ MC 9000
http://www.symbol.com/products/oem/oem_scan_engine_data_sheet.html	The Motorola site for the Scan Engine ➡ SE 1524ER Lorax Long Range Scan Engine ➡ SE 95X Standard Range Scan Engine ➡ SE 4400 Imager Imager 2D
http://devzone.symbol.com	The Motorola Developer Central Page for Software Developers. This page has tools, updates, patches etc. for the individual Symbol products. To access the pages, it is first necessary to register. The registration is free of charge.
http://www.microsoft.com	Microsoft site for Active Sync and Windows Mobile Device Center for Windows Vista
http://www.microsoft.com/downloads	Microsoft Page for Developers. Download eMbedded Visual C++ 4.0 or other versions free of charge. ➡ Windows Mobile ➡ eMbedded Visual C++ 4.0
http://www.microsoft.com/downloads	Download updates for eMbedded Visual C++ 4.0 or other versions free of charge: ➡ Select “Show Downloads” eMbedded Visual C++ 4.0 in the menu.

8.2 Information around the Explosion Protection

The requisite preconditions for the safe operation of electrical equipment in potentially explosive atmospheres are created in a joint effort by the manufacturers of explosion protected equipment and the constructors and operators of industrial plants. It is important that the operator of such plants should ensure that their personnel know how the danger of explosions is likely to arise and the measures that are to be taken to prevent it.

The employees should be regularly trained on the contents of the explosion protection document in accordance with the Directive 1999/92/EC - in the Federal Republic of Germany implemented on the basis of the "BetrSichV Betriebssicherheitsverordnung" (occupational safety regulations) - and informed by means of written corporate regulations which should be regularly updated. BARTEC as a specialist for safety technology offers such consultation and training.

Design Regulations for Explosion Protected Systems, Devices and Components - Equipment

Hazards arising from the handling of flammable gases, vapours and dusts are caused by uniform chemical and physical processes. For this reason, the protection against these hazards must be carried out in a uniform manner.

Nearly universal uniform requirements have now been formulated by the International Electrotechnical Commission IEC, by the European Standardisation Committees CENELEC and CEN and by DKE and DIN.

Manufacturers and operators are required to adhere to these, and where there are increased protection requirements, they are monitored by accredited test laboratories and the authorities.

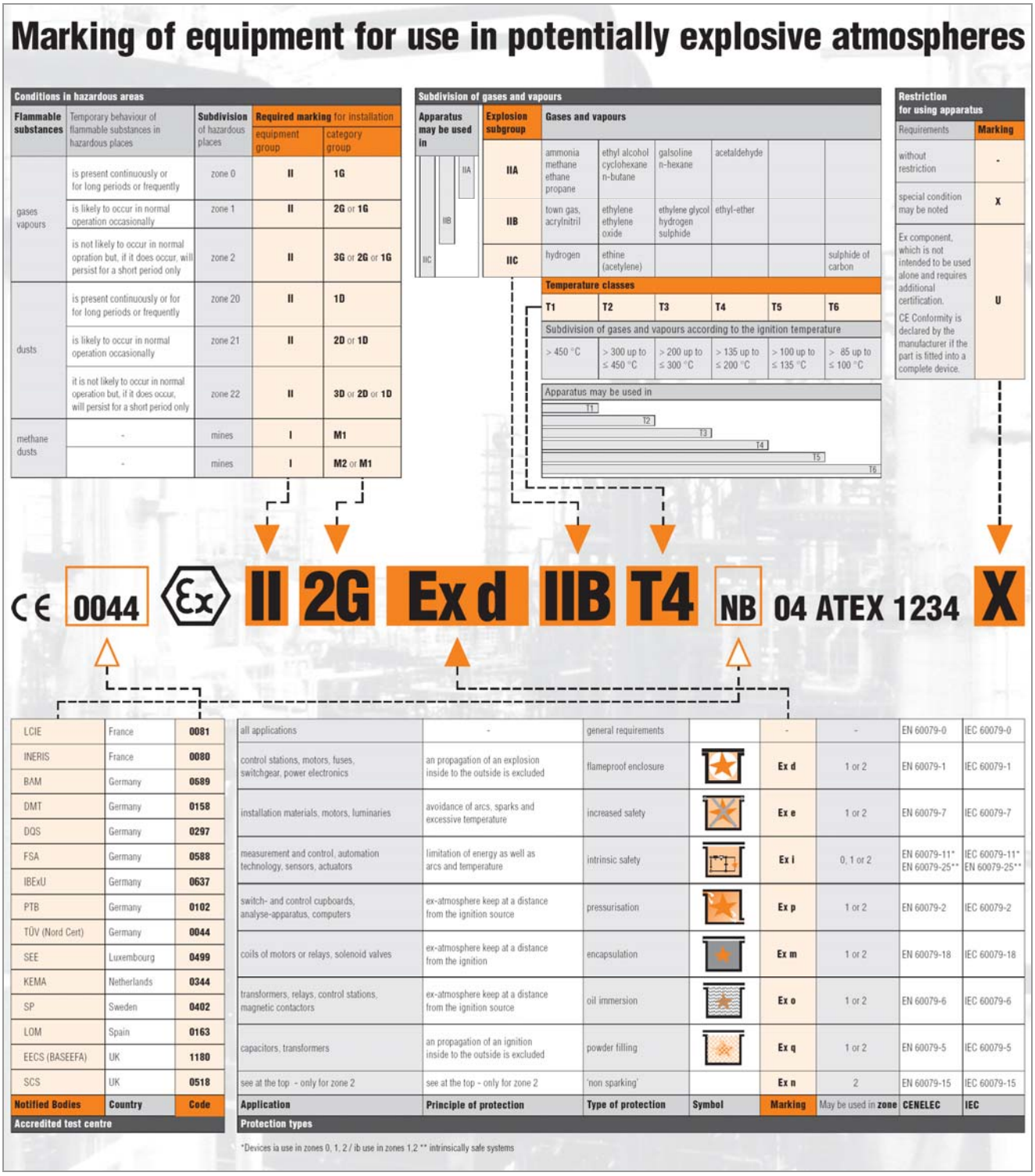
You can download further fundamental information to the explosion protection on our homepage:

Basic concepts for explosion protection:

http://www.bartec.de/homepage/deu/40_service/60_fachartikel/s_40_60_20.shtml

Marking of equipment for use in potentially explosive atmospheres

http://www.bartec.de/homepage/deu/40_service/60_fachartikel/s_40_60_20.shtml



8.3 Accessories

Designation	Order number Motorola	Order number BARTEC
Accessories for the Hazardous Zone		
Ex Accessory: **Battery for ATEX Zone 2 / Zone 22**		
Spare battery for MC9090ex-G and MC9090ex-K		B7-A2Z0-0001
Spare battery for MC9090ex-S		B7-A2Z0-0003
Ex Accessory: **SD Card for ATEX Zone 2 / Zone 22**		
ATP Industrial Grade SD Card with 512 MB		17-28BE-F006/0001
ATP Industrial Grade SD Card with 1 GB		17-28BE-F006/0002
ATP Industrial Grade SD Card with 2 GB		NYA
Ex Accessory: **Open Case and Holster for ATEX Zone 2 / Zone 22**		
Open Case for MC 90xx-G		03-9809-0009
Loop for Gun Open Case Belt for MC 90xx-G		03-9809-0011
Holster for MC 90xx-K		03-9809-0010
Ex Accessory: **Spare keypad with Green Overlay for ATEX Zone 2 / Zone 22**		
Spare keypad for MC 9090ex-G and MC 9090ex-K		
- with 28 keys		05-0080-0395
- with 43 keys		05-0080-0396
- with 53 keys		05-0080-0397
- with 53 keys keypad coding for VT emulation		05-0080-0398
- with 53 keys keypad coding for 3270 emulation		05-0080-0388
- with 53 keys keypad coding for 5250 emulation		05-0080-0400
Spare keypad for MC 9090ex-S		
- with 28 keys		On request
Ex Accessory: **Spare Screw for Keypad**		03-1321-0007
Ex Accessory: **Spare Overlay (green) for Keypad for ATEX Zone 2 / Zone 22**		
Overlay		
- for 28 keys		03-9829-0025
- for 43 keys		03-9829-0026
- for 53 keys		03-9829-0027
- with 53 keys keypad coding for VT emulation		03-9829-0028
- with 53 keys keypad coding for 3270 emulation		03-9829-0029
- with 53 keys keypad coding for 5250 emulation		03-9829-0030

Designation	Order number Motorola	Order number BARTEC
Accessories for the non-Hazardous Zone		
Single Slot Cradle Set:		05-0079-0018
Consists of:		
Single slot cradle	CRD9000-1001SR	03-9915-0003
Power pack	50-14000-148R	03-9911-0015
RS232 cable (Cradle <-> PC)	25-63852-01R	03-9919-0004
USB cable (Cradle <-> PC)	25-64396-01R	03-9919-0008
Line cord (DE)		03-9609-0013
4-Slot Ethernet Cradle Set		05-0079-0028
Consists of:		
4-slot ethernet cradle	CRD9000-4001ER	03-9849-0026
Power pack	50-14001-004R	03-9911-0021
DC cable (Power pack <-> 4-slot cradle)	50-16002-029R	03-9919-0010
Line cord (DE)		03-9609-0013
UBC 2000		
4-slot base station set without battery adapter		05-0079-0017
4-slot base station	UBC2000-I500DR	03-9915-0004
Battery adapter for UBC 2000	21-32665-48R	03-9919-0007
Line cord (DE)		03-9609-0013
User Manual		
Mobile Computer MC 9090^{ex} ATEX Zone 2 / Zone 22		11-B219-7D0001
Quick Short Guide (Poster)		
Mobile Computer MC 9090^{ex}-G ATEX Zone 2 / Zone 22		03-0300-0087
Mobile Computer MC 9090^{ex}-K ATEX Zone 2 / Zone 22		03-0300-0088

8.4 Order numbers

B7-A219-0G□0/HJ□FA600

J	**Lorax 1D Long Range Scan Engine** (SE 1524)	
K	**2D Pico Imager** (SE 1440)	

A	**28 Keys**	Mobile phone keypad
F	**43 Keys**	With function keys F1 – F12 in direct access
E	**53 Keys**	Alphanumeric keypad
G	**53 Keys**	**Keypad coding for VT emulation** (the software is not installed on the device)
H	**53 Keys**	**Keypad coding for 3270 emulation** (the software is not installed on the device)
J	**53 Keys**	**Keypad coding for 5250 emulation** (the software is not installed on the device)

Example: MC 9090^{ex}-G with Lorax 1D Long Range Scan Engine and 53 keys.

Type B7-A219-0GJ0/HJEFA600

B7-A219-0K☐0/HJ☐FA600

A	**1D Standard Range Scan Engine** (SE 950)
K	**2D Pico Imager** (SE 1440)

A	**28 Keys**	mobile phone keypad
F	**43 Keys**	with function keys F1 – F12 in direct access
E	**53 Keys**	alphanumeric keypad
G	**53 Keys**	**Keypad coding for VT emulation** (the software is not installed on the device)
H	**53 Keys**	**Keypad coding for 3270 emulation** (the software is not installed on the device)
J	**53 Keys**	**Keypad coding for 5250 emulation** (the software is not installed on the device)

Example: MC 9090ex-K with 2D Imager and 43 keys.

Type 17-A219-0KK0/HJFFA600

B7-A219-0S☐0/HJ☐FA600

U	**1D Standard Range Scan Engine** (SE950)
K	**2D Pico Imager** (SE1440)

A	**28 Keys**	**Keypad (Handy keypad)**
B	**38 Keys**	**Keypad (Numeric Prime)**
5	**38 Keys**	**Keypad (Alpha Prime)**

Example: MC 9090ex-S with 1D Standard Range Scan Engine and 28 keys.

Type B7-A219-0SU0/HJAFA600

9 Transport and Shipment

Important Note Concerning Transport and Shipping

! Sensitive Devices !

It is absolutely necessary to deliver the equipment in the original packaging in order to avoid damage to the equipment.

Prüfbescheinigungen / *Certificates*

1. EG-Konformitätserklärung /

EC-Declaration of Conformity

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité

BARTEC

Wir	We	Nous
BARTEC GmbH, Max-Eyth-Strasse 16, 97980 Bad Mergentheim, Germany		
erklären, dass das Produkt	declare, that the product	attestons, que le produit
Mobile Computer **MC 9090ex Zone 2 / 22**	**Mobile Computer** **MC 9090ex Zone 2 / 22**	**Mobile Computer** **MC 9090ex Zone 2 / 22**
	Typ-Nr.: B7-A219-0G*0/H***** Typ-Nr.: B7-A219-0K*0/H******* Typ-Nr.: B7-A219-0S*0/H*********	
auf das sich diese Erklärung bezieht, den Bestimmungen der folgenden Richtlinien entspricht	to which this declaration relates is in accordance with the provision of the following directives	se référant à cette attestation correspond aux dispositions des directives sulvantes
94/9/EG, **89/336/EWG,** **99/5/EG**	**94/9/EC,** **89/336/EEC,** **99/5/EC**	**94/9/CE,** **89/336/CEE,** **99/5/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 60 079-15: 2005;
EN 61 241-0:2006
EN 61 241-1:2004
EN 300 328 V1.6.1: 2004-11;
EN 301 893 V1.2.3: 2003-08;
EN 301 489-1 V1.6.1: 2005-09;
EN 301 489-17 V1.2.1: 2002-08;
EN 61 000-3-2: 2000;
EN 61 000-3-3: 1995;
EN 61 000-4-2: 1995, +A1: 1998, +A2: 2001;
EN 61 000-4-3: 2002;
EN 55 022: 1998, A1: 2000 +A2: 2003;
EN 55 024: 1998;
EN 60 950-1: 2001;
EN 60 825-1: 1994 +A1: 2002 + A2: 2001;

EG-Baumusterprüfbescheinigung	EC-Type Examination Certificate	Attestion d'examen CE de type
-	-	-
Qualitätssicherung Produktion	Production Quality Assessment	Assurance Qualitée Production

gemäß Richtlinie 94/9/EG ANHANG VIII Modul: Interne Fertigungskontrolle
Directive 94/9/EC Annex VIII Modul: Internal Control of Production
Directive 94/9/CE Annexe VIII Module: Contrôle Interne de Fabrication

Kennzeichnung / Marking / Marquage

CE

Ⓔx II 3G Ex nA nL IIC T4 X
-20 °C ≤ T_a ≤ +50 °C
Ⓔx Ex tD A22 IP54 T80 °C

Erläuterung Symbol X der Kennzeichnung:

Gerät vor Schlageinwirkungen schützen! Das Betriebsmittel keinen ätzenden/aggressiven Flüssigkeiten, Dämpfen oder Nebeln aussetzen! Bei Funktionsstörungen oder Gehäuseschäden ist das Betriebsmittel unverzüglich aus dem explosionsgefährdeten Bereich in den sicheren Bereich zu bringen. Entnehmen Sie die Batterie, um das Gerät außer Betrieb zu setzen!

Explanation Symbol X of the Marking:

Protect the device from impact effects! Do not expose the operating equipment to any caustic/aggressive liquids, vapours or mist! In the event of malfunctioning or damage to the enclosure, take the equipment out of the potentially explosive atmosphere immediately, bring it into a safe area and decommission it by removing the battery!

Signification du symbole X dans le marquage

Protéger l'appareil contre les chocs ! Ne pas exposer cet appareil à des vapeurs, à des embruns, à des liquides corrosifs ou agressifs ! En présence de défauts de fonctionnement ou de boîtier endommagé, l'appareil doit être amené sans délai hors de la zone à risque d'explosion et placé en zone sûre. Retirez la batterie pour mettre l'appareil hors service !

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité

BARTEC

Mobile Computer	Mobile Computer	Mobile Computer
MC 9090ex-G /	MC 9090ex-G /	MC 9090ex-G /
MC 9090ex-K /	MC 9090ex-K /	MC 9090ex-K /
MC 9090ex-S	MC 9090ex-S	MC 9090ex-S

Typ-Nr.: B7-A219-0G*0/H*******
Typ-Nr.: B7-A219-0K*0/H*******
Typ-Nr.: B7-A219-0S*0/H*******

Directives:	
Devices and protective systems for use in hazardous areas	94/9/EC
EMC	89/336/EEC
Radio and telecommunications equipment	99/5/EC
Hazardous Specifications:	
General Requirements	EN 60 079-15: 2006
	EN 60 241-0: 2006
	EN 61 241-1: 2004
Radio Specifications:	
Wideband 2.4 GHz Systems	EN 300 328 V1.6.1: 2004-11
Broadband Radio Access (5 GHz)	EN 301 893 V1.2.3: 2003-08
EMC Specifications:	
Radio Wideband Systems	EN 301 489-1 V1.6.1: 2005-09
	EN 301 489-17 V1.2.1: 2002-08
Harmonic Current Emissions	EN 61 000-3-2: 2000
Voltage Fluctuation & Flicker	EN 61 000-3-3: 1995
RF Eletromagnetic Field	EN 61 000-4-2: 1995, +A1: 1998, +A2: 2001
Electrostatic Discharge	EN 61 000-4-3: 2002
IT Equipment Emissions	EN 55 022: 1998, A1: 2000 +A2: 2003
IT Immunity	EN 55 024: 1998
Radio Frequency Devices	FCC CFR 47: (Part 15, Subparts Class B and C October 2003)
Interference Equipment	ICES 003
Safety Specifications:	
IT Equipment	EN 60 950-1: 2001
	IEC 60 950-1: 2001
	UL 60 950-1, CSA C22.2 No.60 950
Laser Products	EN 60 825-1: 1994 +A1: 2002 + A2: 2001
	IEC 60 825-1: 1993 + A1: 1997 + A2: 2001
	21CFR1040.10 Class IIa or II

Bad Mergentheim, den 24.08.2007

Ewald Warmuth
General Manager
Bad Mergentheim

BARTEC

Supplement for user manual ATEX Zone 2 / Zone 22

Mobile Computer MC 9094ex-K

Type B7-A219-4K.C/H…….

Mobile Computer MC 9094ex-S

Type B7-A219-4S.C/H…….

ATEX Zone 2 and Zone 22

Version 1.00
Document No. 11-B219-7D0003
Status: April, 9th 2008

Technical data subject to change!

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

Phone: +49 7931 597-0
Fax: +49 7931 597-183

Contact:
Service-Mobilecomputing@bartec.de

Contents

1. Product Description

The MC 9094ex Mobile Computer is designed as a compact device for scanning barcodes in the field and it is available in two versions.

MC 9094ex-K Brick

MC 9094ex-S Short

The scan trigger on the MC 9094ex allows data to be acquired in one-hand operation. A connection to a host system is established with Bluetooth, GPRS or WLAN. The MC 9094ex is an efficient mobile computer with the advantages of the Microsoft Pocket PC platform and the strengths of the Intel® XScale TM PXA270 Processor 624 MHz. The MC9094ex has an easy-to-read 1/4 VGA colour display with touch screen technology.

The operating system used by the device is the Microsoft Mobile 5.0 Phone Edition, in which the functions for the GPRS module are already integrated into the operating system.

The quad band EDGE/GPRS/GSM radio module is already integrated into the device. The radio module supports the 850 MHz, 900 MHz, 1800 MHz and 1900 MHz frequency ranges. It offers support for converged applications through one platform in all countries that accept ATEX certification.

The MC 9094ex supports the IEEE 802.11a/b/g radio standard. The MC 9094ex was designed specially for use in hazardous (potentially explosive) areas in zones 2 and 22.

2. Safety Instructions

2.1 Warnings about the MC 9094ex Mobile Computers

Opening the SIM door to insert or replace a SIM card is only permissible in non-hazardous areas.

3. Technical Data

3.1 Explosion Protection

Types		:	B7-A219-4K.C/H..... and B7-A219-4S.C/H.....
Ex protection type		:	⟨Ex⟩ II 3G Ex nA nL IIC T4 X
			⟨Ex⟩ II 3D Ex tD A22 IP54 T90 °C
Certification		:	EC-Declaration of Conformity

3.2 General Data

Ambient temperature		:	-20 °C to +40 °C -4 °F to 104 °F
Operating system		:	Windows Mobile 5.0 Phone Edition (English)
Dimensions	MC 9094ex-K	:	234 x 91 x 58 mm (height x width x depth)
	MC 9094ex-S		201 x 91 x 58 mm (height x width x depth)
Weight including battery	MC 9094ex-K	:	approx. 710 g
	MC 9094ex-S		approx. 650 g

3.3 Wireless Data Communication EDGE / GPRS

Data rate	:	EDGE class 12: up to 236,8 kbit/sec. Download & Upload
		GPRS class 12: up to 86 kbit/sec. Download & Upload
Frequency range (Quad-Band GSM)	:	GSM 850 MHz GSM 900 MHz
		GSM 1800 MHz GSM 1900 MHz
Output power	:	Class 4 (+33 dBm corresponds to 2 W) for EGSM850
		Class 4 (+33 dBm corresponds to 2 W) for EGSM900
		Class 1 (+30 dBm corresponds to 1 W) for EGSM1800
		Class 1 (+30 dBm corresponds to 1 W) for EGSM1900
Antenna	:	Integrated in the device

3.4 EDGE / GPRS

3.4.1 Safety on the Road

Do not take notes or use the device while driving. Jotting down a “to do” list or flipping through your address book takes attention away from your primary responsibility, driving safely. When driving a car, driving is your first responsibility - Give full attention to driving. Check the laws and regulations on the use of wireless devices in the areas where you drive. Always obey them. When using a wireless device behind the wheel of a car, practice good common sense and remember the following tips:

- Get to know your wireless device and any features such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.
- When available, use a hands free device.
- Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice, and even heavy traffic can be hazardous.
- Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, then continue.

The wireless industry reminds you to use your device / phone safely when driving.

5. Commissioning

5.1 Installation of the SIM Card

The insertion of the SIM card and the use of the MC 9094^{ex} as a telephone are described in the original Motorola manual (User Guide). See Chapter 8.1 for the link to the User Guide.

Motorola Manual (User Guide)

- Chapter 1	Getting Started	SIM Card	(Installation of the SIM card)
- Chapter 4	MC9094 Phone		(Operation of the MC9094 as a telephone)

Note that the SIM card may only be inserted or replaced in a non-hazardous area. Care must be taken also that the tightening torque is adhered to when closing the SIM door.

Tighten the screws (torque = 0.34 Nm / torque = 3.0 in-lbs) 0.3 Nm advisable
Caution: The torque must be adhered to!

8. Zusatzinformationen

8.4 Order numbers

B7-A219-4K☐C/HJ☐FA600

U	**1D Standard Range Scan Engine** (SE 950)
K	**2D Pico Imager** (SE 1440)

A	**28 Keys**	Mobile phone keypad
F	**43 Keys**	With function keys F1 – F12 in direct access
E	**53 Keys**	Alphanumeric keypad
G	**53 Keys**	**Keypad coding for VT emulation** (the software is not installed on the device)
H	**53 Keys**	**Keypad coding for 3270 emulation** (the software is not installed on the device)
J	**53 Keys**	**Keypad coding for 5250 emulation** (the software is not installed on the device)

Example: MC 9094^{ex}-K with 2D Pico Imager and 43 keys.

Type B7-A219-4KKC/HJFFA600

B7-A219-4S☐C/HJ☐FA600

U	**1D Standard Range Scan Engine** (SE 950)
K	**2D Pico Imager** (SE 1440)

A	**28 Keys**	**Keypad** (Mobile phone keypad)
B	**38 Keys**	**Keypad** (Numeric Prime)
5	**38 Keys**	**Keypad** (Alpha Prime)

Example: MC 9094^{ex}-S with 1D Standard Range Scan Engine and 28 keys.

Type B7-A219-4SUC/HJAFA600

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité

BARTEC

Wir	We	Nous
BARTEC GmbH, Max-Eyth-Strasse 16, 97980 Bad Mergentheim, Germany		
erklären, dass das Produkt	declare, that the product	attestons, que le produit
Mobile Computer MC 9094ex Zone 2 / 22	**Mobile Computer MC 9094ex Zone 2 / 22**	**Mobile Computer MC 9094ex Zone 2 / 22**
	Typ-Nr.: B7-A219-4K*C/H***** Typ-Nr.: B7-A219-4S*C/H*********	
auf das sich diese Erklärung bezieht, den Bestimmungen der folgenden Richtlinien entspricht	to which this declaration relates is in accordance with the provision of the following directives	se référant à cette attestation correspond aux dispositions des directives sulvantes
94/9/EG, 89/336/EWG, 99/5/EG	**94/9/EC, 89/336/EEC, 99/5/EC**	**94/9/CE, 89/336/CEE, 99/5/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 60 079-15: 2005;
EN 61 241-0:2006
EN 61 241-1:2004
EN 300 328 V1.6.1: 2004-11;
EN 301 893 V1.2.3: 2003-08;
EN 301 489-1 V1.6.1: 2005-09;
EN 301 489-17 V1.2.1: 2002-08;
EN 61 000-3-2: 2000;
EN 61 000-3-3: 1995;
EN 61 000-4-2: 1995, +A1: 1998, +A2: 2001;
EN 61 000-4-3: 2002;
EN 55 022: 1998, A1: 2000 +A2: 2003;
EN 55 024: 1998;
EN 60 950-1: 2001;
EN 60 825-1: 1994 +A1: 2002 + A2: 2001;

EG-Baumusterprüfbescheinigung	EC-Type Examination Certificate	Attestion d'examen CE de type
-	-	-
Qualitätssicherung Produktion	Production Quality Assessment	Assurance Qualitée Production

gemäß Richtlinie 94/9/EG ANHANG VIII Modul: Interne Fertigungskontrolle
Directive 94/9/EC Annex VIII Modul: Internal Control of Production
Directive 94/9/CE Annexe VIII Module: Contrôle Interne de Fabrication

Kennzeichnung	Marking	Marquage
	⟨Ex⟩ II 3G Ex nA nL IIC T4 X	
CE	**⟨Ex⟩ Ex tD A22 IP54 T90 °C**	

Erläuterung Symbol X der Kennzeichnung:

Gerät vor Schlageinwirkungen schützen! Das Betriebsmittel keinen ätzenden/aggressiven Flüssigkeiten, Dämpfen oder Nebeln aussetzen! Bei Funktionsstörungen oder Gehäuseschäden ist das Betriebsmittel unverzüglich aus dem explosionsgefährdeten Bereich in den sicheren Bereich zu bringen. Entnehmen Sie die Batterie, um das Gerät außer Betrieb zu setzen!

Explanation Symbol X of the Marking:

Protect the device from impact effects! Do not expose the operating equipment to any caustic/aggressive liquids, vapours or mist! In the event of malfunctioning or damage to the enclosure, take the equipment out of the potentially explosive atmosphere immediately, bring it into a safe area and decommission it by removing the battery!

Signification du symbole X dans le marquage

Protéger l'appareil contre les chocs ! Ne pas exposer cet appareil à des vapeurs, à des embruns, à des liquides corrosifs ou agressifs ! En présence de défauts de fonctionnement ou de boîtier endommagé, l'appareil doit être amené sans délai hors de la zone à risque d'explosion et placé en zone sûre. Retirez la batterie pour mettre l'appareil hors service !

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité

BARTEC

Mobile Computer MC 9094ex-K / MC 9094ex-S	Mobile Computer MC 9094ex-K / MC 9094ex-S	Mobile Computer MC 9094ex-K / MC 9094ex-S
	Typ-Nr.: B7-A219-4K*C/H******* Typ-Nr.: B7-A219-4S*C/H*******	

Directives:

Devices and protective systems for use in hazardous areas	94/9/EC
EMC	89/336/EEC
Radio and telecommunications equipment	99/5/EC

Hazardous Specifications:

General Requirements	EN 60 079-15: 2006
	EN 60 241-0: 2006
	EN 61 241-1: 2004

Radio Specifications:

Wideband 2.4 GHz Systems	EN 300 328 V1.6.1: 2004-11
Broadband Radio Access (5 GHz)	EN 301 893 V1.2.3: 2003-08
Global Systems for Mobile Coms. (GSM)	EN 301 511 V9.0.2

EMC Specifications:

Radio Wideband Systems	EN 301 489-1 V1.6.1: 2005-09
	EN 301 489-17 V1.2.1: 2002-08
Digital Cellular Radio	EN 301 489-7 V1.2.1
Harmonic Current Emissions	EN 61 000-3-2: 2000
Voltage Fluctuation & Flicker	EN 61 000-3-3: 1995
RF Eletromagnetic Field	EN 61 000-4-2: 1995, +A1: 1998, +A2: 2001
Electrostatic Discharge	EN 61 000-4-3: 2002
IT Equipment Emissions	EN 55 022: 1998, A1: 2000 +A2: 2003
IT Immunity	EN 55 024: 1998
Radio Frequency Devices	FCC CFR 47: (Part 15, Subparts Class B and C October 2003)
Interference Equipment	ICES 003

Safety Specifications:

IT Equipment	EN 60 950-1: 2001
	IEC 60 950-1: 2001
	UL 60 950-1, CSA C22.2 No.60 950
Laser Products	EN 60 825-1: 1994 +A1: 2002 + A2: 2001
	IEC 60 825-1: 1993 + A1: 1997 + A2: 2001
	21CFR1040.10 Class IIa or II

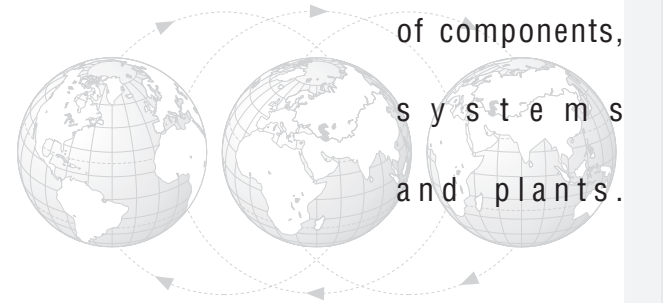
Bad Mergentheim, den 12.12.2007

ppa Ewald Warmuth
Managing Director
Bad Mergentheim

Seite 2 von 2

BARTEC

BARTEC protects people and the environment by the safety of components, systems and plants.



BARTEC GmbH
Germany

Max-Eyth-Straße 16
97980 Bad Mergentheim

Phone: +49 7931 597-0
Fax: +49 7931 597-119

info@bartec.de
www.bartec-group.com

11-A219-7D0001-10.10.2007-279891