



ATEX Version

Zone 1



Mobile Computing

User Manual

MC 9090^{ex}-G
MC 9090^{ex}-K

Type 17-A119-OG.0/H.....
Type 17-A119-OK.0/H.....

User Manual

Mobile Computer MC 9090^{ex}-G

Type 17-A119-0G.0/H.....

Mobile Computer MC 9090^{ex}-K

Type 17-A119-0K.0/H.....

ATEX Version

Zone 1

Version 3.00

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Technical data subject to change!



Indroduction

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

1.	Product Description	1
1.1	General	1
1.2	Use.....	2
1.3	Advantages	2
2.	Safety Instructions	3
2.1	Warnings about the Mobile Computers.....	3
2.2	Warnings about the battery	4
2.3	Warnings about Laser Devices	5
2.4	Notes on installation.....	5
2.5	Electromagnetic Fields.....	7
	2.5.1 International.....	7
	2.5.2 Portable Devices	7
	2.5.3 Handheld Devices	7
2.6	Health and Safety Recommendations	8
	2.6.1 Ergonomic Recommendations	8
	2.6.2 Vehicle Installation	8
2.7	Warnings for Use of Wireless Devices.....	9
	2.7.1 Safety in Aircraft.....	9
	2.7.2 Pacemakers	9
	2.7.3 Hearing Aids.....	9
	2.7.4 Other Medical Devices	9
3.	Technical Data	10
3.1	Explosion Protection	10
3.2	General Data.....	10
3.3	Technical Data Scan Engine and Decode Zone	12
	3.3.1 Scan Engine for Type 17-A119-0GJ0/H..... (Long Range Scan Engine)	12
	3.3.2 Scan Engine for Type 17-A119-0KA0/H..... (Standard Range Scan Engine).....	13
	3.3.3 Scan Engine for Type 17-A119-0KK0/H..... (Imager)	14
3.4	Technical Data - WLAN / WPAN.....	15
3.5	Technical Data - Battery.....	16
3.6	Product Marking.....	17
	3.6.1 Mobile Computer MC 9090 ^{ex}	17
	3.6.2 Battery 17-A1Z0-0001	17
3.7	Laser Labels.....	18
3.8	WLAN / Bluetooth.....	19
	3.8.1 Radio Modules	19
	3.8.2 Products Equipped with Bluetooth® Wireless Technology	19
4.	Commissioning.....	21
4.1	Mobile Computer	21
4.2	Display	21
4.3	Battery.....	22
	4.3.1 Cradles	22
	4.3.2 Charging Station.....	22
	4.3.3 Power Supply	23
	4.3.4 Charging the Battery	23
4.4	Installing Battery.....	24

Contents

5.	Handling	25
5.1	MC 9090 ^{ex} -K Mobile Computer	25
5.2	MC 9090 ^{ex} -G Mobile Computer	26
5.3	Battery	27
5.3.1	Battery Informationen	27
5.3.2	Charging Processes	27
5.3.3	Tips on Optimising the Operating Time	29
5.4	Software Settings	29
5.4.1	Changing the Power Settings	29
5.4.2	Changing the Display Backlight Settings	30
5.4.3	WLAN on Windows Mobile 5.0	30
5.4.4	Bluetooth on Windows Mobile 5.0	30
5.4.5	Waking the Mobile Computer	31
5.4.6	Connection with the PC via ActiveSync for OS Windows 98, NT, 2000 and XP	31
5.4.7	Connection with the PC via Device Center for OS Windows Vista	31
5.5	Booting Mobile Computer	32
5.5.1	Windows Mobile 5.0 Devices	32
5.5.2	Performing a Warm Boot	32
5.5.3	Performing a Cold Boot	32
6.	Additional Components	34
6.1	Keypad and CD Card	34
6.1.1	Keypad with Blue Overlay	34
6.1.2	SD Cards	34
6.1.3	Removing/Changing the Keypad	35
6.1.4	Inserting/Replacing the SD Card	37
6.2	Open Case and Holster	38
6.2.1	Open Case for MC 9090 ^{ex} "Version Gun", type 17-A119-0Gx0HJxFA6xx	38
6.2.2	Holster for MC 9090 ^{ex} "Version Brick", type 17-A119-0Kx0HJxFA6xx	39
6.3	Stylus	40
6.3.1	Stylus for MC 9090 ^{ex} -K	40
6.3.2	Stylus for MC 9090 ^{ex} -G	40
6.4	Headset or Other Audio Devices	40
7.	Maintenance	41
7.1	Care of the Battery	41
7.2	Cleaning the Battery Contacts	41
7.3	Information about Repairs	41
8.	Additional Information	42
8.1	Links	42
8.2	Information around the Explosion Protection	43
8.3	Accessories	45
8.4	Order numbers	47
9.	Transport and Shipment	49

Appendix A Certificates

1. Product Description

1.1 General

The MC 9090^{ex}-G and MC 9090^{ex}-K Mobile Computers 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 9090^{ex} device series allow the acquisition of data with one-hand operation.

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



MC 9090^{ex}-G



MC 9090^{ex}-K

Both the MC 9090^{ex}-G Mobile Computer (Gun version) and also the MC 9090^{ex}-K Mobile Computer (Brick version) allow data to be exchanged with the host system in real time.

The devices in the innovative MC 9090^{ex} 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 2G.

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

The MC 9090^{ex} series is specially intended for use in the zone 1 hazardous area. It is not allowed to use the MC 9090^{ex} in zone(s) 0 / 20 / 21 / 22.

1.3 Advantages

- Data access is possible in real time
- Lithium-ion storage batteries allow maximum operating time between chargings
- Battery replaceable in Ex area
- 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 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 instantly and remove the battery.
- 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



- The battery may only be charged outside the hazardous area!
- It must be ensured that only original batteries of the type 17-A1Z0-0001 with 7.4 V/2200 mAh 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) Mobile Computers.
- 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	:	17-A119-0G.0/H..... and 17-A119-0K.0/H.....
Ex protection type	:	Ⓔ II 2G Ex q [ib] IIC T4
Certification	:	PTB 05 ATEX 2055
		for more data see EC Type Examination Certificate

3.2 General Data

Dimensions (height x width x depth)

Type 17-A119-0G.0/H.....	Version "Gun"	:	231 mm x 91 mm x 193 mm	9.1 inch x 3.6 inch x 7.6 inch
Type 17-A119-0K.0/H.....	Version "Brick"	:	231 mm x 91 mm x 56 mm	9.1 inch x 3.6 inch x 2.2 inch

Ambient temperature : -20 °C to +40 °C -4 °F to 104 °F

Ambient temperature when charging : 0 °C to +40 °C 32 °F to 104 °F

Storage temperature : -40 °C to +70 °C -40 °F to 158 °F
outside the hazardous area

Air humidity : 5 % to 95 % (not condensing)

Protection class : IP 54 (EN 60529)

Weight including battery

Type 17-A119-0G.0/H.....	Version "Gun"	:	approx. 1060 g	approx. 34 oz
Type 17-A119-0K.0/H.....	Version "Brick"	:	approx. 980 g	approx. 31 oz

Display : 3.8 inch ¼ VGA colour display
65536 colours
240 x 320 pixels

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 Order number 17-28BE-F006/0001
1 GB Order number 17-28BE-F006/0002
2 GB Order number 17-28BE-F006/0003

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".

Technical Data

Interfaces	: RS232, max. 115.2 kbps, min. 1200 bps USB Vers. 1.1 (client)
Keypad versions	: "Gun" version and "Brick" version As an alternative, the 53-key version is also available with emulation key printing



28 keys



43 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 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.

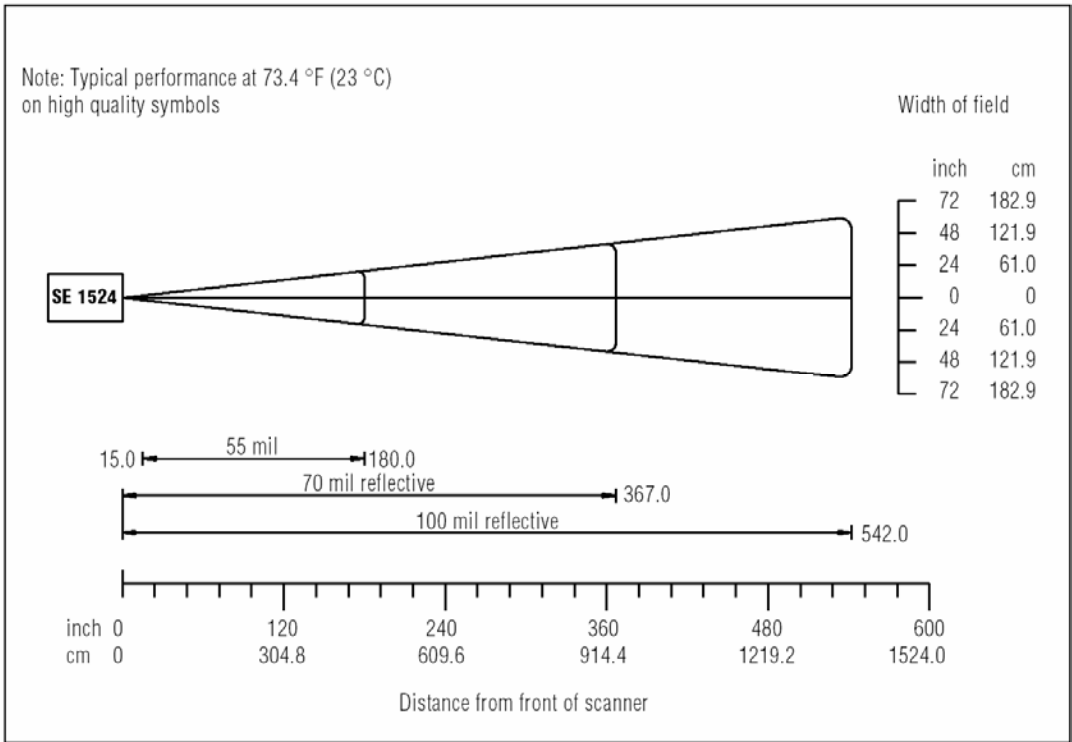
When replacing the keyboard, follow the instructions in chapter 6.1.3 "Removing/Changing Keypad".

3.3 Technical Data Scan Engine and Decode Zone

3.3.1 Scan Engine for Type 17-A119-0GJ0/H..... (Long Range Scan Engine)

Laser diode	:	Visible red light 650 nm
Scan rate	:	35 scans / sec. \pm 5 (bi-directional)
Scan angle	:	$13.5^{\circ} \pm 0.7^{\circ}$
Laser safety	:	Devices in CDRH Class II / IEC 825 Class 2

Decode Zone for MC 9090^{ex}-G (Lorax Extended Range Scan Engine)

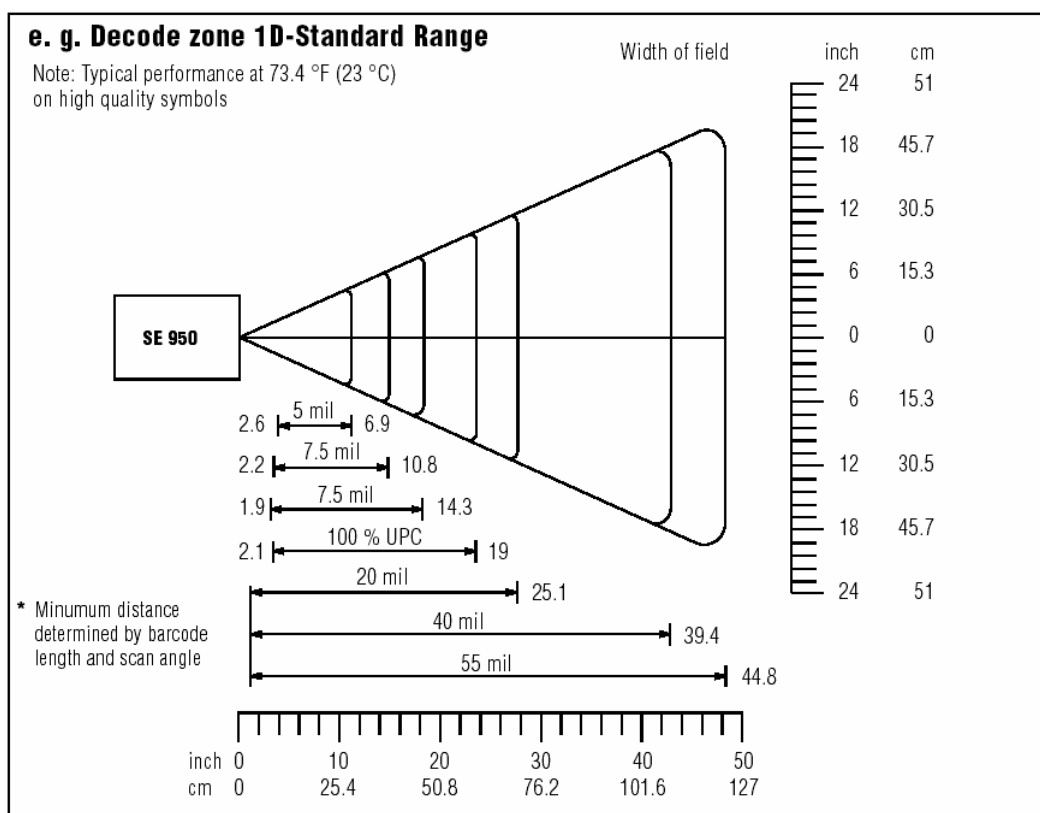


Technical Data

3.3.2 Scan Engine for Type 17-A119-0KA0/H..... (Standard Range Scan Engine)

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

Decode Zone for MC 9090^{ex}-K (Standard Range Scan Engine)

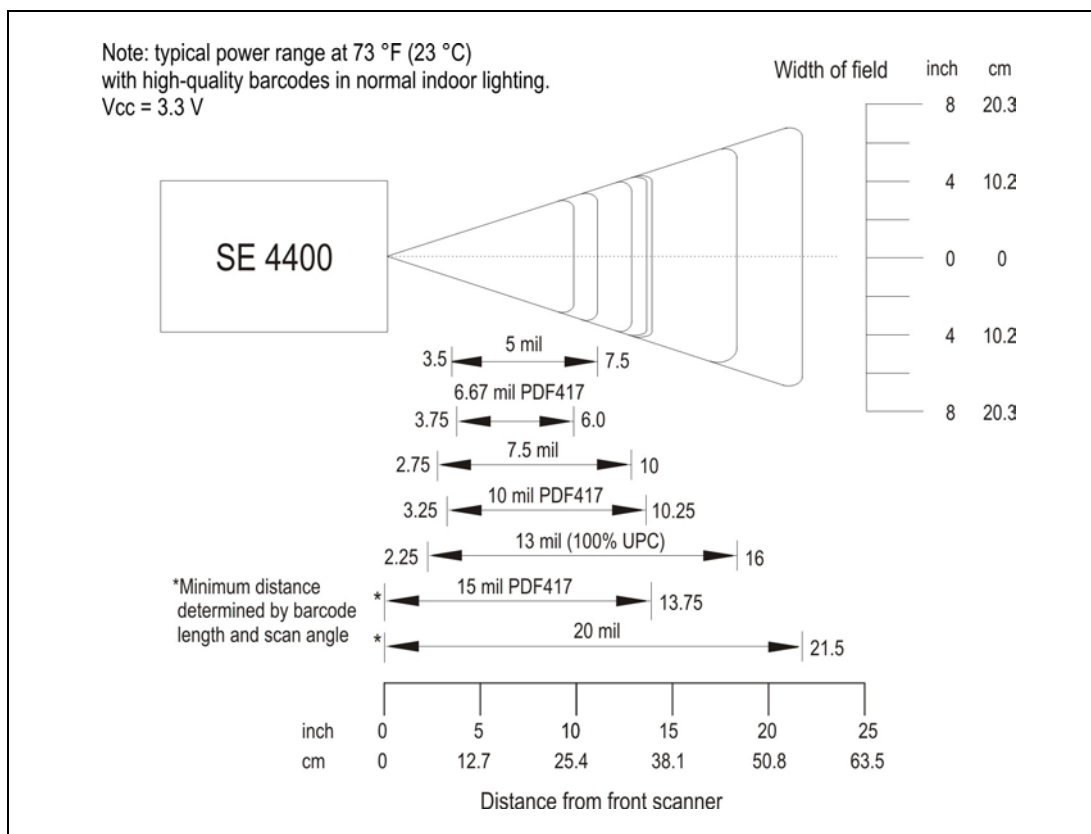


Technical Data

3.3.3 Scan Engine for Type 17-A119-0KK0/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 for MC 9090^{ex}-K (Imager)



3.4 Technical Data - WLAN / WPAN

WLAN (integrated radio module)

Radio standard	:	IEEE 802.11a/b/g	(direct sequence topologie)
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

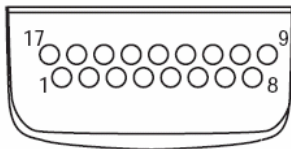
3.5 Technical Data - Battery

Battery		:	Type 17-A1Z0-0001	
(only rechargeable in the safe range)			Lithium Ion 7.4 V / 2200 mAh	
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		

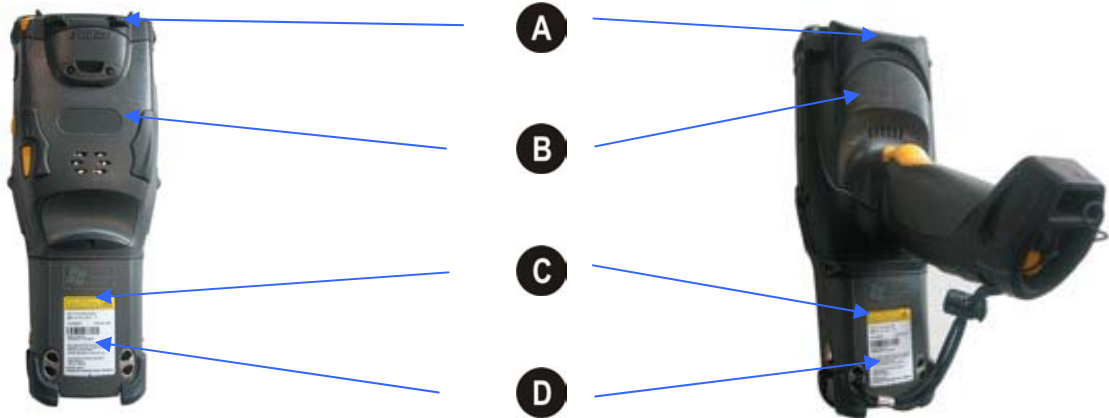
External Battery Contacts



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 9090^{ex}

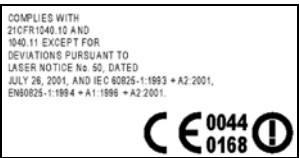


A Warning Laser

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

Version Brick:



Version Gun:

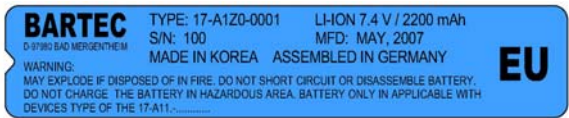


C Warning Laser

D Type Lable




3.6.2 Battery 17-A1Z0-0001



3.7 Laser Labels

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

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

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.

Technical Data

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 9090^{ex} 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



Only battery type 17-A1Z0-0001 with 7.4 V / 2200 mAh can be used in the hazardous zone and may therefore be changed or replaced.

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



Note that battery type 17-A1Z0-0001 with 7.4 V/2200 mAh 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)

Commissioning

4.3.3 Power Supply

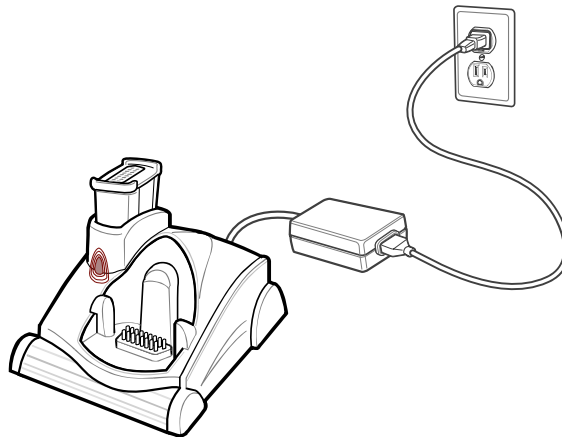
Use only the power packs approved by BARTEC/Motorola (50-14000-148, 12 Vdc and at least 3.33 A). The power pack is certified in accordance with EN 60950-1 and has SELV outputs.



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

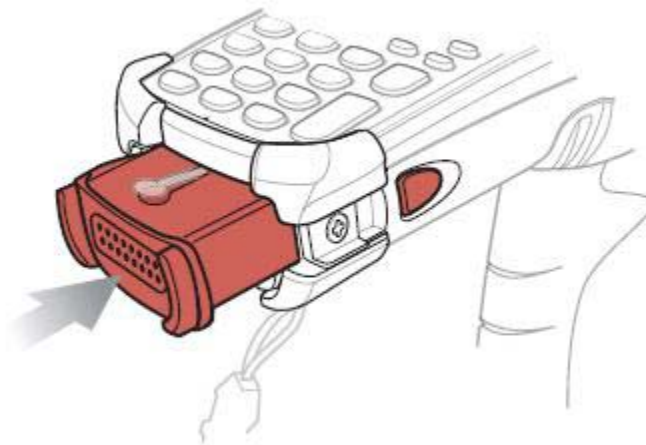
LED	Description
Yellow light flashes slowly	The Mobile Computer is recharging.
Steady yellow light	The charging process has finished. Note: If the battery is inserted into the Mobile Computer for the first time, the yellow LED will flash once if the battery has a low charging state or is not inserted 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 9090^{ex}-K 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 9090^{ex}-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 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 17-A1Z0-0001) 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.

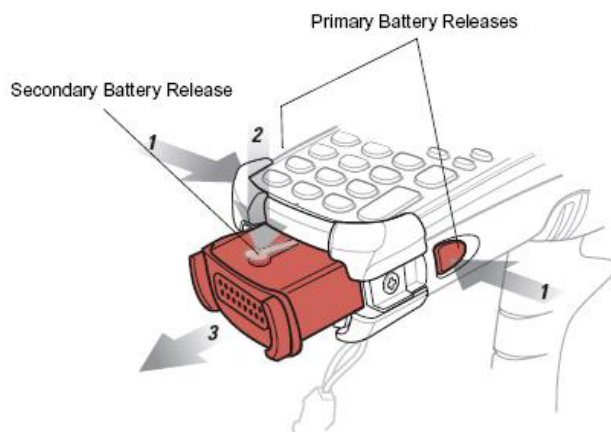
Standard warranty period for all BARTEC batteries is 1 year, regardless of whether the battery was purchased separately or included as part of the Mobile Computer.

5.3.2 Charging Processes

Charging the Battery Separately

Remove the battery, type 17-A1Z0-0001

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.

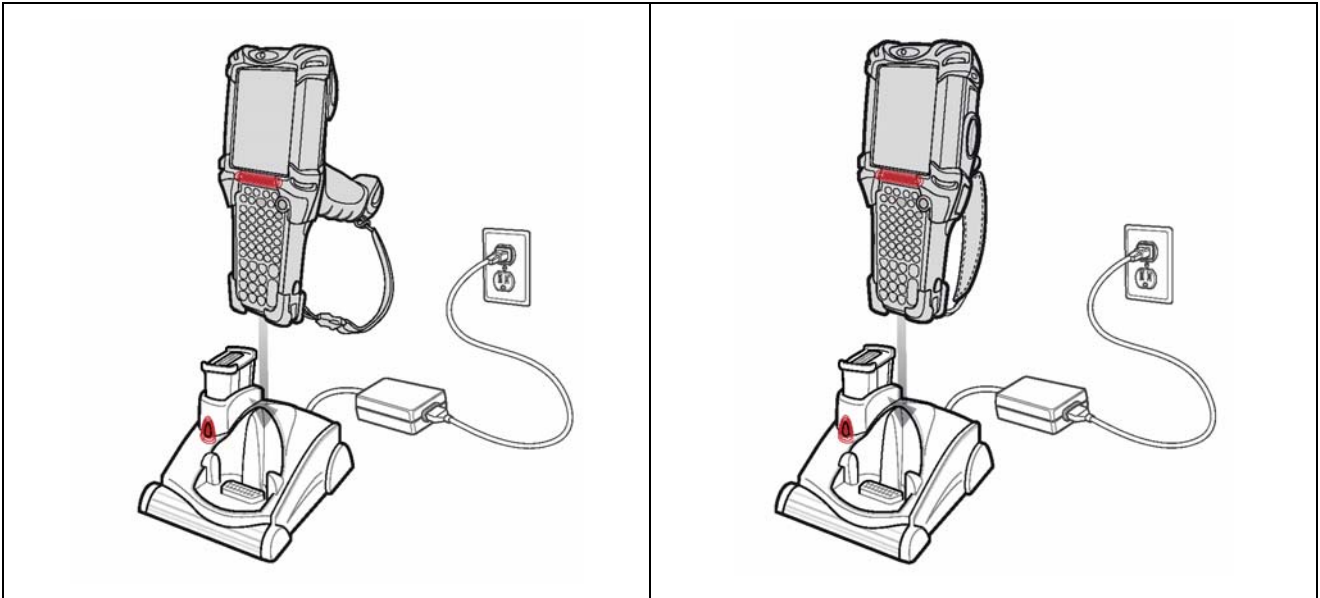


3. Pause 3 to 4 seconds while the Mobile Computer performs battery removal shutdown.
4. Press the secondary battery release (**2** in figure), on top of the battery, and slide the battery out of the Mobile Computer (**3** in figure).

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.

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.microsoft.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.microsoft.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.

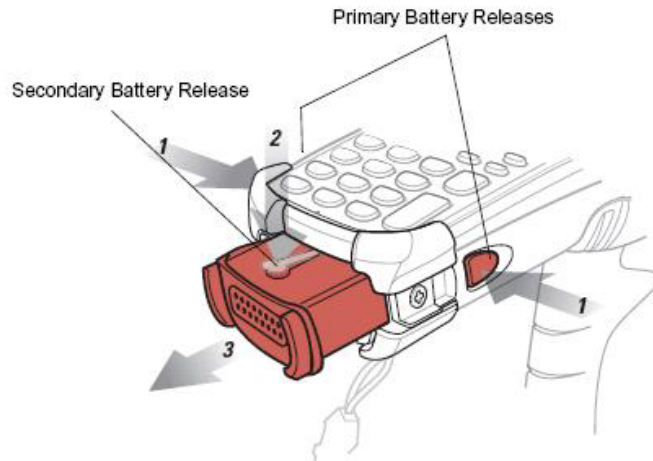
5.5.3 Performing a Cold Boot



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

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

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



2. On an MC 9090^{ex}-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 9090^{ex}-K:

1. Press the primary battery release on the Mobile Computer to partially eject the battery from the Mobile Computer. (see figure: cold boot MC 9090^{ex}-G).
2. On an MC 9090^{ex}-K while the battery is partially released, simultaneously press and release the left scan button and the **Power** button.
3. The Mobile Computer initializes.

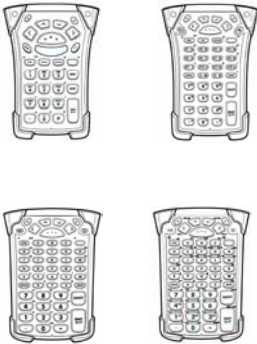
More information can be found in the original manual from Symbol/Motorola.

6. Additional Components

6.1 Keypad and CD Card

6.1.1 Keypad with Blue Overlay

Options		Order number
28 keys		05-0080-0388
43 keys		05-0080-0389
53 keys		05-0080-0390
53 keys keypad coding for	VT emulation	05-0080-0391
53 keys keypad coding for	3270 emulation	05-0080-0392
53 keys keypad coding for	5250 emulation	05-0080-0393



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	17-28BE-F006/0003

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 9090^{ex}.
2. Remove the battery (see chapter 5.3.2 "Charging Processes").
3. Take out the screws at the top edge of the keypad.

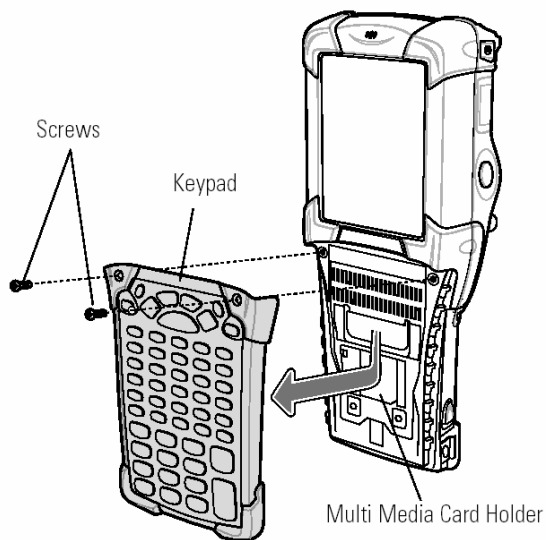


Fig. 1: Removing the keypad

4. Pull the keypad downwards in the direction of the arrow and then forwards to take it out of the MC 9090^{ex}.
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 guideways (fig. 2) on the MC 9090^{ex} enclosure.

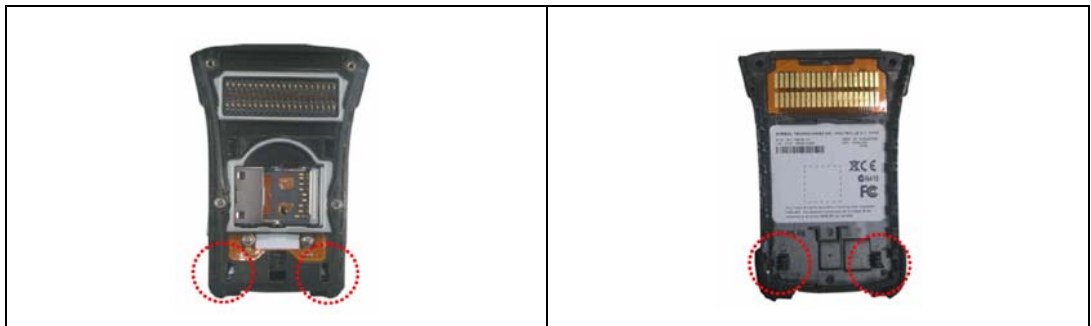


Figure 2: Guideway

Figure 3: Guide pins

Additional Components

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.

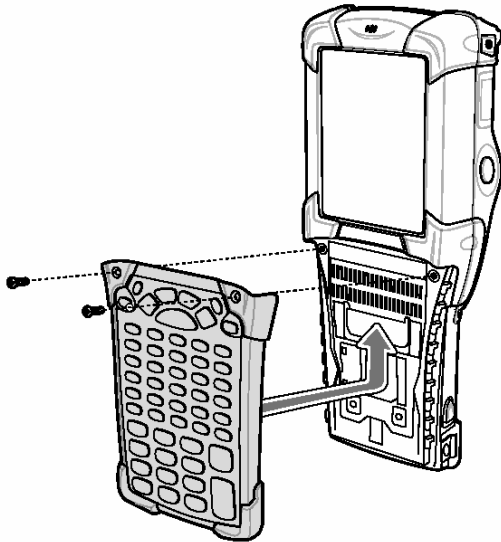


Fig. 4: Changing the keypad

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.

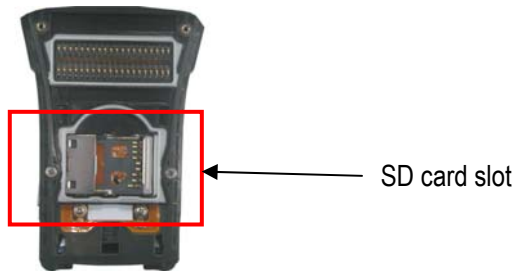


Figure 7: MC 9090^{ex} without keypad

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)

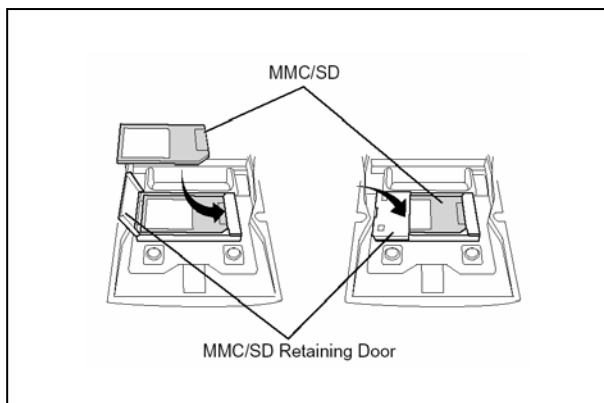


Figure 8: Replacing the SD card

3. Check that the keypad is mounted correctly.



Figure 9: SD slot with 512 MB card

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

6.2 Open Case and Holster

6.2.1 Open Case for MC 9090^{ex} "Version Gun", type 17-A119-0Gx0HJxFA6xx

Order No.:	03-9809-0009	Open Case for MC 90xx ^{ex} -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 90xx^{ex} Gun



Loop for open case



Example of how the open case be worn

Front view



Side view



Additional Components

6.2.2 Holster for MC 9090^{ex} "Version Brick", type 17-A119-0Kx0HJxFA6xx

Order No.: 03-9809-0010 Holster for MC 90xx^{ex}-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 90xx^{ex} Gun



Example of how the holster can be worn

Front view




Side view



6.3 Stylus


6.3.1 Stylus for MC 9090^{ex}-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 9090^{ex}-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 <ul style="list-style-type: none">➔ Support and Resources➔ Product Manuals➔ Mobile Computers➔ MC 9090 WM
http://www.symbol.com/	The Motorola site for the MC 9000 <ul style="list-style-type: none">➔ 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 <ul style="list-style-type: none">➔ 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. <ul style="list-style-type: none">➔ 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: <ul style="list-style-type: none">➔ 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

Additional Information

Marking of equipment for use in potentially explosive atmospheres

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

Marking of equipment for use in potentially explosive atmospheres

Conditions in hazardous areas			
Flammable substances	Temporary behaviour of flammable substances in hazardous places	Subdivision of hazardous places	Required marking for installation
			equipment group category group
gases vapours	is present continuously or for long periods or frequently	zone 0	II 1G
	is likely to occur in normal operation occasionally	zone 1	II 2G or 1G
	is not likely to occur in normal operation but, if it does occur, will persist for a short period only	zone 2	II 3G or 2G or 1G
dusts	is present continuously or for long periods or frequently	zone 20	II 1D
	is likely to occur in normal operation occasionally	zone 21	II 2D or 1D
	it is not likely to occur in normal operation but, if it does occur, will persist for a short period only	zone 22	II 3D or 2D or 1D
methane dusts	-	mines	I M1
	-	mines	I M2 or M1

Subdivision of gases and vapours	
Apparatus may be used in	Gases and vapours
IIA	ammonia methane ethane propane
	town gas, acrylonitrile ethylene ethylene oxide
	hydrogen ethylene (acetylene)
IIIB	ethyl alcohol cyclohexane n-butane
IIIC	galsoline n-hexane acetaldehyde
	ethylene glycol hydrogen sulphide ethyl-ether
	sulphide of carbon

Restriction for using apparatus	
Requirements	Marking
without restriction	-
special condition may be noted	X
Ex component, which is not intended to be used alone and requires additional certification. CE-Conformity of the component is certified when installed in a complete equipment or protective system.	U

Temperature classes subdivision of gases and vapours according to the ignition temperature

Temperature class	Temperature range
T1	T1 > 450 °C
T2	T2 > 300 to ≤ 450 °C
T3	T3 > 200 to ≤ 300 °C
T4	T4 > 135 to ≤ 200 °C
T5	T5 > 100 to ≤ 135 °C
T6	T6 > 85 to ≤ 100 °C

apparatus may be used in

Temperature class	Temperature range
T1	T1 > 450 °C
T2	T2 > 300 to ≤ 450 °C
T3	T3 > 200 to ≤ 300 °C
T4	T4 > 135 to ≤ 200 °C
T5	T5 > 100 to ≤ 135 °C
T6	T6 > 85 to ≤ 100 °C

CE 0032 Ex II 2G EEx d IIB T4 NB 99 ATEX 1234 U

LCIE	France	0081	all applications	-	general requirements		-	-	EN 50014	60079-0
INERIS	France	0080	control stations, motors, fuses, switchgear, power electronics	an propagation of an explosion inside to the outside is excluded	flameproof enclosure		EEx d	1 or 2	EN 50018	60079-1
BAM	Germany	0580	installation materials, motors, luminaries	avoidance of arcs, sparks and excessive temperature	increased safety		EEx e	1 or 2	EN 50019	60079-7
DMT	Germany	0158	measurement and control, automation technology, sensors, actuators	limitation of energy as well as arcs and temperature	intrinsic safety		EEx i	0, 1 or 2***	EN 50020* EN 50039**	60079-11
DQS	Germany	0297	switch- and control cupboards, analyse-apparatus, computers	ex-atmosphere keep at a distance from the ignition source	pressurisation		EEx p	1 or 2	EN 50016**	60079-2
FSA	Germany	0588	coils of motors or relays, solenoid valves	ex-atmosphere keep at a distance from the ignition	encapsulation		EEx m	1 or 2	EN 50028	60079-18
IBExU	Germany	0637	transformers, relays, control stations, magnetic contactors	ex-atmosphere keep at a distance from the ignition source	oil immersion		EEx o	1 or 2	EN 50015	60079-6
PTB	Germany	0102	capacitors, transformers	an propagation of an ignition inside to the outside is excluded	powder filling		EEx q	1 or 2	EN 50017	60079-5
TÜV (Nord Cert)	Germany	0032	see at the top - only for zone 2	see at the top - only for zone 2	'non sparking'		EEx n	2	EN 50021	60079-15
SEE	Luxembourg	0490								
KEMA	Netherlands	0344								
SP	Sweden	0402								
LOM	Spain	0163								
EECS (BASEEFA)	UK	0600								
SCS	UK	0518								

Notified Bodies	Country	Code
LCIE	France	0081
INERIS	France	0080
BAM	Germany	0580
DMT	Germany	0158
DQS	Germany	0297
FSA	Germany	0588
IBExU	Germany	0637
PTB	Germany	0102
TÜV (Nord Cert)	Germany	0032
SEE	Luxembourg	0490
KEMA	Netherlands	0344
SP	Sweden	0402
LOM	Spain	0163
EECS (BASEEFA)	UK	0600
SCS	UK	0518

Application	Principle of protection	Type of protection	Symbol	Marking	May be used in zone	CENELEC	IEC
Protection types							

* devices ** systems *** Ia for use in zone 0, 1, 2 / Ib for use in zone 1, 2

8.3 Accessories

Designation	Order number Motorola	Order number BARTEC
Accessories for the Hazardous Zone		
Ex Accessory: Battery		
Spare battery for devices with ATEX approval		17-A1Z0-0001
Ex Accessory: SD Card for ATEX and UL Version		
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		17-28BE-F006/0003
Ex Accessory: Open Case and Holster for ATEX and UL version		
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 Blue Overlay for ATEX and UL Version		
Spare keypad		
- with 28 keys		05-0080-0388
- with 43 keys		05-0080-0389
- with 53 keys		05-0080-0390
- with 53 keys keypad coding for VT emulation		05-0080-0391
- with 53 keys keypad coding for 3270 emulation		05-0080-0392
- with 53 keys keypad coding for 5250 emulation		05-0080-0393
Ex Accessory: Spare Screw for Keypad		03-1321-0007
Ex Accessory: Spare Overlay (blue) for Keypad for ATEX and UL Version		
Overlay		
- for 28 keys		03-9829-0010
- for 43 keys		03-9829-0011
- for 53 keys		03-9829-0012
- with 53 keys keypad coding for VT emulation		03-9829-0013
- with 53 keys keypad coding for 3270 emulation		03-9829-0014
- with 53 keys keypad coding for 5250 emulation		03-9829-0015

Additional Information

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} Version ATEX		11-A129-7D0001
Quick Short Guide (Poster)		
Mobile Computer MC 9090 ^{ex} -G Version ATEX/UL		03-0300-0090
Mobile Computer MC 9090 ^{ex} -K Version ATEX/UL		03-0300-0089

8.4 Order numbers

17-A119-0G□0/HJ□FA600

J	Lorax 1D Long Range Scan Engine (SE 1524)	
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: MC9090^{ex}-G with 53 keys.
Type 17-A119-0GJ0/HJEFA600

17-A119-0K□0/HJ□FA600

A	1D Standard Range Scan Engine (SE 950)	
K	2D 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 2D Imager and 43 keys.

Type 17-A119-0KK0/HJFFA600

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

- 2. EG-Baumusterprüfbescheinigung PTB 05 ATEX 2055**
mit 1. Ergänzung

- 3. EC Type Examination Certificate PTB 05 ATEX 2055**
with 1st supplement

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

BARTEC

Wir

We

Nous

BARTEC GmbH, Max-Eyth-Strasse 16, 97980 Bad Mergentheim

erklären, dass das Produkt

declare, that the product

attestons, que le produit

Mobile Computer
MC 9090^{ex}-G /
MC 9090^{ex}-K

Mobile Computer
MC 9090^{ex}-G /
MC 9090^{ex}-K

Mobile Computer
MC 9090^{ex}-G /
MC 9090^{ex}-K

Typ-Nr.: 17-A119-0G*0/H***,
17-A119-0K*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 suivantes

**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 60 079-0: 2006;
EN 50 017: 1998;
EN 50 020: 2002;
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-Baumusterprüf-
bescheinigung**

**EC-Type Examination
Certificate**

**Attestation d'examen CE de
type**

PTB 05 ATEX 2055

**Qualitätssicherung
Produktion**

**Production Quality
Assessment**

**Assurance Qualité
Production**

TÜV 96 ATEX 1086 Q

Kennzeichnung

Marking

Marquage



II 2G Ex q [Ib] IIC T4

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

BARTEC

Mobile Computer
MC9090^{EX}-G /
MC9090^{EX}-K

Mobile Computer
MC9090^{EX}-G /
MC9090^{EX}-K

Mobile Computer
MC9090^{EX}-G /
MC9090^{EX}-K

Type-No.: 17-A119-0G*0/H*****,
17-A119-0K*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 60 079-0: 2006

Powder Filled "q" EN 50 017: 1998

Intrinsic Safety "i" EN 50 020: 2002

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 Electromagnetic 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

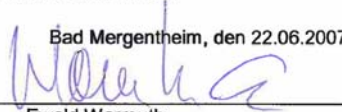
UL 60 950-1, CSA C22.2 No.60 950

EN 60 825-1: 1994 +A1: 2002 + A2: 2001

IEC 60 825-1: 1993 + A1: 1997 + A2: 2001

Laser Products 21CFR1040.10 Class IIa or II

Bad Mergentheim, den 22.06.2007



Ewald Warmuth
General Manager
Bad Mergentheim

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



EG-Baumusterprüfbescheinigung

- (1)
(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**
(3) EG-Baumusterprüfbescheinigungsnummer



PTB 05 ATEX 2055

- (4) Gerät: Mobile Computer MC 9000ex / MC9060ex
Typ 17-A11*-0**0/H*****
- (5) Hersteller: BARTEC GmbH
- (6) Anschrift: Max-Eyth-Straße 16, 97980 Bad Mergentheim, Deutschland
- (7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.
- (8) Die Physikalisch-Technische Bundesanstalt bescheinigt als benannte Stelle Nr. 0102 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.
- Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PTB Ex 06-24330 festgehalten.
- (9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit
- EN50014:1977+A1+A2 EN50017:1998 EN 50020:2002**
- (10) Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.
- (11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.
- (12) Die Kennzeichnung des Gerätes muß die folgenden Angaben enthalten:



II 2 G EEx q [ib] IIC T4

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 15. Februar 2006

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Seite 1/2

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
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Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



(13) **Anlage**

(14) **EG-Baumusterprüfbescheinigung PTB 05 ATEX 2055**

(15) Beschreibung des Gerätes

Die Mobile Computer MC 9000ex / MC9060ex Typen 17-A11*-0**0/H***** sind handgeführte elektrische Betriebsmittel. Sie dienen der mobilen Erfassung, Verarbeitung und Funkübertragung von Daten innerhalb des explosionsgefährdeten Bereiches.

Elektrische Daten

Versorgung in Zündschutzart Eigensicherheit EEx ib IIC
nur durch die zugehörige Batterie Typ 17-A1Z0-0001
7,4 V, 2200 mAh

Headset-Anschluss in Zündschutzart Eigensicherheit EEx ib IIC
 $U_o = 8,6 \text{ V}$
 $I_o = 37 \text{ mA}$
 $P_o = 68 \text{ mW}$
 $C_o = 400 \text{ nF}$
 $L_o = 34 \text{ mH}$

WLAN abgestrahlte Sendeleistung maximal 100 mW
Bluetooth abgestrahlte Sendeleistung maximal 10 mW

Die Batterie Typ 17-A1Z0-0001 darf nur außerhalb des explosionsgefährdeten Bereiches geladen werden.

(16) Prüfbericht PTB Ex 06-24330

(17) Besondere Bedingungen

keine

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

erfüllt durch Übereinstimmung mit den vorgenannten Normen

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 15. Februar 2006

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Seite 2/2

EG-Baumusterprüfbescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit.
Diese EG-Baumusterprüfbescheinigung darf nur unverändert weiterverbreitet werden.
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Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin




1. E R G Ä N Z U N G

gemäß Richtlinie 94/9/EG Anhang III Ziffer 6

zur EG-Baumusterprüfbescheinigung PTB 05 ATEX 2055

Gerät: Mobile Computer MC 9000ex / MC9060ex
Typ 17-A11*-0**0/H*****

Kennzeichnung:  II 2 G EEx q [ib] IIC T4

Hersteller: BARTEC GmbH

Anschrift: Max-Eyth-Straße 16
97980 Bad Mergentheim, Deutschland

Beschreibung der Ergänzungen und Änderungen

Die Mobile Computer MC 9000ex / MC9060ex Typen 17-A11*-0**0/H***** sind handgeführte elektrische Betriebsmittel. Sie dienen der mobilen Erfassung, Verarbeitung und Funkübertragung von Daten innerhalb des explosionsgefährdeten Bereiches. Sie werden um den Mobile Computer MC9090ex Typ 17-A119-0**0/H***** erweitert. Optional dürfen die Mobile Computer mit Gürteltaschen und Taschenzubehör Art. Nr. 03-9809-0009 (open case), Art. Nr. 03-9809-0010 (holster) und Art. Nr. 03-9809-0011 (loop) betrieben werden. Der Mobile Computer MC9090ex Typ 17-A119-0**0/H***** darf optional mit SD-Speicherkarten erweitert werden.

Die Änderungen betreffen die Erweiterung der Typenreihe um den Mobile Computer MC9090ex Typ 17-A119-0**0/H***** , die elektrischen Daten und die Kennzeichnung.

Die Kennzeichnung ändert sich wie folgt:

 II 2 G Ex q [ib] IIC T4

Elektrische Daten **Mobile Computer MC 9000ex / MC9060ex und MC9090ex**

Versorgung in Zündschutzart Eigensicherheit Ex ib IIC
nur durch die zugehörige Batterie Typ 17-A1Z0-0001
7,4 V, 2200 mAh

Headset-Anschluss in Zündschutzart Eigensicherheit Ex ib IIC
 $U_o = 8,6 \text{ V}$
 $I_o = 37 \text{ mA}$
 $P_o = 68 \text{ mW}$
 $C_o = 400 \text{ nF}$
 $L_o = 34 \text{ mH}$

Seite 1/2

Physikalisch-Technische Bundesanstalt



Braunschweig und Berlin

1. Ergänzung zur EG-Baumusterprüfbescheinigung PTB 05 ATEX 2055

WLAN abgestrahlte Sendeleistung 100 mW
Bluetooth

Mobile Computer MC9090ex

SD-Speicherkarten in Zündschutzart Eigensicherheit Ex ib IIC

In dem SD-Kartenhalter dürfen die nachfolgend aufgeführten SD-Karten verwendet werden:

512 MB Art.Nr. 17-28BE-F006/0001

1 GB Art.Nr. 17-28BE-F006/0002

2 GB Art.Nr. 17-28BE-F006/0003

Die Batterie Typ 17-A1Z0-0001 darf nur außerhalb des explosionsgefährdeten Bereiches geladen werden. Der Tausch von Tastatur und SD-Karte darf nur außerhalb des explosionsgefährdeten Bereiches durchgeführt werden (siehe Hinweise in der Betriebsanleitung).

Angewandte Normen

EN 60079-0:2004

EN 50017:1998

EN 50020:2002

Grundlegende Sicherheits- und Gesundheitsanforderungen

Erfüllt durch Übereinstimmung mit den vorgenannten Normen.

Bei der Bewertung der Backup-Batterie wurden die Anforderung des Entwurfs zur EN 50017 aus dem Arbeitspapier TC31/563/CD Abschnitt 4.7 „Cells and batteries“ berücksichtigt.

Weiterhin wird zwischen den Trennfugen des Gehäuses und den elektrisch leitfähigen Teilen ein Fadenmaß von 5 mm eingehalten. Hierdurch werden die Anforderungen aus EN 50017 Abschnitt 6 „Abstände“ für eine Arbeitsspannung von 275 V (niedrigster Wert aus Tab. 1: „Abstände im Füllgut“) berücksichtigt. Bei den übrigen Abständen wird das Fadenmaß von 5 mm teilweise unterschritten. Durch die in diesen Bereichen angewandten Schutzmaßnahmen wird eine Vergleichbarkeit mit der 5 mm-Anforderung aus Tab. 1 EN 50017:1998 erreicht. Hierzu zählen u.a. die sichere Begrenzung der Spannung (batterieversorgtes Betriebsmittel), die Verwendung eines Kunststoffgehäuses und die Verwendung einer geschlossenen Gehäusewand (Verhinderung eines Flammendurchschlages nach außen).

Prüfbericht: PTB Ex 07-26159

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Braunschweig, 9. Juli 2007

Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Seite 2/2

Physikalisch-Technische Bundesanstalt

PTB

Braunschweig und Berlin

(1) **EC-TYPE-EXAMINATION CERTIFICATE**
(Inofficial Translation)

(2) Equipment and Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 05 ATEX 2055

(4) Equipment: Mobile computer MC9000ex / MC9060ex
type 17-A11*-0**0/H*****

(5) Manufacturer: BARTEC GmbH

(6) Address: Max-Eyth-Strasse 16, 97980 Bad Mergentheim, Germany

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 06-24330.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1977+A1+A2

EN 50017:1998

EN 50020:2002

(10) If the sign „X“ is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

 II 2 G EEx q [ib] IIC T4

Zertifizierungsstelle Explosionsschutz
By order

Braunschweig, February 15, 2006

(Signed for the PTB)

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

sheet 1/2

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt

PTB

Braunschweig und Berlin

SCHEDULE

(13)

(14) EC-TYPE-EXAMINATION CERTIFICATE PTB 05 ATEX 2055

(15) Description of equipment

The mobile computers MC 9000ex / MC9060ex types 17-A11*-0**0/H***** are hand-operated electrical equipment. They serve the mobile collection, processing and wireless transmission of data within the potentially explosive atmosphere.

Electrical data

Power supply type of protection Intrinsic Safety EEx ib IIC:
only by the associated battery type 17-A1Z0-0001
7.4 V, 2200 mAh

Headset-connection type of protection Intrinsic Safety EEx ib IIC:
 $U_o = 8.6 \text{ V}$
 $I_o = 37 \text{ mA}$
 $P_o = 68 \text{ mW}$
 $C_o = 400 \text{ nF}$
 $L_o = 34 \text{ mH}$

WLAN radiated transmission power maximum 100 mW
Bluetooth radiated transmission power maximum 10 mW

The battery type 17-A1Z0-0001 may be charged only outside of the potentially explosive atmosphere.

(16) Test report PTB Ex 06-24330

(17) Special conditions for use
None

(18) Essential health and safety requirements
met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order

Braunschweig, February 15, 2006

(Signed for the PTB)

Dr.-Ing. U. Johannsmeyer
Direktor und Professor

sheet 2/2

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Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin




1. SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 05 ATEX 2055

(Translation)

Equipment: Mobile computer MC 9000ex / MC9060ex
type 17-A11*-0**0/H*****

Marking:  II 2 G EEx q [ib] IIC T4


Manufacturer: BARTEC GmbH

Address: Max-Eyth-Straße 16
97980 Bad Mergentheim, Germany

Description of supplements and modifications

The mobile computers MC 9000ex / MC9060ex of types 17-A11*-0**0/H***** are hand-held electrical apparatus. They are used for the mobile acquisition, processing and radio transmission of data inside the hazardous area. They are extended by the mobile computers MC9090ex, types 17-A119-0**0/H*****. The mobile computers may be operated optionally with belt case and case accessory kit, order No. 03-9809-0009 (open case), order No. 03-9809-0010 (holster) and order No. 03-9809-0011 (loop). The mobile computers MC9090ex, types 17-A119-0**0/H***** may be operated optionally with SD-memory cards.

The modifications concern the extension of the type series for the mobile computer MC9090ex, type 17-A119-0**0/H***** , the electrical data and the marking.

The marking changes as follows:  II 2 G Ex q [ib] IIC T4

Electrical data

Mobile computer MC 9000ex / MC9060ex and MC9090ex

Supply type of protection Intrinsic Safety Ex ib IIC
only from the appropriate battery, type 17-A1Z0-0001
7.4 V, 2200 mAh

Headset-connector type of protection Intrinsic Safety Ex ib IIC
 $U_o = 8,6 \text{ V}$
 $I_o = 37 \text{ mA}$
 $P_o = 68 \text{ mW}$
 $C_o = 400 \text{ nF}$
 $L_o = 34 \text{ mH}$

Sheet 1/2

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Physikalisch-Technische Bundesanstalt



Braunschweig und Berlin

1. SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 05 ATEX 2055

WLAN
Bluetooth

radiated transmitter power 100 mW

Mobile computer MC9090ex

SD-memory cards

type of protection Intrinsic Safety Ex ib IIC

The SD-card rack may be fitted with the following SD-cards:

512 MB Order No. 17-28BE-F006/0001

1 GB Order No. 17-28BE-F006/0002

2 GB Order No. 17-28BE-F006/0003

The battery, type 17-A1Z0-0001 shall be charged only outside the hazardous area. The keyboard and the SD-card shall be replaced only outside the hazardous area (cf. notes in the operating instructions).

Applied standards

EN 60079-0:2004

EN 50017:1998

EN 50020:2002

Essential health and safety requirements

Met by compliance with the standards mentioned above.

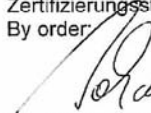
The requirements of the draft to EN 50017 from the working paper TC31/563/CD clause 4.7 "Cells and Batteries" have been considered with the evaluation of the back-up battery.

Furthermore a thread measure of 5 mm is kept between the joints of the enclosure and the electrically conductive parts. Therefore the requirements of EN 50017, clause 6 "Distances" for an operating voltage of 275 V (lowest value from table 1: "Distances through filling material ") are complied with. The other distances partly fall below the thread measure of 5 mm. The protective measures applied in these areas enable the comparability with the 5 mm requirement of table 1, EN 50017:1998. This includes, amongst others, the safe voltage limitation (battery powered apparatus), the use of a plastic enclosure and the application of an enclosed housing wall (prevention of a flame propagation to the outside).

Test report: PTB Ex 07-26459

Zertifizierungsstelle Explosionschutz
By order:

Braunschweig, July 9, 2007


Dr.-Ing. U. Johannsmeyer
Direktor und Professor



Sheet 2/2

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BARTEC protects
people and
the environment
by the safety

of components,
systems
and plants.

