



**ATEX / IECEx    Zone 2 and 22**

**CSA Class I Division 2**



## Lumen X4 User Manual

**4,3" Industry Mobile Computer Type B7-A2P4-.../.....**



**User Manual - Translation****4.3" Industry Mobile Computer - Lumen X4**

Type B7-A2P4-..../.....

ATEX / IECEx Zone 2 / 22

CSA Class I Division 2

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# 1. Basic safety information

## 1.1 Information on this User Manual



### Read carefully before putting the devices into operation.

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

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

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

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

The examples, tables, and figures provided in this User Manual are for illustration purposes. Due to the different requirements of the respective application, the BARTEC company cannot assume responsibility or liability for actual use based on the examples and figures.

The BARTEC company reserves the right to carry out technical changes at any time.

In no event will BARTEC company be responsible or liable for indirect or consequential damages resulting from the use or application of this User Manual.

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

### **DANGER**

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

### **WARNING**

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

### **CAUTION**

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

### **ATTENTION**

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



Important information on effective, economical & environmentally compliant handling.

### 1.1.1 Languages

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

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

### 1.1.2 Changes in the document

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

The current versions of the datasheets, operating instructions, certificates and EC declarations of conformity can be downloaded from [www.bartec.de](http://www.bartec.de) under Products in the product area "Automation & Enterprise Mobility" or may be requested directly from BARTEC GmbH.

### 1.1.3 Registered trademarks

ARM®	is a registered trademark of ARM Limited
Android	is a registered trademark of Google Inc.
Bluetooth®	is a registered trademark of Bluetooth Special Interest Group
Winmate	is a registered trademark of Winmate Communication, Inc.

## 1.2 Handling the product

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

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

## 1.3 Intended use

### 1.3.1 Exclusive purpose

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

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

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

### 1.3.2 Unintended use

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

## 1.4 Duties of the operator

The operator undertakes to only permit persons to work with the Industry Mobile Computer who:

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

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

## 1.5 General safety information

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

## 1.6 Maintenance

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

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

### 1.6.1 Servicing

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

### 1.6.2 Inspection

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

### 1.6.3 Repairs

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

### 1.6.4 Commissioning

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

## 1.7 Labelling, test certificate and standards

Labels on explosion protection and the test certificate are attached to the Industry Mobile Computer. See Chapter 3 "Technical data" with respect to labelling.

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

## 1.8 Warranty

### WARNING

**No changes or retrofits may be made without the written consent of the manufacturer.**

If non-specified components are used, the explosion protection will no longer be guaranteed. In the case of externally procured parts, it is not guaranteed that these have been designed and manufactured in accordance with their load and requisite safety.

- ▶ Contact the manufacturer before any changes or retrofits to receive a release. Only use original spare and wearing parts.



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

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

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

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

The information contained herein refers to the explosion-protected version of the Lumen X4 Industry Mobile Computer series.

This User Manual contains all important information on the subject of explosion protection. A Quick Start Guide and further product information on handling and commissioning are similarly available.

## 1.9 Co-applicable documents - set of documents

- **User Manual for the Lumen X4 Industry Mobile Computer series:**  
The use, commissioning and settings of the explosion-protected version of the Industry Mobile Computer series are described in this User Manual.
- **Quick Start Guide for the Lumen X4 Industry Mobile Computer series:**  
The safety relevant information, initial use and further data on the explosion-protected version of the Industry Mobile Computer series are described in this Quick Start Guide.
- **Technical Datasheet for the Lumen X4 Industry Mobile Computer series:**  
This Technical Datasheet contains the most important explosion-relevant technical data as well as general technical data.

## 1.10 Definition of terms

A few abbreviations are used in the documentation.

- NI** = Non Incendive =>  
is used as generic term for Zone 2 and Division 2 version
- Lumen X** = stands for the entire explosion-protected product series

## 1.11 Configuration



The devices are only supplied with preinstalled operating system.

- Android 4.2.1 (Jelly Bean)

Customer software or further applications are not contained in the delivery.

This User Manual refers to the following configurations:

Configuration	Version
<b>Processor</b>	ARM® Cortex™-A7 Quad Core 1.5 GHz
<b>System memory</b>	1 GB SDRAM
<b>Main memory</b>	4 GB eMMC
<b>Expandable memory</b>	Micro SD card, supports up to 32 GB
<b>Display</b>	4,3" with 480 x 800 Pixel resolution
<b>Touch function</b>	projective-capacitive multi-touchscreen
<b>WLAN</b>	IEEE 802.11 a/b/g/n
<b>Bluetooth</b>	Version 3.0 + EDR
<b>WWAN</b>	3.75G - only data transfer GSM / GPRS / EDGE / WCDMA / HSDPA / HSUPA
<b>GPS</b>	integrated
<b>Kamera</b>	– 8 MP camera on the back – 2 MP camera on the front
<b>Scanner (optional)</b>	1D/2D Imager
<b>RFID HF/NFC</b>	– 13,56 MHz – ISO 15693 (Read) – ISO 14443-A (Read) – ISO 18092 (Read/Write)

## 2. Product description

### 2.1 Lumen X4



Lumen X4 Industry Mobile Computers are tough Mobile Computers, which have been designed for use in the industrial environments and especially developed by BARTEC for use in potentially explosive atmospheres.

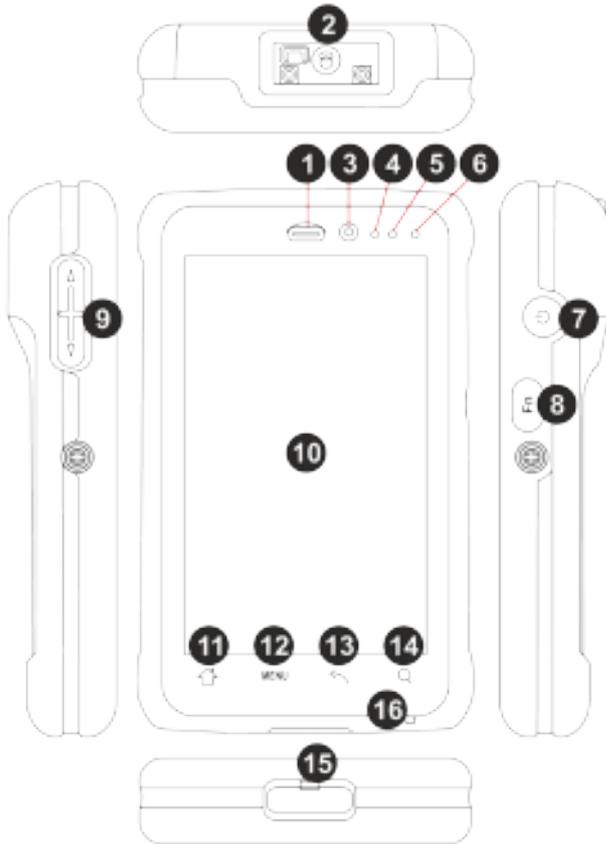
The Lumen X4 Industry Mobile Computer is based on the ARM Cortex-A7 Quad Core processor running at 1.5GHz. The 4.3-inch capacitive multi-touch display offers 480 x 800 pixel WVGA resolution.

The Lumen X4 Industry Mobile Computer owns a large number of international certifications and can be used worldwide. It is approved for ATEX/IECEX Zone 2 / 22 and CSA Class I Division 2. Further country approvals are available on request.

Because of its numerous functions, the Lumen X4 Industry Mobile Computer is perfect for stock management, transport, maintenance technicians, operating personnel, engineers, and project managers afield and in industry.

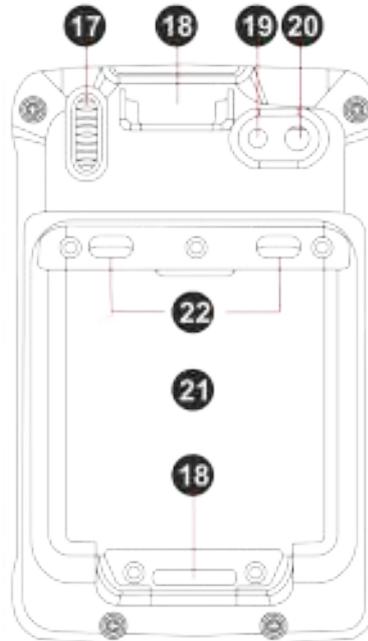
### 2.2 Structure

Front and side view



Position	Designation	Description
1	Earpiece	Use to listen during phone conversation
2	Barcode Scan Window	Barcode Scan Window (will change to black lens when without barcode)
3	Webcam	2 MP to capture a front view picture and use for Video call
4	Proximity & Light Sensor	Proximity function is used specifically towards near field proximity applications. In mobile phones, the proximity detection can detect when the user positions of mobile phone is close to their ear  Light sensor detects the availability of light and automatically controls the brightness of a screen backlight intensity
5	nc	
6	LED indicator	LED indicator indicates the battery power or charging status
7	Power Button	Press and hold the button for 3 seconds to turn on the Industry Mobile Computer.  Press to turn on/off the screen.  Press and hold the button for 3 seconds to select: <ul style="list-style-type: none"> <li>• <b>Power Off</b> - to turn off the Industry Mobile Computer. Press button for 8 sec to force system power off.</li> <li>• <b>Airplane mode</b> - to disable all wireless connections.</li> <li>• <b>Silent mode</b> - to disable all the sounds except for the alarms.</li> <li>• <b>Vibration mode</b> - to vibrate all the notifications across the entire device.</li> <li>• <b>Normal mode</b> - Return to the user setting mode.</li> </ul>
8	Function Key	Use to trigger the barcode reader for Industry Mobile Computer series with barcode reader (differs by product type).
9	Volume Up/Down	Increases or decreases the call volume when a call is in progress. In other applications, it controls the volume of music or other audio.
10	4.3" Touch screen	Display all information needed to operate the Industry Mobile Computer.
11		Opens the home screen with a single touch.
12		Opens a menu with items that affects the current screen or application.
13		Opens the previous screen and closes the onscreen keyboard if it is open and returns to the previous action.
14		Opens the search widget for searching the web, applications, and contacts.
15	Micro USB	Use for charging and communication
16	Microphone	Use for making a phone call or voice recordings

Rear view



Position	Designation	Description
17	Speaker	Provides audio output for music and video.
18	Hand Strap Slot	Place the hand strap through the hand strap slot intended for it.
19	LED	Use it as a flashlight.
20	8 MP camera with auto focus and LED flash	Takes photos or record videos.
21	Battery	Removeable
22	2 x Battery Locking	2 locking for battery lock and unlock

### 2.3 Purpose of use

The Lumen X4 Industry Mobile Computers are handheld electrical devices. They serve the purpose of entry, processing and (radio) transmission of data within potentially explosive atmospheres.

The Lumen X4 Industry Mobile Computer is used exclusively in combination with devices which comply with the requirements placed on the overvoltage category I.

The **Lumen X4 Industry Mobile Computers, Type B7-A2P4-.../.....**, have been modified for use in the following potentially explosive atmospheres:

- ATEX / IECEx Zone 2 and Zone 22
- CSA Class I Division 2

The Lumen X4 Industry Mobile Computers, Type B7-A2P4-.../....., may not be used in the following zones:

- ATEX / IECEx Zone 0, 1 and 21
- Class II Division 2
- Class I, II Division I
- Class III

### 3. Technical data

#### 3.1 Explosion protection NI

ATEX Zone 2 and 22	
Type B7-A2P4-..../.....	Lumen X4
Labelling	⚠ II 3G Ex ic IIC T5 Gc ⚠ II 3D Ex ic IIIB T100°C Dc IP54 -20 °C ≤ Ta ≤ +50 °C
Test certificate	EPS 16 ATEX 1 039 X
Standards	EN 60079-0:2012 + A11:2013 EN 60079-11:2012
Guidelines	ATEX 94/9/EG EMV 2004/108/EG R&TTE 1999/5/EG RoHS 2002/95/EG
IECEx Zone 2 and 22	
Type B7-A2P4-..../.....	Lumen X4
Labelling	Ex ic IIC T5 Gc Ex ic IIIB T100°C Dc IP54 -20 °C ≤ Ta ≤ +50 °C
Test certificate	EPS 16.0016X
Standards	IEC 60079-0:2011 Edition 6.0 IEC 60079-11:2011 Edition 6.0
CSA Class I Division 2	
Type B7-A2P4-..../.....	Lumen X4
Labelling	Class I Div. 2 Groups A, B, C and D T5
Test certificates USA and Canada	CSA Certificate: 70043322
Standards	ANSI/ISA 12.12.01-2013 CAN/CSA C22.2 No. 213-M1987

#### X - labelling (special conditions of use for secure operation within the potentially explosive atmosphere)

- ▶ The ambient temperature range is -20 °C bis +50 °C.\*
- ▶ The device must be protected from impact with high impact energy, from intense UV-irradiation, and strongly charge generating processes.
- ▶ It is not allowed to use connectors inside the potentially explosive atmosphere.\*
- ▶ It is not allowed to remove, change and/or charge the battery inside the potentially explosive atmosphere.

\*See individual chapter on the points in the User Manual.

## 3.2 Applicable standards

<b>Explosion protection</b>	
EN 60079-0:2012 + A11:2013	Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-11:2012	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-0:2011	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11:2011	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
ANSI/ISA 12.12.01	ANSI/ISA-12.12.01-2013 Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
CAN/CSA C22.2 No. 213-M1987	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
<b>Electrical safety</b>	
IEC 60950-1 (ed.2); am1	Einrichtungen der Informationstechnik – Sicherheit Teil 1: Allgemeine Anforderungen
CSA22.2 No. 60950-1-07	General Requirements – Canadian Electrical Code, Part II
UL 60950-1: 2nd Ed. 2014	Information Technology Equipment – Safety Part 1: General Requirements - Second Edition
<b>Radio specification - WLAN / Bluetooth</b>	
EN 300 328 V1.8.1: 2012	Electromagnetic compatibility and radio spectrum matters (ERM) – wideband transmission systems – data transmission equipment operating in the 2.4 GHz ISM band and using wideband modulation techniques
<b>Safety specification - Specific Absorption Rate (SAR)</b>	
EN 62209-2:2010	Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body
RSS-132 Issue 3 January 2013	Industry Canada: Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
RSS-133 Issue 6 January 2013	Industry Canada: 2 GHz Personal Communications Services
RSS-139 Issue 2 February 2009	Industry Canada: Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz
RSS-210 Issue 8 December 2010	Industry Canada: Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment
<b>Safety specification - Laser and/or LED Products</b>	
EN 60825-1	Safety of laser products – Equipment classification and requirements

Electromagnetic compatibility (EMC)	
EN 300 440-1 V1.6.1:2010	Electromagnetic compatibility and radio spectrum matters (ERM) – short range devices – radio equipment to be used in the 1 GHz to 40 GHz frequency range – Part 1: Technical characteristics and test methods
EN 300 440-2 V1.4.1:2010	Electromagnetic compatibility and radio spectrum matters (ERM) – short range devices – radio equipment to be used in the 1 GHz to 40 GHz frequency range – Part 2: Harmonised EN covering essential requirements of article 3.2 of the R&TTE Directive
EN 50566:2013	Product standard to demonstrate compliance of radio frequency fields from handheld and body-mounted wireless communication devices used by the general public (30 MHz - 6 GHz)
EN 55022: 2010	Information technology equipment – radio disturbance characteristics – limits and methods of measurement
EN 55024: 2010	Information technology equipment – radio disturbance characteristics – limits and methods of measurement
EN 61000-3-2:2006 +A1:2009+A2:2009	Limits – Limits for harmonic current emissions (equipment input current <= 16 A per phase)
EN 61000-3-3:2008	Limits – limitation of voltage charges, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <=16 A per phase and not subject to conditional connection
FCC Part 15 Class B	EMC requirements in the USA: Testing for compliance with limits for a digital device of Class B
IC ICES-003	EMC requirements in Canada: Testing for compliance with limits for a digital device of Class B

### 3.3 Features

#### 3.3.1 Performance features

<b>Processor</b>	ARM® Cortex™-A7 Quad Core 1.5 GHz
<b>RAM</b>	4 GB eMMC
<b>Main memory</b>	1 GB SDRAM
<b>Extension slot</b>	Micro SD card slot supports up to 32 GB It is not allowed to insert or change the card inside the potentially explosive atmosphere!
<b>Audio</b>	1 x integrated microphone 1 x Speaker (1 x 1,2 Watt)
<b>Interfaces</b>	1 x Micro SD card slot 1 x SIM card Slot
<b>Interfaces via desktop docking station</b>	1 x Micro USB Type B (OTG Host) 1 x Pogo Pin
<b>Operating system</b>	Android 4.2 (Jelly Bean)
<b>Application availability</b>	Google App Store is pre-installed

<b>Software development</b>	Own development possible with standard Google Android SDK. Additional are the OS image, SDK and drivers available as download.
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3.3.2 Physical features

<b>Dimensions</b> in mm/in Length x Width x Height	132.7 x 82 x 25.7 mm (5.22 x 3.23 x 1.01 inch)
<b>Weight</b> (with standard battery)	280 g (0.62 lb)
<b>Display</b>	
size	4.3"
backlight	IPS LED
resolution	480 x 800 pixels
Brightness	400 cd/m <sup>2</sup>
touch	projective capacitive multi-touch
<b>Interactive sensor technology</b>	<ul style="list-style-type: none"> <li>- Light sensor</li> <li>- G sensor</li> <li>- Proximity sensor</li> <li>- Digital compass</li> </ul>
<b>Keys on front side</b> (see also chapter 2.2 "Structure")	<ul style="list-style-type: none"> <li>- 1 x Power on/off button</li> <li>- 1 x Function button</li> <li>- 1 x Volume up/down button</li> <li>- 4 x Home, Menu, ESC, Search function</li> </ul>

3.3.3 User environment

<b>Operating temperature</b> in potentially explosive atmosphere at start (in battery mode) in battery mode	-10 °C to +50 °C / 14 °F to +122 °F -20 °C to +50 °C / -4 °F to +122 °F
<b>Operating temperature</b> outside potentially explosive atmosphere	-20 °C to +60 °C / -4 °F to +140 °F
<b>Operating temperature</b> during charging	0 °C to +40 °C / +32 °F to +104 °F
<b>Storage temperature</b> (without battery)	-30 °C to +60 °C / -22 °F to +140 °F
<b>Air humidity</b>	5 % to 95 % (non-condensing)
<b>Class of protection (EN 60529)</b>	IP 54 (non-Ex IP65)

3.3.4 Voice and data transmission Wi-Fi (Wireless LAN)



Wi-Fi connections are realised with the assistance of ARM® Cortex™-A7 Quad Core 1.5 GHz processor.

WLAN radio module	
<b>Radio standard</b>	IEEE 802.11a/b/g/n
<b>Data rate</b>	IEEE802.11a: up to 54 Mbit/Sec IEEE802.11b: up to 11 Mbit/Sec IEEE802.11g: up to 54 Mbit/Sec IEEE802.11n: up to 65 Mbit/Sec
<b>Frequency range (country dependant)</b>	IEEE802.11a: 5 GHz IEEE802.11b: 2,4 GHz IEEE802.11g: 2,4 GHz IEEE802.11n: 2,4 GHz and 5 GHz
<b>Operating channels</b>	The actual operating channels and frequencies are subject to the applicable rules and the certification authorities in the respective country.
<b>Wi-Fi alliance</b>	Wi-Fi certified for 802.11a, 802.11b, 802.11g, 802.11n
<b>Roaming</b>	Supports seamless roaming between the respective access points (802.11b, 802.11g, 802.11a/b/g und 802.11a/b/g/n)
<b>Aerial</b>	internal

3.3.5 Voice and data transmission Wireless WAN

WWAN radio module	
<b>GSM / GPRS / EDGE / WCDMA / HSDPA / HSUPA</b>	3.75G
<b>GPS</b>	integrated

3.3.6 Voice and data transmission Bluetooth



Bluetooth-Verbindungen connections are realised with the assistance of ARM® Cortex™-A7 Quad Core 1.5 GHz processor.

<b>Bluetooth</b>	3.0 with EDR
<b>Aerial</b>	internal

3.3.7 Camera

<b>Front Side</b>	2 MP
<b>Rear Side</b>	8 MP with LED auxiliary light (Auto Focus)

### 3.3.8 Barcode scan options



The maximum read range of the scan engine depends on the barcode type used, the quality of print and the module width (in mil).

**1 available scan engine possible**

1D/2D Imager (SE4500 from Zebra)

#### 3.3.8.1 1D/2D Imager (SE4500 from Zebra)



##### For Lumen X4 with integrated 1D/2D Imager

1D-/2D-Imager Engine (omni directional) decodes/reads 1D- and 2D barcodes.

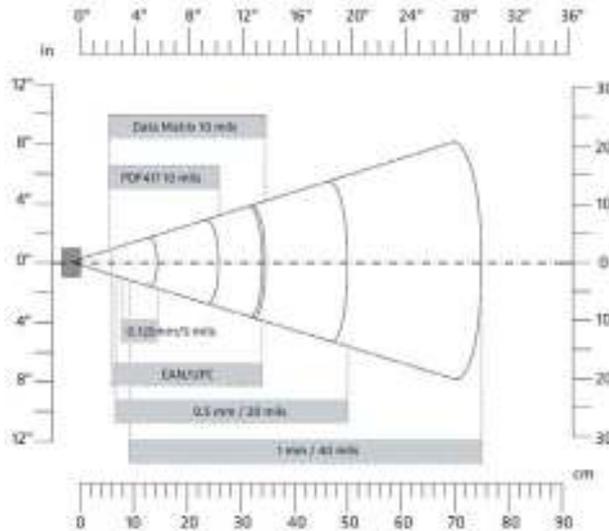
The decoding range depends on the quality and size of the barcode and the software setting of the scan or engine.

<b>Read range</b>	approx. 6 cm to 50 cm approx. 2.3" to 19"
<b>Focus distance</b>	from the middle of the scanning window SR --- 19 cm
<b>Resolution</b>	752 x 480 pixels HxV (grey scale)
<b>Tolerances for turned parts</b>	360°
<b>Pitch tolerance</b>	± 60° from the original position
<b>Pan tolerance</b>	± 60° from the original position
<b>Ambient light immunity</b>	96,900 lux
<b>Aim of the LED (VLD)</b>	655 Nm ± 10 nm
<b>Lighting element (LED)</b>	625 Nm ± 5 nm LEDs (2x)
<b>Field of view</b>	40 ° horizontal 25 ° vertical

### 3.3.9 Decodable barcode type options

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

3.3.10 Decode range



3.3.11 RFID

The maximum read/write ranges of the RFID reader will depend on the different ambient conditions. For example:



- Transponder (tag), size
- Aerial used in the tag (size, model ...)
- Site of installation (metal, wood or other base)
- Ambient conditions
- External magnetic influences
- Temperature
- Humidity

<b>Available option:</b>	Internal HF Reader (High Frequency)
--------------------------	-------------------------------------

3.3.11.1 Internal RFID HF / NFC reader



The internal RFID HF reader cannot be combined with the 1D-/2D Imager.  
The communication between NFC-capable devices is active-active (Peer-To-Peer).

Supported standards	
HF	13,56 MHz – High Frequency
NFC	13,56 Mhz – Near Field Communication
ISO 14443-A (Read)	NXP Mifare_One (S50_4byte) NXP Mifare_One (S70_4byte) NXP Mifare_UltraLight C NXP Mifare_One (S50_7byte) NXP Mifare_UltraLight
ISO 15693 (Read)	TI HF-I Plus TI HF-I Pro NXPI-Code SLI
ISO 18092 (Read/Write)	SONY Felica SONY Felica Lite s

## 3.4 Battery

### DANGER

**Do not replace or charge the battery in a potentially explosive atmosphere.  
Danger to life in a potentially explosive atmosphere!**

- ▶ Use original BARTEC/Winmate accessories only.
- ▶ Do not open, disassemble, puncture, or crush the battery.
- ▶ Do not leave or store the Lumen X4 Industry Mobile Computer in an area which is near a heat source such as vehicle dashboard, dryer or other heat source.
- ▶ Do not allow conductive objects to contact the battery.
- ▶ Please contact your manufacturer if you suspect damage to your Lumen X4 Industry Mobile Computer or battery for inspection and reparation.

### CAUTION

**Do not attempt to insert foreign objects into the battery to prevent damaging the battery. Battery fluid can cause skin irritation.**

- ▶ If battery fluid leaks: Avoid contact with the battery fluid.
- ▶ If battery fluid leaks onto the skin or cloth, wash the affected area with clean water.



The life of the battery will depend on different use factors and the device settings, e.g.:

- Use and setting of WLAN / Bluetooth
- Background lighting/screensaver
- The settings in power management
- Use and setting of 1D-/2D- Imager
- Use and setting of the 3.75G module
- Use and setting of the RFID HF / NFC module
- Use and setting of the camera

<b>Battery Type B7-A2Z0-0034</b>	Lithium polymer battery 3.7 V / 3900 mAh
<b>Operating temperature</b>	
– During charging	0 °C to +45 °C / +32 °F to 113 °F
– During discharging in potentially explosive atmosphere	-20 °C to +50 °C / -4 °F to 122 °F
– During discharging in safe atmosphere	-20 °C to +60 °C / -4 °F to 140 °F
<b>Storage temperature</b>	-20 °C to +50 °C / -4 °F to 122 °F
<b>Relative air humidity</b>	5 % to 95 % (non condensing)
<b>Lifecycle</b>	≥ 300
<b>Performance</b>	depending on device settings, up to 12 to 15 hours
<b>Charging time</b>	3 hours

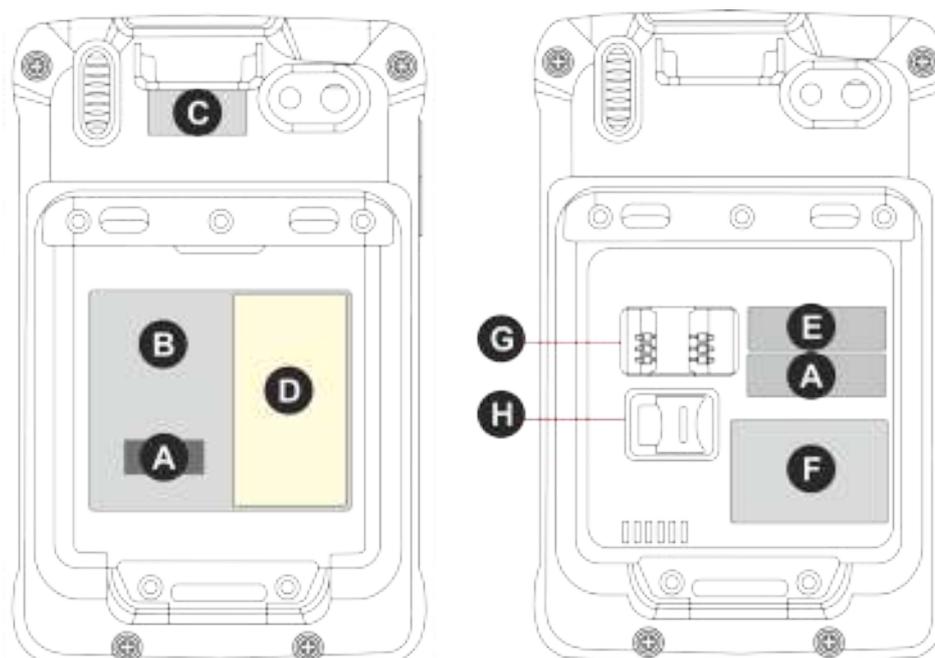
### 3.5 External interfaces

**⚠ DANGER**

**Non-certified accessories endanger the explosion protection.  
 Danger to life exists in potentially explosive atmospheres!**

- ▶ The external interfaces "Micro USB Type B (OTG Host, data exchange and charging), Pogo Pin (charging in docking station)" may only be used outside the potentially explosive range with accessories specified by the manufacturer.
- ▶ Only use original BARTEC/Winmate accessories.

### 3.6 Product labelling



**A** Serial number



**B** Type plate



**C** Laser warning  
 Only for devices with integrated 1D/2D Imager



**D** Warning



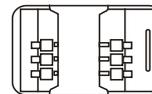
**E** IMEI number  
 Only for devices with integrated 3.75G modules



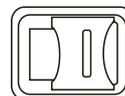
**F** Type plate



**G** SIM card slot



**H** Micro card slot



**Battery type B7-A2Z0-0034**

Front side



Rear side



### 3.7 Laser labels

The accessible laser radiation is in the visible spectral range (630nm to 680nm). It is not dangerous to the eye for short term exposure (up to 0.25 s).

**NB:**

In the case of laser devices of class 2, the eye is not in danger from incidental short term exposure to laser radiation, i.e. radiation exposure up to 0.25 s.



Laser devices of class 2 may therefore be used without protective measures if it is ensured that:

- neither intentional looking into the device is necessary for the application for a period longer than 0.25 s
- nor repeated looking into the laser radiation or reflected laser radiation.

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

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

## 4. Transport and storage

### 4.1 Transport



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

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

### 4.2 Storage

#### ATTENTION

##### Property damage through incorrect storage!

- ▶ Observe storage temperatures.
- ▶ Keep humidity away from the Lumen X4 Industry Mobile Computer.

#### Additional information on the batteries

The batteries of BARTEC (type B7-A2Z0-0034) are developed and manufactured in accordance with the highest industrial standards. The operating time or storage period of a battery is restricted, however. The actual life of a battery is influenced by different factors, e.g. hot, cold, rough operating environment and falling from a great height. If a battery is kept longer than six months, the performance may be impaired on a permanent basis. Keep the batteries in a dry, cool place. For longer periods of storage, remove the batteries from the device to prevent self-discharge, rusting of the metallic and the escape of electrolyte.

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

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

## 5. Commissioning

### DANGER

**Avoid electrostatic charging in potentially explosive atmosphere.**

**Risk of fatal injury in an explosive atmosphere!**

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

### DANGER

**Unintended use endangers explosion protection.**

**Risk of fatal injury in an explosive atmosphere!**

- ▶ Do not make any changes to the Lumen X4 Industry Mobile Computer.
- ▶ In the case of functional disturbances or damage to the enclosure, the device should be removed immediately from the potentially explosive atmosphere to a safe place. Remove battery to decommission the device!
- ▶ Do not use any battery replicas or batteries from other manufacturers.

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

### 5.1 Scope of delivery

- 1 x 4.3" ex-certified Lumen X4 Industry Mobile Computer
- 1 x battery
- 1 x hand strap
- 1 x USB network adapter with EU plug
- 1 x USB network adapter with US plug
- 1 x USB cable (Type A to micro Type B)
- 1 x Quick Start Guide

#### 5.1.1 Optional accessories

##### Authorized accessories from BARTEC

##### For the Ex area:

- Replacement battery
- Hand strap

##### For the non-Ex area:

- USB network adapter for EU, UK, US and AUS
- USB cable (Type A to micro Type B)
- Micro USB Host cable (OTG)
- Micro SD card
- Screen protector
- Charging station for Lumen X4

- Battery charging station
- Vehicle charging adapter (Input 12 V DC, Output USB Type A)
- Vehicle charging docking station
- Mobile power station
- Hand strap
- Leather case with screen protector and shoulder strap
- Bluetooth printer

## 5.2 Requirements in potentially explosive atmosphere

### Lumen X4

- The Industry Mobile Computer may not be opened.  
One exception is the battery for the SIM/Micro SD card for installation.
  - Do not use, swap or replace and non-specified components.
  - Do not retrofit any components to the internal plugs or slots. One exception is the SIM card and the Micro SD card.
  - Protect the Industry Mobile Computer from impact!
  - Do not expose the Industry Mobile Computer to caustic/aggressive liquids, vapours, mists!
  - Avoid the impact of moisture outside the specifications.
  - Avoid thermal impact outside the specified temperature range.
  - Use the following data interfaces only outside the potentially explosive atmosphere and exclusively with the devices specified by the manufacturer!
    - 1 x 3-pin docking connector (PoGo pin for charging in the docking station)
    - 1 x Micro USB Type B (OTG Host, data exchange and charging)
- Interfaces underneath the battery
- 1 x SIM card
  - 1 x Micro SD card

### Battery

- The battery may not be opened.
- Only charge the battery (type B7-A2Z0-0034) outside the potentially explosive atmosphere.
- Only use the battery for the purpose listed in this User Manual. Is only suitable for the Lumen X4, Type B7-A2P4-..../.....
- It is not allowed to remove, change and/or charge the battery inside the potentially explosive atmosphere.
- There is a danger of burning if used incorrectly. Do not expose the battery to temperatures of more than +60 °C (+140 °F).
- Battery acid may escape from the cells and cause burning in the case of damage.
- Defective batteries must be disposed of immediately, whereby the provisions on battery disposal applicable in the respective region must be observed.
- The battery may explode if it catches fire!
- Do not short circuit the battery!

**Accessories**

- Only install or replace accessories outside the potentially explosive atmosphere.
- User accessories exclusively which have been tested or certified by BARTEC for this purpose.
- The end user can replace the SIM card, micro SD card, hand strap, and screen protector himself.

## 5.3 Handling accessories

**⚠ DANGER**

**Non certified accessories endanger explosion protection.  
Danger to life exists in potentially explosive atmospheres!**

- ▶ Only use original accessories from BARTEC/ Winmate.

**Only permitted outside the potentially explosive atmosphere:**

- ▶ Insert/charge battery.
- ▶ Insert/replace micro SD card.
- ▶ Insert/replace SIM card.
- ▶ Attach/remove accessories such as hand strap and screen protector.

## 5.4 First steps



The individual steps are explained in detail in the following chapters!

- ▶ Unpack the Industry Mobile Computer.
- ▶ Insert SIM card and micro SD card.
- ▶ Insert battery.
- ▶ Charge battery.
- ▶ Switch on/off the Industry Mobile Computer.
- ▶ Reset the Industry Mobile Computer to factory default settings.  
(see chapter 5.4.5)

### 5.4.1 Insert SIM card and Micro SD card

#### ATTENTION

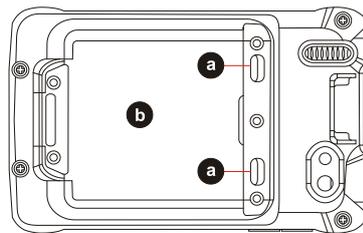
#### Damage to the SIM / micro SD card through electrostatic discharges!

- ▶ Use an antistatic mat.
- ▶ Ensure that the operator is correctly earthed.
- ▶ A maximum of 32 GB are supported.

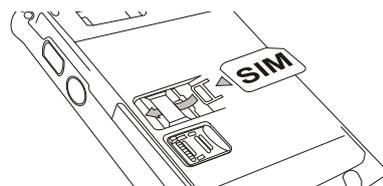
#### Work steps:

Only insert or replace the SIM / micro SD card outside of the potentially explosive atmosphere. Only use SIM / micro SD cards which have been tested and certified by BARTEC for this purpose.

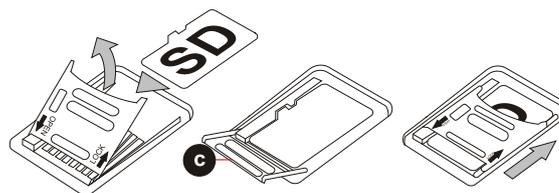
1. Place the Industry Mobile Computer on its front (display facing downwards) on a flat mat.
2. Press the two latches (a) up.
3. Remove the battery (b).



4. Insert the SIM card in the SIM card slot (with the gold contacts facing downwards and cut-off corner facing out) in the direction of the arrow.



5. Push the SD card holder in the direction of the arrow to unlock it.
6. Pull the micro SD card holder (c) upwards and bring it in a vertical position.
7. Put the micro SD card into the slot.
8. Close the SIM card holder and push it into lock position until there is a click.



5.4.2 Insert battery

**⚠ DANGER**

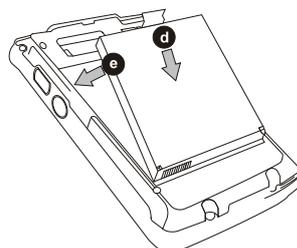
**In potentially explosive atmospheres, battery latches must be locked.  
Danger to life exists!**

▶ Check the locking of the battery latches carefully.

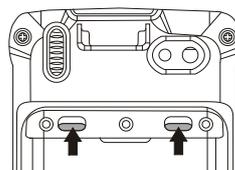
**Work steps:**

Only charge, install or replace the battery outside the potentially explosive atmosphere.

1. Reinsert the battery by latching the bottom first (**d**) and then push it down (**e**).



2. Check the locking of the battery latches. The slides of the battery latches must maintain the position in the drawing (see arrows).



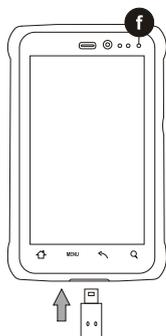
5.4.3 Charge battery

Please charge the battery before using the Industry Mobile Computer for the first time, charge the battery until the LED indicator turns solid green. To charge the Industry Mobile Computer, use a USB cable or a docking station with appropriate power supply (see chapter "Accessories"). Only charge the battery outside the potentially explosive atmosphere.

**With USB charging cable**

**Work steps:**

1. Connect the power supply output connector to the input power port on the USB charging cable.
2. Remove the protective rubber and connect the USB charging cable to the bottom of Industry Mobile Computer. The battery charge LED (**f**) indicates the battery charging status.

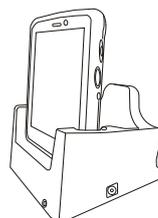


LED Status	Description
OFF	The Industry Mobile Computer is not charging or not properly connected
Solid red	Low battery
Solid orange	Charging in progress
Solid green	Charging complete

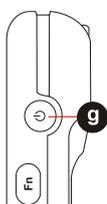
### With docking station

#### Work steps:

1. Connect the docking station to the power supply. Insert the Industry Mobile Computer into the slot to start charging. (Docking station input voltage / power: 12 V/36 W DC.)
2. The Industry Mobile Computer LED indicator indicates the status of the battery charging.



## 5.4.4 Turning On and Off the Lumen X4 Industry Mobile Computer



### Turning the device on

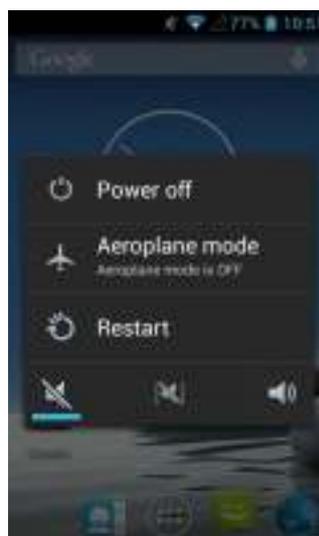
#### Work steps:

1. Press and hold the Power On/Off button (**g**) for 3 seconds, located on the right side of the device.
2. When the device vibrates, release the Power On/Off button. The desktop screen is displayed.

### Turning the device off

#### Work steps:

1. To turn off the device, press and hold the Power On/Off button until the phone options menu appears
2. Tap **Power off**.

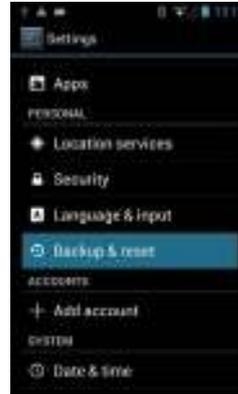


The user can also use the Phone options menu to put the device into silent or airplane mode, see features table in chapter 2.2 "Structure".

## 5.4.5 Resetting the Lumen X4 to factory defaults

## Work steps:

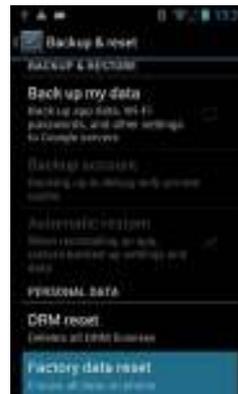
1. Tap **MENU** and then tap **System settings**.
2. Tap **Backup & reset**.



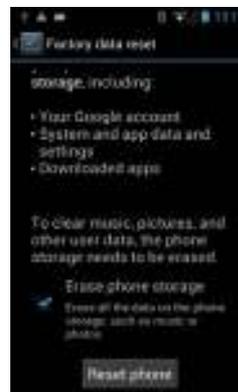
3. Tap **Factory data reset**.



The user can select to back up application data, Wi-Fi passwords and other settings to Google servers by tapping **Back up my data**.



4. Read all the available information and then check **Erase phone storage** if the user want to erase all the data on the phone storage such as music or photos.



5.4.6 Remove/replace screen protector

**⚠ DANGER**

**Non-certified accessories endanger explosion protection.  
 A danger to life exists in a potentially explosive atmosphere!**

- ▶ A condition for a safety conscious operation is the use of original screen protectors which have been specified for use by BARTEC.
- ▶ Using screen protectors from different manufacturers renders the ignition protection useless so that there is a danger of fire or explosion.

**Only admissible outside potentially explosive atmospheres:**

- ▶ The screen protector may only be attached or replaced outside the potentially explosive atmosphere!

**ATTENTION**

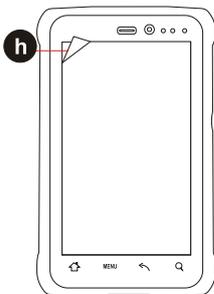
**Incorrect handling may cause damage to property!**

- ▶ Use a screen protector so as not to impair the device warranty.
- ▶ Only use screen protector (Type B7-A2Z0-0035) from BARTEC.
- ▶ Observe the installation instructions for the screen protector.
- ▶ Do not use any sharp objects to remove the screen protector!

The screen protector can be ordered from BARTEC. The installation instructions for the screen protector forms part of the scope of delivery. Parts number: B7-A2Z0-0035 screen protector, 1 piece.



Screen protector	Order number
IECEX-, ATEX- and CSA certified	B7-A2Z0-0035



**Work steps:**

Only remove or replace the screen protector outside the potentially explosive atmosphere.

1. Lift a corner of the screen protector (**h**) and remove it from the display.
2. Attach the screen protector in accordance with the "Screen protector installation instructions".

5.5 RFID HF / NFC



The internal RFID HF / NFC reader cannot be incorporated in the Tablet PC by the customer himself. A retrofit in the factory is possible.  
 The internal RFID HF / NFC reader cannot be combined with the 1D/2D imager.

The Industry Mobile Computer is equipped with RFID.

The unique concept permits ultramodern technologies to be combined with each other. It is therefore possible to combine barcode data capture with RFID technology in one device. The data can be directly processed in the device thanks to virtual keyboards and color display.

The data can be transmitted to other corporate areas for further processing using WLAN or Bluetooth and are therefore available in real time for further processing.

## 6. Operation

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

### 6.1 Final inspection

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

- ▶ Is there any damage to the display, scanner window (optional) or enclosure?
- ▶ Is the battery correctly inserted and locked?
- ▶ Does the screen protector (if used) have the requisite certification?
- ▶ Is the micro SD card specified for the Industry Mobile Computer "Lumen X4"?
- ▶ Has the SIM card been correctly inserted?
- ▶ Have only accessory parts been attached to the device which have been released for use in potentially explosive atmospheres?

### 6.2 Care and cleaning

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

#### 6.2.1 Care

<b>Display</b>	<ul style="list-style-type: none"> <li>– Use screen protector.</li> <li>– Use a soft cloth to clean and do not use aggressive cleaners.</li> </ul>
<b>Enclosure</b>	<ul style="list-style-type: none"> <li>– Protect device from impacts.</li> <li>– Do not expose to extreme loads, e.g. strong knocks and falling from great heights.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>– Do not expose to extreme temperatures.</li> <li>– Do not leave in dirty, moist or wet environment.</li> </ul>

#### 6.2.2 Cleaning

#### **DANGER**

**Danger to life exists in potentially explosive atmospheres!**

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

**ATTENTION**

**Devices and accessories can be destroyed if handled incorrectly!**

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

To guarantee your own safety and the operational safety of the device, observe the precautionary measures carefully.

**6.2.3 Suitable materials for cleaning**

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

<b>Enclosure</b>	<ul style="list-style-type: none"> <li>– With alcohol cleaning cloths.</li> </ul>
<b>Keys and intermediate spaces</b>	<ul style="list-style-type: none"> <li>– With alcohol cleaning cloths.</li> </ul>
<b>Screen</b>	<ul style="list-style-type: none"> <li>– With alcohol cleaning cloths.</li> <li>– Avoid collections of fluid and rub with smooth cloths.</li> </ul>
<b>Scanner window</b>	<ul style="list-style-type: none"> <li>– Use cleaning agent for optical devices.</li> </ul>
<b>Battery contacts</b>	<ul style="list-style-type: none"> <li>– Remove the battery from the device to clean.</li> <li>– Soak the cotton swabs in an alcohol solution to remove all grease and dirt deposits on the contacts.</li> <li>– Repeat cleaning several times.</li> <li>– Before replacing the battery, the contacts must be completely dry and no fluff should remain.</li> </ul>
<b>Interface contacts</b>	<ul style="list-style-type: none"> <li>– To clean the interface contacts, remove the battery from the device.</li> <li>– Soak the cotton swabs in an alcohol solution to remove all grease and dirt deposits on the contacts.</li> <li>– Repeat cleaning several times.</li> <li>– Before the interfaces of the devices are used again, the interface contacts must be completely dry and no fluff should remain.</li> </ul>
<b>Accessories such as charger, docking station, etc.</b>	<ul style="list-style-type: none"> <li>– Separate the accessories from the power supply to clean.</li> <li>– Soak the cotton swabs in an alcohol solution to remove all grease and dirt deposits on the contacts.</li> <li>– Repeat cleaning several times.</li> <li>– Before the accessory is reconnected to the power supply, the contacts must be completely dry and no fluff should remain.</li> </ul>

## 6.3 Operation, recommendations and requirements

### 6.3.1 Basic safety and health protection requirements

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

#### 6.3.1.1 Ergonomic recommendation

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

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

#### 6.3.1.2 Vehicle installation



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



Information on conducting telephone conversations only applies if a 4G LTE module is used.

RF signals may impair incorrectly installed or inadequately shielded electronic systems in vehicles (including safety systems). If you have any questions on your vehicle, get in touch with the manufacturer or sales person.

You can also learn from the manufacturer whether additional equipment has been fitted to the vehicle. An airbag has a strong impact. Do NOT place objects, such as installed or portable radio equipment, in the area above the airbag or in the area of deployment of the airbag. If radio equipment was not correctly installed in the vehicle, severe injuries may result if the airbag is triggered.

Position the device within good range. Ensure that you have access to the device without having to take your eye off the road.

### Road traffic safety

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

If you use a wireless device during driving a car, rely on your good judgement and remember the following:

- Become acquainted with the wireless device and its functions such as the shortcut dialling or dial repetition function. These functions may prove to be useful if you would like to make calls without taking your eye off the road.
- Where possible, use hands-free equipment.
- Let your dialogue partner know that you are behind the steering wheel. When necessary discontinue the call in dense traffic or poor weather conditions. Rain, sleet, snow, ice and even very dense traffic represent dangers.
- Dial the required numbers carefully and estimate the traffic situation. Make your calls once you have brought your car to a stop or before you leave. Plan your calls such that these can be done when parked. If you really must make a call during the trip, only dial a part of the number, check the road and look in the rear view mirror and then dial the rest of the number.
- Do not succumb to stressful and emotional telephone conversations which could take your attention from the road. Let your dialogue partner know that you are in a car and refrain from conversations which could take your attention from the road.
- Call for help using your mobile device if necessary. Dial the emergency services (911 in the USA and 112 in Europe) or other local emergency service numbers in the event of fire, accident or medical emergencies. Remember that these calls are free of charge on the wireless device! The call can be made independently of security code or networks with or without a SIM card.
- Help your fellow humans in emergency situations with your mobile device. If you witness a serious accident, crime or any other emergency, call the emergency service (911 in the USA and 112 in Europe) or another local emergency service number because you could be the one who needs help next time.
- Call the breakdown service or a special mobile radio number for support if you encounter problems on the road. If you pass a car with a breakdown, which does not represent a serious impediment to traffic, pass traffic lights which do not function, a traffic accident with slight damage and without injuries or a possibly stolen car, please get in touch with the road police or another special mobile radio number for support.

The "Mobile Communication Industry" requests you to give safety priority when using your device/telephone.

### 6.3.2 Information on the use of wireless devices

Heed all warnings referring to the use of wireless devices.

#### 6.3.2.1 Safety in aircraft

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

#### 6.3.2.2 Safety in hospitals

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

#### 6.3.2.3 Heart pacemakers

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

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

#### 6.3.2.4 Hearing aids

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

- The device should be held to the ear which is furthest away from the heart pacemaker.
- If you have reason to assume that interference has arisen you should SWITCH OFF the device immediately.

#### 6.3.2.5 Other medical equipment

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

### 6.3.3 Equipment of the laser devices

 **CAUTION**

**Laser radiation! May damage eyesight!**

- ▶ Do not look into the laser beam.

Devices from BARTEC/Winmate equipped with lasers comply with the following guidelines:

- IEC 60825-1:2007 / EN 60825-1:2008-05 Class 2 (1 mW, 630-680 nm)
- IEC 60825-1 / EN 60825-1: Class 1 LED product (only with imaging option, no laser label)

The Tablet PC uses the Intermec Scan Engine EA30. The classification for the laser device is stated on the plate attached to the device. Laser devices of class 1 are not considered to be dangerous as long as they are used for their intended purpose.

### 6.3.4 LED devices

 **CAUTION**

**LED light! May damage eyesight!**

- ▶ If you use LED for the camera flash, keep the camera flash LED at least 317 mm (12.5 inch) away from a person's eyes. Otherwise serious damage may be caused to the eyes.

Devices from BARTEC/Winmate equipped with LED devices comply with the following guidelines:

- IEC 62471:2006-07 for LED safety.

### 6.3.5 Restrictions in the case of wireless devices



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

#### Radio modules

The device contains radio modules. The identification data for these modules are provided below:

- Radio module from BARTEC/Winmate which supports WLAN 802.11 a/b/g/n and Bluetooth.
- ARM® Cortex™-A7 Quad Core 1.5 GHz (WLAN-WiFi IEEE 802.11 a/b/g/n, Bluetooth Version 3.0 + EDR, GPS, WWAN 3.75G - GSM / GPRS / EDGE / WCDMA / HSDPA / HSUPA).

#### Bluetooth® radio technology

This is an authorised Bluetooth® product. Further information and an end product list is provided at <https://www.bluetooth.org/tpg/listings.cfm>.

**Country-specific roaming**

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

**Ad-hoc operation**

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

## 6.4 Operating frequency - FCC and IC

**5 GHz only**

Use in the UNII-Band 1 (Unlicensed National Information Infrastructure) in the range of 5150-5250 MHz is restricted to indoor rooms. The failure to heed this rule leads to the illegal operation of the device.

**Industrial standard declaration for Canada****ATTENTION****Devices can be damaged by inappropriate handling!**

- ▶ The device for the frequency range 5150-5250 MHz is exclusively intended for operation in indoor rooms in order to restrict possible co-channel interference for satellite mobile radio systems to a minimum. The frequency ranges 5250-5350 MHz and 5650-5850 MHz are primarily intended for the high power radar devices (i.e. these radar devices take priority). These radar devices may cause interference and/or damage WLAN devices.

**2.4 GHz only**

In the USA the channels 1 to 11 are available for the 802.11 b/g operation. The range of channels is restricted by the firmware.

**FCC requirements to protect against high-frequency interference**

This device has been tested and satisfies the limit values for a digital device of Class B according to Part 15 of the FCC Guideline. These limit values were stipulated to guarantee appropriate protection against disturbances if the device is used in residential areas.

The device generates and uses radio frequency energy and may emit this energy. This can have a disturbing effect on other radio frequencies if the device is not connected and used in accordance with the operating instructions. A guarantee that no interference will arise for a certain installation cannot be given.

If the device causes interference to the radio or TV reception which can be recognised by switching the device on and off, the interference should be eliminated by one or several of the following measures:

- Re-alignment or moving of the receiving aerial.
- Enlarging the distance between device and receiver.

- Connecting the device to a different socket than the one to which the receiver is connected.
- Advice from the dealer or a radio/television technician.

#### Declaration in accordance with the FCC regulations, Part 15.21

Changes which have not been explicitly approved by the party responsible for compliance with the regulations can lead to the expiry of the operating authorization for this device.

#### Radio transmission devices (Part 15)

This device satisfies the requirements of Part 15 of the FCC Guidelines. The operation of the device is based on the following two conditions:

- The device may not cause any damaging interference.
- The device must absorb all receiving interference including interference which may lead to undesirable operation.

#### Requirements placed on the protection from high frequency interference - Canada

This digital device of Class B satisfies the Guidelines of the Canadian standard ICES-003.

#### Radio transmission devices

This device corresponds to RSS 210 (Industry & Science Canada). The operation of the device is based on the following two conditions:

- The device may not cause any damaging interference.
- The device must absorb all receiving interference including interference which may lead to undesirable operation.

Label symbol: "IC:" before the radio certification means that the technical data of Industry Canada have been satisfied.

#### Country approvals



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

Test symbols are attached to the device which shows that the radio modules are approved for use in the following countries: USA, Canada and Europe.

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

#### USA



#### WARNING

**It is not permitted to operate the device without official approval.**

- ▶ Acquire a permission from the authorities first.

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

### Radio transmitters for RLAN devices

The operation of RLAN devices (5 GHz) is subject to the following restrictions in Canada:

- Frequency range restricted to 5.60 GHz to 5.65 GHz.

This device complies with the radio standard RSS 210 of the Industry & Science Canada.

The operation of the device is based on the following two conditions:

- The device may not cause any damaging interference.
- The device must absorb all receiving interference including interference which may lead to undesirable operation.

Label symbol "IC:" before the radio certification merely means that the technical data of Industry Canada have been satisfied.

## 6.5 Electromagnetic fields

### Reduction in high frequency energy – intended use

Only use device in compliance with the supplied instructions.

### International

The device complies with the internationally recognised standards for the recommended maximum values for electromagnetic fields of radio devices. Information on "internationally" recommended maximum values for electromagnetic fields is provided in BARTEC's Declaration of Conformity at <http://www.bartec.de/>.

### Europe

Portable devices have been specially tested for operation in direct body proximity. Use exclusively belt clips, holsters and similar accessories which have been tested and approved by BARTEC to ensure compliance with the EU regulations.

### USA and Canada

Declaration on joint use

To comply with the FCC guidelines with respect to exposure to high frequency energy, the aerial for this transmitter should not be used in the direct vicinity of, or in an operation unit with, other transmitters/aerials with the exception of those approved in this document.



The Industry Mobile Computer should only be worn close to the body when turned off.

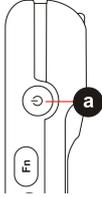
Portable devices have been specially tested for operation in direct body proximity. Use exclusively belt clips, holsters and similar accessories which have been tested and approved by BARTEC to ensure compliance with the FCC regulations. Belt clips, holsters and similar accessories of third manufacturers may not satisfy the FCC requirements for the recommended maximum values for electromagnetic fields and should not therefore be used.

### Micro SD card

The Micro SD card slot provides a secondary, non-volatile memory. The slot is located below the removeable battery. Further information is provided in the documentation supplied with the card. Observe the manufacturer's recommendations on use.

## 6.6 Use the Android 4.2 Operating System

### 6.6.1 Wake up the phone



If you do not use the phone for a while, the screen dims and then darkens to conserve the battery.

**Work steps:**

1. Press the Power on/off button (**a**) on the side of the Industry Mobile Computer.
2. Drag the lock symbol (arrow) to the right.

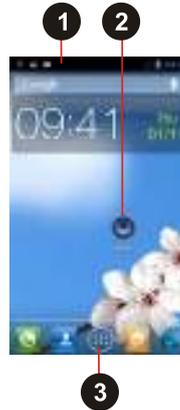


### 6.6.2 Use the touch screen

<b>Tap</b>	Simply touch the icon, symbol, or onscreen button using your finger.
<b>Tap and hold</b>	Touch an item using your finger and not lifting it until an action occurs.
<b>Drag</b>	Touch and hold an item for some amount of time and then, without lifting your finger, move your finger along the screen until you reach target position.
<b>Swipe</b>	Quickly move your finger across the surface of the screen, without pausing it when you first touch it. (e.g. scroll a page or a list up or down).
<b>Double tap</b>	Tap quickly twice on a webpage, map, or other screen to zoom.  Double tapping after pinching the zoom in some application to fit the width of the screen.
<b>Zoom out/ zoom in</b>	Place two fingers on the screen at once and pinching them together (to zoom out) and spreading them apart (to zoom in).
<b>Rotate the screen</b>	Orientation of the screens rotates with the phone as user turn it from upright to its side and back again.

6.6.3 Use the Home screen

Home screen is the starting point to access all the features on the Industry Mobile Computer. It displays application icons, widgets, shortcuts, and other features. User can personalize the home screen. See "Personalize the home screen".



Position	Designation	Description
1	Status Bar	Shows the time, signal strength, battery status, and other information. It also displays notification icons.
2	Apps	Applications that the user can use directly on the Home screen.
3	Launcher icon	Opens the launcher and view all applications.

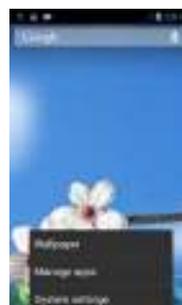
6.6.4 Personalize the home screen

The user can add application icons, shortcuts, widgets, and other items to any part of the Home screen where there is free space. The user can also change the wallpaper.

**Change the wallpaper**

**Work steps:**

1. Tap **MENU** and then tap **Wallpaper**.



2. On the menu that opens tap the type of item you want to add.



### Move an item

#### Work steps:

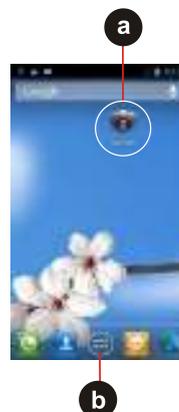
1. Tap and hold the item you want to move, until it can be moved.
2. Drag the item to a new location on the screen.
3. Place the item where you want to put it and lift your finger. (Example: Move Camera to Home screen.)



### Remove an item

#### Work steps:

1. Tap and hold the item (**a**) you want to remove (here the camera item).  
The launcher icon (**b**) will change into a Remove icon.



2. Drag the item you want to remove to the Remove icon.  
 When the item **(c)** turns red, release your finger.  
 The element you want to remove is removed.



**View other parts of the Home Screen**

Extensions to the Home screen provide extra space for APPS, shortcuts, and other items.

**Work steps:**

1. Swipe your finger left or right across the Home screen.



2. Tap the launcher icon to view the entire APPS and Widgets of the device.



**Status and notification icons**

The status bar appears at the top of every screen. On the left are notification icons **(d)** and on the right are status icons **(e)**, along with the current time.



<p><b>Notification icons</b></p>	<p>The following icons indicate that you have received notification.</p> <table border="1"> <tr> <td></td> <td>New email message</td> <td></td> <td>Incoming call</td> </tr> <tr> <td></td> <td>New text or multimedia message</td> <td></td> <td>Missed call</td> </tr> <tr> <td></td> <td>Alarm is set</td> <td></td> <td>Speakerphone is activated</td> </tr> <tr> <td></td> <td>Upcoming event</td> <td></td> <td>Phone microphone is muted</td> </tr> <tr> <td></td> <td>Data is syncing</td> <td></td> <td>Downloading data</td> </tr> <tr> <td></td> <td>Problem with sign-in or sync</td> <td></td> <td>Phone is connected via USB cable</td> </tr> <tr> <td></td> <td>A screenshot is captured</td> <td></td> <td></td> </tr> </table>		New email message		Incoming call		New text or multimedia message		Missed call		Alarm is set		Speakerphone is activated		Upcoming event		Phone microphone is muted		Data is syncing		Downloading data		Problem with sign-in or sync		Phone is connected via USB cable		A screenshot is captured																		
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	Problem with sign-in or sync		Phone is connected via USB cable																																										
	A screenshot is captured																																												
<p><b>Status icons</b></p>	<p>The following icons indicate the status of the Industry Mobile Computer, for example if users are connected to a Wi-Fi network that is not connected to the internet, the network icons are appears in white color.</p> <table border="1"> <tr> <td></td> <td>Connected to GPRS mobile network</td> <td></td> <td>Bluetooth is on</td> </tr> <tr> <td></td> <td>Connected to 1xRTT mobile network</td> <td></td> <td>Mit einem Bluetooth-Gerät verbunden</td> </tr> <tr> <td></td> <td>Mit einem EDGE mobile network</td> <td></td> <td>Keine SIM-Karte eingesetzt</td> </tr> <tr> <td></td> <td>Connected to 3G mobile network</td> <td></td> <td>Vibrations-Modus</td> </tr> <tr> <td></td> <td>Connected to 4G mobile network</td> <td></td> <td>Klingelton ist stumm geschaltet</td> </tr> <tr> <td></td> <td>Mobile network signal strength</td> <td></td> <td>Sehr niedriger Akku-Ladezustand</td> </tr> <tr> <td></td> <td>Searching for a network signal</td> <td></td> <td>Niedriger Akku-Ladezustand</td> </tr> <tr> <td></td> <td>No signal</td> <td></td> <td>Akku ist teilweise entladen</td> </tr> <tr> <td></td> <td>Connected to a Wi-Fi network</td> <td></td> <td>Akku ist vollständig geladen</td> </tr> <tr> <td></td> <td>Roaming</td> <td></td> <td>Akku lädt</td> </tr> <tr> <td></td> <td>Airplane mode</td> <td></td> <td>Empfängt Standortdaten vom GPS-Gerät</td> </tr> </table>		Connected to GPRS mobile network		Bluetooth is on		Connected to 1xRTT mobile network		Mit einem Bluetooth-Gerät verbunden		Mit einem EDGE mobile network		Keine SIM-Karte eingesetzt		Connected to 3G mobile network		Vibrations-Modus		Connected to 4G mobile network		Klingelton ist stumm geschaltet		Mobile network signal strength		Sehr niedriger Akku-Ladezustand		Searching for a network signal		Niedriger Akku-Ladezustand		No signal		Akku ist teilweise entladen		Connected to a Wi-Fi network		Akku ist vollständig geladen		Roaming		Akku lädt		Airplane mode		Empfängt Standortdaten vom GPS-Gerät
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	Airplane mode		Empfängt Standortdaten vom GPS-Gerät																																										

6.6.5 Use the On-Screen Keyboard



The user will be able to enter text using the On-Screen Keyboard. Some applications will launch the keyboard automatically. In others, the user needs to touch a text field where the user wants to enter text to launch the keyboard.

**Enter text by typing**

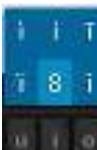
**Work steps:**

Open a text field (in this example we used ToDo to create a note).  
 The On-Screen Keyboard opens.

Tap a suggestion (**f**) to enter it in place of the underlined word in the text box.

Tap once (**g**) to capitalize the alphabet.

If the user taps in a text field which already contains text, the insertion point is set where the user taps and the cursor appears. The user can drag the cursor to pick exactly where you want to add more text. The user can also select a word to copy, cut and paste it. See "Edit text".

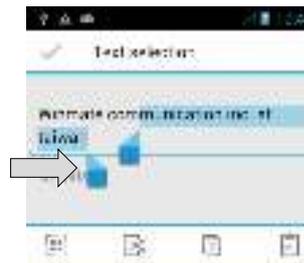
	Tap the delete key to erase characters to the left of the cursor.
	Tap the key to enter numbers.
	Tap the key to return to letters.
	To enter symbols and other characters, tap and hold one of the top-row keys and swipe your finger up to the list of the options. Lift your finger when you find your selection.
	To view additional symbols, tap the key on the numeric keyboard.
	To open a small window with a set of common symbols, tap and hold the periode key. Swipe your finger up to the list of the options. Lift your finger when you find your selection. The selected symbol will be inserted.
	To close the On-Screen keyboard, tap the back key.

6.6.6 Edit text

**Select text**

**Work steps:**

1. Double Tap the text you want to select.
2. Tap  to select all the sentences in the menu that appear.  
The selected text is highlighted in blue, with a tab at each end of the selected word.
3. Drag the selection tab to expand or reduce the range of the selected text.



**Cut or copy text**

**Work steps:**

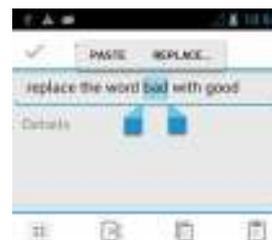
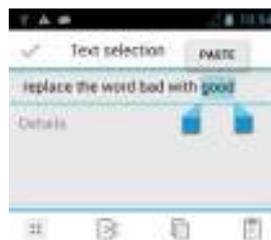
Select the text that should be cut or copied and then should be pasted.

	<p>Tap on the key to remove the selected text from the text field. The removed text is stored in a temporary area so that you can paste it into a different text field.</p>
	<p>Tap on the key to copy the selected text from the text field. The copied text is stored in a temporary area so that you can paste it into a different text field.</p>

**Paste text**

**Work steps:**

1. Place the cursor in the text field where you want to paste the text. The user can paste text that you copied from one application into a text field in any application
2. Tap and hold into the location that you want to paste the text. Tap **Paste** in the menu that opens to replace the text with the cut or copied text. The user can also tap  to replace the existing text with copied text.



6.6.7 Set the display

Use the display settings to configure brightness and other screen settings.

**Work steps:**

1. Tap **MENU** and then tap **System settings**.
2. Tap **Display**. In the **DEVICE** part, the following options will be offered:

<b>Brightness</b>	Adjust the brightness of the screen
<b>Wallpaper</b>	Select the wallpaper
<b>Auto-rotate screen</b>	Switch the orientation of the screen as rhe user turns the device sideways or upright.
<b>Sleep</b>	Inactivate the device after some time. Use the shortest sleep time for the longest battery life between charges.
<b>Font Size</b>	Adjust the font size on the device.

6.6.8 Set the audio profile

Use the sound settings to configure how and at what volume the phone rings, vibrates or alerts the user in other ways when the user receives a call, receives a notification, or an alarm sounds.

**Work steps:**

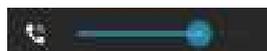
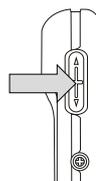
1. Tap **MENU** and then tap **System settings**.
2. Tap **Audio profiles**. The following options will be offered:

<b>General</b>	Ring
<b>Silent</b>	Silent only
<b>Meeting</b>	Vibrate only
<b>Outdoor</b>	Loudest ring and vibrate

6.6.9 Adjust volume

**Work steps:**

Press the volume keys to change the ring volume (On Home screen) or earpiece volume (during a call)



6.6.10 Set language and keyboard

Use the language & keyboard settings to select the language for the text on your Industry Mobile Computer and for configuring the On-Screen Keyboard, including words that you have added to its dictionary.

**Work steps:**

1. Tap **MENU** and then tap **System settings**.
2. Tap **Language & Input** and then **Language** to open the language screen, where user can select the language to use for the text on the device.

<b>Default</b>	Apply the on-screen keyboard that is included with user's device. The correction and capitalization features affect only the English version of the keyboard.
<b>Android keyboard settings</b>	The setting screen is available only if user's device has a physical keyboard. There are three options available: – "Auto-replace" checks to correct misspelled words. – "Auto-cap" checks to capitalize the first letter of the first word in sentences. – "Auto-punctuate" checks to insert a period when the user presses the space key twice in a row.
<b>Input Language (Active Input Methods)</b>	The user can select language(s) that will appear in the android keyboard.

**Change the keyboard language**

The current keyboard language is displayed on the space key and the user can switch languages.

**Work steps:**

1. Tap and hold the space key.
2. Without lifting the finger, swipe it to the left or right until the language you want to use appears in the center of the small window above the space key.
3. Lift the finger to select the keyboard language (here Englisch).



6.6.11 USB debugging setting

To permit debugging tools on a computer to communicate with the user's Industry Mobile Computer via USB connection.

Work steps

1. Tap **MENU** and then tap **System settings**.
2. Tap { } **Developer options** and then tap **USB debugging** to allow USB debugging.



6.6.12 Use the phone

The user can make a phone call by dialing a phone number; touch a number in the contact list, on the web pages or other places.

To make a phone call



Make sure the SIM card is properly installed.

Work steps:

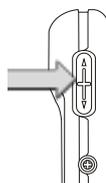
1. Tap the phone icon at the bottom of the home screen or in the launcher or on the home screen.
2. Tap the numeric keys on the screen to enter the phone number.  
Tap to dial the number that you have entered.



If you enter a wrong number, tap this button (h) to erase digits one by one. To erase the entire number, tap and hold this button.

Tap and hold the plus button (i) to enter +.

Adjust the call volume by pressing the volume up/down button on the side of the Industry Mobile Computer.





### Make a phone call using the contact list

#### Work steps:

1. Tap the **Launcher** and then tap **Contacts**  or tap the phone icon  at the bottom of the home screen and then tap **Contacts** .
2. Select the required contact and then tap it to call.

### Answer and decline calls

When the user receive a phone call, the incoming call screen opens with the caller ID and any additional information about the caller that you have entered in contacts.

#### Work steps:

Tap the answer icon (**j**) to answer calls.

Tap the reject icon (**k**) to reject calls.

## 6.6.13 Messaging



### Send a text message

#### Work steps:

1. Tap the **Launcher** and then tap .
2. Tap **Compose new message** and enter a mobile phone number in the **To** field (**l**). You can tap to find your contact.
3. Tap the composition text box (**m**) to start entering your message.

### Open and respond to a text message

If you are working in a message window, the message that you receive is displayed in it. Otherwise, you receive a new message notification and a new message icon appears in the status bar.

#### Answer a message

When the user taps the new message notification, the message window opens and the user can answer the message.

#### Forward a message

##### Work steps:

- 1st Tap and hold a message in a message window.
- 2nd Tap forward message in the menu that opens.
- 3rd Enter a recipient for the message and edit the content if necessary
- 4th Tap **Send**.

6.6.14 About the phone

**About Phone** includes information about user's Industry Mobile Computer.

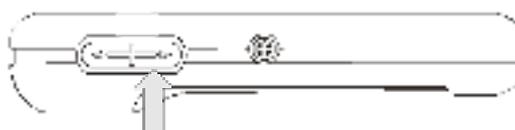
<b>System Update</b>	Provides information regarding the local or online update of your devices.
<b>Status</b>	Opens the status screen with a list of information about battery, network, signal strength, and other details.
<b>Legal Information</b>	Lists details about the model number, Android Version, Baseband version etc. This information is useful if the user needs to work with the support team.

6.6.15 Screenshot capture

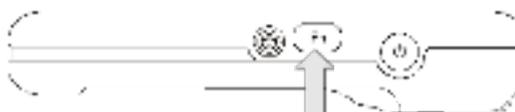
Screenshot capture is result of simultaneous oppress of volume key (-) and On-/Off key.

The screenshots stored on the device: Phone Storage / Pictures / Screenshots

Volume key (-)



On-/Off key



6.7 Connection to mobile networks and devices

When users assemble their Industry Mobile Computer with a SIM card from the service provider, their phone is configured to use their provider networks for voice calls and for transmitting data.

Different locations may have different mobile networks available. The user may need to configure the Industry Mobile Computer to use certain networks. To obtain fastest networks, the user can configure the Industry Mobile Computer to 4G. To extend the life of battery the user can use 2G network.

6.7.1 Check the network (GPRS/3G) connection

**Work steps:**

1. Tap **MENU** (MENÜ) and then tap **System settings**.
2. Tap **More...** in the **Wireless & networks**, and then tap **Mobile networks**.
3. Tap **3G Service** to check the network connection.



Do not change the parameters of the access point to prevent the user to be unable to access network sources.

### 6.7.2 Turn on the data service

#### Work steps:

1. Tap **MENU** and then tap **System settings**.
2. Tap **More...** in the **Wireless & networks**, and then tap **Mobile networks**.
3. Tap **Data connection**.
4. Select the desired network operator to enable the data connection.

### 6.7.3 Connect to Wi-Fi networks

#### Turn on the Wi-Fi and connect to a Wi-Fi network

#### Work steps:

1. Tap **MENU** and then tap **System settings**.
2. Tap **Wireless & networks (a)** and then select **Wi-Fi (b)** to turn it on.
3. Tap **Wi-Fi**.

The device scans for available Wi-Fi networks and displays the list of it. Secured networks are indicated with a lock icon  (c).

If the phone finds a network that you have connected previously, it connects to it automatically.



4. Tap a network to connect to it.

If the network is open, you are prompted to confirm that you want to connect it by tapping **Connect**.

If the network is secured, users are prompted to enter a password or other credentials.

To check the details about the speed, security, address, and related settings, tap its name in the Wi-Fi settings screen.

### Add a Wi-Fi Network

#### Work steps:

1. Turn on Wi-Fi, in the Wi-Fi settings screen, tap on the + icon (d).
2. Input the SSID (name) of the network (e), if the network is secured, tap the security menu and then tap the type of security (f) deployed on the network.
3. Enter any required security credentials.
4. Tap **Save (g)**.



## 6.8 Connection to Bluetooth devices

### 6.8.1 Turn Bluetooth on or off

#### Work steps:

1. Tap **MENU** and then tap **System settings**.
2. Tap **Wireless & networks** and then select **Bluetooth** to activate the Bluetooth function.

### 6.8.2 Connect / disconnect to Bluetooth devices

#### Connect

#### Work steps:

1. Tap **MENU** and then tap **System settings**.
2. Tap **Wireless & networks** and then tap **Bluetooth**. The Industry Mobile Computer will automatically scan and display the IDs of all available Bluetooth devices in range.
3. Tap **Search for devices** to search for other Bluetooth devices.
4. Tap the ID of the other device in the list in **Settings to pair** them.

#### Disconnect

#### Work steps:

1. Tap the device in the Bluetooth settings screen.
2. Tap **OK** to confirm that you want to disconnect.

## 6.9 Connection / disconnection via USB

### **DANGER**

**Non certified accessories endanger explosion protection.**

**Danger to life exists in potentially explosive atmospheres!**

- ▶ The external **Micro USB Type B** interface (OTG Host, data exchange, and charging) must only be used outside hazardous areas with specified accessories recommended by the manufacturer.

### **ATTENTION**

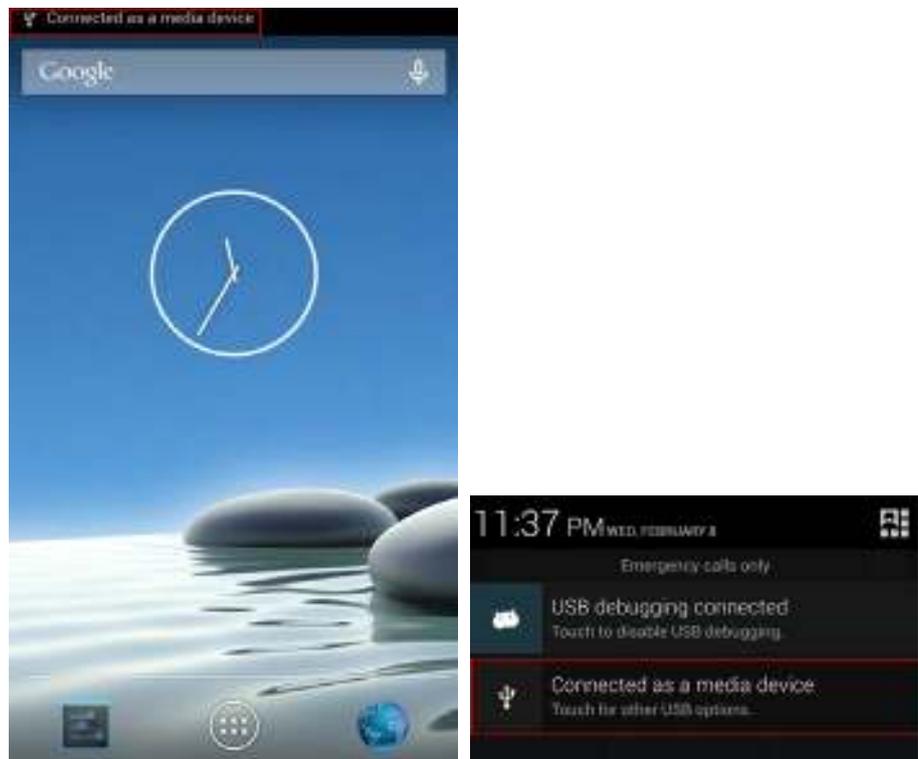
- ▶ Data loss due to incorrect connection/disconnection of USB devices!
- ▶ When connecting your Industry Mobile Computer to a computer and mounting its USB storage or SD card, the user must follow the computer's instructions for connecting and disconnecting USB device, to avoid damaging or corrupting files.

The user can connect the Industry Mobile Computer to a computer with an USB cable to transfer files between the Industry Mobile Computer and another computer.

### **Connect Lumen X4**

#### **Work steps:**

1. Use the USB cable that came with your Industry Tablet to connect the phone to a USB port on your computer.
2. After you received a notification that the **USB is connected**, tap the notification panel and then tap **(USB) connected as a media device**.



3. Select **Media device (MTP)** to confirm the file transfer.



When the device is connected as USB storage, the screen indicates that USB storage is in use and user will receive a notification.



#### Disconnect Lumen X4



#### Work steps:

1. Tap the notification panel and then tap **USB connected**.
2. Tap **Turn off USB storage** in the screen that opens.
3. Disconnect the Industry tablet by unplugging the USB cable.

## 6.10 Use the camera

The Industry Mobile Computer is equipped with a 8 MP camera on the rear side and a 2 MP camera on the front side, which the user can use to capture photos or video.



Make sure that the protective lens cover is clean before taking pictures. A dirty lens cover can cause blurry pictures.

### 6.10.1 Open the camera

#### Work steps:

Tap the **Launcher** and then tap **Camera** . The camera opens in portrait mode, ready to take a picture or to shoot a video.

### 6.10.2 Take a picture

#### Work steps:

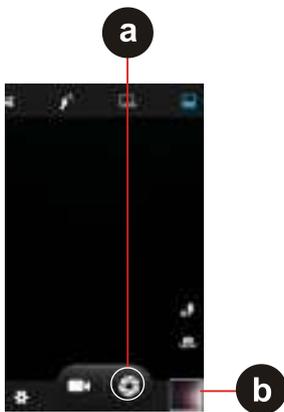
1. Adjust the exposure, flash, and other necessary settings. Or leave it automatic.
2. Frame your subject / object on screen.



To change the zoom factor, drag the zoom slider.

3. Tap the On Screen Shutter icon **(a)**.

The camera brings the image into focus. When the image is in focus, the focus indicators in each corner will turn green **(b)** and the picture is ready to capture.



Tap to change camera settings.

#### Switch between front and rear camera

The Industry Mobile Computer has both a front and rear camera. The user can select which camera you want to preview and take pictures with.



Not all features (such as flash) are available for the front camera.

#### Work steps:

Tap the On Screen Select Camera icon to switch between the rear camera and the front camera. The preview switches to show the scene viewed from the camera the user selected.

#### View pictures

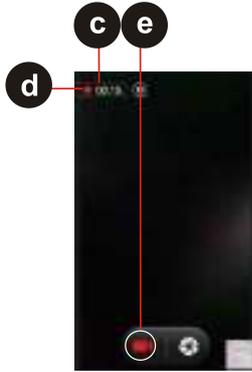
After taking a photo, a thumbnail of the picture is shown on the corner of the capture screen.

#### Work steps:

Tap the thumbnail to view the picture. The following options are available:

	Share photo
	Delete photo
	View another photo or video in the gallery. Swipe right or left to view more photos.

6.10.3 Record a video



Work steps:

1. Tap the Record icon  to start the video recording.
2. The countdown time remaining to record the video (c) is located on the upper left. When the time left is less than a minute, the countdown turns red (d).
3. Point the lens to record the scene where you want to start.
4. Tap the Record icon (e) to stop the video recording.

6.10.4 Open the gallery

Work steps:

1. Tap the **Launcher** and then tap **Gallery** .
2. Tap a folder to view the pictures or video inside in full screen mode.
3. Swipe the pictures to the right or left to view the previous or next picture.

6.11 Use RFID NFC/HF

6.11.1 Enable RFID HF/NFC

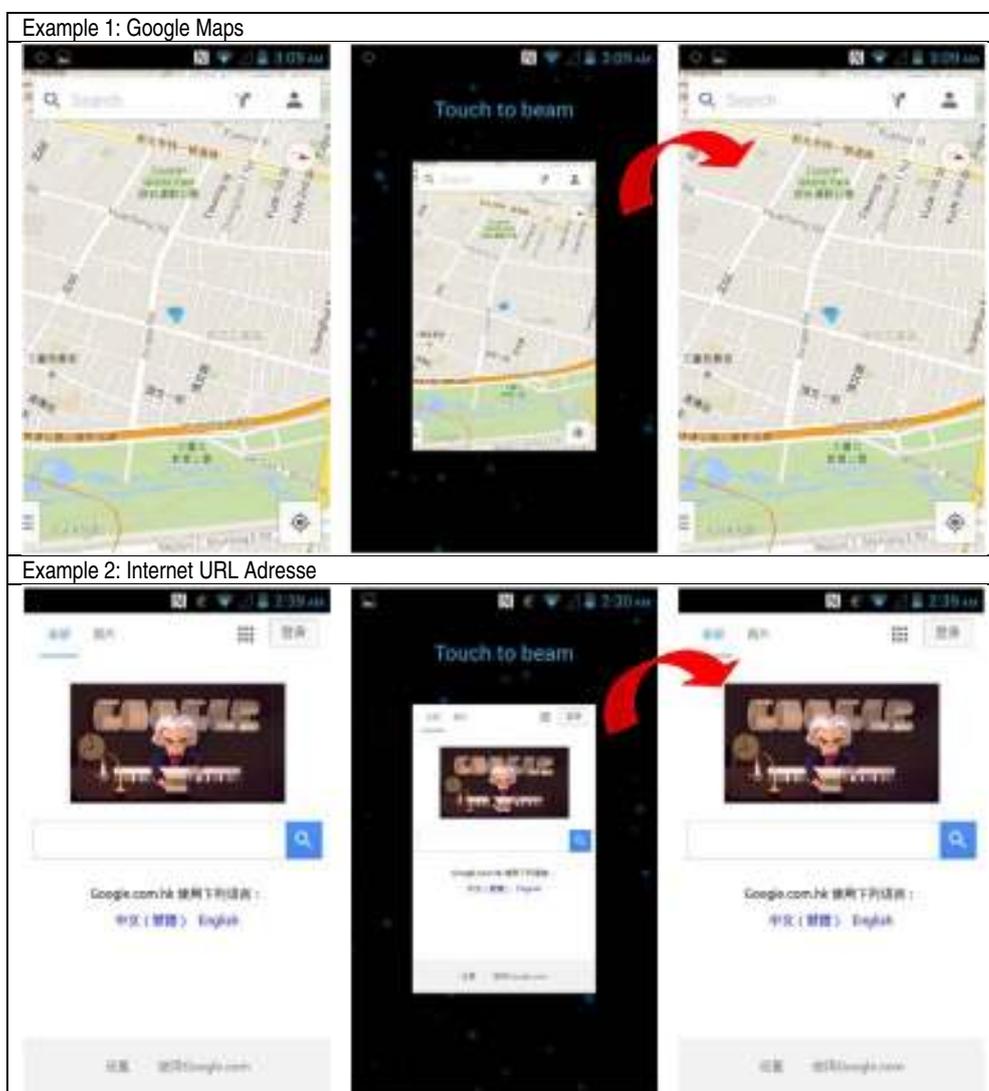
1. Enter the “Settings” menu with a tap on the setting  symbol. (Picture 1)
2. Select the option “More” to open the menu for “Wireless & Networks”. (Picture 2)
3. Enable NFC option to “ON”. (Picture 3)

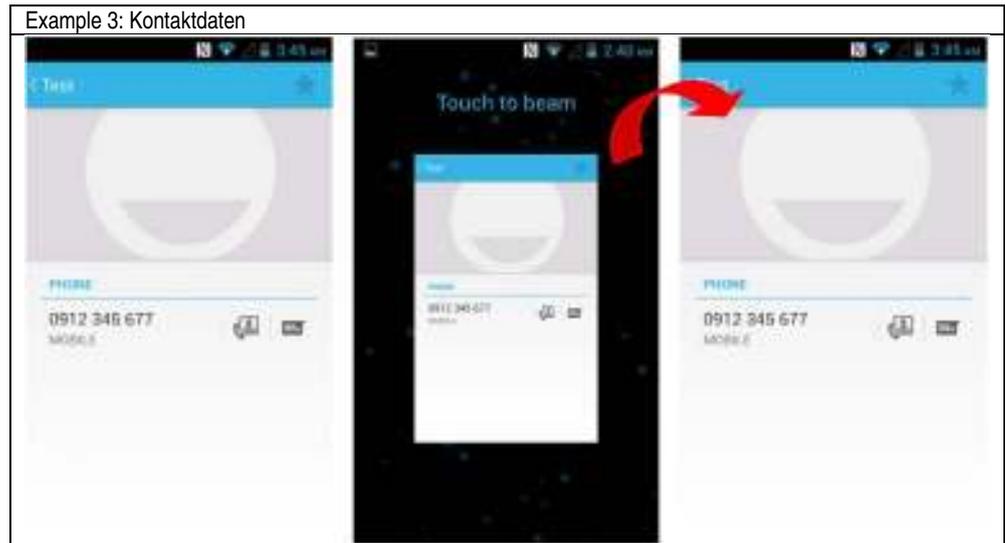


### 6.11.2 Daten mit Punkt zu Punkt (P2P) Verbindung übertragen

1. There are two NFC capable devices required.
2. Enable NFC on the receiver device.
3. Enable NFC function on Lumen X4 as described in chapter 6.11.1.
4. Select the program or file what you transmit.
5. Bring both NFC devices close together that connection can established.
6. If connection is established then you can transmit the file with a tab on the message "Touch to beam"
7. Confirm the message box with "Yes".
8. Check on the receiver device that the file is received.

#### Example:





### 6.11.3 Use Read / Write Function

The RFID HF/NFC Reader supports following protocols:

- ISO 14443-A (read)
- ISO 14443-B (read)
- ISO 15693 (read)
- ISO 18092 (read/write)

By default, no application for read / write function is pre-installed.

The user can download an existing application from Google App Store what is usable for the RFID HF/NFC reader.

Another option is to use the standard Google Android SDK (Software Development Kit) for development of a customized solution. For the Lumen X4 is a SDK available for download what is needed for the development.

#### Example Application for test:

Open Google App Store and search for “NXP” and install it.



## 6.12 1D/2D Imager

### 6.12.1 General information

The Lumen X4 is optionally available with a Zebra 1D/2D imager.  
 Zebra Type: SE4500-SR

A software tool has been preinstalled on the Lumen X4 for test purposes and simple applications.

The “WDC – Data Capture” tool permits a customised configuration of the scanner.

The following tools or SDKs “Software Development Kits” are available to enable the programming of a customised application:

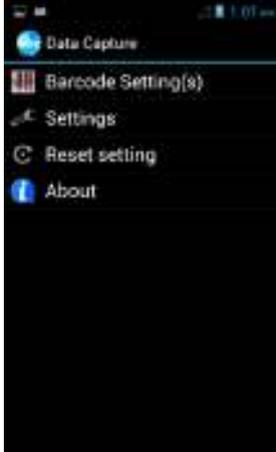
1. Download and install the available application from the Google App Store.
2. Own development with the help of:
  - Standard Google Android SDK
  - SDK for the specific product as download from the BARTEC download page

### 6.12.2 WDC – Data Capture Tool

The WDC software offers the user simple application of the scanner. The user can configure the scanner using the settings menu.

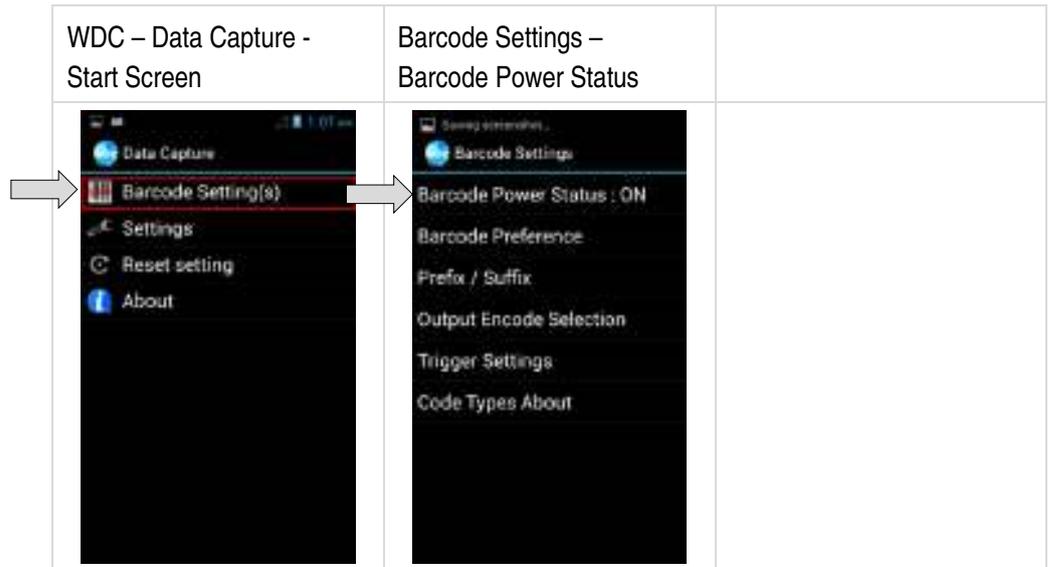
#### 6.12.2.1 Starting the WDC Tool

1. From the start screen, go to the menu.
2. In the menu, select WDC - Data Capture application.
3. WDC – Data Capture start screens opens.

Start Screen	Menu	WDC – Data Capture Application
		

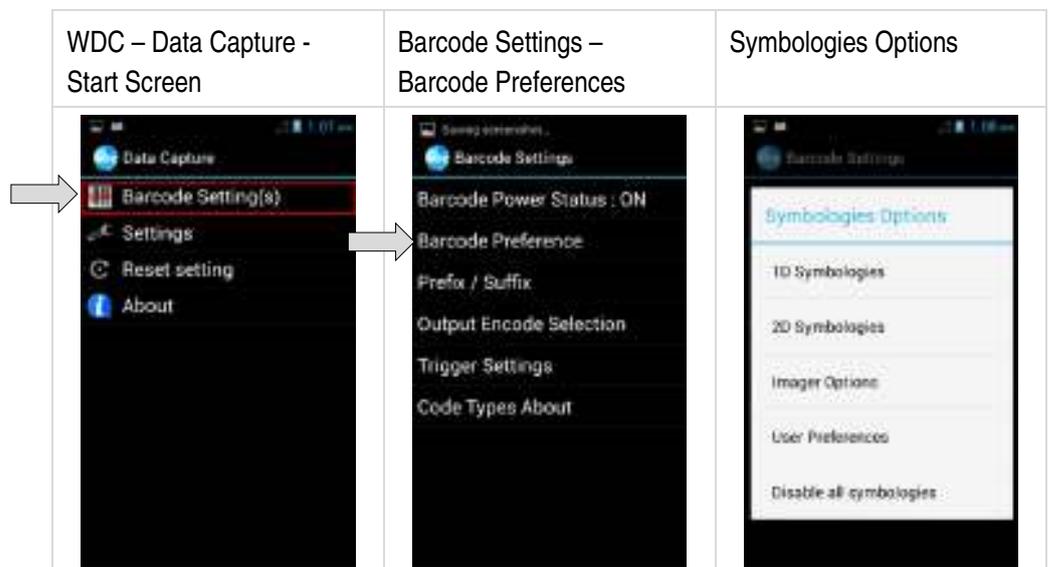
6.12.2.2 Switching the scanner on/off

1. WDC – Data Capture start screen  
Select “Barcode Settings”.  
The scanner is switched on automatically when the WDC – Data Capture Tool is started.
2. The scanner is switched on and off using the “Barcode Power Status” checkbox.



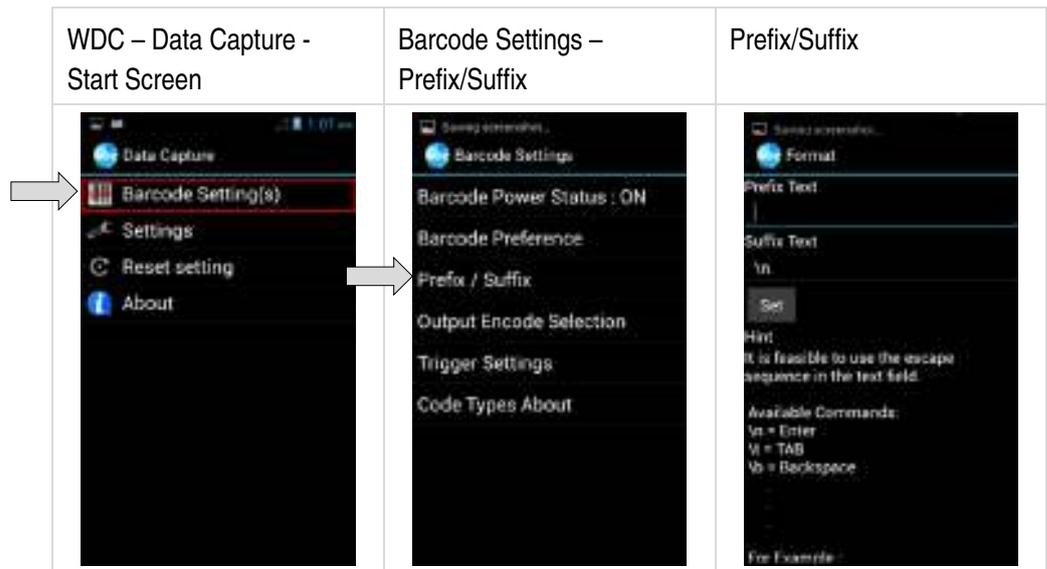
6.12.2.3 Adjusting the barcode symbols

1. WDC – Data Capture start screen  
Select “Barcode Settings”.
2. All supported barcode symbols can be activated, deactivated and configured in the menu and the sub-menus.



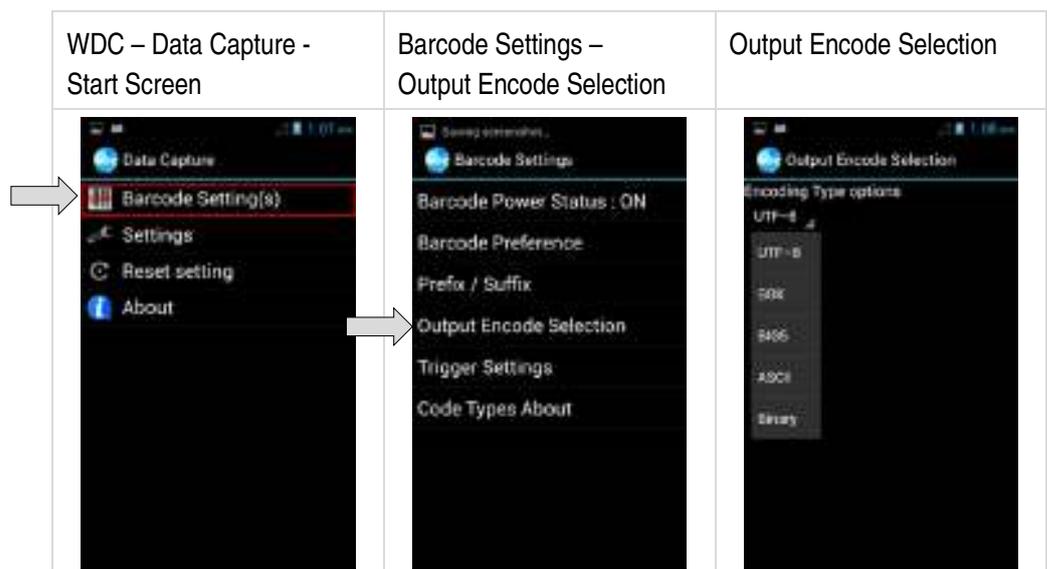
6.12.2.4 Setting the prefix / suffix

1. WDC – Data Capture start screen  
 Select “Prefix / Suffix”.
2. Which characters or commands are to be used as prefix / suffix can be set in the menu.
3. The setting is saved by tapping the “Set” box.



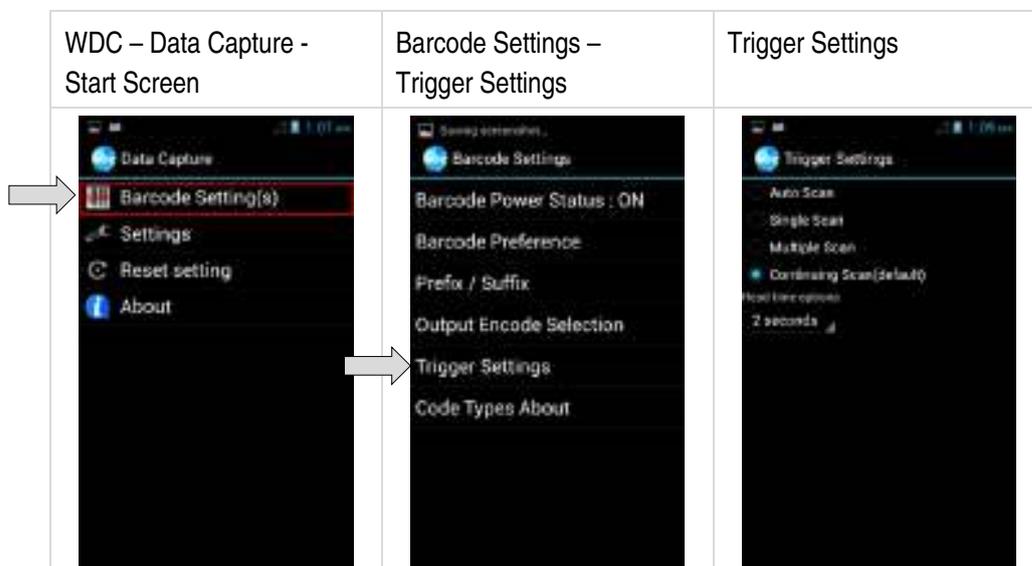
6.12.2.5 Setting the output format

1. WDC – Data Capture start screen  
 Select “Output Encode Selection”.
2. The output format can be set in the menu.  
 The following are supported: UTF-8; GBK; BIG5; ASCII; Binary



6.12.2.6 Setting triggers

1. WDC – Data Capture start screen  
 Select “Trigger Settings”.
2. The trigger settings can be configured in the menu.
  - Auto Scan – barcode reader starts automatically when the user exits the WDC application.
  - Single Scan – barcode reader only starts reading when the trigger button is pressed and reads the first barcode that is scanned.
  - Multiple Scan – barcode reader only starts reading when the trigger button is pressed. Several barcodes can be read while the scanner is active.
  - Continuing Scan (default) – barcode reader only starts reading when the trigger button is pressed and reads the first barcode that is scanned.



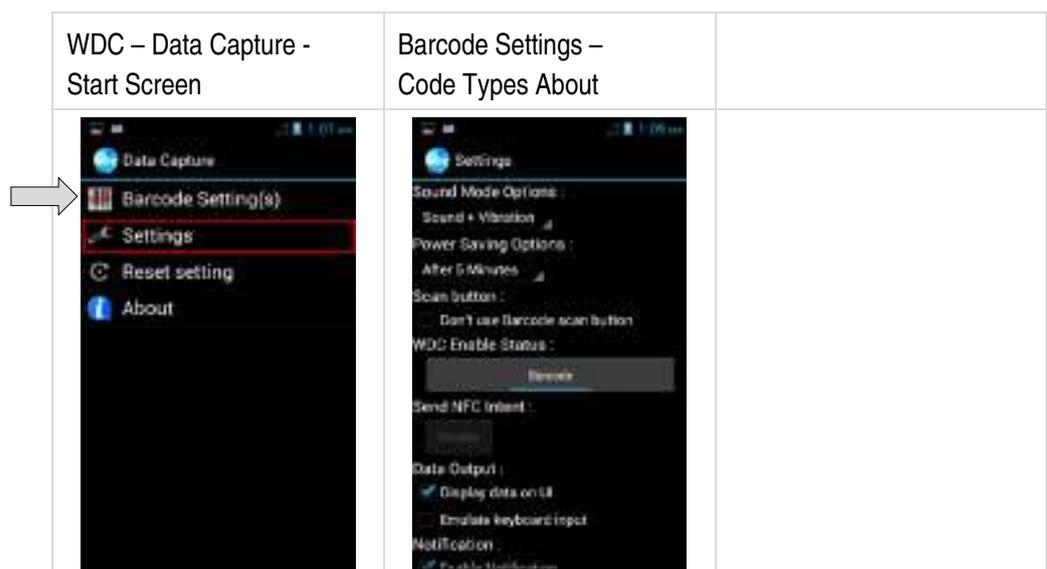
### 6.12.2.7 Displaying the activated barcode symbols

1. WDC – Data Capture start screen  
Select “Code Types About”.
2. The activated barcode symbols are displayed in the menu.



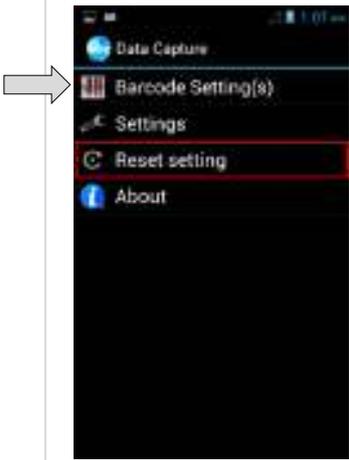
### 6.12.2.8 Adjusting the default settings

1. WDC – Data Capture start screen  
Select “Settings”.
2. The default settings can be adjusted in the menu.



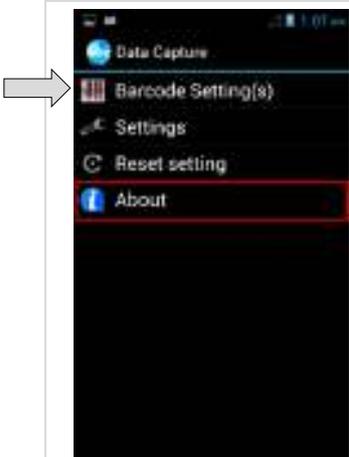
6.12.2.9 Resetting the application

1. WDC – Data Capture start screen  
Select “Reset Settings”.
2. WDC – Data Capture Tool is reset to default settings.

WDC – Data Capture - Start Screen		
		

6.12.2.10 Application information

1. WDC – Data Capture start screen  
Select “About”.
2. Software version is displayed.  
Barcode Type: Motorola 2D  
Software Version: 2.4.0  
Firmware Version: PAABLS00-003-R00 F S

WDC – Data Capture - Start Screen	About	
		

**6.12.2.11 Barcode scanning**

1. Exit the WDC – Data Capture application.
2. In the default setting, the barcode scanner functions as a keypad. As a result, the barcode data can be read into every active box in any application.

**6.12.2.12 Tips for barcode scanning**

1. Pay attention to correct usage.
2. Pay attention to the correct alignment of the scanner beam to the barcode.



3. Pay attention to the correct angle to the barcode.

Scan Angle	Horizontal	34,4°
	Vertical	22,2°
Frame Angle	Horizontal	30°
	Vertical	20°

4. Pay attention to the correct distance to the barcode.  
 This depends on the barcode symbols used, the quality of the printed barcode, the amount of dirt, light conditions etc.  
 Refer also to Chapter 3.3.8

Symbology	Density	Min. Distance	Max. Distance
Code 39	0.100 mm	9.5 cm	11.5 cm
	0.125 mm	8.0 cm	14.5 cm
	0.500 mm	6.5 cm	50.0 cm
	1.000 mm	9.5 cm	75.0 cm
EAN / UPS 100%	0.33 mm	6.0 cm	34.0 cm
Data Matrix	0.18 mm	7.5 cm	16.5 cm
	0.25 mm	6.0 cm	23.0 cm
	0.38 mm	5.5 cm	34.5 cm
PDF417	0.25 mm	5.5 cm	26.0 cm
	0.38 mm	6.5 cm	37.0 cm

## 7. Faults and Troubleshooting

### DANGER

**Danger to life exists in potentially explosive atmospheres!**

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

### 7.1 Troubleshooting

Problem	Solution
The battery does not charge.	<ul style="list-style-type: none"> <li>- Check that the external power supply is connected and that the replaceable battery is inserted correctly.</li> </ul>
No image on the display.	<ul style="list-style-type: none"> <li>- The Industry Mobile Computer is possibly in sleep mode. Press power button to wake up the device.</li> <li>- The settings for the background lighting are possibly too low. Increase the settings of the background lighting.</li> </ul>
There is no WLAN signal.	<ul style="list-style-type: none"> <li>- Check under "System settings/Wireless &amp; networks" whether the WLAN is activated.</li> <li>- If the function is deactivated, activate the function. If the Industry Mobile Computer finds a network that you have connected previously, it connects to it automatically.</li> </ul>
The WLAN signal is very poor.	<ul style="list-style-type: none"> <li>- Select a network with a better signal strength.</li> </ul>
Bluetooth connection to other devices is not working.	<ul style="list-style-type: none"> <li>- Check that the Bluetooth is switched on in both devices.</li> <li>- Check whether the two devices are connectable.</li> <li>- •Check whether the two devices are compatible with one another</li> <li>- Check whether the two devices are further than 10 m apart.</li> </ul>
The GPS application cannot find my position.	<ul style="list-style-type: none"> <li>- Check under "System settings/Wireless &amp; networks" whether the GPS is activated.</li> <li>- You may possibly be outside the GPS range. Take the Industry Mobile Computer outdoors or closer to a window.</li> <li>- Check whether the objects in the environment generate faults such as microwaves or mobile telephones.</li> <li>- Move the Industry Mobile Computer away from such devices.</li> </ul>
The GPS is very inaccurate.	<ul style="list-style-type: none"> <li>- When using the GPS we recommend that the 1D/2D imager should be deactivated to avoid faults.</li> </ul>
There is no sound from the loudspeaker.	<ul style="list-style-type: none"> <li>- Check the volume setting with the buttons for high and low.</li> <li>- When using external audio devices check whether the cable has been connected correctly.</li> </ul>
No laser appears with the 1D/2D imager and it does not appear to work.	<ul style="list-style-type: none"> <li>- Check that a Lumen X4 with integrated 1D/2D Imager is used.</li> <li>- Check in the settings whether the scanner is enabled.</li> </ul>
No laser appears with the 1D/2D imager and it does not appear to work.	<ul style="list-style-type: none"> <li>- Reduce the distances between the 1D/2D imager.</li> <li>- In the 1D/2D imager configuration, check whether the barcode type use is active.</li> </ul>
The RFID reader does not work.	<ul style="list-style-type: none"> <li>- Check in the settings whether the RFID reader is enabled.</li> </ul>

## 8. Service, Inspection, Repair

Service, inspection, and repair of Lumen X4 Industry Mobile Computers may be conducted exclusively by trained and qualified staff! The staff who is familiar with the service, inspection, and repair of Lumen X4 Industry Mobile Computers, has been informed about the risks and has the qualifications necessary for this work.

### 8.1 Service intervals

#### DANGER

**Prevent electrostatic charging in potentially explosive atmospheres.**

**Danger to life in explosive atmosphere!**

▶ Do not dry wipe or clean devices.

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

### 8.2 Inspection

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

### 8.3 Service and repair work

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

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

#### 8.3.1 Information on sending in for repairs

The following information is required for the repair:

- Serial number of the device, see label for series number in chapter 3.6 "Product labelling"
- Model number or product name, see type plate in chapter 3.6 "Product labelling"

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

E-Mail: [services@bartec.de](mailto:services@bartec.de)

Fax: +49 7931 597-119

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

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

<http://www.bartec.de>

If you have any questions? Please write us a mail or give us a call.

E-Mail: [services@bartec.de](mailto:services@bartec.de)

Telephone: +49 7931 597-444

## 9. Disposal



As professional electrical devices, our devices are intended exclusively for commercial use, so-called B2B devices, in accordance with the WEEE Directive.

The WEEE Directive provides the framework for the treatment of old electrical equipment throughout Europe. This means that you may not dispose of these devices in usual household waste but must dispose of them separately in an environmentally compatible manner and can also bring them to the collection points of public disposal companies.

All products purchased from us can be returned to us by our customers for disposal. We will ensure disposal in accordance with the applicable laws.

The sender shall bear the costs of postage and packaging.

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

## 10. Forwarding and packaging information

### ATTENTION

**Sensitive devices! Damage may be caused by incorrect packaging!**

► Use original packaging for transport.

## 11. Accessories

Description	Order number
<b>Ex-certified accessories</b>	
Certification: ATEX Zone 2/22, IECEx Zone 2/22, CSA Class I Division 2	
<b>Battery</b> Lithium polymer battery 3.7 V / 3,900 mAh (1S/2P)	B7-A2Z0-0034
<b>Micro SD card</b>	
- storage capacity of 4 GB	17-28BE-F006/000A
- storage capacity of 8 GB	17-28BE-F006/000B
<b>Screen protector</b>	B7-A2Z0-0035
<b>Hand strap</b>	03-9849-0142
<b>Lanyard</b>	03-9849-0143
<b>Optional accessories for the non-Ex area</b>	
<b>USB network adapter</b> Input voltage: AC 100 up to 240 V / 60 Hz, Output voltage: DC 5 V, 1 A, Interface: USB type A	
- US-version	03-9914-0014
- EU-version	03-9914-0015
- UK-version	03-9914-0016
- Australia version	03-9914-0017
<b>USB cable</b> Type A to micro Type B, for charging in combination with universal USB adapter, for communication/data exchange with other USB devices	03-9919-0025
<b>Micro USB Host Cable (OTG Cable)</b> Provides OTG (On-the-Go) function, acting as a host allowing a USB flash drive to be attached	03-9919-0026
<b>Optional accessories for the non-Ex area</b>	
<b>2-Slot Charger</b> for charging of two Lumen X4 Input voltage: 12 V DC (50 W), Two slot charging dock, power level LED indicators, one 50 power supply can support up to 2 set of dock interconnected	03-9914-0018
<u>Further required components</u>	
Power supply Input: 100-240 VAC, Output: 12VDC, 4.16A, 50W	03-9911-0015
AC Line cord - 3 wired - according to operating conditions	
- AC line cord (EU) - 3 wired	03-9609-0011
- AC line cord (US) - 3 wired	03-9609-0021
<b>2-Slot Battery Charger</b> for charging of two batteries Input voltage: 12 V DC (50 W), two slot charging dock, power level LED indicators and buzzer, one 50 power supply can supports up to 2 set of dock interconnected	03-9914-0019
<u>Further required components</u>	
Power supply Input: 100-240 VAC, Output: 12VDC, 4.16A, 50W	03-9911-0015
AC Line cord - 3 wired - according to operating conditions	
- AC line cord (EU) - 3 wired	03-9609-0011
- AC line cord (US) - 3 wired	03-9609-0021
<b>Vehicle Docking Station</b> Input voltage: DC 9 V up to 36 V, Charging of the Lumen X4 Dimension: 86.7 x 38.5 x 162.5 mm Interfaces: 1 x Terminal block for connection to cigarette lighter	03-9914-0020
<b>Quick Start Guide</b>	B1-A2P4-7E0001

## 12. Additional Information

### 12.1 Links



All original Winmate documents refer to the non-explosion-protected version. Please heed the safety information in the BARTEC manuals when using original Winmate documents.

<http://www.bartec-group.com>

BARTEC website

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

BARTEC download page



## BARTEC

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for safety  
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Challenge us!

