



Safety instructions

**m 515 - Ex**



## Contents

1. Application	15
2. Safety instructions	15
3. Malfunctioning and inadmissible operation	15
4. Safety regulations	16
5. Ex-Data	17
6. Technical Data	17
7. Operating instructions	18
8. Commissioning	18
9. Charging procedure	18
10. Additional modules	18
11. Changing the battery	18
12. Repairs	19
13. Cleaning and maintenance	19
14. Guarantee and liability	19
15. Declaration of EC-Conformity	21
16. EC-Type approval	23
17. Certificate of Compliance	26

## **1. Application**

The m515-Ex is a portable, intrinsically-safe, PalmOS based PDA for industrial use in explosion-endangered areas of zones 1 and 2 according to IEC / CENELEC

## **2. Safety instructions**

This operating manual contains information and safety recommendations which must be complied with in order to guarantee safe functioning of the unit under the conditions described

Please read these operating instructions very carefully before using the unit !

In case of doubt (for example due to mistakes in the translation) the German operating instructions are assumed to be valid.

## **3. Malfunctioning and inadmissible operation**

As soon as one suspects that the safety of the equipment is endangered, it must be taken out of service and immediately removed from the Ex-area. Precautions must be taken to prevent its unintentional reuse. We recommend that the unit be returned to the manufacturer for checking.

For example, the safety of the unit could be endangered when:

- damage to the housing is visible.

- the unit was subjected to improper strain.
- the unit was incorrectly stored.
- the unit was damaged in transit.
- the lettering on the unit is unreadable.
- malfunctioning occurs.
- the permissible limiting values were exceeded.

#### **4. Safety regulations**

In order to exclude incorrect operation of the unit, its use assumes that the user is aware of and complies with the usual safety regulations.


- the unit may not be opened in the Ex-area.
- the accumulator may only be charged with the LG M5\*\* outside the Ex-area.
- It must be ensured that the unit is not taken into Zone 0.
- avoid the use in aggressive acids and alkalis.
- the explosion-protected PDA m515-Ex may only be used in Ex-areas when it is enclosed in the leather case supplied with it.
- It is absolutely essential to ensure that during use, the leather case is completely closed and undamaged.

## 5. Ex-Data



EC-Type-approval

test certificate-no.: ZELM 02 ATEX 0086

Ex-Designation:  II 2 G EEx ia IIC T4

Approved for Zone 1, equipment group II, gas group C explosions-endangered gases, vapours or fog, temperature class T4.



Report Job Identification No.: 3015400

FM-Certification:  
IS Class I Div.1 A-D T4

## 6. Technical Data

Ambient

temperature Ta: 0 ... +45°C

Storage

temperature: -20 ... +60°C

Charging unit: LG M5\*\*

Operating life: approx. 20 hours  
continuous use  
(without display lighting)

Dimensions: 114 x 79 x 18 mm

Weight: approx. 280g

CE-Designation:  0102

## **7. Operating instructions**

Before using the equipment for first time, please read the safety and operating instructions very thoroughly.

## **8. Commissioning**

Please refer to the enclosed original operating instructions.

## **9. Charging procedure**

The m515-Ex can be charged at any time in the docking-station outside the Ex-area using the LG M5\*\* power supply. After removing the leather case, the m515-Ex is then inserted into the docking-station. The charging procedure starts immediately the LG M5\*\* power supply is connected. After completion of the charging procedure and before reuse in the Ex-area, the m515-Ex must be replaced in its leather case.

## **10. Additional modules**

No additional plugged-on modules may be used within the Ex-area.

## **11. Changing the battery**

The accumulator must be replaced by the manufacturer.

## **12. Repairs**

Should repairs be necessary, then the conditions of ELEX V must be complied with. We recommend that repairs be carried out in the manufacturer's factory as it is necessary for the unit to be checked for technical and safety reasons.

## **13. Cleaning and maintenance**

The unit should only be cleaned with a cloth suitable for the purpose. Please refer to the original operating instructions. Detergents or abrasive materials should not be used.

We recommend that the function and accuracy of the unit be checked every two years by the manufacturer.

## **14. Guarantee & liability**

For this product, ecom Instruments GmbH guarantees the function and material for a period of two years under normal operating and maintenance conditions.

The guarantee does not apply to products which are improperly used, modified, neglected, damaged in accidents or exposed to abnormal operating conditions.

Claims under the guarantee can be made by returning the defective equipment to the factory.

We reserve the right to repair, renew the settings or exchange the device.

Claims under the guarantee can be made by returning the defective equipment to the factory. We reserve the right to repair, renew the settings or exchange the device.

The above-mentioned guarantee conditions are the sole and only right of the purchaser to compensation, are exclusively valid and replace all other contract or legal warranty obligations. ecom Instruments GmbH accepts no responsibility for special, direct, indirect, accompanying or consequential damage as well as losses including the loss of data which may arise through the use or acquisition of the equipment independent of whether it was caused by violation of the warranty obligation, lawful or unlawful action, action in good faith or any other action.

If in certain countries the limitation of a legal guarantee as well as the exclusion or limitation of accompanying or consequential damage is not permissible, it may be that the above-mentioned limitations and exclusions are not valid for every purchaser. Should any such clauses of these guarantee terms be declared null and void or not realisable by a competent court, then the effectiveness or enforceability of any of the other conditions of these guarantee terms will be unaffected by the court decision.



## **15. Declaration of EC-Conformity**

**We ecom Instruments GmbH,  
Industriestraße 2, D-97959 Assamstadt**

declare under our sole responsibility that  
the product

**m515-Ex**

to which this declaration relates is in accordance with the provision of the following directives

<b>94/9/EC</b>	Equipment and protective in explosionendangered areas
----------------	---

<b>89/336/EEC</b>	Electromagnetic compatibility
-------------------	-------------------------------

and is in conformity with the following standards or other normative documents

<b>EN 50014:1997</b>	Electrical apparatus for potentially explosive atmospheres General requirements
----------------------	--

**EN 50020:1994**

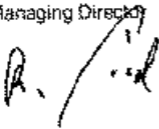
Electrical apparatus for  
potentially explosive  
atmospheres  
Intrinsic safety „i“

All standards mentioned in the attached original operating instructions were complied with.

ecom instruments GmbH

Assamstadt, 28.05.02

Rolf Nied  
Managing Director

A handwritten signature in black ink, appearing to read 'R. Nied', is written over the printed name 'Rolf Nied'.

## 16. EC type approval



Prüf- und Zertifizierungsstelle

ZELM Ex



### (1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

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

(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

**ZELM 02 ATEX 0086**

(4) Equipment: **Palmsize PC type m5"-Ex**

(5) Manufacturer: **ecom instruments GmbH**

(6) Address: **D-97959 Assamstadt**

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

(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0620 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report ZELM Ex 0140212119.

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

**EN 50 014: 1997+A1+A2**

**EN 50 020: 1994**

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

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

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



**II 2 G EEx ia IIC T4**

Zertifizierungsstelle ZELM Ex

  
Dipl.-Ing. Harald Zeim



Braunschweig, May 8, 2002

Sheet 1/2

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

Prüf- und Zertifizierungsstelle ZELM Ex • Seikgraben 96 • D-38124 Braunschweig



Prüf- und Zertifizierungsstelle

ZELM Ex



(13)

## SCHEDULE

(14)

### EC-TYPE-EXAMINATION CERTIFICATE ZELM 02 ATEX 0086

(15)

#### Description of equipment

The Palmsize PC type m5™-Ex is used as an industry-type PDA (Personal Digital Assistant) for mobile data management in the hazardous area. Alternatively an additional SD- or MMC-card may be integrated.

An included IrDA interface enables communication to other equipment by infrared signals on short distances.

The equipment must be charged with the appropriate charging set outside of the hazardous area only.

Inside of the hazardous area it must be wearred with the appropriate leather case which also covers the „Universal Palm Terminal“.

#### Electrical data

Supply circuit

type of protection Intrinsic Safety EEx ia IIC from the built-in battery

The internal circuits are intrinsically safe.

maximum ambient temperature

0 °C to +45 °C

#### References:

The instruction manual has to be considered.

The equipment must be charged with the appropriate charging set type LG M5™ outside of the hazardous area only.

Within the hazardous area the equipment must be wearred with the appropriate leather case.

(16)

#### Report No.

ZELM Ex 0140212119

(17)

#### Special conditions for safe use

not applicable

(18)

#### Essential Health and Safety Requirements

met by standards

Zertifizierungsstelle ZELM Ex

Braunschweig, May 8, 2002

  
Dipl.-Ing. Harald Zelm



Sheet 2/2

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

Prüf- und Zertifizierungsstelle ZELM Ex • Siekgraben 96 • D-38124 Braunschweig



Prüf- und Zertifizierungsstelle

ZELM Ex



### 1. Supplement

(Supplement according to EC-Directive 84/9 Annex 20 letter f)

to EC-type-examination Certificate

ZELM 02 ATEX 0096

(Transition)

Equipment:	Palmasa PC type m <sup>1</sup> -Ex
Manufacturer:	COOP. INDUSTRIAL GEMM
Address:	0112955 Assensano

#### Transition Requirements

The 1. Supplement to EC-type-examination Certificate with Appendix (Annex 20) change of the circuit design without relevant layout changes and the change of the leather case.

The technical data and the marking as well as the reference given by the EC-type-examination Certificate remain unchanged.

The Palmasa PC type m<sup>1</sup>-Ex may may be manufactured in future as accessories with this supplement.

#### Excellence

ZELM Ex 0090217545

#### Special conditions of reference

not applicable

#### Essential parts and safety documents

not by adherence to the standards

EN 50 574: 1997+A1+A2

EN 50 020: 1994

Zertifizierungsstelle ZELM Ex

1494 - Ing. Filippo Zecchi



Braunackerstr. Reichenau 23, 2002

Sheet 1 / 1

EC-type-examination Certificate without number and date are not valid. The certificate with date and number without date and number are subject to approval by the Prüf- und Zertifizierungsstelle ZELM Ex. In the case of dispute, the Certificate and date prevail.

Prof. Dr. Ingeborg Wenzel, 2002/11/15 - Assensano, 20 - 11100/14 Braunschweig

# 17. Certificate of Compliance



FM Approvals  
1151 Boston-Providence Turnpike  
P.O. Box 9102 Norwood, MA 02062 USA  
T: 781 762 4300 F: 781 762 9375 www.fmaglobal.com

## CERTIFICATE OF COMPLIANCE

### HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

**Palmsize PC type m515-Ex.**

IS / I / 1 / ABCD / T4 Ta = 45°C;

NI / I / 2 / ABCD / T6 Ta = 45°C

Special Condition of Use:

1. When use with batteries meeting the requirement of ecom test procedure 0150PA01A00.

Equipment Ratings:

Intrinsically Safe for use in a Class I, Division 1, Groups A, B, C, & D and as Nonincendive for use in a Class I, Division 2, Groups A, B, C, & D with a Temperature class of T4 at Ta = 45°C

Approved for:

ecom instruments GmbH  
Industriestrasse 2  
D-97959 Assamstadt, Germany

FM Approvals HLC 802

3015400  
Page 1 of 2





**ecom instruments GmbH**

Industriestr. 2

D-97959 Assamstadt

Tel.: + 49 (0) 62 94 / 42 24 0

Fax: + 49 (0) 62 94 / 42 24 90

E-Mail: [sales@ecom-ex.com](mailto:sales@ecom-ex.com)

Internet: [www.ecom-ex.com](http://www.ecom-ex.com)