The ATEX Directive and IEC Standards

The ATEX name derives from French: ATmospehére EXplosible.

The primary purpose of the.*Directive 94//9/EC of the European Parliament and the Council of 23 March 1994* – the ATEX directive - is to protect the workforce against the risk of explosions in working environments. The directive sets out essential requirements only, and the requirements have been defined in detail in the following standards:

- European standard EN 50014
- European standard EN 50020

International Electrotechnical Commission (IEC) has developed standards parallel to the European standards:

- International standard IEC 60079-0
- International standard IEC 60079-11

The standards are not all compulsory, but describe approved methods on how to comply with the purpose of the directive. The national implementation of the standards is secured by national legislation, typically by authorities and ministries regulating working environments, fire protection etc.

Local implementation of the standards is secured by fire protection agencies and organisations. They will direct companies with potentially explosive working environments on how to define the different classes of zones in potential explosive environments.

The KIRK 4080 handset has been approved (certified) by Danish UL Demko to comply with the ATEX directive. For specific national regulations, you may have to contact your national authorities

For a list of members of Cenelec (European standards) and IEC (International standards), please refer to annex 1 and 2 respectively.

EN 50014

Different categories and standards are defined for electrical apparatus to be used in potentially explosive areas:

Equipment Groups

Equipment Group I	Equipment intended for use in underground parts in mines.
Equipment Group II	Equipment intended for use in other areas than mines (above ground) in areas in which explosive atmospheres caused by 1: mixtures of air and gases, vapours or mists or by air/dust mixtures are present continuously, for long periods or frequently.

2: gases, vapours or mists or air/dust mixtures are likely to occur.

3: gases, vapour, mists, or air/dust mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only

KIRK 4080 is in equipment group II

- Equipment group II 2G (gas)
- Equipment group II 3D (dust)

Zone classification

Hazardous areas are classified in different zones according to the time-related and local probability of the presence of a dangerous explosive atmosphere (defined in ElexV and installation specifications DIN VDE 0165/2.91)

Zone	Area covered	Examples
Zone 0	Areas in which there is a continuous or long-term dangerous explosive atmosphere	In the interior of vessels or equipment (evaporators, reaction vessels, etc.)
Zone 1	Areas in which the occasional occurrence of a dangerous, explosive atmosphere can be expected	Immediate vicinity of zone 0; immediate vicinity of charging doors, in the area of filling and discharge equipment or lines made of glass, ceramics and the like; in the close vicinity of insufficiently tight packing glands, e.g. on pumps, gate valves within equipment such as evaporators, reaction vessels
Zone 2	Areas in which the occurrence of a dangerous, explosive atmosphere can be expected, but only rarely and briefly	Areas surrounding zones 0 and 1; in the close vicinity of flange joints with flat packings of the usual design on piping in enclosed rooms

Electrical apparatus in equipment group II1 may be used in zone 0, II2 apparatus in zone 1, and II3 apparatus in zone 2. (Some authorities may use zone 0, 1, 2 for gas zones, and 20, 21, and 22 for dust zones).

Types of protection (IEC 60079-0)

Different types of protection may be applied to secure electrical apparatus for use in potentially explosive areas

- o: oil immersion
- p: pressurization
- q: powder filling
- d: flameproof enclosure
- e: increased safety
- ia: intrinsic safety, category ia
- ib: intrinsic safety, category ib
- m: encapsulation

The type of protection selected for the KIRK 4080 is intrinsic safety "ib": Electrical equipment is designated as intrinsically safe when all the circuits it contains are intrinsically safe. An intrinsically safe circuit is a circuit in which the short-circuit current and no-load current are limited so that sparks ant thermal effects capable of causing ignition cannot occur in normal operation or during a malfunction. This means that the energy in an intrinsically safe circuit is less than the minimum ignition energy required for igniting an ignitable mixture.

"Ib": intended for installation in zones 1 and 2. No ignition must be caused by the following operational states: normal operation and occurrence of a fault.

For the types of protection "ib" intrinsic safety, electrical apparatus of Group II is subdivided into IIA, IIB, and IIC as required in the specific European Standards concerning those types of protection. This subdivision is based on the maximum experimental safe gap (MESG) for flameproof enclosures or the minimum ignition current (MIC) for intrinsically safe electrical apparatus.

(Apparatus marked IIB is suitable for applications requiring Group IIA apparatus. Similarly, apparatus marked IIC is suitable for applications requiring Group IIA or Group IIB apparatus).

KIRK 4080 is marked IIC (relevant for gas).

Temperatures (IEC 60079-0)

Apparatus of Group II shall be marked as a function of its maximum surface temperature

Temperature Class	Maximum surface temperature ºC
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

KIRK 4080 is marked T3

Ambient temperatures in service and additional marking

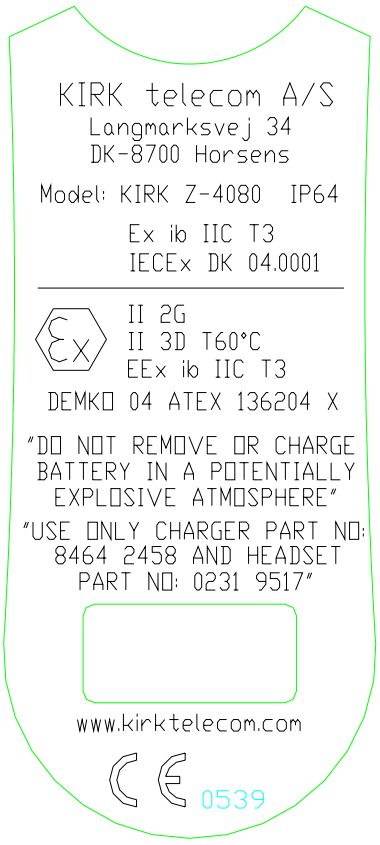
Electrical apparatus	Ambient temperature in service	Additional marking
Normal	Maximum: +40 ºC Minimum: - 20 ºC	None
Special	Special range stated by the manufacturer and specified in the certificate	Ta or Tamb with the special range, for example "-30 ºC ≤ Ta ≤ 40 ºC" or the symbol "X"

KIRK 4080 is not marked, as the ambient temperatures for the handset are 0 ºC - +40 ºC, and thereby within the "normal" category.

Label information

SN: 00077 0612630 4
00W36
HW PCS: 4
SW PIE: 1

Serial number
Production date (year 2000, week 36)
Hardware version
Software version



Name and address of manufacturer

KIRK Z-4080	Product name
IP64	IP 64 classification
Ex	KIRK Z-4080 is approved according to International standards
ib	Intrinsic safe, ib category
IIC	Equipment group II, ib group C (gas group C)
T3	Temperature group T3 (relevant for gas)
IECEx.....	International standards/country code for notified body/year/certification number

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II 2G	Equipment group II, zone 1 (gas)
II 3D	Equipment group II, zone 2 (dust)
T60ºC	Max. surface temperature of KIRK Z-4080 in use
Ex logo	Specific marking of explosion protection
EEx	KIRK Z-4080 is approved according to European standards
ib	Intrinsic safe, ib category
IIC	Equipment group II, ib group C (gas group C)
T3	Temperature group T3 (relevant for gas)
Demko.....	Name of notified body/year/certification number
X	Special warnings concerning the use of KIRK Z-4080 exist, please refer to the users guide
CE 0539	Demko identification number

Warnings

For safe use of KIRK 4080, please remind the following:

- Please consult your system manager for instruction before using KIRK 4080
- Do not open KIRK 4080 in a potentially explosive atmosphere
- Use only the dedicated charger **8464 2458** (orange) for charging KIRK 4080
- The AC power adaptor used in connection with the charger must **not** be connected to a higher voltage than 250V AC.
- Do not charge KIRK 4080 in a potentially explosive atmosphere
- Use only battery pack **8474 3416** for battery replacement
- The leather pouch **0231 9543 must** be used with KIRK 4080
    1. In dry areas with humidity conditions of less than 60%
    2. When the user is wearing clothes that could cause electrostatic charging of the handset
- If defects occur, remove KIRK 4080 immediately from the potentially explosive atmosphere
- Only KIRK telecom A/S may repair and service KIRK 4080
- Relevant data concerning repairs must be logged
- For traceability it is advisable to keep a record of type- and serial numbers of the handsets, as well as the name of users of the handset

Installation

The KIRK base station is not ATEX or IEC approved. If the potentially explosive area is too large for the base station to be placed outside the potentially explosive area, the base station must be placed in an ATEX approved box. Such boxes, and other parts for electronic installations are available at most electronic dealers.

We may also refer you to Com+, Germany, where you will be able to buy the following ATEX approved box:

Technical data of the ATEX approved box

Authorization: CE0344 EX II 2 GD EEx T6 T80 C IP65
Polyester, fibre glas, halogen free
Protection: IP65 / EN 60529
Ambient temperature: From -40 C to +40 C
Attenuation: about 2-5 meters shorter range.
COMplus price: net, ex works: EUR 145 each
More than 50 pcs. EUR 125 each.
Delivery time: 2-3 weeks

Please contact

Complus Kommunikationssysteme GmbH
Am Mühlenflies 60
D - 03205 Calau
Telephone +49 (0) 3541 8710-0

Fax no. +49 (0) 3541 8710-25
Contact: Michael Andrée
E-mail: complus@complus-dect.de
Homepage: www.complus-dect.de

Annex 1 Members of Cenelec (www.cenelec.org)

The 28 current CENELEC members are national organizations entrusted with electrotechnical standardization, recognized both at National and European level as being able to represent all standardization interests in their country. Only one organization per country may be member of CENELEC.

Our members are:

Austria	Belgium	Cyprus	Czech Republic	Denmark	Estonia	Finland
France	Germany	Greece	Hungary	Iceland	Ireland	Italy
Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland
Portugal	Spain	Slovakia	Slovenia	Sweden	Switzerland	United Kingdom

AUSTRIA - ÖVE

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Eschenbachgasse 9
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Fax: + 43 1 586 74 08
Email: ove@ove.at
http://www.ove.at

BELGIUM - BEC-CEB

Comité Electrotechnique Belge
Belgisch Elektrotechnisch Comité
Boulevard Auguste Reyers 80
B - 1030 BRUSSELS

Tel: + 32 2 706 85 70
Fax: + 32 2 706 85 80
Email: centraloffice@bec-ceb.be
http://www.bec-ceb.be

CYPRUS - CYS

Cyprus Organization for the Promotion of Quality
Ministry of Commerce, Industry and Tourism
CY - 1421 NICOSIA

Tel: + 357 22 86 71 00
Fax: + 357 22 75 41 03
Email: mcicys@cytanet.com.cy
http://www.cys.mcit.gov.cy

CZECH REPUBLIC - CSNI

Czech Standards Institute
Biskupsky dvur 5
CZ - 110 02 PRAHA 1

Tel: + 420 221 802 100
Fax: + 420 221 802 311
Email: extrel@csni.cz
http://www.csni.cz

DENMARK - DS

Dansk Standard
Electrotechnical Sector
Kollegievej 6
DK - 2920 CHARLOTTENLUND

Tel: + 45 39 96 61 01
Fax: + 45 39 96 61 03
Email: dansk.standard@ds.dk
http://www.ds.dk

ESTONIA - EVS

Estonian Centre for Standardization
Aru Street, 10
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Fax: + 372 605 50 70
Email: info@evs.ee
http://www.evs.ee

GERMANY - DKE

Deutsche Kommission Elektrotechnik Elektronik Informationstechnik im DIN und VDE
Stresemannallee 15
D - 60 596 FRANKFURT AM MAIN

Tel: + 49 69 63 08 332
Fax: + 49 69 96 31 52 18
Email: dke.zbi@vde.com
http://www.dke.de

FINLAND - SESKO

Standardization in Finland
Särkiniementie 3
P.O. Box 134
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Fax: + 358 9 677 059
Email: finc@sesko.fi
http://www.sesko.fi

FRANCE - UTE

Union Technique de l'Electricité et de la Communication
Avenue du Général Leclerc 33
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Tel: + 33 1 40 93 62 00
Fax: + 33 1 40 93 44 08
Email: ute@ute.asso.fr
http://www.ute-fr.com

GREECE - ELOT

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http://www.elot.gr

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HUNGARY - MSZT

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Fax: + 361 45 66 823
Email: isoline@mszt.hu
http://www.mszt.hu

ICELAND - IST

Icelandic Standards
Laugavegur- 178
IS - 105 REYKJAVIK

Tel: + 354 520 7150
Fax: + 354 520 7171
Email: stadlar@stadlar.is
http://www.stadlar.is

IRELAND - ETCI

Electro-Technical Council of Ireland Limited
Unit H12, Centrepoint Business Park
Oak Road
IRL - DUBLIN 12

Tel: + 353 1 807 3905
Fax: + 353 1 807 3838
Email: etci@nsai.ie
http://www.etci.ie

ITALY - CEI

Comitato Elettrotecnico Italiano
Via Saccardo, 9
I - 20134 MILANO

Tel: + 39 02 21 00 61
Fax: + 39 02 21 00 62 10
Email: cei@ceiuni.it
http://www.ceiuni.it

LATVIA - LVS

Latvian Standard
K. Valdemara Street, 157
LV - 1013 RIGA

Tel: + 371 7371 308
Fax: + 371 7371 324
Email: lvs@lvs.lv
http://www.lvs.lv

LITHUANIA - LST

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LT - 2600 VILNIUS

Tel: + 370 5 270 93 60
Fax: + 370 5 212 62 52
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http://www.lsd.lt

LUXEMBOURG - SEE

Service de l'Energie de l'Etat - Organisme Luxembourgeois de Normalisation
B.P. 10
L - 2010 LUXEMBOURG

Tel: + 352 46 97 461
Fax: + 352 46 97 46 39
Email: see.normalisation@eg.etat.lu
http://www.see.lu

MALTA - MSA

Malta Standards Authority
Second Floor, Evans Building
Merchants Street
MT - VLT 03 VALLETTA

Tel: + 356 21 24 24 20
Fax: + 356 21 24 24 06
Email: francis.farrugia@msa.org.mt
http://www.msa.org.mt

NETHERLANDS - NEC

Netherlands Elektrotechnisch Comité
Vlinderweg, 6
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Tel: + 31 15 269 03 90
Fax: + 31 15 269 01 90
Email: nec@nen.nl
http://www.nen.nl

NORWAY - NEK

Norsk Elektroteknisk Komite
Strandveien 18
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Tel: + 47 67 83 31 00
Fax: + 47 67 83 31 01
Email: post@nek.no
http://www.nek.no

POLAND - PKN

Polish Committee for Standardization
ul. Swietokrzyska, 14
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Tel: + 48 22 55 67 591
Fax: + 48 22 55 67 786
Email: intdoc@pkn.pl
http://www.pkn.pl

PORTUGAL - IPQ

Instituto Português da Qualidade
Rua António Gião, 2
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Tel: + 351 21 294 81 00
Fax: + 351 21 294 81 01
Email: ipq@mail.ipq.pt
http://www.ipq.pt

SPAIN - AENOR

AENOR

Asociación Española de Normalización y Certificación
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E - 28004 MADRID

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Fax: + 34 91 310 45 96 (or 310 36 95, Standardization Department)
Email: norm.clciec@aenor.es
http://www.aenor.es

SLOVAKIA - SEV

IEC Slovak Electrotechnical Committee

Slovak Electrotechnical Committee
Slovak Standards Institution
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P.O. Box 246
SK - 840 00 BRATISLAVA 4

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Fax: + 421 2 6541 1888
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http://www.sutn.gov.sk

SLOVENIA - SIST

SIST

Slovenian Institute for Standardization
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Fax: + 386 1 478 30 94
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http://www.sist.si

SWEDEN - SEK

SEK Svenska Elektriska Kommissionen

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Fax: + 46 84 44 14 30
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http://www.sekom.se

SWITZERLAND - CES

electrosuisse

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UNITED KINGDOM - BEC

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Annex 2: Members of IEC (www.iec.ch)

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes international standards for all electrical, electronic and related technologies. These serve as a basis for national standardization and as references when drafting international tenders and contracts.

Through its members, the IEC promotes international cooperation on all questions of electrotechnical standardization and related matters, such as the assessment of conformity to standards, in the fields of electricity, electronics and related technologies.

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