



ATEX

ATEX 100a Directive Safety of Apparatus

Directive 94/9/EC

(23 March 1994)

Provisional 1 March 1996 Mandatory 1 July 2003

(Existing Parallel Directive 76/117/EEC + amendments will be repealed on 1 July 2003)

Directive requirements (Annex I)

◆ Categorisation of equipment

Essential Safety Requirements (ESR) include:

- ◆ Principle of integrated safety
- ◆ Consideration of environment
- ◆ Marking
- ◆ Instructions
- ◆ Choice of materials
- ◆ Potential ignition sources
- ◆ Risk caused by software
- ◆ Risk from gas, vapour, mist and dust



ATEX 137 Directive Safety of Installation

Directive 1999/92/EC

(16 December 1999)

Implementation date 1 July 2003

INTENTIONS

Prevent explosive atmospheres
If not: Avoid ignition of explosive atmospheres
If not: Mitigate effects of explosion

REQUIREMENTS

Assess the risk overall - produce explosion protection document

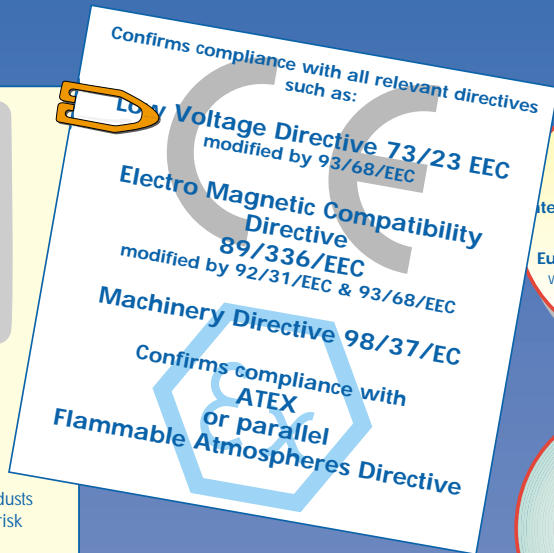
INCLUDE

Probability of explosive atmosphere
Probability of ignition source
Nature of flammable materials
Scale of effect of explosion

- area classification
- equipment categories
- gas groups: ignition temperature; dusts
- personnel, environment and plant risk

IN ADDITION

Requirements for training and marking



Additional Reading

European (CENELEC) standards
www.cenelec.org
International (IEC) standards
www.iec.ch
European (ATEX) directive
www.europa.eu.int/comm/enterprise/atex/index.htm

Equipment & protective systems intended for use in potentially explosive atmospheres (DTI)

Technical papers (TPs) from MTL



Measurement Technology products are manufactured under a quality system in accordance with BS EN ISO 9001:1994

APPARATUS MARKING

Name & address of manufacturer

CE mark
Number indicates notified body responsible for surveillance

Manufacturer's type identification

ATEX group and category

CENELEC marking

Ambient temperature (-20°C to 40°C if not marked)

Apparatus certificate number

Apparatus parameters

Year of manufacture & serial no.

Hazardous area	Zone 1	Zone 2	Non-hazardous area
Intrinsically safe apparatus	Type 'n' apparatus	Type 'n' apparatus	Non-certified apparatus
Universal Supplies Ltd Railway Arches Swindon, Wilts United Kingdom	MTL Instruments Group plc Power Court Luton, Beds LU1 3JJ United Kingdom	MTL Instruments Group plc Power Court Luton, Beds LU1 3JJ United Kingdom	MTL Instruments Group plc Power Court Luton, Beds LU1 3JJ United Kingdom
CE 0999	CE	CE 0600	CE 0600
Trans type 100	8505-BI-MB	MTL 4044	MTL 4044
II 2G	II 3G	II [I]G	II [I]G
EEx ib IIC T4	EEx n AL IIC T4	[EEx ia] IIC	[EEx ia] IIC
-40°C ≤ Ta ≤ 70°C	-40°C ≤ Ta ≤ 70°C	-20°C ≤ Ta ≤ 60°C	-20°C ≤ Ta ≤ 60°C
ACB 00 ATEX 9999	MTL 98 ATEX 8505	BAS 99 ATEX 7061	BAS 99 ATEX 7061
U _i :30V I _i :200mA P _i :1W C _i :2nF L _i :10μH	U _i :12V I _i :250mA C _i :100pF L _i :10μH	U _o :28V I _o :93mA P _o :0,65W C _o :83nF L _o :4,3mH L _o /R _o : 56μH/Ω U _m :250V	U _o :28V I _o :93mA P _o :0,65W C _o :83nF L _o :4,3mH L _o /R _o : 56μH/Ω U _m :250V
Serial No. 991234	Serial No. 014321	Serial No. 002431	Serial No. 002431

Resultant system is ib IIC with cable parameters of C_c: 81nF L_c: 4,3mH L_c/R_c: 56μH/Ω

All MTL products bearing the BASEEFA licence mark are manufactured under a quality control system satisfying the ATEX 100a Directive



This is a summary of the two directives; read the originals for full details

Have you received the companion Flammable Facts poster? Contact your local MTL office

CERTIFICATION REQUIREMENTS

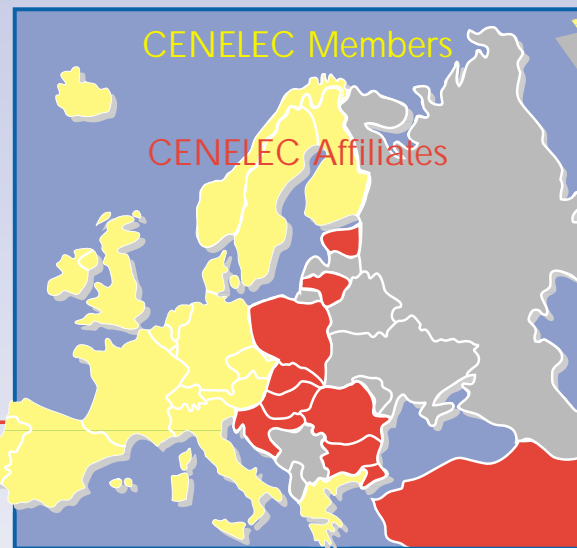
Equipment category	1	2 Electrical	2 Non-electrical	3	Annex of 100a Directive
CERTIFICATION PHASE					
Certification by notified body	✓	✓			III
Certification by manufacturer			✓	✓	VIII
Unit verification by notified body		UNIVERSAL OPTION			IX
SURVEILLANCE					
QA of production by notified body	✓				IV
QA of product by notified body		✓			VII
QA by manufacturer			✓	✓	VIII

Note: Internal combustion engines are electrical equipment. Unit verification is normally used for special small quantity apparatus

SURFACE INDUSTRY (II) Equipment category & intended use

Equipment category	Level of protection	Area classification
II1 G D	Two independent faults (ia) Two types of protection	Zone 0 (gas) Zone 20 (dust)
II2 G D	One fault (ib) One type of protection	Zone 1 (gas) Zone 21 (dust)
II3 G D	Safe in normal operation (n)	Zone 2 (gas) Zone 22 (dust)

Mining industries (I) has categories M1 and M2



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