

### SAFETY OF EQUIPMENT

DIRECTIVE 94/9/EC 23 March '94 Implementation date 1 July '03

#### SCOPE - THE ARTICLES

- Placing on the market and putting into service
- Equipment and protective systems for use in potentially explosive atmospheres
- Conformity assessment procedures

#### EQUIPMENT GROUPS & CATEGORIES - ANNEX I

#### ESSENTIAL HEALTH & SAFETY REQUIREMENTS - (EHSR's) - ANNEX II

- Principle of integrated safety
- Consideration of environment
- Marking
- Choice of materials
- All potential ignition sources
- Risk caused by software
- Risk from gas, vapours, mist and dust

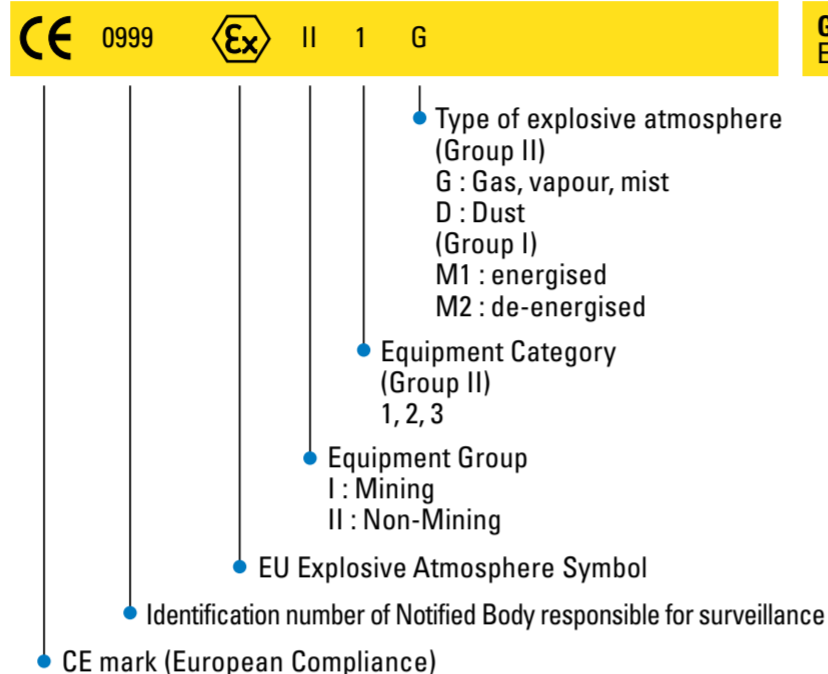
#### UK IMPLEMENTATION

Statutory Instrument SI 1996, No. 192 and amendments.  
Office of Public Service Information ([www.opsi.gov.uk](http://www.opsi.gov.uk))  
Equipment and Protective Systems Regulation (EPS Regulation)

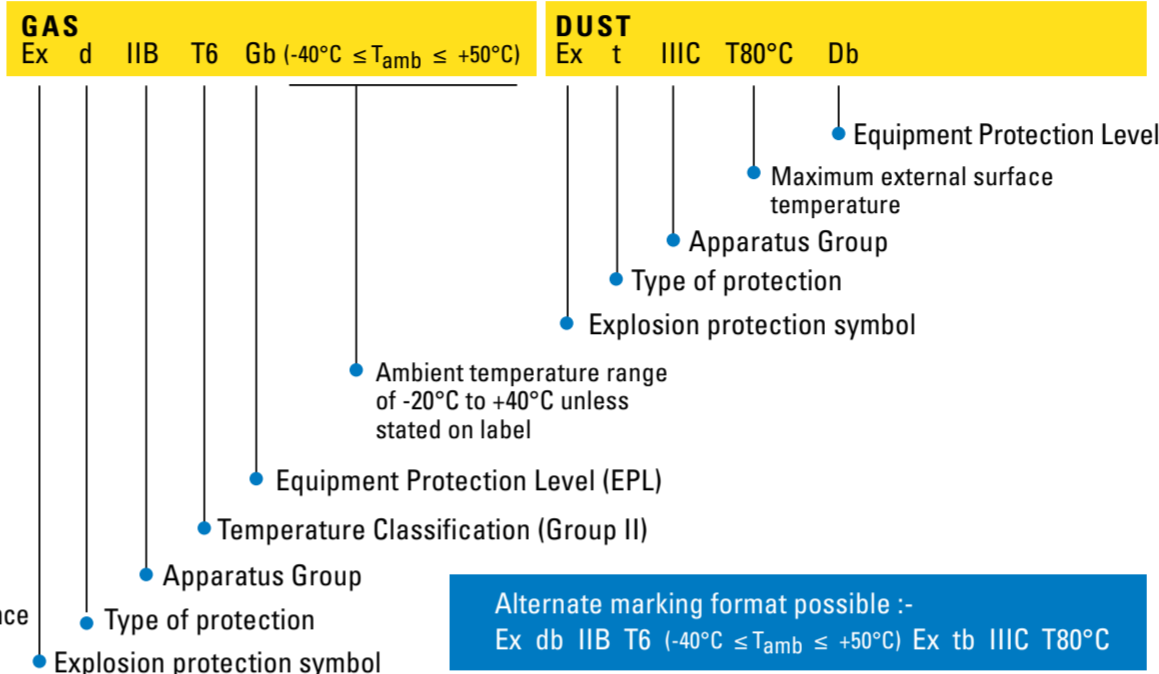
Your country implementation.....

### EQUIPMENT MARKING

#### ATEX (European Union)



#### IEC/CENELEC (Global/Europe)



Alternate marking format possible :-  
Ex db IIB T6 (-40°C ≤ Tamb ≤ +50°C) Ex tb IIIC T80°C

For further explanation of gas, temperature, area classification and the various types of electrical protection please refer to [Eaton's MTL flammable facts poster](#)

### SAFETY OF THE INSTALLATION

DIRECTIVE 1999/92/EC 16 December '99 Implementation date 1 July '03

#### SCOPE - THE ARTICLES

- Prevention, avoidance, mitigation
- Assessment of explosion risks
- Classify into hazardous zones
- Explosion protection document

#### CLASSIFICATION OF PLACES WHERE POTENTIALLY EXPLOSIVE ATMOSPHERES MAY OCCUR - ANNEX I

- Hazardous zones - gas, vapours or mist and combustible dusts

#### MINIMUM REQUIREMENTS FOR IMPROVING SAFETY & HEALTH - ANNEX II

- Training, working procedures
- Criteria for selection of equipment and protective systems

#### WARNING SIGN WHERE EXPLOSIVE ATMOSPHERES MAY OCCUR - ANNEX III

#### UK IMPLEMENTATION

Dangerous Substances & Explosive Atmosphere Regulation 2002.  
Health & Safety Executive.  
([www.hse.gov.uk/fireandexplosion/dsear.htm](http://www.hse.gov.uk/fireandexplosion/dsear.htm))

Your country implementation.....

### CE MARK CONFIRMS COMPLIANCE WITH ALL RELEVANT DIRECTIVES SUCH AS:

Low Voltage Directive 2006/95/EC

Electro Magnetic Compatibility 2004/108/EC

Machinery Directive 2006/42/EC

ATEX or parallel Flammable Atmospheres Directive 94/9/EC

### EXAMPLES OF BODIES NOTIFIED UNDER DIRECTIVE 94/9/EC

Organisation	Identification No
SGS Baseefa	1180
TÜV Nord Group	0158
DNV	0344
LCIE	0081
PTB	0102
TÜV Product Service GmbH	0123

Full list can be found on:  
<http://ec.europa.eu/enterprise/atex/nb/nblst.htm>

### ATEX GUIDELINES FOURTH EDITION

Guidelines on the application of European Parliament and Council Directive 94/9/EC of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres.

Visit: [http://ec.europa.eu/enterprise/sectors/mechanical/files/atex/guide/atex-guidelines\\_en.pdf](http://ec.europa.eu/enterprise/sectors/mechanical/files/atex/guide/atex-guidelines_en.pdf)



### COMPLIANCE

Compliance with the ATEX Directive 94/9/EC can be demonstrated by using the Harmonised European Standards. Reference to these standards relating to the various methods of electrical protection can be found on Eaton's MTL flammable facts poster or the EU ATEX website listed below.

### NEW ATEX DIRECTIVE

A new ATEX equipment directive 2014/34/EU, dated 26th February 2014 has been published, as part of the New Legislative Framework (NLF).

Compliance will be mandatory for all manufacturers from 20th April 2016.

### SURFACE INDUSTRY ATEX EQUIPMENT CATEGORY & INTENDED USE

Equipment category	Level of protection	Area classification
II 1G 1D	Two independent faults (ia) or Two types of protection	Zone 0 (gas) Zone 20 (dust)
II 2G 2D	One fault (ib) or One type of protection	Zone 1 (gas) Zone 21 (dust)
II 3G 3D	Safe in normal operation (n)	Zone 2 (gas) Zone 22 (dust)

Mining industries (I) has categories M1 and M2

### CERTIFICATION REQUIREMENTS

Equipment category	1	2 Electrical	2 Non-electrical	3	Annex of 100a Directive
<b>CERTIFICATION PHASE</b>					
Certification by notified body	✓	✓			III
Certification by manufacturer			✓	✓	VIII
Unit verification by notified body		UNIVERSAL OPTION			IX
<b>SURVEILLANCE</b>					
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

European (ATEX) Directive [http://ec.europa.eu/enterprise/atex/index\\_en.htm](http://ec.europa.eu/enterprise/atex/index_en.htm)  
European (CENELEC) standards [www.cenelec.eu](http://www.cenelec.eu)  
International (IEC) standards [www.iec.ch](http://www.iec.ch)

### 'SIMPLE APPARATUS' & THE ATEX DIRECTIVES

Simple apparatus has been in use as a valuable part of intrinsically safe systems for many years. It was necessary to reassess the use of this apparatus with the introduction of the two ATEX directives. The following has been agreed at EU level; "Simple apparatus is considered not to require certification by a notified body. The responsibility for compliance with the relevant parts of the standard rests with the persons claiming compliance. Certification to the ATEX Directive is not required because of the low levels of energy, which are added to the intrinsically safe circuit by this apparatus. Simple apparatus is required to be clearly identified when it is installed."

### GUIDE OF GOOD PRACTICE RELATING TO DIRECTIVE 1999/92/EC

A non-binding code of practice was published in 2003 identifying how this directive could be implemented, a link can be found on the web site -

[http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/-en\\_GB/-EUR/ViewPublication-Start?PublicationKey=KE6404175](http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/-en_GB/-EUR/ViewPublication-Start?PublicationKey=KE6404175)



Eaton's MTL product range is manufactured under a quality management system in accordance with BS EN ISO 9001:2008

### THE NEW APPROACH

To gain a better understanding of directives based on the new approach to technical harmonisation and global approach to conformity assessment e.g. ATEX, Pressure Equipment, Machinery directives, refer to the European Commissions guide available to order or download from:

<http://ec.europa.eu/DocsRoom/documents/4942/attachments/1/translations/en/renditions/pdf>

### FUNCTIONAL SAFETY IEC 61508

Safety Instrumented systems are widely used in industrial process plants where there is threat to life or environment should something go wrong. The IEC 61508 set of standards 'Functional safety of electrical / electronic / programmable electronic safety-related systems' are now considered industry 'good practice' for both manufacturers and users designing products and systems for safety related applications.

Our application note AN9025 provides an introduction to the subject.

MTL Instruments are members of 'The 61508 Association'

**The 61508 Association**  
<http://www.61508.org/>



### QUALITY ASSURANCE NOTIFICATION

**SGS Baseefa (2001) Ltd**  
Measurement Technology Ltd SGS Baseefa ATEX 0703  
Eaton's MTL products are manufactured under a quality control system satisfying the ATEX Directive