

Hazardous areas (zone classification)

Europe (certification according to ATEX)

Starting on July 1, 2003, all products for hazardous areas put into circulation in the EU market have to be manufactured in compliance with the new guideline 94/9/EC. However, equipment that has already been installed before this date will not have to be replaced by instruments that are in accordance with the new ATEX guideline. The main differences to former guidelines are as follows:

- Stipulation of fundamental safety requirements and validity for complete protective systems.
- Dust explosion protection is covered by the new guideline.
- Classification of the instruments by categories, which in turn may be used in specific zones.
- The manufacturer's quality system has to comply with particular requirements and has to be certified by a notified body.

The new classification by categories and zones is as follows:

Group II: Electrical equipment for use in all areas (except mines) which are endangered by an explosive atmosphere.

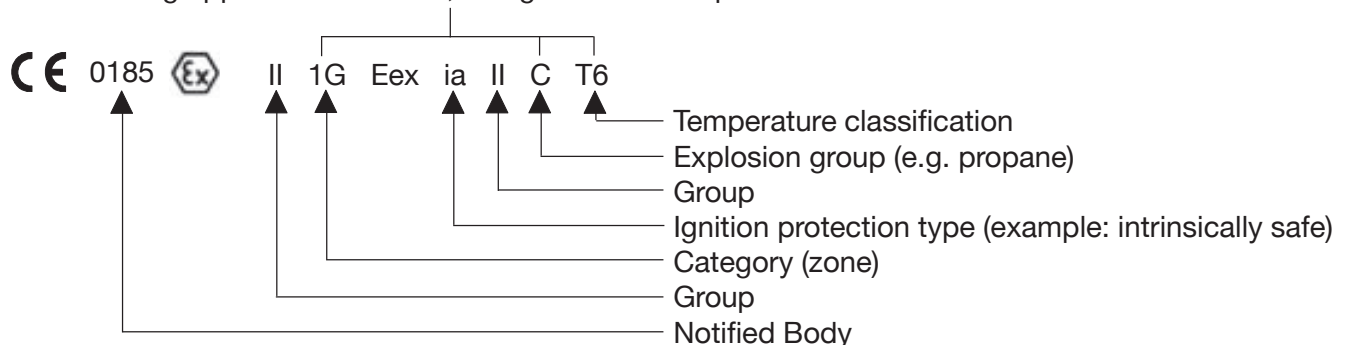
Zone	Category	Occurrence of explosive atmosphere
Zone 0	Category 1G (gas)	Continuous
Mounting to zone 0	Category 1/2 G	
Zone 20	Category 1D (dust)	Intermittent
Zone 1	Category 2G	
Zone 21	Category 2D	
Zone 2	Category 3G	Hazard under abnormal conditions
Zone 22	Category 3D	

Group I: Electrical equipment for use in mines (hazard due to mine gas)

Zone	Category	Occurrence of explosive atmosphere
	Category M1	Existing (methane, dust)
	Category M2	In high probability (methane, dust)

The new ATEX marking (example):

This marking applies for all zones, categories and temperature classes.



Comparison between North America and Europe

In the USA and Canada the hazardous areas are classified by classes und divisions. In comparison to the European regulations this classification is as follows:

	Europe		North America	
	Hazardous substance	(Explosion) group	Class	(Explosion) group
Above ground	Explosive gases and vapours	II A / II B / II C	I	A / B / C / D
	Explosive dusts		II	E / F / G
	Explosive fibres		III	
Mining	Mine gases and dusts	I	ID/IIF	

Europe	Zone 0 (Zone 20 dust)	Zone 1 (Zone 21 dust)	Zone 2 (Zone 22 dust)
North America	Division 1		Division 2

Classification North America (example):

Explosion proof for Class I Division 1 Groups A, B, C, D

WIKA

WIKA TRONIC covers all categories and zones with the ignition protection type “intrinsically safe” according to the new “European ATEX” classification.

With regard to North American approvals (USA: Factory Mutual / CSA: Canadian Standard Association) TRONIC covers all classes and divisions with intrinsically safe, explosion proof and non-incendive instruments.

**Explosion proof (E-1X) /
non-incendive (N-1X)**



E-1X



N-1X

Intrinsic safety



IUT-1X



IS-1X



IF-1X



IL-10

Contact

Tino Reppe TR-IP-IT
 Phone +49 93 72/132-707
 Fax +49 93 72/132-138
 E-Mail t.reppe@wika.de