



ATEX Equipment marking

SPECIFIC MARKING



Specific marking of explosion protection		GROUP		Category		Suitable for zone		ZONE (explosive atmosphere owing to)	
I	Equipment intended for use in underground parts of mines as well as those parts of surface installations of such mines endangered by firedamp and/or combustible dust	M1	n/a	1	0, 1, 2, 20, 21, 22	G	Gases, vapours or mists	D	Dusts
II	Comprises equipment intended for use in other places likely to become endangered by explosive atmospheres.	M2	n/a	2	1, 2, 21, 22	GD	Gases, vapours, mists or dusts		
		3	2, 22						(group II only)

Group	Category	Level of protection	Performance of protection	Conditions of operation	Supplementary requirements (ATEX guidelines)	Zone		Probability of explosive atmosphere formation
						G	D	
I	M1	Very high	Two independent means of protection or safe even when two faults occur independently of each other	Equipment remains energised and functioning when explosive atmosphere present	• § 2.0.1 annex II • (Annex III, IV, V) or (Annex IX) (see § 8)	n/a	n/a	ASSURED
I	M2	High	Suitable for normal operation and severe operating conditions.	Equipment de-energised when explosive atmosphere is recognised	• § 2.0.2 annex II • (Annex III, VI, VII) or (Annex IX) (see § 8)	n/a	n/a	ASSURED
II	1	Very high	Two independent means of protection or safe even when two faults occur independently of each other	Equipment remains energised and functioning in Zones 0, 1, 2(G) and/or 21, 22(D)	• § 2.1 annex II • (Annex III, IV, V) or (Annex IX) (see § 8)	0 1 2	20 21 22	HIGHLY LIKELY
II	2	High	Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account	Equipment remains energised and functioning in Zones 1, 2(G) and/or 21, 22(D)	• § 2.2 annex II • (Annex III, VI, VII) or (Annex IX) (see § 8)	1 2	21 22	LIKELY
II	3	Normal	Suitable for normal operation	Equipment remains energised and functioning in Zone 2(G) and/or 22(D)	• § 2.3 annex II • Annex VIII or Annex IX (see § 8)	2	22	UNLIKELY

ADDITIONAL MARKING

EEx ia IIC T1...T6

Indicates that the product corresponds to one or more of the types of protection which are the subject of these specific European Standards

Symbol of the type of protection	European Standards
o	Oil immersion EN 50015 / EN 60079-6
p	Pressurisation EN 50016 / EN 60079-2
q	Powder filling EN 50017 / EN 60079-5
d	Flameproof EN 50018 / EN 60079-1
e	Increased safety EN 50019 / EN 60079-7
ia	Intrinsic safety ia EN 50020 / EN 60079-11
ib	Intrinsic safety ib EN 50020 / EN 60079-11
m	Encapsulation EN 60079-18
n	Non-incendary EN 50021 / EN 60079-15

Explosion groups	
I	For group I
IIA	For group II type of protection i, d, q; materials subdivision A annex A of EN 50014:1997 / EN 60079-0:2004; MIC > 0.8 *
IIB	For group II type of protection i, d, q; materials subdivision B annex A of EN 50014:1997 / EN 60079-0:2004; 0.45 ≤ MIC ≤ 0.8
IIC	For group II type of protection i, d, q; materials subdivision C annex A of EN 50014:1997 / EN 60079-0:2004; MIC < 0.45

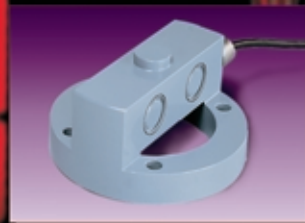
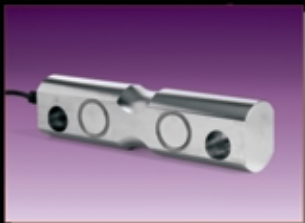
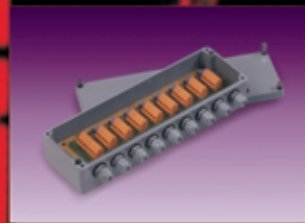
Certified temperature classes

Temperature class	Maximum surface temperature* (°C)
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

* Higher temperature obtained during service in the heaviest operative conditions from a part or from the surface of the device, of the protection system or of the component, which can produce the starting of the surrounding explosive atmosphere

* MIC: minimum ignition current (annex A of EN 50014:1997 / EN 60079-0:2004)

Covered by UTILCELL certificate consult application



Implementation of the following "ATEX" directives in weighing systems: 94/9/EC (Protection Equipments and Systems for Potentially Explosive Atmospheres) and 1999/92/EC (Health Protection and Workers' Security).

Objetive:

All equipment installed in potentially explosive atmospheres must be **ATEX** certified, assuring the equipment is safe and not sensitive to start an explosion.

Implementation phases:

- 1^a July 1st, 2003: For all new commercialized equipment.
- 2^a July 1st, 2006: For all existing equipment.

Consequences:

On July 1st, 2006 the last phase of the ATEX directive comes into effect, it supposes that all existing weighing equipment installed in potentially explosive atmospheres must be ATEX certified.

The first stage, which took effect on July 1st, 2003, only obliged new commercialization; this means that all those "old" weighing systems that don't have ATEX certified load cells must be renewed.

To whom it affects:

The explosion risk could appear in any company in which inflammable substances are manipulated. The risk of formation of an explosive atmosphere exists in the most diverse daily processes and procedures, this is why it affects almost all branches of activity.

- **Chemical Industry:** Usage of liquids and inflammable gases.
- **Garbage dumps and civil engineering:** Inflammable gas formation.
- **Companies producing energy:** Coal dust generated in transportation, milling and drying.
- **Residual water treatment companies:** Inflammable gas formation.
- **Industry of wood treatments:** Wood dust formation.
- **Gas supply companies.**
- **Painting and enamelling companies:** Painting mists, solvents and powdery pigments.
- **Manufacture of light materials pieces and factories of metallic carpentry:** Explosive metallic dusts (Aluminium, Magnesium, etc).
- **Agriculture and Livestock Facilities:** Forage dehydrators, almond husking machines.
- **Food Industry:** Transportation, flour processing and storage, starch, sugar, cacao, milk and egg powder, spices and their derivatives.
- **Pharmaceutical Industry:** Usage of liquids and inflammable gases.
- **Refineries.**
- **Textile Industry:** Storage and treatment of cotton, linen and fibres.
- **Facilities using inflammable chemical agents.**
- **Agricultural Industries:** Forage, cereals, starch, hay silos. Dryers.
- **Forest Industries:** Wood sawmills. Paper and cellulose manufacturing.

In order to supply your clients with equipment according with these new weighing rules, UTILCELL offers a full range of load cells ATEX certified suitable for potentially explosives atmospheres of gas type in zones 0, 1 and 2, and dust in zones 20, 21 and 22. Contact us!