



# REGULATION



## ATEX/IECEX REFERENCE

Definition			Directive 2014/34/EU (ATEX)		Directive 1999/92/EC	International (IECEX)	
Protection level	Definition	Atmosphere	Group	Equipment category	Area classification	Group	EPL
Very High Two independent means of protection or one protection allowing two independent faults	A place in which an explosive atmosphere is present continuously or for long periods or frequently.	Coal Mine	I	M1	-	I	Ma
		Gas	II	1G	Zone 0	II	Ga
		Dust	III	1D	Zone 20	III	Da
High single mean of protection allowing only one fault	A place in which an explosive atmosphere is likely to occur in normal operation occasionally.	Coal Mine	I	M2	-	I	Mb
		Gas	II	2G	Zone 1	II	Gb
		Dust	III	2D	Zone 21	III	Db
Normal Safe during normal operation	A place in which an explosive atmosphere is not likely to occur in normal operation but, if it does occur, will persist for a short period only.	Gas	II	3G	Zone 2	II	Gc
		Dust	III	3D	Zone 22	III	Dc

Protection Degree IP (IEC/EN 60529)			
First numeral Protection against solids		Second numeral Protection against water	
0	No protection	0	No protection
1	Greater than 50 mm	1	Vertical dripping
2	Greater than 12,5 mm	2	Angled dripping (15°)
3	Greater than 2,5 mm	3	Spraying
4	Greater than 1 mm	4	Splashing
5	Dust protected	5	Jetting
6	Dust tight	6	Powerful jetting
		7	Temporary immersion
		8	Continuous immersion

## NEC REFERENCE

Atmosphere	Class (NEC 500)	Division (NEC 500)	Zone (NEC 505)	Area classification
Gas	Class I	Div 1	Zone 0	Continuous Hazard
			Zone 1	Intermittent Hazard
Dust	Class II	Div 1	Zone 2	Abnormal Conditions Hazard
			Zone 20	Continuous Hazard
Fiber	Class III	Div 1	Zone 21	Intermittent Hazard
			Zone 22	Abnormal Conditions Hazard
		Div 2	Zone 20	Continuous Hazard
			Zone 21	Intermittent Hazard
		Div 2	Zone 22	Abnormal Conditions Hazard

Protection Degree Nema (Standards Publication 250)		
Type	Application	Protection against
1	Indoor	General purpose
2	Indoor	Dripping water, falling dust
3, 3R, 3S	Outdoor	Rain, snow, windblown dust
4, 4X	Indoor / Outdoor	Hose-Directed water, Corrosion (X)
5	Indoor	Angled dripping water, settling dust
6	Indoor / Outdoor	Temporary Submersion
6P	Indoor / Outdoor	Prolonged Submersion
7	Indoor	Hazardous Location Class I
8	Indoor / Outdoor	Hazardous Location Class I
9	Indoor	Hazardous Location Class II
12, 12K	Indoor	Dripping non-corrosive liquid, Dust
13	Indoor	Water, oil, dust, seepage

## MARKING EXPLANATION

- 1 Manufacturer identification: - Name and trademark - Address
- 2 Conformity to all relevant European directives
- 3 Product type
- 4 Temperature class
- 5 The certificate number endings: - none: OK to use without specific recommendations - X: equipment with special condition(s) for safe use - U: component [complementary certification needed for use]
- 6 Mark for product in the scope of directive 2014/34/EU and in compliance with ERSH Directive 2014/34/EU marking:
  - 1: Equipment group = surface industry
  - 2: Equipment category
  - GD: Gas or Dust atmosphere

1 Manufacturer - Address Type: S/N:...

2 CE Mmm S/L

3 Ex II 2 G D

Class I Zone 1  
Class I Div 1  
Class II Div 1

AEx d IIC T\* Gb  
Ex tb IIIC T\* Db

AEx d IIC T\*, AEx tb IP6X T\*  
Groups A, B, C, D T\*  
Groups E, F, G T\*

\* : -40 °C ≤ Ta ≤ +40°C : T6 and T70 °C  
-40 °C ≤ Ta ≤ +60°C : T5 and T90 °C

6 LCIE 16 ATEX ABCD X / IECEx INE 16.ABCD X

Temperatures (°C)	Temperature Classification	
	For IEC / EN	For North America
450	T1	T1
300	T2	T2
280	T2	T2A
260	T2	T2B
230	T2	T2C
215	T2	T2D
200	T3	T3
180	T3	T3A
165	T3	T3B
160	T3	T3C
135	T4	T4
120	T4	T4A
100	T5	T5
85	T6	T6

## PROTECTION TYPE

Area	Protection Techniques	Standards		
		USA (UL mark)	IECEX / EN	
NEC 500	Division 1	Intrinsic safety (Class I, II & III)	UL 913 /	
		Explosion proof (Class I)	UL 1203 /	
		Purged/pressurized (Type X or Y) (Class I & II)	NFPA 496 /	
	Division 2	Dust-ignition proof (Class II)	UL 1203 /	
		Dust tight (Class III)	ISA 12.12.01 /	
		Hermetically-sealed (Class I & II)	ISA 12.12.01 /	
NEC 505 / Europe / International	Zone 0 / 20	Non incandive (Class I & II)	ISA 12.12.01 /	
		Non-sparking (Class I)	ISA 12.12.01 /	
		Purged/pressurized (Type Z) (Class I & II)	NFPA 496 /	
	Zone 1 / 21	Dust tight (Class II)	ISA 12.12.01 /	
		General requirements (Gas and Dust)	UL 60079-0 IEC/EN 60079-0	
		Intrinsic safety 'ia' (Ga / Da)	UL 60079-11 IEC/EN 60079-11	
		Encapsulation 'ma' (Ga / Da)	UL 60079-18 IEC/EN 60079-18	
		Enclosure 'ta' (Da)	ISA 60079-31 IEC/EN 60079-31	
		Zone 2 / 22	Flameproof 'd' (Gb)	UL 60079-1 IEC/EN 60079-1
			Pressurization 'pxb' / 'pyb' (Gb)	UL 60079-2 IEC/EN 60079-2
			Pressurization 'p' (Db)	ISA 61241-2 IEC/EN 60079-2
			Powder filling 'q' (Gb)	UL 60079-5 IEC/EN 60079-5
Increased safety 'eb' (Gb)	UL 60079-7 IEC/EN 60079-7			
Intrinsic safety 'ib' (Gb / Db)	UL 60079-11 IEC/EN 60079-11			
Zone 2 / 22	Encapsulation 'mb' (Gb / Db)	UL 60079-18 IEC/EN 60079-18		
	Enclosure 'tb' (Db)	ISA 60079-31 IEC/EN 60079-31		
	Pressurization 'pzc' (Gc)	UL 60079-2 IEC/EN 60079-2		
	Pressurization 'p' (Dc)	ISA 61241-2 IEC/EN 60079-2		
	Intrinsic safety 'ic' (Gc / Dc)	UL 60079-11 IEC/EN 60079-11		
	Increased safety 'ec' (Gc)	UL 60079-7 IEC/EN 60079-7		
	Enclosed-break / Hermetically sealed and sealed / Non incandive / Non-sparking 'nC' (Gc)	UL 60079-15 IEC/EN 60079-15		
Restricted breathing 'nR' (Gc)	UL 60079-15 IEC/EN 60079-15			
Encapsulation 'mc' (Gc / Dc)	UL 60079-18 IEC/EN 60079-18			
Enclosure 'tc' (Dc)	ISA 60079-31 IEC/EN 60079-31			



HEAD OFFICE France & Europe  
MARECHAL ELECTRIC S.A.S.  
Tel.: +33 (0)1 45 11 60 00  
e-mail: contact@marechal.com

Asia  
MARECHAL ELECTRIC Asia Pte Ltd  
Tel.: +65 6554 2722  
e-mail: sales.asia@marechal.com

Middle East  
TECHNOR Middle East DMCC  
Tel.: +971 4 362 1418  
e-mail: sales.me@marechal.com

Africa SADC area  
MARECHAL ELECTRIC AFRICA (PTY) LTD.  
Tel.: +27 11 894 7226/7/8  
e-mail: sales.za@marechal.com

USA / Canada / Mexico  
MELTRIC Corporation  
Tel.: +1 414 433 2700  
e-mail: mail@meltric.com

Australia  
MARECHAL AUSTRALIA PTY LTD  
Tel.: +61 1300 661 830  
e-mail: sales@marechal.com.au

Germany / Austria / East Europe / Russia  
MARECHAL GmbH  
Tel.: +49 (0)7852 / 91 96-0  
e-mail: info.de@marechal.com

EPC business  
TECHNOR Italsmea S.p.A.  
Tel.: +39 02 95 00 151  
e-mail: sales@italsmea.com

