

# Explosion proof classifications

Code number of test centre	Test house	Country
0589	Bam	D
0158	DMT	D
0102	PTB	D
0344	KEMA	NL
0600	EECS	UK
0518	SCS	UK
0499	SEE	LUX
0402	SP	S
0163	LOM	SP
0081	LCIE	F
.	.	.
.	.	.

Available use of the device	Examples of categorisation of gases and vapours in temperature classes and explosion protection subgroups					
	subgroup for protection types "d" "i" "n"	gas and vapour				
↓ IIA ↓ IIB ↓ IIC	I IA	Amonia Methane Ethane Propane	Ethylalcohol Cyclohexan n-Butane	Kerosin allg. aviationfuel n-Hexan	Acetaldehyd	
	I IB	Acrylnitril Stadtgas	Ethylen Ethylenoxid	Ethylenglycol Schwefelwasserstoff	Ethylether	
	I IC	Hydrogen	Acetylen Ethin			Kohlen- disuffit
<b>Ignition temperature range of mixture</b>						
T1		T2		T3		T4
max 450°C		max 300°C		max 200°C		max 135°C
T5		T6				
max 100°C		max 85°C				
<b>Permissible surface temperature of electrical equipment</b>						
→ T1 → T2 → T3 → T4 → T5 → T6						

CE 0102  $\text{Ex}$  II 2G EEx d IIC T4 PTB 01 ATEX 1234 U

Inflammable materials	the presence of the potentially explosive atmosphere	division of explosiv areas	required marking for electrical equipment	
			device groupe	category
Gases & Vapors	may be present continuously or for a long period of time	zone 0	II	1G
	may exist some of the time by normal operation	zone 1	II	2G or 1G
	is not likely to exist by normal operation	zone 2	II	3G or 2G or 1G
Dusts	may be present continuously or for a long period of time	zone 20	II	1D
	may exist some of the time by normal operation	zone 21	II	2D or 1D
	may not likely exist by normal operation	zone 22	II	3D or 2D or 3D
Methane Dust	--	Mining	I	M1
	--	Mining	I	M2 or M1

Special conditions	
Condition	Mark
Electrical device can be used without special conditions	-
Attention to special conditions of use	X
Ex-part that is not certificated for single use. To reach CE-konformitie it must be integrat into complet system	U

Protection principle	Protection Types	Marking	Availabel use of the device at zone	VDE	CENELEC	IEC
preventing ignition of inflammable gas outside the enclosure	Flameproof enclosure	EEx d	1 or 2	General requirements VDE 0171 part 1 VDE 0171 part 5	General requirements EN 50014 EN 50018	General requirements 60079-0 60079-1
avoidance of spark and high temperature	Increased Safety	EEx e	1 or 2	VDE 0171 part 6	EN 50019	60079-7
Ex- atmosphere cannot reach ignition supplies	Encapsulation	EEx m	1 or 2	VDE 0171 part 9	EN 50028	60079-18
reduce power of energie, thermal and spark effekts under critical conditons	Intrinsically Safe	EEx i	0, 1 or 2	VDE 0171 part 7 & 8	EN 50020	60079-11