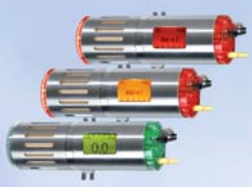
ATEX Labelling & meaning

Gas detection computer



NDIR-Transmitter for combustible gases Zone 0 and Zone 1

Transmitter for toxic gases and oxygen

Smart single-gas detectors

Function-tested multigas-detectors for up to 7 gases

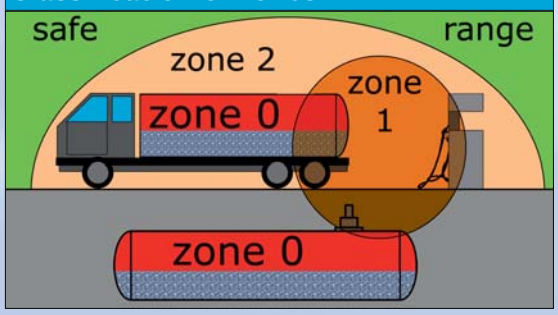
Range of application

Category 1: very high safety level
Saftey guaranteed by 2 protective measurements / with 2 independent apparatus faults
Application in zone 0, 1, 2 / 20, 21, 22 - Atmosphere G / D

Category 2: high safety level
Sufficient safety when apparatus faults occur often / with 1 fault
Application in zone 1, 2 / 21, 22 - Atmosphere: G / D

Category 3: normal safety level
Sufficient safety during faultless operation
Application in zone 2 / 22 - Atmosphere G / D

Classification of zones



Ingress protection

IP67

Foreign bodies protection	Water protection
0 no protection	**0** no protection
1 foreign bodies >50 mm	**1** vertical falling wasser
2 foreign bodies >12,5 mm	**2** dripping water on apparatus with slope 15°
3 foreign bodies >2,5 mm	**3** spraying water
4 foreign bodies >1,0 mm	**4** splashing water
5 dust protected	**5** water jets
6 dust-proof	**6** powerful water jets
	7 temporary submersion
	8 permanent submersion

Function test

Maximum security for the operator is guaranteed, if gas detectors are **function-tested** by **accredited** and **independent institutions** (DEKRA EXAM).
The measurement function according to ATEX (DIN EN 60079-29-1) guarantees highest operational readiness and exact measurements.

Ambient temperature T_a

T_a: -20°C ... +55°C
It is important to redeem to specific ambient temperature ranges, as otherwise the specification of the temperature class can not be guaranteed.

Addition to range of application

Flammable substances	Temporary behaviour of flammable substances in hazardous places	Subdivision of hazardous places	Required marking of installation: Equipment group	Category group	Equipment protection level
gases vapours	is present continuously or for long perdiods or frequently	zone 0	II	1G	Ga
	is likely to occur in normal operation occassionally	zone 1	II	2G 1G	Gb Ga
	is not likely to occur in normal operation but, if it does occur, will persist for a short period	zone 2	II	3G 2G 1G	Gc Gb Ga
dusts	is present continuously or for long periods or frequently	zone 20	II	1D	Da
	is likely to occur in normal operation occasionally	zone 21	II	2D 1D	Db Da
	is not likely to occur in normal operation but, if it does occur, will persist for a short period	zone 22	II	3D 2D 1D	Dc Db Da
methane dusts	-	mines	I	M1	Ma
	-	mines	I	M2 M1	Mb Ma

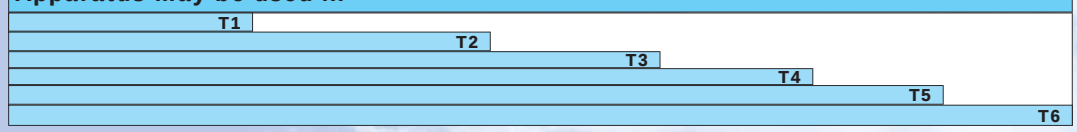
Subdivision of gases and vapours

Apparatus may be used in	Explosion subgroup	T1	T2	T3	T4	T5	T6
IIA, IIB, IIC	IIA	methane ethane propane i-butane acetone toluene ammonia propylene ethylacetate	n-butane ethanol methanol i-pentane isopropanol 1-butene i-octane cyclopentane	benzene cyclo-hexan hexane kerosene pentane n-octane	acetaldehyde butyraldehyde	-	-
IIB, IIC	IIB	town gas carbon monoxide	ethylenoxide ethylene 2-butene 1-propanol butadien 1,4-dioxane	nonane dimethylether hydrogen-sulfide	diethylether dibuthylether	-	-
IIC	IIC	hydrogen	acetylene	-	-	-	sulphide of carbon

Temperature classes of gases and vapours according to the ignition temperature

> 450°C	300°C - 450°C	200°C - 300°C	135°C - 200°C	100°C - 135°C	85°C - 100°C

Apparatus may be used in



Examination Certificate according to RL 94 / 9 / EG — Explosion protection — Notified body Explosion protection — Year — According to guideline 94 / 9 / EG — Serial number of testing

CE 0158 Ex | II | 1G | Ex | d e ia | IIC | T4 | Ga | BVS 09 ATEX E135 | X

Monitoring of production Selection of notified bodies according to guideline 94 / 9 / EG

Country	Notified body	Code
D	DEKRA EXAM	0158
D	BAM	0589
D	PTB	0102
DK	DEMKO	0539
F	INERIS	0080
F	LCIE	0081
GB	SIRA	0518
GB	Baseefa	1180
I	CESI	0722
N	NEMKO	0470
NL	KEMA	0344

Protection types

Typical application	Principle of protection	Type of protection	Marking	May be used in zone 0	1	2	CENELEC
For all application	-	General requirements					EN 60079 - 0
transmitter	a propagation of an explosion inside to the outside is excluded	flammable enclosure „d“	Ex d				EN 60079 - 1
junction boxes, cable glands, transmitter	avoidance of arcs, sparks and excessive temperature	increased safety „e“	Ex e				EN 60079 - 7
sensors	limitation of energy as well as arcs and temperature	intrinsic safety „i“	Ex ia				EN 60079 - 11
			Ex ib				
			Ex ic				
switch- and control cupboards, analyse-apparatus	ex-atmosphere keep at distance from the ignition source	pressurisation „p“	Ex p				EN 60079 - 2
electronics within transmitter	ex-atmosphere keep at distance from the ignition source	encapsulation „m“	Ex ma				EN 60079 - 18
			Ex mb				
transformers, relays, control stations	ex-atmosphere keep at distance from the ignition source	oil immersion „o“	Ex o				EN 60079 - 6
transformers, relays, condensers	ex-atmosphere keep at distance from the ignition source	powder-filling „q“	Ex q				EN 60079 - 5
transmitter for zone 2	see at the top - only for zone 2	“non-sparking“ „n“	Ex n				EN 60079 - 15

Restriction for using apparatus

Requirements	Marking
without restriction	-
special condition may be noted	X
Ex component, which is not intended to be used alone and requires additional certification CE-Conformity is declared by the manufacturer if the part is fitted into a complete device	U

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