



ATEX / IEC

ATEX certificate number

DEKRA 11 ATEX 0244 X

EC type-examination certificate

ID no.	Notified body	Country	IECEX-certified Ex equipment	Year of certification	ATEX-certified Ex equipment - guidelines of the European Community	Certificate number
0539	UL International Demko A/S	UL	DK			
0102	PTB	PTB	DE			
0044	TÜV Nord	TUN	DE			
0080	INERIS	INE	FR			
0344	DEKRA CERTIFICATIONS B.V.	DEK	NL			
1180	BASEEFA	BAS	UK			

Additional conditions

ID	Conditions
X	Suffix denotes special condition of use contained in the certificate.
U	Suffix denotes Ex component approval. The equipment is not suitable for installation without further evaluation.

IECEX certificate number

IECEX DEK 11.0084 X

Equipment marking

CE 0344 Ex II (1) G [Ex ia Ga] IIC T6

Conditions in potentially explosive areas ATEX 94/9/EC					
Explosive atmosphere	Behavior of flammable substances in the Ex area	Categorization of the potentially explosive areas	Required labeling of the used items in accordance with CENELEC		EPL
			Equipment group	Equipment category	Equipment protection level
Coal mine atmosphere	Parts at coal mines endangered by firedamp and/or combustible dust		I	M1	Ma
			I	M2	Mb
Atmosphere from Gas/ Fog/Liquid	Continuous, long periods, frequent	Zone 0	II	1G, (1)G	Ga
	Occasional	Zone 1	II	2G, (2)G	Gb
	Normally not, only for a short period	Zone 2	II	3G, (3)G	Gc
Dust atmosphere	Continuous, long periods, frequent	Zone 20	II	1D, (1)D	Da
	Occasional	Zone 21	II	2D, (2)D	Db
	Normally not, only for a short period	Zone 22	II	3D, (3)D	Dc
Use in the defined Ex area.			1G category	M1	Continuous operation in explosive atmosphere.
Installation in Safe area. Transmits to or receives signal from Ex area.			(1)G category	M2	No operation in explosive atmosphere.

Gas and dust groups			
Typical gas / dust		Identification	
Methane		I	
Propane		II A	
Ethylene		II B	
Hydrogen		II C	
Combustible flyings		III A	
Non-conducting dust		III B	
Conducting dust		III C	

Ex identification acc. to standard (example)			
[Ex ia Ga] IIC	New EN/IEC 60079-0	Installation in Safe area. Transmits to or receives signal from Ex area.	[] Associated equipment
[Ex ia] IIC	EN/IEC 60079-0		
Ex ia IIC T6 Ga	New EN/IEC 60079-0	Installation in Ex area.	Equipment
Ex ia IIC T6	EN/IEC 60079-0		

FM / UL

Class I Division 1 Group A,B,C,D T6

Class division (NEC500)

Conditions in potentially explosive areas

Flammable substances	Class	Division	Group	Eqv. Zone	Temporary behavior of the flammable substance in the Ex area
Gas Fog Liquid	Class I	1	A, B, C, D	0 or 1	Continuous, long periods, frequent
		2	A, B, C, D	2	Occasional
Dust	Class II	1	E, F, G	20 or 21	Continuous, long periods, frequent
		2	F, G	22	Normally not, only for short periods
Fibers	Class III	1		20 or 21	Constant
		2		22	Occasional
					Normally not, only for short periods

Class I Zone 0 AEx ia IIC T6

Class zone, (NEC505, NEC506)

Conditions in Ex areas

Categorization of the potentially explosive areas	Temporary behavior of flammable substances in the Ex area	Flammable substances
Zone 0	Continuous, long periods, frequent	Gas Fog Liquid
Zone 1	Occasional	
Zone 2	Normally not, only for a short period	Dust
Zone 20	Continuous, long periods, frequent	
Zone 21	Occasional	
Zone 22	Normally not, only for a short period	

Ex identification acc. to standard (example)

[AEx ia] IIC	ANSI/ISA 60079-0	Installation in Safe area. Transmits to or receives signal from Ex area.	[] Associated equipment
AEx ia IIC T6	ANSI/ISA 60079-0	Installation in Ex area.	Equipment

Gas and dust groups

Typical gas / dust	Identification NEC 505	Identification NEC 500
Methane	I	Mining
Propane	II A	Class 1 / GP D
Ethylene	II B	Class 1 / GP C
Hydrogen	II B + H ₂	Class 1 / GP B
Acetylene	II C	Class 1 / GP A
Fibers and flyings	III A	Class III
Non-conductive dusts	III B	Class II / GP G
Carbonaceous dusts	III B	Class II / GP F
Metal dusts	III C	Class II / GP E

Protection type								
Types of protection for electrical devices in potentially gas explosive areas		Protection principle	CENELEC/IEC	Zone	FM	UL	Class, Zone, Div.	Application
o	Oil immersion	Exclusion of the Ex atmosphere	EN 60079-6 IEC 60079-6	1 or 2	FM 3600 / ISA 12.16.01	UL 60079-6	Class I, Zone 1	Transformers, relays, startup controls, switching devices
q	Powder filling	Prevent ignition of the Ex atmosphere	EN 60079-5 IEC 60079-5	1 or 2	FM 3600 / ISA 12.25.01	UL 60079-5	Class I, Zone 1	Transformers, relays, capacitors
ma, mb, mc	Encapsulation	Exclusion of the Ex atmosphere	EN 60079-18 IEC 60079-18	0, 1 or 2	FM 3600 / ISA 12.23.01	UL 60079-18	Class I, Zone 1	Coils from relays and motors, electronics, solenoid valves, connection systems
px, py, pz	Pressurized enclosures	Exclusion of the Ex atmosphere	EN 60079-2 IEC 60079-2	1 or 2	FM 3620	UL 60079-2	Class I, Zone 1	Control and switch cabinets, motors, electronics, solenoid valves, connection systems
d	Flameproof enclosure	Propagation prevention	EN 60079-1 IEC 60079-1	1 or 2	FM 3600 / ISA 12.22.01	UL 60079-1	Class I, Zone 1	Switch, command and signaling devices, controls, motors, power electronics
e	Increased safety	Prevent sparks	EN 60079-7 IEC 60079-7	1 or 2	FM 3600	UL 60079-7	Class I, Zone 1	Branch and connection boxes, housings, motors, terminal blocks
ia, ib, ic iaD, ibD, icD	Intrinsic safety	Limiting the ignition energy	EN 60079-11 IEC 60079-11	0, 1 or 2	FM 3600 / ISA 12.02.01	UL 60079-11	Class I, Zone 0, 1	Measurement, control and regulation technology, sensors, actuators, instrumentation
nA	Non-sparking	No arcs, sparks or hot surfaces	EN 60079-15 IEC 60079-15	2	FM 3611 / ISA 12.12.02	UL 1604	Class 1, Div. 2	
nC	Non-incendive	Contain the explosion, quench the flame	EN 60079-15 IEC 60079-15	2	FM 3600 / ISA 12.12.02	UL 60079-15	Class 1, Div. 2	Zone 2 only
nL	Energy-limited	Limit the energy of sparks and surface temperatures	EN 60079-15 IEC 60079-15	2	FM 3600 / ISA 12.12.02	UL 60079-15	Class I, Zone 2	Zone 2 only
nR	Restricted breathing enclosure	Keep the flammable gas out	EN 60079-15 IEC 60079-15	2	FM 3600 / ISA 12.12.02	UL 60079-15	Class I, Zone 2	Zone 2 only
nP	Simplified pressurized enclosures	Exclusion of the Ex atmosphere	EN 60079-15 IEC 60079-15	2	FM 3600 / ISA 12.12.02	UL 60079-15	Class I, Zone 2	Zone 2 only
op is, op pr, op sh	Optical radiation	Limit, avoid, etc. energy transmission from optical radiation	EN 60079-28 IEC 60079-28	1 or 2				Optoelectronic devices
Types of protection for electrical devices in potentially dust explosive areas		Protection principle	CENELEC/IEC	Zone	FM	UL	Class, Zone	Application
tD - new (ta, tb, tc)	Protection by housing	Exclusion of the Ex atmosphere	EN 61241-1 New EN 60079-31	21 or 22	FM 3616 FM 3611	ISA 61241-1	CL II, Zn21, Zn22	Switch, signaling and command devices, lamps, branch and connection boxes, housings
iaD, ibD new (ia, ib, ic)	Intrinsic safety	Energy limitation of sparks and temperatures	EN 61241-11 New EN 60079-11	20, 21 or 22	FM 3610	ISA 61241-11	CL II, Zn20, Zn21	Control, measurement and regulation technology, sensors, actuators, instrumentation
pD - new (p)	Pressurized enclosures	Exclusion of the Ex atmosphere	EN 61241-4 New EN 60079-2	21 or 22	FM 3620	ISA 61241-2	CL II, Zn21	Control and switch cabinets, motors
maD, mbD	Molded encapsulation	Exclusion of the Ex atmosphere	EN 61241-18 New EN 60079-18	20, 21 or 22		ISA 61241-18	CL II, Zn20, Zn21	Coils and relays of motors, electronics and connection systems

Permissible surface temperature

Temperature class

T1=450 T2=300 T3=200 T4=135 T5=100 T6=85

T1=450 T2=300 T3=200 T4=135 T5=100 T6=85

°C

Gas	Ignition temperature
Ammonia	630°C
Methane	595°C
Hydrogen	560°C
Propane	470°C
Ethylene	425°C
Butane	365°C
Acetylene	305°C
Cyclohexane	259°C
Diethyl ether	170°C
Carbon disulfide	95°C

System 9000

9106B - AI HART transparent
9107B - AO HART transparent
9113B - AI temperature converter
9116B - AI universal w/ limit switch
9202B - DI pulse isolator
9203B - DO solenoid/alarm driver

System 7900

7908 - 8 module backplane
7916 - 16 module backplane

System 7500

7501 - Field mounted HART temperature transmitter

System 5300

5331D - Universal temperature isolated
5333D - RTD - Pt100 / Lin. R
5343B - Level - Lin. R / Potentiometer
5334B - TC isolated
5335D - Universal temperature HART 5
5337D - Universal temperature HART 7
5350B - Profibus PA / FF transmitter
5437D - 2-wire HART 7 temperature transmitter

System 5000

5104B - AI repeater / power supply
5105B - AO isolated driver
5106B - AI HART transparent
5107B - AO HART transparent
5114B - AI universal converter
5115B - AI universal calculator
5116B - AI universal w/ limit switch
5131B - AI universal converter LP
5202B - DI NAMUR/contact input
5203B - DO solenoid/alarm driver
5223B - DI frequency converter

5531B 4-digit LCD

Ex loop-powered display

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