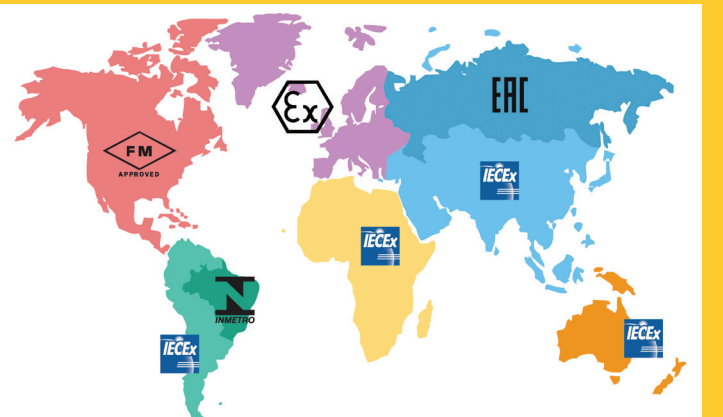


Standards and certifications

Class/Division system: In USA & in Canada CLASS defines the type of flammable substance present in the area. DIVISION specifies the likelihood of flammable concentrations.

Rest of the world: Zone system
ZONE defines the probability that hazardous material will be present in an ignitable concentration in the surrounding atmosphere.



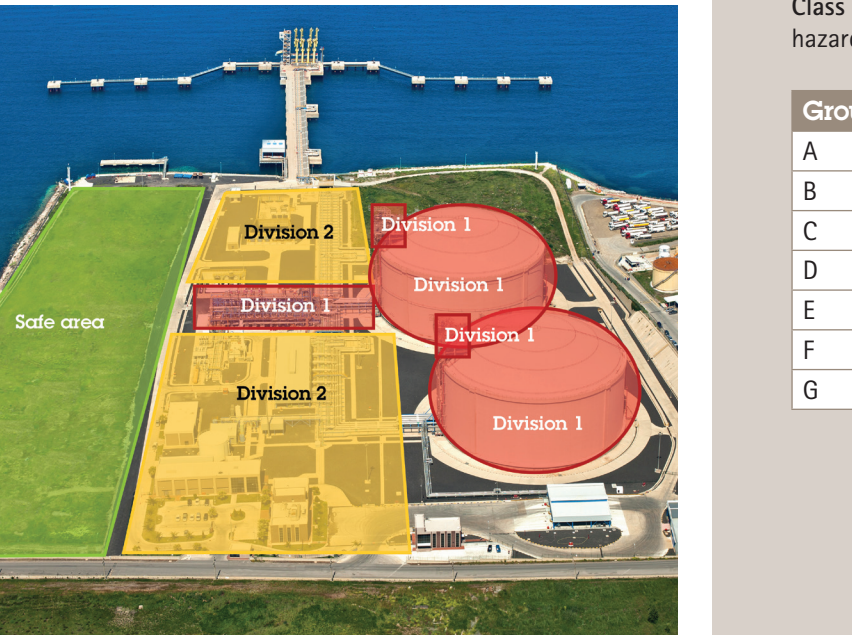
USA & CANADA Class/Division system

Class defines the type of explosive or ignitable substances which may be present in the atmosphere.

Class	Substances present
I	Flammable vapor or gas
II	Combustible dust
III	Ignitable fibers or flyings

Each Class is subdivided into Division 1 or Division 2. Division defines the likelihood of the hazardous material being present in a flammable concentration. Equipment approved for Division 1 can also be used in Division 2 within the same Class.

Division	Definition
1	In which ignitable concentrations of hazards exists under normal operation conditions and/or where hazard is caused by frequent maintenance or repair work or frequent equipment failure.
2	In which ignitable concentrations of hazards are handled, processed or used, but which are normally in closed containers or closed systems from which they can only escape through accidental rupture or breakdown of such containers or systems.



Class I and Class II are also subdivided into Groups of hazardous materials.

Group	Flammable material (examples)
A	Acetylene
B	Hydrogen
C	Ethylene
D	Propane
E	Metal dusts
F	Carbonaceous dusts
G	Combustible dusts

Temperature classes designate the maximum temperatures on the surface of the equipment which should not exceed the autoignition temperature of the surrounding atmosphere.

Temperature class	Permissible surface temperature of electrical equipment	
T1	450	842
T2	300	572
T2A	280	536
T2B	260	500
T2C	230	446
T2D	215	419
T3	200	392
T3A	180	356
T3B	165	329
T3C	160	320
T4	135	275
T4A	120	248
T5	100	212
T6	85	185

Marking label

Example label for a product marked "Class I Division 1 Group B,C,D T6" according to NEC 500, and "Class I, Zone 1, IIB+H2, T6" according to NEC 505.

Issuer of the certificate and certificate (file) number: **FM APPROVED**
 Marking according to the National Electrical Code (NEC) 500-506
 Manufacturer of the equipment: **SPECTRUM CAMERA SOLUTIONS**
 8935 ALMEDA GENOA RD. HOUSTON, TEXAS 77075 USA
 FILE: **FM17US0156**
 MODEL NUMBER: 201-A-Q6055-E SERIAL: 1010-12-21-2017
CLASS I DIVISION 1 GROUP B,C,D T6
CLASS I, ZONE 1, IIB+H2, T6
Tamb -20°C TO +55°C (Safe operating temperature)
 -WARNINGS:
 -NOT INCLUDING KETONE OR ESTER ATMOSPHERES
 -CONDUIT ENTRIES ARE M20 X 1.5
 -DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
 -INSTALL SEAL AT ENCLOSURE ENTRY *Patent Pending

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

Explosive atmosphere	Area classification	Gas/dust group	Temperature code
Class I: Gas/Vapor Class II: Dust Class III: Flyings	Division 1 Division 2	A: Acetylene B: Hydrogen C: Ethylene D: Propane E: Metal dusts F: Carbonaceous dusts G: Combustible dusts	T1 - T6 T6: 85 °C Maximum surface temperature of equipment

Class I, Zone 1, IIB + H2, T6

Explosive atmosphere	Area classification	Gas/dust group	Temperature code
Class I: Gas/Vapor For dust environments, the class of the hazard (Class II) shall not be mentioned in the marking	Zone 0 (Gas) Zone 1 (Gas) Zone 2 (Gas) Zone 20 (Dust) Zone 21 (Dust) Zone 22 (Dust)	IIA: Propane IIB: Ethylene IIC: Acetylene + Hydrogen, H2 IIIA: Combustible flyings IIIB: Non-conductive dusts IIIC: Conductive dusts	Gas: T1-T6 T6: 85 °C Maximum surface temperature of equipment



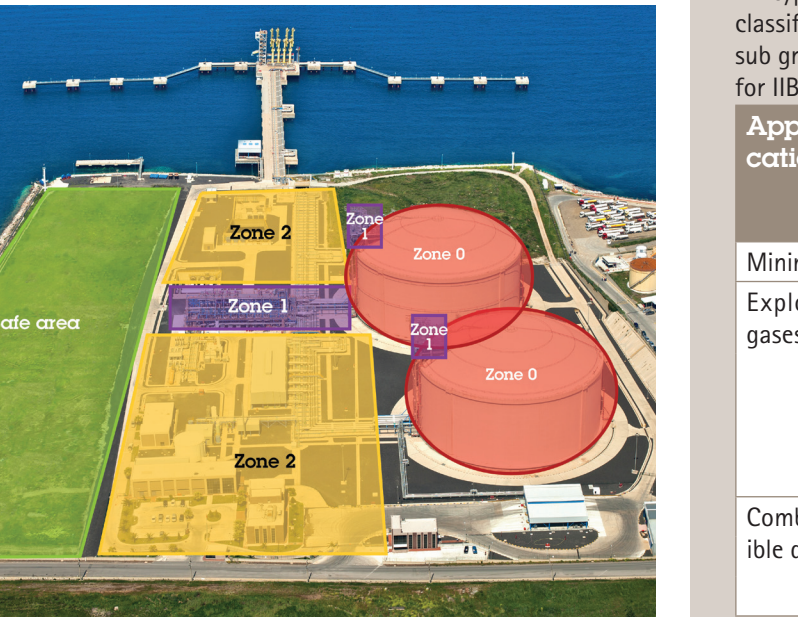
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REST OF THE WORLD

Zone system

Zones define the probability that hazardous material will be present in an ignitable concentration in the surrounding atmosphere. Products marked with Zone 1 (21) can also be used in Zone 2 (22).

Zone	Gas	Dust	Hours per year of flammable gas-air mixture or dust clouds present
0		20	1000 or more hours/year (10%)
1		21	10 < hours/year < 1000 (0.1% - 10%)
2		22	1 < hour/year < 10 (0.01% - 0.1%)



All types of apparatus are divided into three Groups. Products classified with the highest group also apply to the lower sub groups. Example, products certified for IIC can also be used for IIB and IIA.

Appli-cation	Group	Sub-group	Concerns applications where hazards due to the following substan-ce(s) may exist
Mining	I		Methane
Explosive gases	II	A	Propane, methane and similar gases
		B	Ethylene and other such industrial gases
		C	Acetylene, hydrogen and other very easily ignited gases
Combust-ible dusts	III	A	Flammable particles
		B	Non-conductive dust
		C	Conductive dust

The maximum temperature of a piece of equipment must always be lower than the auto-ignition temperature of the gas, vapor or air mixture in which it is placed.

Temperature code	Max. surface temperature	
T1	450	842
T2	300	572
T3	200	392
T4	135	275
T5	100	212
T6	85	185

Marking label

The marking specifies the type of protection, the group of apparatus, the temperature category, and the equipment protection level. The CE mark is complemented with the ATEX Ex symbol, followed by the Group, Category and, if Group II equipment, whether the marking relates to gases (G) or dust (D).

Safe operating temperature

ExCam® XPT Q6055
 Model Key: T08-TNXCD-C-005-K-LL
 Serial No.: PT080xxxx
 Prod. Year: 2018
 Power Supply: PoE+@30W, 24VDC@60W
 Temp Range: -50°C < Tamb < +60°C

Manufacturer of the equipment
 SAMCON GmbH
 Schillerstr. 17
 35102 Lohra
 Germany
 www.samcon.eu

ATEX certificate and marking
 TÜV 14 ATEX 7539X
 II 2 G Ex d IIC T6 Gb
 II 2 D Ex tb IIIC T80°C Db IP68

IECEx certificate and marking
 IECEx TUR14.0026X
 Ex d IIC T6 Gb
 Ex tb IIIC T80°C Db IP68

EAC Ex certificate and marking
 Ex d IIC T6 Gb
 Ex tb IIIC T80°C Db IP68

Notified body auditing the quality system
 0158: DEKRA EXAM GmbH

CE 0158

WARNING: DO NOT OPEN IN POTENTIALLY EXPLOSIVE ATMOSPHERE. Observe the safety instructions in the installation guide!

II 2 G Ex d IIC T6 Gb

Equipment group	Equipment category	Surrounding atmosphere	Explosion protected
I: Mines II: Surface industry	1: Zone 0 (or 20) 2: Zone 1 (or 21) 3: Zone 2 (or 22)	G: Gas D: Dust	

Type of protection	Gas group	Temperature code	Equipment protection level
d: Flameproof enclosure	IIA: Methane IIB: Ethylene IIC: Hydrogen	Gas: T1-T6 T6: 85 °C	G: Gas b: Zone 1

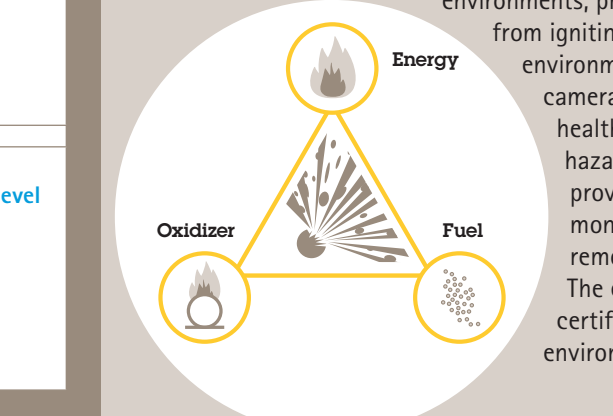
II 2 D Ex tb IIIC T80°C Db IP68

Explosive atmosphere	Equipment category	Surrounding atmosphere	Explosion protected
I: Mines II: Surface industry	1: Zone 0 (or 20) 2: Zone 1 (or 21) 3: Zone 2 (or 22)	G: Gas D: Dust	

Type of protection	Dust group	Max. surface temperature	Equipment protection level
t: By enclosure b: Zone 21	IIIA: Combustible flyings IIIB: Non-conductive dust IIIC: Conductive dust	T80 °C	D: Dust b: Zone 21

Why explosion-protected devices

In hazardous areas flammable material (liquids, gas, vapor, or dust) may be present. Explosion occurs with three components: fuel, oxygen, energy. If one or more is removed, no explosion. A flameproof enclosure, certified for hazardous environments, prevents energy from igniting the surrounding environment. Network cameras can improve health and safety in hazardous areas providing remote monitoring and remote maintenance. The enclosure must be certified for hazardous environments.



Explosion-protected cameras

What's in the marking label

