



COMPLETE PROTECTION
WITH SUPERIOR DESIGN
INSIDE & OUT
HIKVISION
EXPLOSION-PROOF PRODUCTS



HIKVISION EXPLOSION-PROOF PRODUCTS

Security cameras and other video surveillance technologies are finding new applications in every sector of science, business, and daily life, providing automated services and data in ways that were only imagined a few years ago. These intelligent functions extend the reach of human capabilities by putting cameras into settings that are often unsafe for people.

As a result, camera designs needed to incorporate protection from the environment for the camera's safety. And now, in specialized applications such as a chemical plant containing combustible gases, protection from the camera for the environment's safety has become an important issue. In the event a camera causes some kind of hazard in these areas, that camera must be prevented from causing a larger emergency. This need has given rise to the Explosion-proof Video Surveillance Camera, built to contain a serious malfunction within the camera body so as not to set off a chain reaction.

Continue reading to learn how this technology works.

■ The Three Ingredients of Combustion

- Explosive substances (Combustible gases & solids)
- Combustion-supporting gases (Oxygen)
- Combustion source (Sparks or flames)



Explosive substances
(Combustible gases & solids)



Combustion-supporting gases
(Oxygen)



Combustion source
(controllable factor: Sparks or flames)

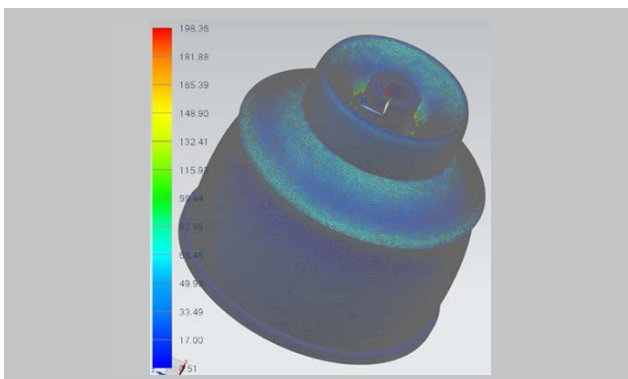
■ How to Prevent Explosions

We know that there are three ingredients necessary for combustion. The explosive substances and combustion-supporting gas are the external factors we cannot control. But we can control the internal factor: the **combustion source**

■ Flame-Proof Principle

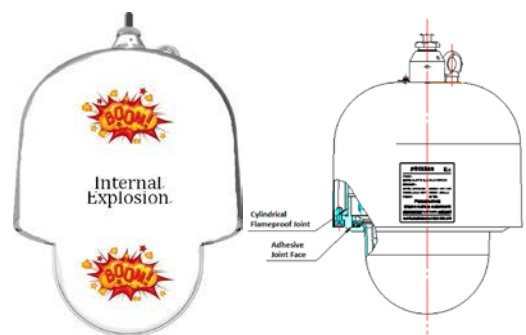
1) Explosion Resistance

Hikvision Explosion-Proof Series Cameras are housed in 304/316L stainless steel, with a thickness of more than 3.5 mm. Using ANSYS for finite element force analysis, the housing can withstand 1.5 times internal explosion pressure. There is no breaking or permanent deformation after an internal explosion.



2) These cameras use flame-proof housing to prevent failure.

The cylindrical flameproof joint and adhesive joint face prevent flames or sparks from escaping out of the camera when an explosion happens.



■ Application Scenarios

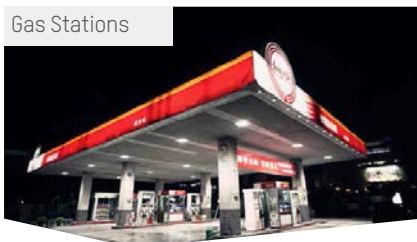
Hikvision Explosion-Proof Series Cameras are equipped with explosion-proof housing which is made of Stainless Steel (304/316L stainless steel). It can be widely used in places such as: Oil/Gas fields, wharfs, petrochemical plants, military industries, and more.



Oil & Gas Fields



Gas Stations



Chemical Plants



Metal Processing



Powder Workshops



Mining Areas



■ Product Features



DS-2XE6242F-IS
DS-2XE6242F-IS/316L
 4MP Explosion-Proof Network
 Bullet Camera



Ex II 2 G Ex db IIC T6 Gb
 II 2D Ex tb IIIC T80°C Db IP68

- Up to 4 Megapixel high resolution
- 4, 6, 8, 12, and 16 mm lens options
- Supports 120 dB Wide Dynamic Range
- Supports H.265, H.265+, H.264, H.264+
- Supports three video streams simultaneously
- Supports 6 behavior analyses, 2 anomaly detections, 1 recognition
- Supports on-board storage up to 128 GB
- Housing material: Stainless Steel 304 (316L: -/316L)
- IR range: 30 m
- 100 VAC to 240V / PoE



DS-2XE6222F-IS
DS-2XE6222F-IS/316L
 2MP Explosion-Proof Network
 Bullet Camera



Ex II 2 G Ex db IIC T6 Gb
 II 2D Ex tb IIIC T80°C Db IP68

- Up to 2 Megapixel high resolution
- 4, 6, 8, 12, 16 mm lens optional
- Supports 120 dB Wide Dynamic Range
- Supports H.265, H.265+, H.264, H.264+
- Supports three video streams simultaneously
- Supports 6 behavior analyses, 2 anomaly detections, 1 recognition
- Supports on-board storage up to 128 GB
- Housing material: Stainless Steel 304 (316L: -/316L)
- IR range: 30 m
- 100 VAC to 240V / PoE



DS-2DF6223-CX(W)
 2MP Explosion-Proof
 Network Speed Dome



Ex II 2 G Ex db IIC T6 Gb
 II 2D Ex tb IIIC T80°C Db IP68

- 2 MP 1/1.8" progressive scan CMOS
- Up to 1920 x 1080 resolution
- 23x Optical zoom; Focal length: 5.9 mm to 135.7 mm
- Min. illuminations – Color: 0.005Lux @(F1.5, AGC ON), B/W: 0.0005Lux @(F1.5, AGC ON)
- IR cut filter with auto switch
- 3D DNR, low bitrate, 120 db WDR
- Explosion-Proofing:
 - II 2 G Ex td IIC T6 Gb, Ta -40 – 60°C
 - II 2 D Ex tb IIIC T80°C Db
- IP68 standard protection rating
- Supports three streams simultaneously



Coming Soon

DS-2XE6422FWD-IZHRS
DS-2XE6452F-IZHRS
 EXIR VF Bullet

- 2 MP /5MP
- Support H.265/H.265+
- DarkFighter (2 MP), 2.8-12mm, 8-32mm (2 MP)
- Up to 150m (8-32mm) / 80m (2.8-12mm)
- IP68 standard
- 316L stainless steel
- NEMA 4X, C5-M, ATEX, IECEx standard
- R:Wiper

■ ATEX Authentication

ATEX Authentication includes 'Gas Explosion-proof Sign' and 'Dust Explosion-proof Sign'

Ex ①	db ②	II ③	C ④	T6 ⑤	Gb ⑥														
EX: Ex-mark	Explosion protected type: d: Flameproof type e: Increased safety type i: Intrinsic safety type P: Pressurized type O: Oil immersion type q: Powder filling type n: Type of protection m: Encapsulation type	Classification of Electrical apparatus Group I: Electrical apparatus for mines susceptible to firedamp Group II: Electrical apparatus for places with an explosive gas atmosphere other than mines susceptible to firedamp	Classification of Gas Class A: Example: propane, hexane, benzene, gasoline, ethanol, acetaldehyde, acetone, methylamine Class B: Example: ethylene, dimethyl ether, coke oven gas Class C: Example: hydrogen, acetylene, carbon disulphide	<table><tr><th>Temperature class</th><th>Maximum surface temperature</th></tr><tr><td>T1</td><td>≤450 °C</td></tr><tr><td>T2</td><td>≤300 °C</td></tr><tr><td>T3</td><td>≤200 °C</td></tr><tr><td>T4</td><td>≤135 °C</td></tr><tr><td>T5</td><td>≤100 °C</td></tr><tr><td>T6</td><td>≤85 °C</td></tr></table>	Temperature class	Maximum surface temperature	T1	≤450 °C	T2	≤300 °C	T3	≤200 °C	T4	≤135 °C	T5	≤100 °C	T6	≤85 °C	Distinction of Equipment Protection
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Gas Explosion-proof Sign

CE ①	Ex ②	II ③	2 ④	G ⑤	D ⑥
Code of certified body	It is conformity to the Ex-mark of ATEX directive	Categories of electrical equipment Class I: Electrical apparatus for coal mine Class II: Other electrical apparatus for explosive gas atmospheres except coal mine	Equipment categories	Gas	Dust
			1	Can be used in zone 0	Can be used in zone 20
			2	Can be used in zone 1	Can be used in zone 21
			3	Can be used in zone 2	Can be used in zone 22

Dust Explosion-proof Sign

Ex ①	tb ②	IIIC ③	T80°C ④	Db ⑤
EX: Ex-mark	Equipment dust ignition protection by enclosure	Classes of Electrical apparatus for explosive dust atmospheres IIIA, IIIB, IIIC	Maximum surface temperature	Distinction of Equipment protection

Equipment protection levels & using area

Equipment protection levels	using area
Ga	Zone 0
Gb	Zone 1
Gc	Zone 2
Da	Zone 20
Db	Zone 21
Dc	Zone 22

Hikvision ATEX authentication

IR Explosion-Proof Bullet	
Product Model:	Exlosion-Proof Sign:
Protection Level: IP68(2m/2h)	① II 2 G Ex db II CT6 Gb
Working Voltage: AC100~240V	② II 2 D Ex tb IIIC T80°C Db
Working Current: ≤1000mA	Exlosion-Proof Certificate No.:
Product No.:	TÜV 16 ATEX xxxx
Date of Production:	IECEx TUV 16.xxxx
Hikvision Digital Technology Co., Ltd	CE
555 Qianmo Road, Binjiang District, Hangzhou, China	





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Distributed by



HIKVISION

Headquarters

No.555 Qianmo Road, Binjiang District,
Hangzhou 310051, China
T +86-571-8807-5998
overseasbusiness@hikvision.com

Hikvision USA
T +1-909-895-0400
sales.usa@hikvision.com

Hikvision Italy
T +39-0438-6902
info.it@hikvision.com

Hikvision Singapore
T +65-6684-4718
sg@hikvision.com

Hikvision Africa
Tel: +27 (0) 0351172
sale.africa@hikvision.com

Hikvision Europe
T +31-23-55-42-770
info.eu@hikvision.com

Hikvision France
T +33(0)1-85-330-450
info.fr@hikvision.com

Hikvision Oceania
T +61-2-8599-4233
salesau@hikvision.com

Hikvision Turkey
T +90-216-521-70-70
sales.tr@hikvision.com

Hikvision Middle East
T +971-4-8816086
salesme@hikvision.com

Hikvision Spain
T +34-91-737-16-55
info.es@hikvision.com

Hikvision Canada
T +1-909-895-0400
sales.usa@hikvision.com

Hikvision Kazakhstan
T +7-727-9730667
nikia.panfilov@hikvision.ru

Hikvision Russia
T +7-495-669-67-99
saleru@hikvision.com

Hikvision Poland
T +48-22-460-01-50
poland@hikvision.com

Hikvision Korea
T +82-31-731-8841
sales.korea@hikvision.com

Hikvision Hong Kong
T +852-2151-1761
info.hk@hikvision.com

Hikvision India
T +91-22-28469900
sales@pramahikvision.com

Hikvision UK
T +01628-902140
support.uk@hikvision.com

Hikvision Brazil
T +55 11 3318-0050
Latam.support@hikvision.com

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