





Thermal

### **Handheld**











New



# Acoustic

### **Software**











### **Product Positioning**



HIKMICRO BX20

**ATEX & IECEx Certified** 

Compact Intrinsically Safe Thermal Camera for Hazardous Areas

### **Product Slogan:**

ATEX & IECEx Certified Compact Intrinsically Safe Thermal Camera for Hazardous Areas

### **Key Features:**

- -ATEX & IECEx Certified
- -Super Clear Image and Smooth Video
- -Easy-to-use functions
- -High Reliability in Harsh Conditions

### **Product Positioning:**

-The highest sensitivity and clearest image resolution compact intrinsically safe thermal camera

### **Product KV reference:**

More colorful with Red & Black color



### BX20 – FORM FACTOR



Compact Intrinsically Safe Thermal Camera for Hazardous Areas









Compact Intrinsically Safe Thermal Camera for Hazardous Area



HIKMICRO BX20 is ATEX & IECEx certified Compact Intrinsically Safe Thermal Camera for Hazardous Areas and explosive atmosphere to quickly find invisible faults. It's equipped with a 256 × 192 resolution thermal detector and a 2 MP visual camera. The temperature ranges from -20°C to 550°C (-4°F to 1022°F), which meets the most situation. It helps the staff to quickly find the fault according to accurate temperature measurements of high-temperature targets in the environment. Meanwhile, it provides assistance in the decision and ensures safety.

Basic Parameters	BX20
IR Resolution	256 × 192 (49,152 pixels)
SuperIR	Yes, on Captured Thermal Images
NETD	< 40 mK (@ 25 °C, F#=1.0)
Image Frequency	25 Hz
Field of View (FOV)	37.2° × 50.0°
Visual Camera	1600 × 1200 (2 MP)
Led Flashlight	V
<b>Object Temperature Rang</b>	-20°C to 550°C (-4°F to 1022°F)
Focus	Focus-free, 0.3 m (0.98 ft) Min. Focusing Distance
Protection Level	IP54/2 m (6.56 ft)
Storage Media	Built-in EMMC (16 GB), Approx. 90,000 Images
ATEX / IECEx Certificate Type	Gas  ATEX: II 3 G Ex ic IIC T6 Gc  IECEx: Ex ic IIC T6 Gc  Dust  ATEX: II 3 D Ex ic IIIC T85°C Dc  IECEx: Ex ic IIIC T85°C Dc
<b>Battery Operating Time</b>	Approx. 6 hours
Weight	Approx. 380 g (0.84 lb)

### **BX20 - KEY FEATURES**

Compact Intrinsically Safe Thermal Camera for Hazardous Area



### Certified Product and Manufacturer

Not only the HIKMICRO BX20 intrinsically safe thermal camera has obtained ATEX and IECEx certification. In addition, HIKMICRO is an audited manufacturer of hazardous location equipment and gets ATEX Quality Assurance Notification (QAN) and IECEx Quality Assurance Report (QAR).





### **BX20**

### **IECEx Authentication**

• Gas: Ex ic IIC T6 Gc

• Dust: Ex ic IIIC T85°C Dc

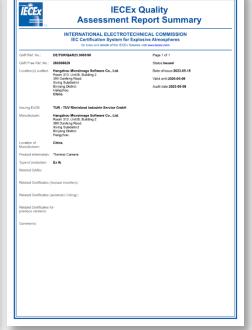
### **ATEX Authentication**

• Gas: II 3 G Ex ic IIC T6 Gc

Dust: II 3 D Ex ic IIIC T85°C Dc

### **HIKMICRO**





### BX20 - KEY FEATURES



Compact Intrinsically Safe Thermal Camera for Hazardous Area



### High Image Quality

Features a high Resolution (256  $\times$  192, 49,152 pixels) and highly sensitive (NETD < 40 mK) VOx IR detector, along with HIKMICRO SuperIR image enhancement algorithms to provide super clear thermal images.



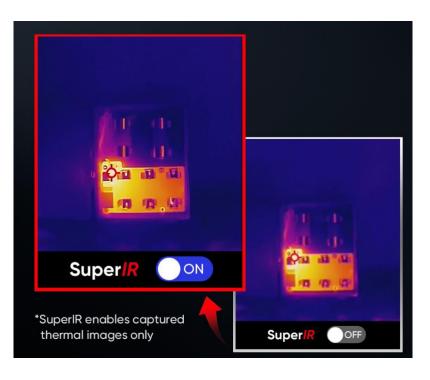




### Enhanced Thermal Clarity with **SuperIR**

Powered by HIKMICRO SuperIR image enhancement technology, it upscales the resolution of captured thermal images to 320 x 240 (76,800 Pixels).

- Upscaled IR Resolution
- Reduced Image Noise
- Enhanced Edge Details



### **BX20 - KEY FEATURES**



Compact Intrinsically Safe Thermal Camera for Hazardous Area



### 25 Hz Fast Image Frequency

25 Hz fast image frequency delivers smooth video while panning across scenes or viewing moving targets.



### Durable and Rechargeable Batteries

Built-in 3350mAh Li-Ion rechargeable battery and thoughtful auto power-off settings (10/20/30/40/50/60 minutes) allow the camera up to 6 hours of continuous operation.



### Dual-camera Thermal Imager

Built-in IR camera and visual camera give you enhanced details. Thermal, Fusion, PIP and Visual modes to suit your preferred view.



### Full-screen Precise and Wide Measurement

Supports capture of full-screen radiometric images and automatically tracks max/min/center spots to pinpoint temperature anomalies at a glance. Accurately measures temperatures from -20°C to 550°C with a temperature accuracy up to +/-2°C or +/-2% of reading.



### 16GB Storage

The built-in 16GB eMMC flash storage can store approx. 90,000 radiometric thermal images. It's more than enough for most IR surveys.



### High Temperature Alarm

Built-in speaker and flash light give the operator audio and visual alerts to high temperatures.

### **BX20 - ATEX and IECEx Certified**



HIKMICRO BX20 compact intrinsically safe thermal camera certified by both ATEX and IECEx.

Gas Dust

**ATEX:** II 3 G Ex ic IIC T6 Gc **ATEX:** II 3 D Ex ic IIIC T85°C Dc

**IECEx:** Ex ic IIC T6 Gc **IECEx:** Ex ic IIIC T85°C Dc

### ATEX / IECEx

IIC/IIIC

**T6** 

Gc

Device Group, II = Various Area, Like Gas and Dust

**3** Equipment category, **3** = Not normally, only briefly

**G/D** Type of explosive, **G** = Gas, D = Dust

**Explosion Protected** 

Ignition Protection, ic = Intrinsic safety

Explosion Group, C rating is safest level

Temperature Class, T6 < 85 °C (T1 to T6, T6 is the Highest Level)

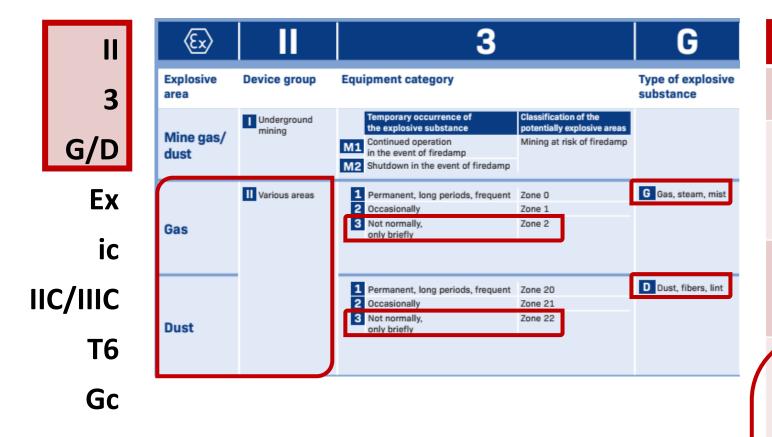
Equipment Protection Level, **Gc** = Enhanced protection level







- ATEX and IECEx Authentication include 'Gas Explosion-proof' and 'Dust Explosion-proof' certifications.
- HIKMICRO BX20 is intended for use in Zone 2 (gas) or Zone 22 (dust) hazardous areas.
- Please note that BX20 is not suitable for underground mining scenarios.

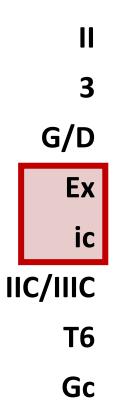


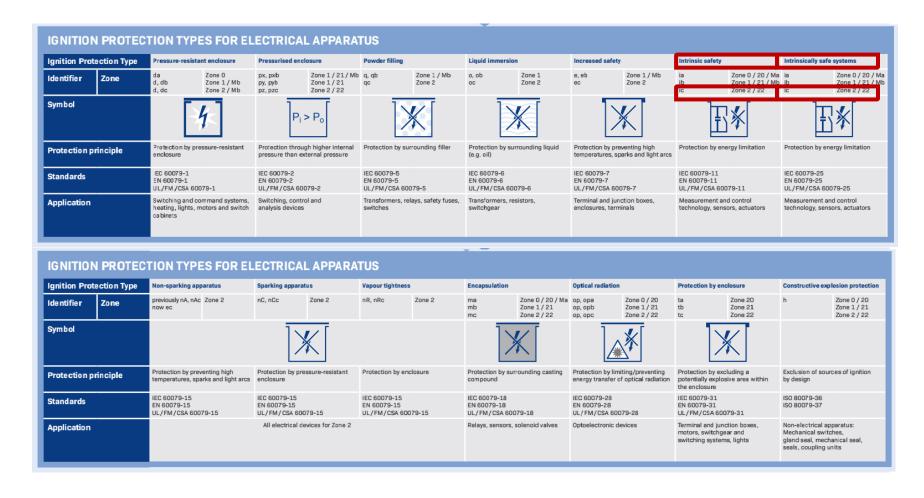
Group, Zone and suitable Equipment Protection Level (EPL)			
GROUP II	GROUP III - Dusts	Hazardous Area Zone Characteristics	
Zone 0 - EPL Ga	Zone 20 - EPL Da	A hazardous atmosphere is highly likely to be present and may be present for long periods of time (>1000 hours per year) or even continuously	
Zone 1 - EPL Ga, Gb	Zone 21 - EPL Da, Db	A hazardous atmosphere is possible but unlikely to be present for long periods of time (>10 <1000 hours per year)	
Zone 2 - EPL Ga, Gb, Gc BX20	Zone 22 - EPL Da, Db, Dc	A hazardous atmosphere is not likely to be present in normal operation or infrequently and for short periods of time (<10 hours per year)	

# BX20 - Ignition Protection Type



- The Ignition Protection Type of the BX20 is Intrinsically Safe for use in Zone 2 or Zone 22.
- An intrinsically safe apparatus is an electrical device that has connected circuits that are intrinsically safe circuits
  whilst in a hazardous area.









 BX20 is suitable for IIA, IIB, and IIC Gases, and IIIA, IIIB, and IIIC Dusts, like flammable fibers, non-conductive ducts, and conductive dust.

In general, whether it is marked as II (Gas)or III (Dust) for the group, the C rating is always the safest as it relates to the biggest risk protection.

3

G/D

Ex

ic

IIC/IIIC

**T6** 

Gc

- Group I -electrical equipment for use in mines and underground installations susceptible to firedamp
- Group II and Group III -electrical equipment for use in surface installations.
- Groups II & III are further sub-divided depending upon the hazard. Group II gases are grouped together based upon the amount of energy required to ignite the most explosive mixture of the gas with air. Group III dusts are subdivided according to the nature of the explosive atmosphere for which it is intended.

Mining	Surface Industry			
Group I	Group	o II	Group III	
	Electrical equipment for places with an explosive gas atmosphere		Electrical equipment for places with an explosive dus atmosphere	
Electrical equipmen	Sub-Division	Ignition Energy	Sub-Division	Explosive Atmosphere
t for mines IIA susceptibl e to firedamp IIB	260 Microjoules	IIIA	Combustible flyings	
	IIB	95 Microjoules	IIIB	Non- conductive dust
	IIC BY20	18 Microjoules	IIIC	Conductive dust

### BX20 - Applicable Temperature



- BX20 is suitable for T6, T5, T4, T3, T2, T1 Temperature Classified areas.
- The higher the class, the better the equipment! T6 is the Highest Level.

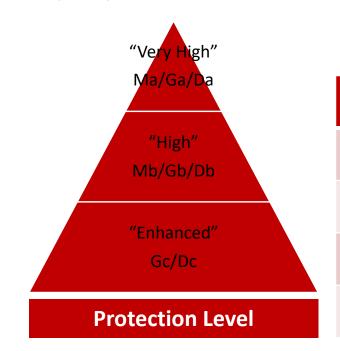
II		Group II Temperature Class		
3		T Code	Maximum Surface Temperature	Ignition Temperature
G/D		T1	450ºC	> 450°C
Ex	BX20	T2	300ºC	> 300°C ≤ 450°C
ic		Т3	200ºC	> 200ºC ≤ 300ºC
IIC/IIIC		T4	130ºC	> 130ºC ≤ 200ºC
Т6		T5	100ºC	> 100ºC ≤ 135ºC
Gc		Т6	85ºC	> 85ºC ≤ 100ºC

The maximum surface temperature of the apparatus must always be lower than the ignition temperature of the explosive gas present. The surface of a device classified as T1 may reach 450°C. It is therefore unsafe if installed in an environment suited for T2, T3, T4, T5 or T6 devices. **Equipment with a T6 rating**, on the other hand, (which has a maximum surface temperature of 85°C) can safely be used in T6, T5, T4, T3, T2 and T1 environments.

### **BX20 - Equipment Protection Level**



The BX20 is an enhanced equipment protection level thermal camera suitable for use in Zone 2 (gas)
 or Zone 22 (dust) hazardous areas.



3

G/D

Ex

ic

**T6** 

Gc

IIC/IIIC

Group, Zone and suitable Equipment Protection Level				
GROUP I - Mining		GROUP II - Gases	<b>GROUP III - Dusts</b>	
Zone 0 - EPL Ma		Zone 0 - EPL Ga	Zone 20 - EPL Da	
Zone 1 - EPL Ma, Mb		Zone 1 - EPL Ga, Gb	Zone 21 - EPL Da, Db	
-	BX20	Zone 2 - EPL Ga, Gb, Gc	Zone 22 - EPL Da, Db, Dc	

The EPL depends on the explosive atmosphere type: gas (G), dust (D), or mines (M). There are three standard protection levels:

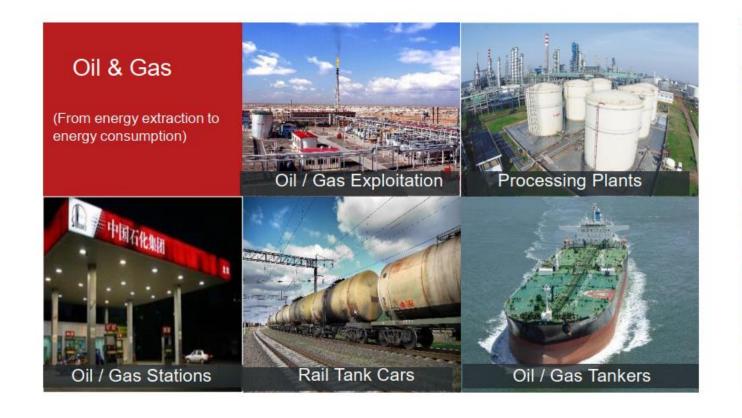
- Ga, Da, Ma very high protection; the equipment remains safe in normal operation, even in rare fault situations (two faults at once)
- **Gb, Db, Mb high protection**; the equipment remains safe in normal operation, also when faults occur (single fault)
- **Gc, Dc enhanced protection**; the equipment remains safe in normal operation, and may have extra protection to minimize ignition risk in fault situations (fault may cause equipment to shut down)







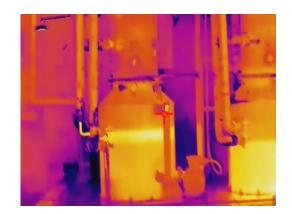
It is suitable for Zone 2 scenarios in petrochemical plants, refineries, substations, offshore platforms, production plants, pharmaceuticals, hazardous waste management and other industries.







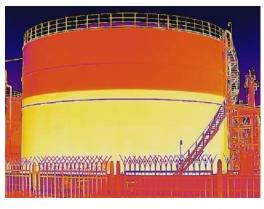




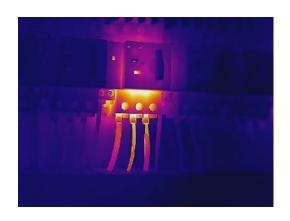
Reactor



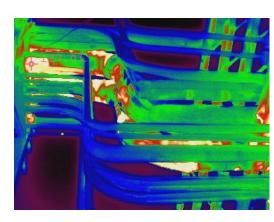
**Tank Insulation** 



Oil Tank



**Electrical** 



Pipe

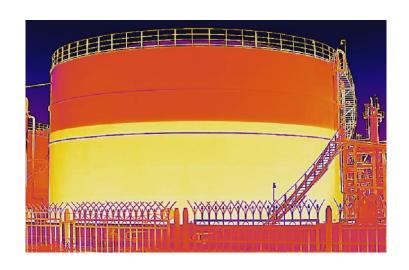


Mechanical

<sup>\*</sup>Note: The pictures taken by device are for reference only, the actual effect shall prevail.

# OIL STORAGE TANK LIQUID LEVEL DETECTION





\*Note: The pictures taken by device are for reference only, the actual effect shall prevail.

### **APPLICATION INTRODUCTION:**

The petroleum and petrochemical industry usually use liquid level gauges to control and detect the liquid level in storage tanks. However, the liquid level gauge is subject to deposition and corrosion by the gas and liquid in the tank for a long time, and it is easy to cause misdetection. Because there will be a temperature difference between the gas and liquid inside the tank and the ambient temperature, the temperature distribution of the tank can be visually viewed through an infrared thermal imager and the position of the liquid level line can be determined.

### **PERSONAS:**

Safety production inspectors in crude oil storage facilities, refineries, refineries and other scenes.

### **FURNACE OUTER WALL CORROSION DETECTION**





\*Note: The pictures taken by device are for reference only, the actual effect shall prevail.

### **APPLICATION INTRODUCTION:**

After the reaction furnace body has been working for a long time, the furnace wall will undergo corrosion in different situations. Once corrosion occurs, the outer wall of the furnace will produce high-temperature points that are different from the environment. The infrared thermal imaging camera can accurately capture high-temperature points, visually check the hidden dangers on the outer wall, and conduct timely maintenance and management.

### **PERSONAS:**

Relevant inspection personnel in refineries, refineries, oil and gas storage areas and other scenes.

## DETECTION OF SHEDDING OF INSULATION LAYER ON THE OUTER WALL OF REACTOR





\*Note: The pictures taken by device are for reference only, the actual effect shall prevail.

### **APPLICATION INTRODUCTION:**

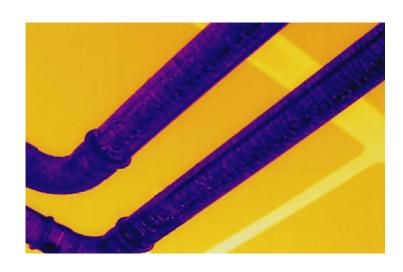
Most chemical production requires constant temperature and pressure, so the outer wall of the reactor will have an insulation layer. Once the insulation layer is not repaired for a long time, it will cause the layer to fall off and affect production efficiency. The infrared thermal imaging camera can visually check the corresponding temperature distribution on the surface to determine whether the insulation layer has fallen off.

### **PERSONAS:**

Equipment managers in chemical industry scenarios such as enterprises, pesticide companies, and fine chemicals.

### PIPELINE INSPECTION AND TESTING





\*Note: The pictures taken by device are for reference only, the actual effect shall prevail.

### **APPLICATION INTRODUCTION:**

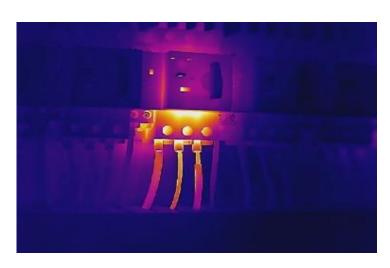
In major chemical plants, there will be pipes of different thicknesses and shapes. Once there is a problem with the pipeline, it will greatly affect the production progress of the company. The infrared thermal imaging camera can visually check the status of the pipeline, determine the blockage of the pipeline, the wear of the pipeline, the insulation of the pipeline, etc., and detect hidden dangers in a timely manner to ensure safe production.

### **PERSONAS:**

Natural gas scenes, well sites, gas companies, fine chemical plant areas, etc.

# PRODUCTION WORKSHOP POWER DISTRIBUTION EQUIPMENT INSPECTION





\*Note: The pictures taken by device are for reference only, the actual effect shall prevail.

### **APPLICATION INTRODUCTION:**

Power distribution equipment is important equipment to ensure normal production in all aspects of the workshop. Through the handheld infrared thermal imager, the user can intuitively see the working status of each fuse or connector in the distribution cabinet in the area of concern, gain an overall understanding, and ensure the safety of the distribution equipment.

### **PERSONAS:**

Production workshops, internal computer rooms of enterprises, etc.





### **BX20 - SCOPE OF DELIVERY**



Compact Intrinsically Safe Thermal Camera for Hazardous Area

### What's in the Box?

- ◆ Thermal Camera with Wrist Strap
- ◆ USB 2.0 A to USB Type-C Cable
- Power Supply
- International Use Plugs (US/EU/UK/AU/CN)
   for Power Supply
- Calibration Certificate
- Quick Start Guide



### **Optional Accessories**

E/B Series POUCH

(HM-B01-POUCH)









Compact Intrinsically Safe Thermal Camera for Hazardous Area



Camera Highlights		BX20
Certificate	ATEX / IECEx Certificate Type	ATEX: II 3 G Ex ic IIC T6 Gc, II 3 D Ex ic IIIC T85°C Dc IECEx: Ex ic IIC T6 Gc, Ex ic IIIC T85°C Dc
	IR Resolution	256 × 192 (49,152 pixels)
	SuperIR	Yes, on Captured Thermal Images
Infrared Image	NETD	< 40 mK (@ 25 °C, F#=1.0)
_	Image Frequency	25 Hz
	Field of View (FOV)	37.2° × 50.0°
	Focus Mode	Focus Free
Image Display	Visual Camera	1600 × 1200 (2 MP)
	Image Modes	Thermal/Visual/Fusion/PIP
	Display	240 × 320 Resolution, 3.2" LCD Screen
Measurement and Analysis	Object Temperature Range	-20°C to 550°C (-4°F to 1022°F)
	Accuracy	Max ( $\pm$ 2°C/3.6°F, $\pm$ 2%), for ambient temperature 15°C to 35°C (59°F to 95°F) and object temperature above 0°C (32°F)
	Storage Media	Built-in 16 GB flash memory
Data Storage and Communication	File Format	Radiometric JPEG
	Storage Capacity	Approx. 90,000 Images
General	Battery Operating Time	Approx. 6 hours
	Led Flashlight	V
	Durability	IP54, 2 m (6.56 ft) drop protection
	Weight	Approx. 380 g (0.84 lb)



### PC SOFTWARE - HIKMICRO ANALYZER





### **EFFICIENT, POWERFUL THERMAL ANALYSIS AND REPORTING**

HIKMICRO Analyzer is a powerful and free licensed PC software designed to help users manage and analyze thousands of thermal images and videos and quickly create professional reports. Compatible with files from HIKMICRO handheld thermal cameras, providing the features you need to simplify your workflow and increase your productivity.

- Free license
- Import, edit and manage files
- View, edit and analysis radiometric images

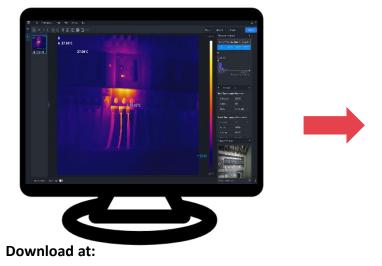
- Advanced measurement and image analysis
- Batch processing with all image and measurement controls
- Quick reporting with pre-defined or customized templates

#### THERMAL IMAGE ON SITE





#### **ANALYSIS ON COMPUTER**



### **EXPORT REPORT**



https://www.hikmicrotech.com/en/industrial-products/hikmicro-analyzer-software/