

# Operating Instructions

## Flameproof LED Lighting

### Model L1704C



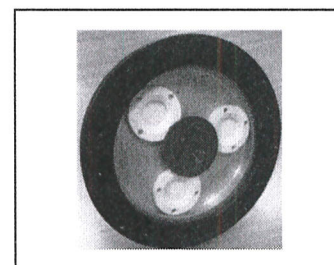
Drawing No: Instructions\_L1704C\_IECEX

Revision Level: A0

Date: 2018-10-08

Top Hi-Tech Co., Ltd.  
9F, No.1, Zhongshan Road,  
Tucheng Dist. New Taipei City,  
23680, Taiwan.  
Website: [www.tht-ex.com](http://www.tht-ex.com)

TEL: +886 2 22671234  
FAX: +886 2 22691166  
e-mail: [sales@tht-ex.com](mailto:sales@tht-ex.com)  
Revision: EX-L1704C-01  
Subject to alterations.



## Contents

1. General Safety Instructions .....	1
2. Intended Field of Application .....	1
3. Technical Data .....	2
4. Dimension .....	3
5. Assembly and Installation .....	3
6. IP Cameras Setting .....	6
7. Maintenance .....	9
8. Accessories and Spare Parts .....	9
9. Transport, Storage and Disposal .....	9

## 1. General Safety Instructions

### ⚠ WARNING

**This manual contains basic safety instructions to be observed during installation, operation and maintenance of the apparatus, and for properly and safety run of the apparatus according to its performance data. Any damage of the apparatus may result explosion protection null and void. This manual represents the most relevant information about the product, applicable codes and regulations shall supplement it. Non-observance will endanger persons, plant and the environment. The person in charge is required to secure its employment in the industrial unit. Any improper usage, as well as non-compliance with the rules under this manual, shall release the manufacturer's all responsibilities.**

**The flameproof joints are not intended to be disassembled or repaired.**

**WARNING – The luminaire shall not be opened**

### 1.1 Before assembly/commissioning:

- ☞ Read through the operating instructions.
- ☞ Give adequate training to the assembly and operating personnel.
- ☞ Ensure that the contents of the operating instructions are fully understood by the personnel in charge.
- ☞ The national installation and assembly regulations (e.g. IEC/EN 60079-14) apply.

### 1.2 When operating the device:

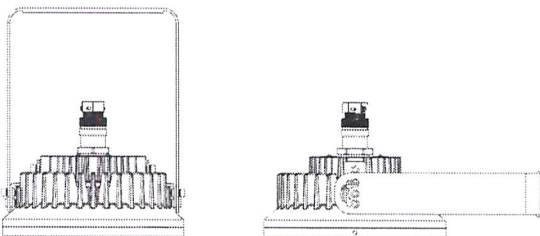
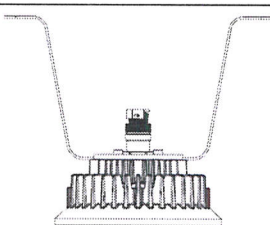

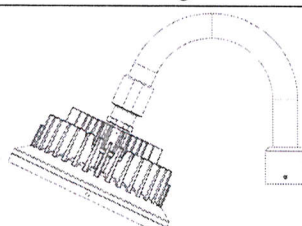
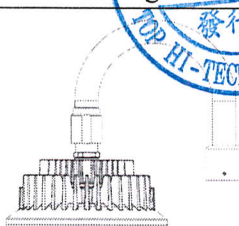
- ☞ Ensure the operating instructions are made available for the person in charge on location at all times.
- ☞ Observe these instructions, other working instructions and national safety regulations.
- ☞ Verify the implementation of safety instructions.



## 2. Intended Field of Application

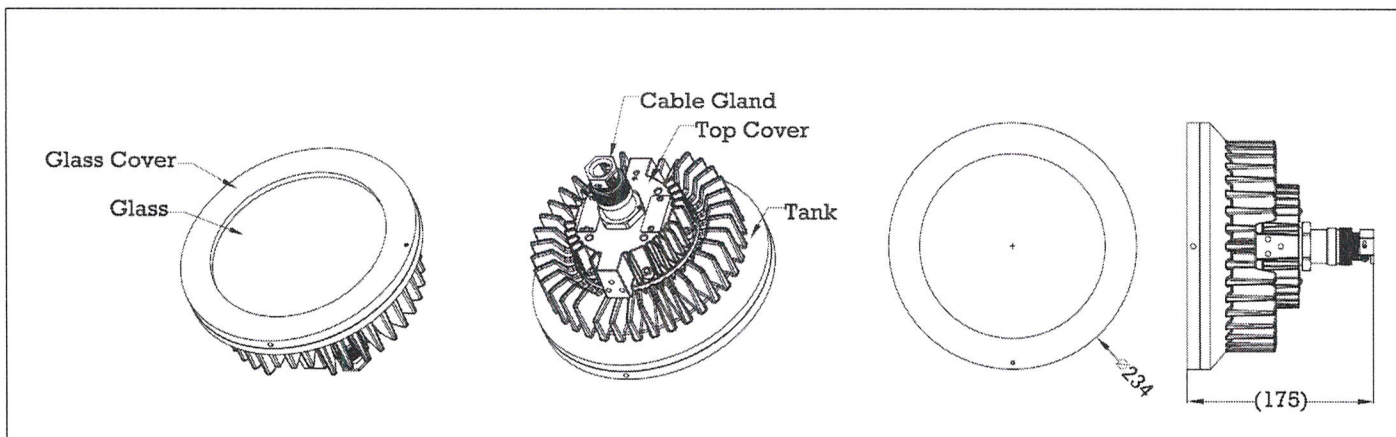
The Flameproof LED Lighting, Model L1704C is intended for using in gas explosive atmospheres (Zone 1 and Zone 2 according to IEC60079-10-1) and dust explosion hazards (Zone 21 and Zone 22 according to IEC60079-10-2). The use in other potentially explosive atmospheres does not correspond to the designated use and is therefore not allowed. The apparatus is designed for using in indoor and outdoor environments.

### 3. Technical Data

Item	Description	
Explosion Protection IECEX Gas Explosion Protection Dust Explosion Protection ATEX Gas Explosion Protection Dust Explosion Protection	IECEX UL 18.0045X Ex db IIC T5 Gb Ex tb IIIC T95°C Db DEMKO 18 ATEX 1973X ⊕ II 2 G Ex db IIC T5 Gb ⊕ II 2 D Ex tb IIIC T95°C Db	
Standard	EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-31:2014, IEC 60079-0, 6th Ed, IEC 60079-1, 7th Ed, IEC 60079-31, 2nd Ed.	
Rated Voltage	110 Vac/220 Vac/277 Vac (±10%), 50 & 60 Hz; Note information on type label.	
Wattage (Lighting)	40W / 60W	
Color of LED light	3000K ± 10% (Warm White) / 5000K ± 10% (Cool White)	
CRI	> 80	
Power Factor	$\cos \varphi \geq 0.9$	
Ambient Temperate Range	-20°C ~ +40°C	
Degree of Protection	IP67	
Material	Enclosure: Aluminum alloy Glass: Tempered glass	
LED Service Life	60,000 hrs	
Fitting Cable	Size of Sealing Ring	Fitting Cable
	ID: Ø10.0, L=26.5 mm	OD: Ø10.0
Mounting Type / Weight	WHT Mounting	
		
	6.3 kg	
	Ceiling Mounting	Straight pendant electrical tube mounting
		
	7.1 kg	6.5 kg
	Angle bending electrical tube mounting 25°	Angle bending electrical tube mounting 90°
		
	7.0 kg	7.0 kg



#### 4. Dimensions (All Dimensions in mm) – Subject to Alterations

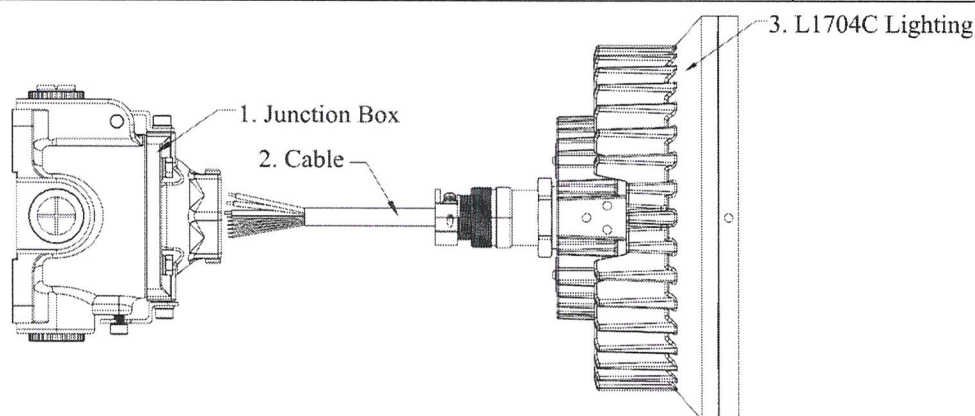


#### 5. Assembly and Installation

##### 5.1 Electrical Connection

###### Overview

1: Junction Box ( Provide by customer)	2: Cable (Length(Min):1.0 m)	3: L1704C Lighting
--	------------------------------	--------------------



###### Electrical Connection

1. Insert the cable (2) of the luminary into the Ex certified Junction Box (1).
2. Fix and Introduce the wires of luminary with the terminal post of Junction Box (White-wire connects to Neutral; Red-wire connects to Live; Green-wire connects to Ground.). CCTV connection see Figure 7 & 8.

###### Attention:

1. The Junction Box must be pass the Ex db/Ex tb certification that approved by IECEX/ATEX.
2. The minimum diameter of suitable cable for cable gland is 10.0 mm.
3. The cable types are: (24#\*3P+AL Foil)+18#\*3C+Mylor, 1 m length(Min).



## 5.2 Mounting Bracket Installation

### 5.2.1 Two position Adjustable Trunnion (Wall & Ceiling) Mounting (WHT) - each position with one aiming angle - Secured to wall/ceiling surface (Lens facing down 90° from vertical = Lens horizontal facing down)

- ☞ The mount bracket is for surface mounting to wall (Figure 1) and ceiling (Figure 2).
- ☞ Position the bracket holders and secured by means of the provided M8 screws with 61 kgf-cm.
- ☞ Secure the wall/ceiling mounting bracket to the mounting surface by using four fasteners (not provided).
- ☞ The luminaire can be adjusted in one position as shown in Figures 1 and 2.

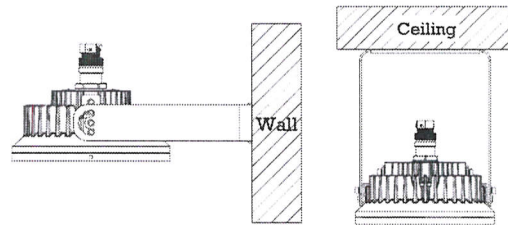


Figure 1

Figure 2

### 5.2.2 Ceiling Mount

- ☞ The mounting bracket is for the use of Ceiling mounting.
- ☞ Position the bracket holders and fix it by means of the provided M8 screws, 61 kgf-cm. (Figure 3)
- ☞ Secure the wall mounting bracket to the structure by using four fasteners (not provided).

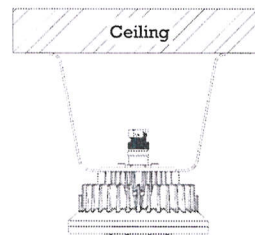


Figure 3

### 5.2.3 Straight Electrical Tube Mounting (P90)

- ☞ The mounting type is for the use of bending tube mounting (Figure 4).
- ☞ Tube mounting thread is NPT 3/4".
- ☞ Thread the tube mounting on conduit and torque until wrench-tight as requirement, 2700 kgf-cm.

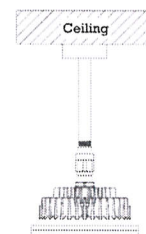


Figure 4

### 5.2.4 Bending Electrical Tube mounting (S90 & S25)

- ☞ The mounting types are for the use of bending tube mounting (Figure 5 / Figure 6). Tube mounting thread is NPT 1-1/2"
- ☞ Thread the tube mounting on conduit and torque until wrench-tight as requirement, 6600 kgf-cm.

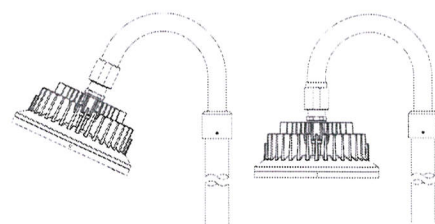
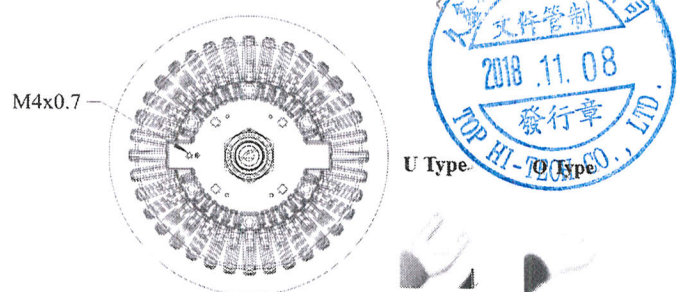


Figure 5

Figure 6

## 5.3 Ground wire

- ☞ External earth screw location as showing in the Red Circle of right pictures.
- ☞ The external earth ground wire installation and terminal type as show the right pictures.
- ☞ Ground wire cross-sectional area=4mm<sup>2</sup>, max LED current=1A; @V=110Vac-10%.
- ☞ Both ground screw and washer material is stainless steel.
- ☞ Screw hole spec: M4.
- ☞ Torque requirement: 7.0 kgf.cm.
- ☞ Ensure wire is tied assured.



## 5.4 LED and CCTV connection

- ☞ The 18 # x 3C wires is intended for the LED power connection (see Figure 7)
- ☞ The 24# x 3P wire is intended for the POE (Max. 48V, 0.35A) connection (see Figure 7)
- ☞ Follow the assigned colors of the 24# x 3P wires for termination to the RJ45 Plug (see Figure 8)

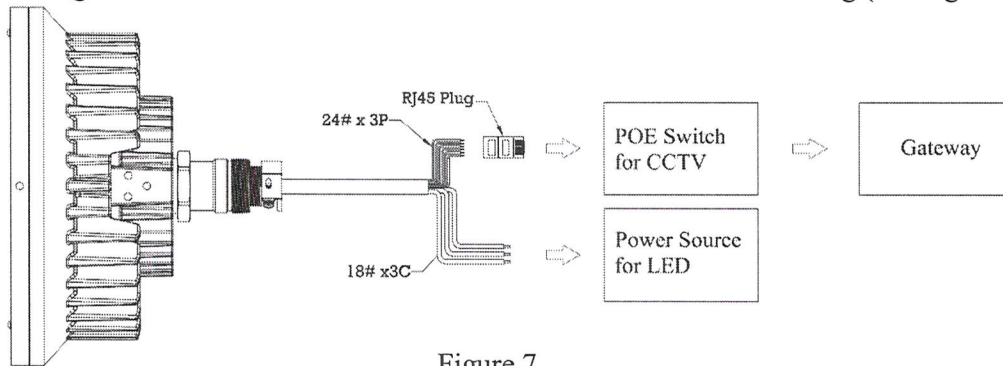


Figure 7

Pin	1	2	3	4	5	6	7	8
Color	White/ Orange	Orange	White/ Green		White/ Blue	Green	Blue	

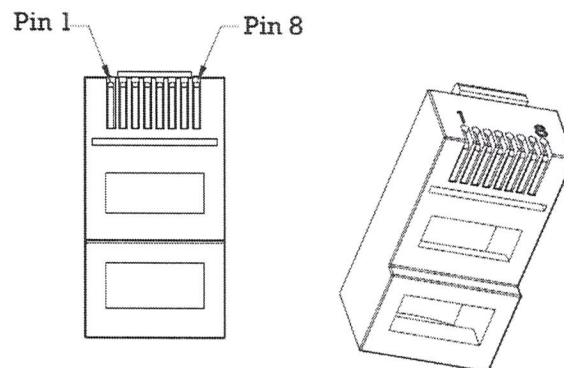


Figure 8

## 5.5 Putting into Service

Before putting into operating, it's necessary to ensure that:

- ☞ the lighting is correctly installed.
- ☞ the connection has been correctly made.
- ☞ the cable has been inserted correctly.
- ☞ the voltage is correctly



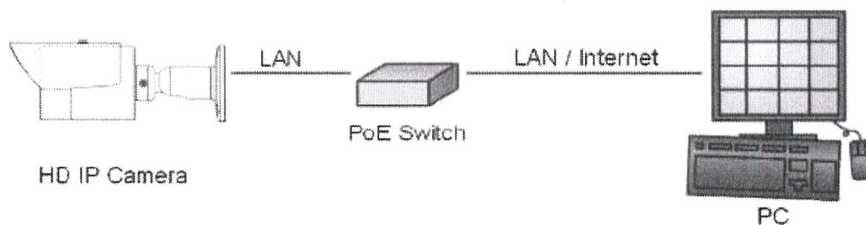


## 6. IP Cameras Setting

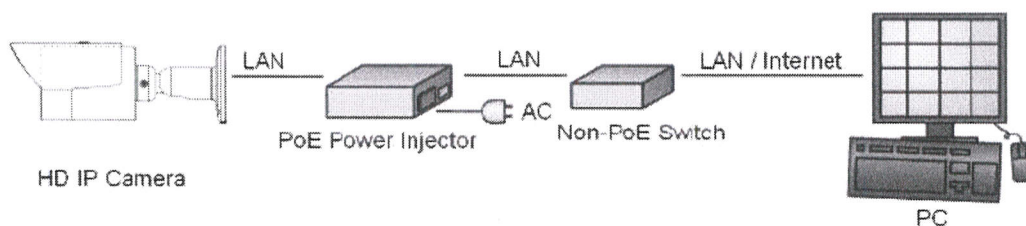
### 6.1. System Architectures

To connect HD IP cameras to the network, please follow one of the system architectures:

#### 6.1.1. Use a PoE network switch to connect to the network.



#### 6.1.2. Use a PoE power injector and a network switch to connect to the network.



### 6.2. Emergency Factory Default

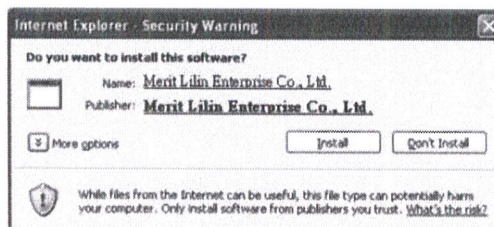
- ☞ Search for the IP device using the IPScan software.( For your convenience, the IP address will revert to the default setting of 192.168.0.200.)
- ☞ Start the IP device via an Internet browser.
- ☞ Enter the default username 'admin' and password 'pass' to operate.

### 6.3. Before Accessing IP Cameras

Before accessing the IP camera, make sure that the cameras RJ-45 network, audio, and power cables are properly connected. To set the IP address, consult your network administrator for an available IP address. The default IP address for each IP camera is 192.168.0.200. Users can use the default IP address for verifying the camera's network connection.

### 6.4. Software Requirements

Merit LILIN Universal ActiveX software components are required for web interface display of MJPEG or H.264 Full HD video. When you log in to the IP camera using Internet Explorer, a security warning dialog box will prompt the installation of the LILIN Universal ActiveX. Click Install to download and install the required software.

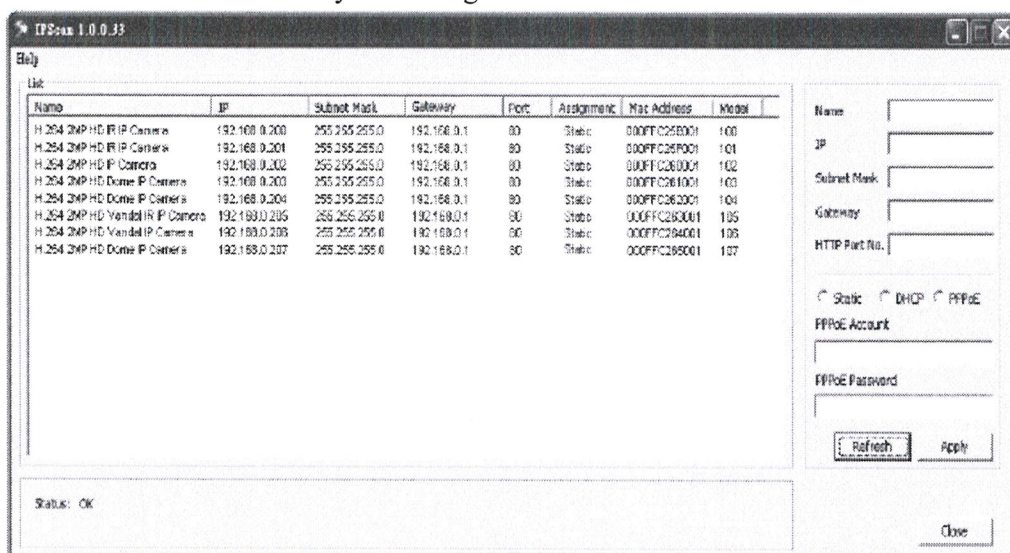


## 6.5. Configuring IP Addresses with IPScan Software

**6.5.1** To configure an IP address using the IP scan tool, you can copy the IPScan software from the installation CD, and paste to your computer. Alternatively, you can execute the IPScan software from the installation CD, or download the software from the Merit LILIN website ([www.meritlilin.com](http://www.meritlilin.com)).

**6.5.2** To change the settings of the IP address, subnet mask, gateway, or HTTP port, you can follow the steps below:

- ☞ Run the IPScan software.
- ☞ Click Refresh. All available devices should be listed in the device list.
- ☞ Select your device from the list provided.
- ☞ Change the IP address, subnet mask, gateway, or HTTP port for the IP camera.
- ☞ Click Apply to submit the settings.
- ☞ Click Refresh to verify the settings.



## 6.6. Configuring IP Addresses via Web Interface

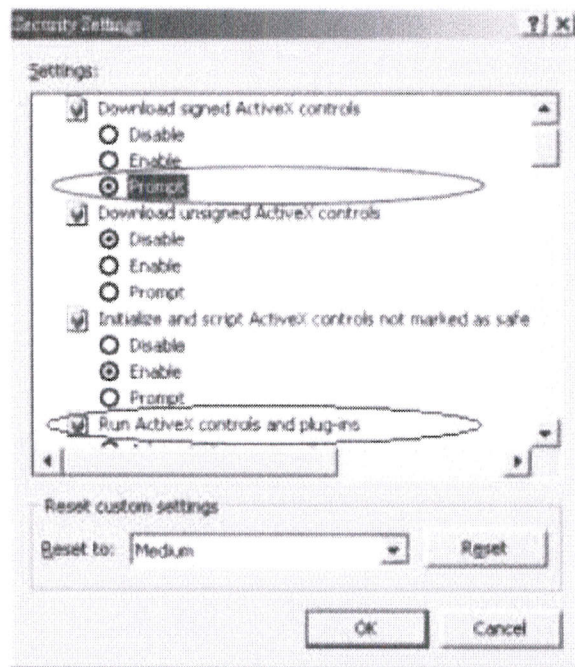
To change an IP address via web interface, type the default IP address (192.168.0.200) in the Internet browser and follow the steps below:

- ☞ Login to the IP camera by the default username 'admin' and default password 'pass'.
- ☞ Click Basic Mode configuration hyperlink.
- ☞ Click Network->General hyperlink.
- ☞ Change the IP address, subnet mask, gateway, or HTTP port for the IP camera.
- ☞ Click Submit to verify the settings.

## 6.7. Internet Browser Settings & Application Required

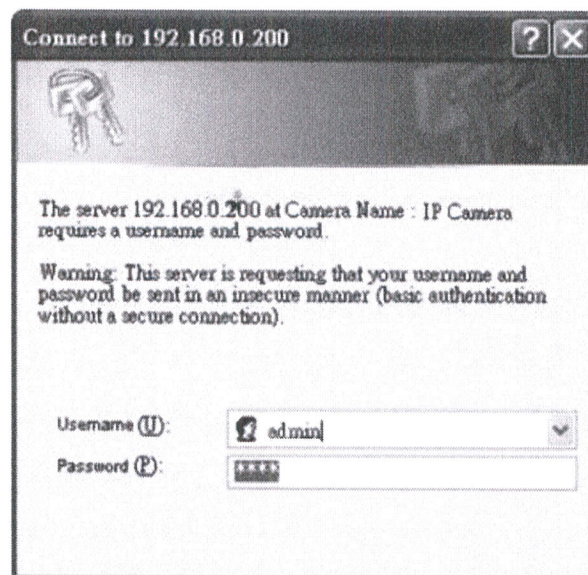
Make sure your Internet browser allows the signed ActiveX plug-in to work on your computer. Set "Download Signed ActiveX plug-in controls" to "Prompt" and "Run ActiveX control and plug-in" to "Enable". You can set this option via Internet Explorer-> Tools-> Options-> Security Settings.





## 6.8. Login

There are two levels of user authentication, including admin and guest, that can access the IP camera. Administrator is authorized to reset basic mode settings and see live video, while the guest is allowed to see only live video.





The default usernames and passwords are as follows:

	Administrator
Username	Admin
Password	pass

To logon the IP camera, please type username and password in logon HTML page and click on Submit button to enter the system.

## 7. Maintenance

### WARNING

- ▶ To avoid dangers due to energized parts, all connections and wiring must be disconnected from the power supply. Secure the connections against unauthorized activation.
- ▶ To avoid risk of burn to hands, let the housing, the cable gland and the protective glass cool down for approximate 30 minutes before touching them.
- ▶ Maintenance work is not permitted on flameproof enclosures. Repairs are only to be carried out by the manufacturer. Unauthorized repair shall cause the manufacturer's liability and warranty expires.

### Regular Maintenance

- ☞ Consult the relevant national regulations (e.g. IEC/EN 60079-17) to determine the type and extent of inspections.
- ☞ Arrange the plan of regular inspection with the equipment, one time per 3-month at least, so that any defects in the equipment which may be anticipated are promptly detected.

### To check as part of the maintenance schedule as following:

- ☞ Cracks or damages on the glass cover and/or on the enclosure.
- ☞ Condition of the connecting cables.
- ☞ Screws of the mounting bracket are tightened.

## 8. Accessories and Spare Parts

### WARNING

Use only original THT-EX accessories and spare parts. For accessories and spare parts, see data sheet at [www.tht-ex.com](http://www.tht-ex.com).

## 9. Transport, Storage and Disposal

- ☞ Transport and storage is only allowed in the original packaging, on the way pointed out on the carton box.
- ☞ Transport – Shock-free in its original carton, do not drop, and handle carefully.
- ☞ Store – Store in a dry place in its original packaging.
- ☞ Disposal – Ensure environmentally friendly disposal of all components according to the legal regulations.

