



# DirectCX Camera

Installation Manual


*TC-T5531WRX*

*TC-T5531WRXP*



*TC-T5532WRX*

# Before reading this manual



This is a basic installation manual for use of an IDIS camera. Users who are using this product for the first time, as well as users with experience using comparable products, must read this manual carefully before use and heed to the warnings and precautions contained herein while using the product. Safety warnings and precautions contained in this manual are intended to promote proper use of the product and thereby prevent accidents and property damage and must be followed at all times. Once you have read this manual, keep it at an easily accessible location for future reference.

-  • The manufacturer will not be held responsible for any product damage resulting from the use of unauthorized parts and accessories or from the user's failure to comply with the instructions contained in this manual.
- The information in this document is believed to be accurate as of the date of publication even though explanation about some functions may not be incorporated. The manufacturer is not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.
- It is recommended that first-time users of this camera and individuals who are not familiar with its use seek technical assistance from their retailer regarding product installation and use.
- If you need to disassemble the product for functionality expansion or repair purposes, you must contact your retailer and seek professional assistance.
- Both retailers and users should be aware that this product has been certified as being electromagnetically compatible for commercial use. If you have sold or purchased this product unintentionally, please replace with a consumer version.

## Safety Symbols

Symbol	Publication	Description
	IEC60417, No.5031	Direct current
	IEC60417, No.5032	Alternating current

## In-Text

Symbol	Type	Description
	Caution	Important information concerning a specific function.
	Note	Useful information concerning a specific function.

## Safety Precautions

### WARNING

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

**WARNING:** TO REDUCE THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER (OR BACK).  
NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### Important Safeguards

#### 1. Read Instructions

All the safety and operating instructions should be read before the appliance is operated.

#### 2. Retain Instructions

The safety and operating instructions should be retained for future reference.

#### 3. Cleaning

Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

#### 4. Attachments

Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

#### 5. Water and/or Moisture

Do not use this equipment near water or in contact with water.

#### 6. Placing and Accessories

Do not place this equipment on an wall or ceiling that is not strong enough to sustain the camera. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.



This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

Do not place this equipment in an enclosed space. Sufficient ventilation is required to prevent an increase in ambient temperature which can cause malfunction or the risk of fire.

#### 7. Power Sources

This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.

You may want to install a UPS (Uninterruptible Power Supply) system for safe operation in order to prevent damage caused by an unexpected power stoppage. Any questions concerning UPS, consult your UPS retailer.

This equipment should be remain readily operable.

#### 8. Power Cord

Operator or installer must remove power and TNT connections before handling the equipment.

#### 9. Lightning

For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges. If thunder or lightning is common where the equipment is installed, use a surge protection device.

#### 10. Overloading

Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

#### 11. Objects and Liquids

Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

#### 12. Servicing

Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

#### 13. Damage requiring Service

Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or the plug has been damaged.
- If liquid is spilled, or objects have hit the equipment.
- If the equipment has been exposed to rain or water.
- If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.
- If the equipment has been dropped, or the cabinet damaged.
- When the equipment exhibits a distinct change in performance — this indicates a need for service.

#### 14. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

#### 15. Safety Check

Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

#### 16. Field Installation

This installation should be made by a qualified service person and should conform to all local codes.

#### 17. Correct Batteries

Warning: Risk of explosion if battery is replaced by an incorrect type. Replace only with the same or equivalent type. Dispose of used batteries according to the instructions. The battery shall not be exposed to excessive heat such as sunshine, fire or the like.

#### 18. Tmra

A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

## FCC Compliance Statement

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

**WARNING:** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT. THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE CAUSING EQUIPMENT REGULATIONS.

## WEEE (Waste Electrical & Electronic Equipment)

### **Correct Disposal of This Product**

**(Applicable in the European Union and other European countries with separate collection systems)**



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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The information in this manual is believed to be accurate as of the date of publication even though explanation about some functions may not be incorporated. We are not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

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# Part 1 – Introduction

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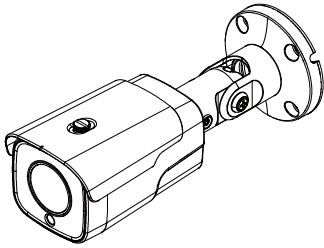
## Product Features

**TC-T5531WRX/TC-T5531WRXP/TC-T5532WRX** is an analog camera that transmits video over coaxial.

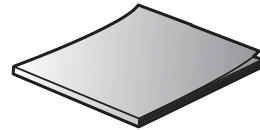
- Supports DC 12V, AC 24V and PoC (Power over Coaxial) *Power source for each model —see product specifications on the back page.*
- TVI /AHD /SD video output support.
- Support for Smart IR
- Support for Fog function
- Wide dynamic range compensation (True WDR) for improved video quality in high-contrast situations
- Sense-up support for improved low-lighting video capture performance
- Day & Night feature (built-in IR cut filter changer)
- Auto focus functionality
- Event detection modes: Motion Detection
- Includes a motorized focus and zoom auto IRIS lens
- IK10, IP67-level for water resistant protection and dust proof against rain and dust

## Accessories

Upon purchasing the product, check inside the box to make sure all the following accessories are included. External appearances and colors of the accessories may vary depending on the model.



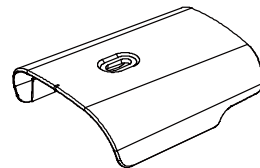
Camera



Quick Guide



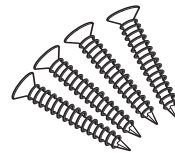
Bushings (4 ea.)



Camera Sun Shield



Sun Shield Screw



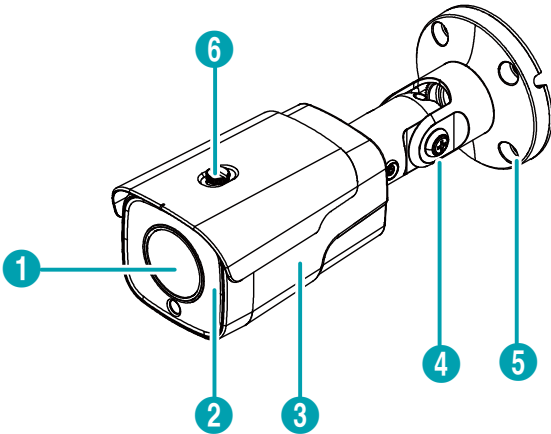
Screws (4 ea.)

## Overview



Product color and design may vary depending on the model.

### Body



- **Lens**  
Motorized focus and zoom lens is installed.
- **IR LED**  
A sensor in the bottom middle monitors lighting levels and activates the IR LED during low-lighting conditions.
- **Body**  
The cables are connected through the stand.
- **Stand**  
Allows you to adjust the camera direction and lens' rotation angle.
- **Installation Bracket**  
Install the camera to on the wall or ceiling.
- **Sun Shield Screw Hole**  
Connect the screws to secure the camera sunshield supplied with the product to the camera.



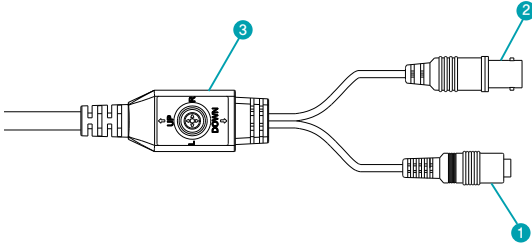
If the camera is not equipped with a lens, protect the image sensor using the protective cover provided with the camera.

1	Lens
2	IR LED
3	Body
4	Stand
5	Installation Bracket
6	Sun Shield Screw Hole



## I/O Device Port

### TC-T5531WRX / TC-T5532WRX



1	Power In (DC 12V / AC 24V)
2	BNC Video Out
3	OSD Button

#### • Power In

Connect to the power adapter. (DC 12V / AC 24V)

*AC 24V—TC-D5532RX/WRX only*

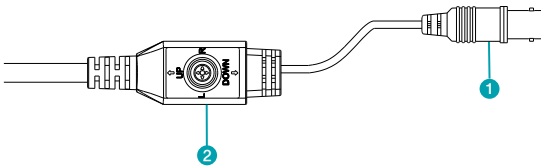
#### • BNC Video Out

Connect to the DVR

#### • OSD Button

Use to set the OSD menu.

### TC-T5531WRXP



1	BNC Video Out (Black cable)
2	OSD Button

#### • BNC Video Out

Connect to the PoC Power Unit.



For the TC-T5531WRXP, CVBS is available as a preview only when the camera is being installed.

#### • OSD Button

Use to set the OSD menu.



The following table describes the DC 12V, AC 24V, and coaxial cable specifications.

<DC 12V cable specifications>

Cable Type (AWG)		#22	#20	#18
Maximum length	TC-T5531 WRX/WRXP	20m	32m	52m
	TC-T5532 WRX	16m	26m	41m

<AC 24V cable specifications>

Cable Type (AWG)		#22	#20	#18
Maximum length	TC-T5532 WRX	60m	80m	100m

<The coaxial cable specifications>

Item	Content		Note
Connector	BNC		
Cable	3C-2V	5C-2V	
Maximum Length	300m	500m	



You can change the video output format by using the OSD button.

- **CVBS:** Press the **UP** button three times, and then press the center of the OSD button.
- **TVI:** Press the **LEFT** button three times, and then press the center of the OSD button.
- **AHD:** Press the **RIGHT** button three times, and then press the center of the OSD button.



You can change operate MFZ lens by using the OSD button.

- **ZOOM IN:** Press the **UP** button.
- **ZOOM OUT:** Press the **DOWN** button.
- **Focus NEAR:** Press the **LEFT** button.
- **Focus FAR:** Press the **RIGHT** button.



Organize the power cable so that it will not cause people to trip over or become damaged from chairs, cabinets, desks, and other objects in the vicinity. Do not run the power cable underneath carpet or a rug or plug the cable into a power outlet shared by a number of other devices.


## Installation

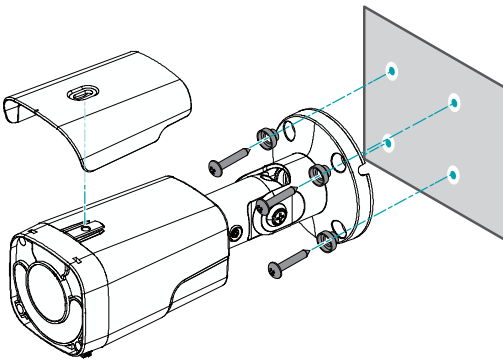
Installation of this product does not require the use of special tools.

For more information on other devices comprising the overall system, refer to their respective **installation manuals**.

Product color and design may vary depending on the model.

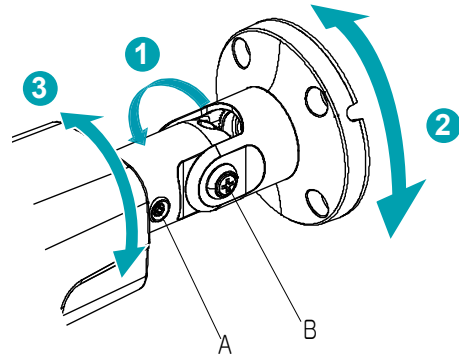
## Installation

-  Check the wall or ceiling to see if it needs to be reinforced. The camera may fall off if the wall or ceiling is not strong enough to support its weight.
- Install the camera in a shaded area. If the camera is installed in direct sunlight, it may be affected adversely.



- 1 Screw the camera sun shield to the camera using the screw and rubber provided with the camera.
- 2 Screw the bottom cover to the wall or ceiling by using screws(4) and bushings(4) provided with the camera.
- 3 Band the stand to adjust the camera angle accordingly. For details, refer to the **angle adjustment** section.
- 4 Connect the external device and power adapter.
- 5 Apply Power.

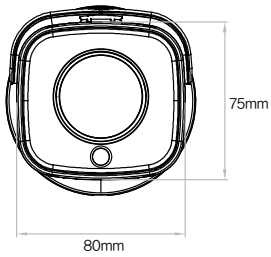
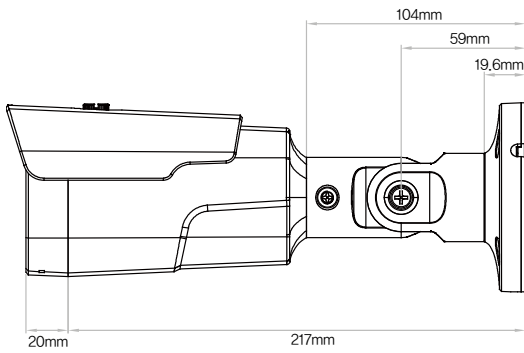
## Angle Adjustment



1	Vertical (Tilt) Rotation
2	Horizontal (Pan) Rotation
3	Lens Rotation

- **Vertical (Tilt) Rotation**  
After fully assembling the screw B, loosen the 2 to 2.5 wheels again and move the cover of the 2 joints on the left side to slightly open. (However, make sure the screws are not fully loosened so that it comes off). Once the camera has been oriented, turn the screws clockwise to fully secure them.
- **Horizontal (Pan) Rotation**  
After fully assembling the screw B, loosen the 2 to 2.5 wheels again and move the cover of the 2 joints on the left side to slightly open. (However, make sure the screws are not fully loosened so that it comes off). Once the camera has been oriented, turn the screws clockwise to fully secure them.
- **Lens Rotation**  
After fully assembling the screw A, loosen the 2 to 2.5 wheels again to orient the camera and turn the screw clockwise to secure it fully.

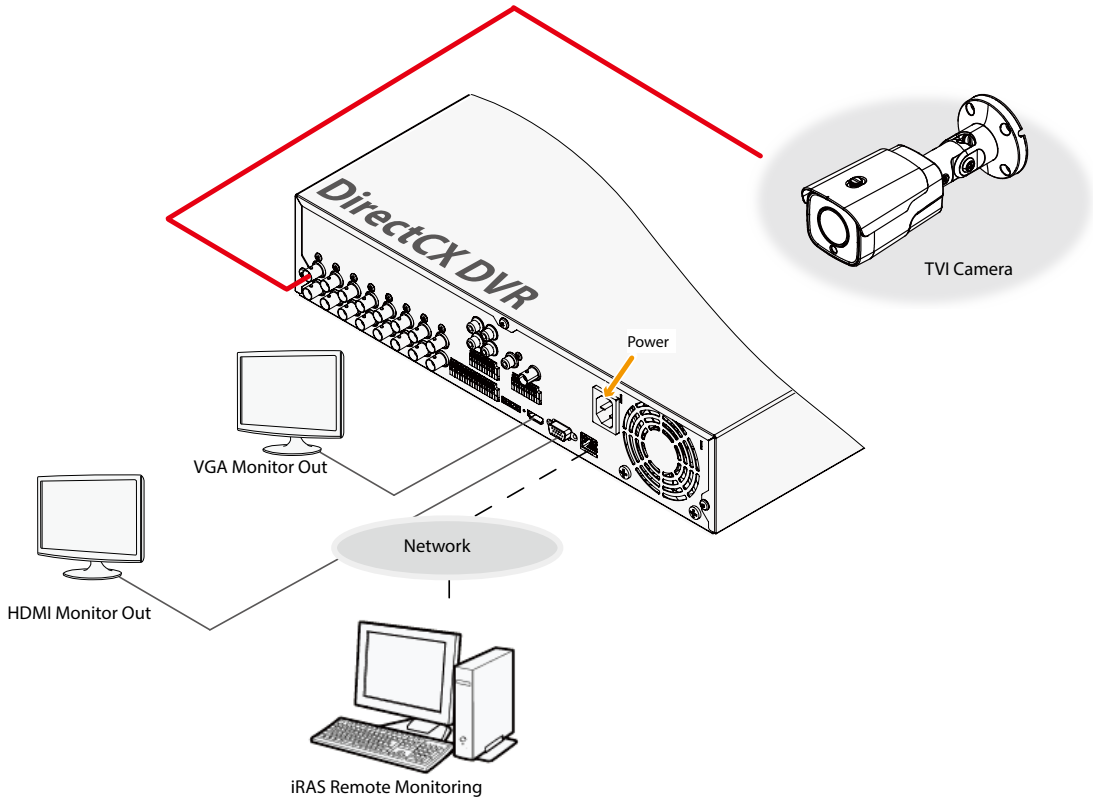
## Dimensions



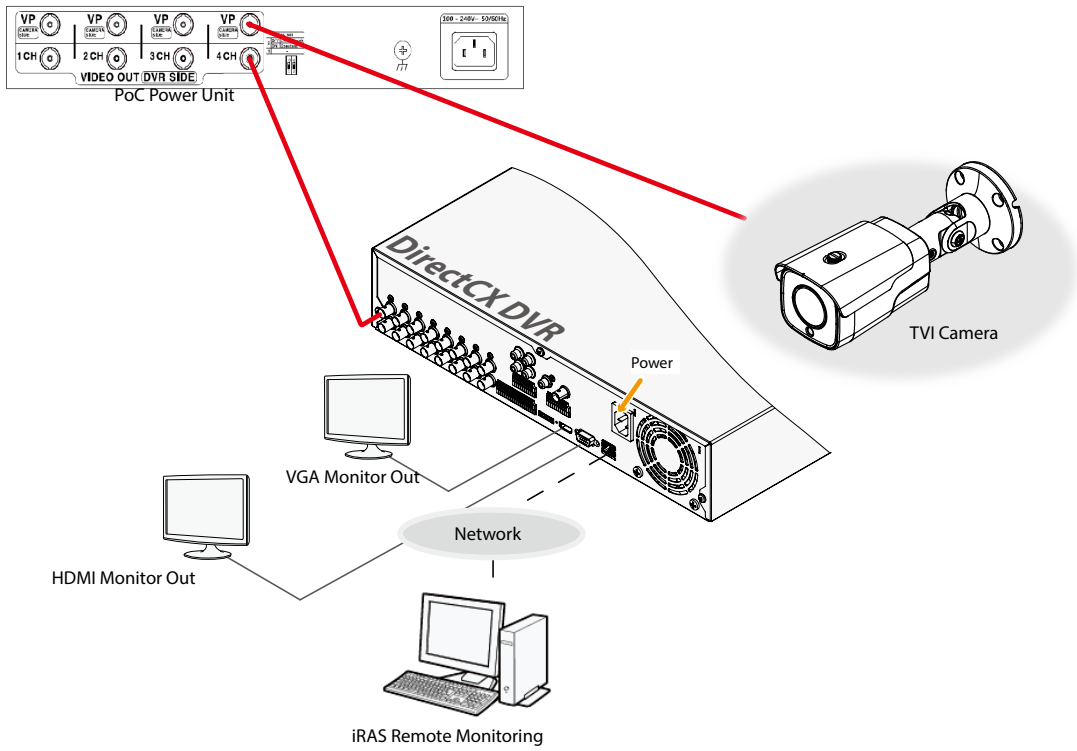
# Part 2 - Camera Connection

## DirectCX DVR Layout

TC-T5531WRX



TC-T5531WRXP



## Part 3 - Appendix

### Troubleshooting

Problem	Check
<b>The main unit won't turn on.</b>	<ul style="list-style-type: none"><li>• Check the power cable connection. If using the PoC power, check the connection of the coaxial cable.</li><li>• Check the power outlet. If using the PoC power, check the device power.</li></ul>
<b>I can't see Live videos.</b>	<ul style="list-style-type: none"><li>• Check the camera's power status.</li><li>• Check the connection status of the DVR device.</li><li>• For using the PoC power, check the connection status of the PoC device.</li></ul>
<b>Images are blurry.</b>	<ul style="list-style-type: none"><li>• Make sure the lens is clean. If not, clean it using a soft piece of cloth or a brush.</li><li>• Make sure the lens is in focus.</li><li>• If there is too much light coming into the camera or the camera is picking up an overly bright light source, adjust the camera's position/angle accordingly.</li></ul>
<b>Video color appears incorrect.</b>	Check the white balance settings. If using the <b>Auto</b> option, it may take some time for the white balance to be adjusted.
<b>Images are blinking.</b>	If the camera is pointed at the sun or a fluorescent lamp, adjust the camera's angle away.

## Specifications



These product specifications may change without prior notice.

### Camera

<b>Image Sensor</b>		1/2.8" CMOS
<b>Max. Resolution</b>		2592 x 1944
<b>Scanning Mode</b>		Progressive Scan
<b>Lens type</b>		Motorized Vari-focal
<b>Focal Length</b>		f=3 - 13.5mm
<b>Aperture</b>		F1.4 - 3.2
<b>Iris Control</b>		DC Iris
<b>Angular Field of View</b>	<b>5M (2592 x 1944)</b>	H: 91° (Wide) ~ 31° (Tele) V: 66° (Wide) ~ 23° (Tele) D: 120° (Wide) ~ 38° (Tele)
	<b>4M (2560 x 1440)</b>	H: 91° (Wide) ~ 31° (Tele) V: 49° (Wide) ~ 17° (Tele) D: 107° (Wide) ~ 35° (Tele)
<b>Min. Illumination</b>		COLOR : 0.13 lux F1.4 B/W : 0 lux (IR LED ON)
<b>Dynamic Range</b>		True WDR
<b>Electronic Shutter Speed</b>		Auto / Manual (1/30 ~ 1/30000), Anti-Flicker, Sense-up(OFF, X2, X4, X8, X16, X32)
<b>White Balance</b>		Auto / Auto Expansion / AWC-SET / Manual
<b>Day &amp; Night</b>		Auto / Manual
<b>IR Distance (LEDs)</b>		30m (4ea)

## General

<b>Operating Temperature</b>		-10°C ~ 55°C (-50°F ~ +131°F)
<b>Operating Humidity</b>		0% ~ 90%
<b>Power Source</b>	<b>TC-T5531WRX</b>	DC 12V
	<b>TC-T5531WRXP</b>	PoC
	<b>TC-T5532WRX</b>	DC 12V, AC 24V
<b>Power Consumption</b>	<b>TC-T5531WRX</b>	Max. 6.6W
	<b>TC-T5531WRXP</b>	Max.7.4W
	<b>TC-T5532WRX</b>	DC 12V Max. 8W AC 24V Max. 8.3W
<b>Approval</b>		FCC, CE, IK10, IP67 <i>No FCC CE certification for TC-5531WRXP</i>
<b>External Dimensions (Ø x H)</b>		80mm X 75mm X 217mm (3.14" X 2.95"X 8.54 ")
<b>Weight (Main Unit)</b>	<b>TC-T5531WRX, TC-T5532WRX</b>	0.87kg (1.91lb)
	<b>TC-T5531WRXP</b>	0.93kg (2.05lb)

## Video

<b>Video Output</b>	TVI / AHD / SD
<b>Max. Frame Rate</b>	20fps : 2592 x 1944 12.5fps : 2592 x 1944 30fps : 2560 x 1440 30fps : 1920 x 1080 30fps : 720 x 480
<b>Supported Resolution</b>	2592 x 1944, 2560 x 1440, 1920 x 1080, 720 x 480







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