Four-Faith

5G | WDR | Smart IR | IP67

RS232 | RS485 | Cloud Platform | H.265

## Introduction

**F-SC242** IoT RTU camera as the main product of the intelligent IoT surveillance system, specially designed for industrial-grade IoT applications. The camera can provide long distances and low latency HD video wirelessly by using the industrial 4G/5G module. At the same time, the built-in high-performance industrial-grade MCU will acquire data from various types of sensors and process basic protocol conversion, performs AI video analysis at the front-end in real-time.

### High Performance

- ▶ Support various IoT protocol
- ▶ Embedded RTU function allow user to do active acquisition from sensors
- ▶ Integrated with most common IoT interfaces
- ▶ Remote management SYSLOG/SNMP/SSH/HTTPS
- ▶ H.265, optimized in bit rate, bandwidth, and storage usage, 50% off than H.264.
- ▶ Super WDR, up to 140dB wide dynamic range
- ▶ Support remote management & upgrade

### Stability & Reliability

- ▶ WDT Watchdog design to ensure system stability
- ▶ Adopt a complete anti-drop mechanism
- ▶ Built-in 1.5KV electromagnetic isolation protection for Ethernet interface
- ▶ RS232/RS485 interface power and data isolation with CSA, UL and IEC standards
- ▶ SIM/UIM card interface built-in 15KV ESD protection
- ▶ Built-in reverse phase protection and over voltage protection for power interface

### Standard & Convenience

- ▶ Standard RS232, RS485 and Ethernet interfaces
- ▶ Front-end edge integration and equipment intercommunication linkage
- ▶ Easy to use, flexible, multiple working mode options
- ▶ Support DIN-rail, pole-mounted installation

# 5G/4G IoT RTU IP Camera F-SC242



- ▶ High-performance industrial-grade wireless module
- ▶ SONY top-level CMOS sensor
- ▶ Metal casing, protection grade IP67. Metal housing and system safety isolation
- ▶ Industrial-grade components

**Industrial-grade Design**

## Product Specification

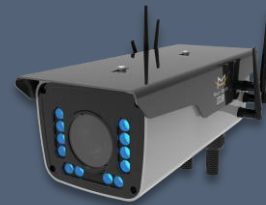| Camera | | |
|---|---|---|
| **Model** | **F-SC242-51 (Fixed Len)** | **F-SC242-516 (16X)** |
| **Items** | **Contents** | |
| Image Sensor | 1/2.8″ Progressive Scan CMOS | |
| Resolution | 5MP | |
| Min. Illumination | Color: 0.002Lux@F1.2  B/W: 0Lux with IR on | |
| Shutter Time | 1/100000s~1/5s | |
| IR Distance | 150m | |
| White Light Distance | 100m | |
| Day & Night | ICR Filter Auto Switch | |
| Lens | Fixed Lens  2.8mm @F2.0 | 16X AF Motorized Lens  5.9~94.5mm @F1.8~F3.9 |
| Field of View | H123°/D142°/V68° | H54.8°~H3.59°  D62°~D4.1°  V31.5°~V2.03° |
| Video | | |
| **Items** | **Contents** | |
| Max. Image Resolution | 2560×1920 | |
| Primary Stream | 30fps@(2560×1920,  1280×960,1280×720, 704x576) | |
| Secondary Stream | 30fps@(704x576, 640×480, 640×360, 352x288, 320x240, 320x192, 320x176 ) | |
| Tertiary Stream | 30fps@(1920×1080, 1280×720, 704×576, 640×480, 640×360, 320×240, 320x192, 320x176 ) | |
| Video Compression | H.265(HEVC)/H.264/MJPEG | |
| Bit Rate | 16Kbps~16Mbps (CBR/VBR Adjustable) | |
| Image Setting | Brightness/Contrast/Saturation/Sharpness | |

# 5G/4G IoT RTU IP Camera F-SC242

## Network

| Items | Contents |
|---|---|
| Ethernet | 1*RJ45 10M/100M/1000M Ethernet Port |
| Network Storage | NAS (Support NFS, SMB/CIFS) |
| Protocol | IPv4/IPv6, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DHCP, NTP, SNMP, NFS, CIFS, DDNS |

## System

| Items | Contents |
|---|---|
| Storage | Support microSD/SDHC/SDXC Card Local Storage, up to 512G |
| Advanced Function | Motion Detection, Privacy Masking, Backlight Compensation, HLC, 2D DNR, 3D DNR, ROI, Anti-fog, White Balance, EIS, IP Address Filtering |
| Event Trigger | Motion Detection, External Input, etc. |
| Event Action | FTP Upload/SMTP Upload/SD Card Record |
| Video Analysis (Optional) | Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Loitering, Human Detection, People Counting, Object Left, Object Removed (* In development) |

## Cellular (Optional)

| Items | Contents |
|---|---|
| Standard & Band | 5G, LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, GPRS/EDGE |
| Bandwidth | 5G NR: Downstream rate 3.4Gbps, uplink rate 350Mbps<br>FDD-LTE: Downstream rate 150Mbps, uplink rate 50Mbps<br>TD-LTE: Downstream rate 130Mbps, uplink rate 35Mbps |
| Transmit Power | <23dBm |
| Sensitivity | <-97dBm |

## GPS (Optional)

| Items | Contents |
|---|---|
| GPS Module | Industrial GPS module，compatible with Beidou, GLONASS |
| Accuracy | Positioning: 2.5m CEP<br>SBAS: 2.0m CEP |
| Sensitivity | Tracking: -160dBm<br>Recapture: -160dBm<br>Cold Boot: -146dBm |

## WIFI (Optional)

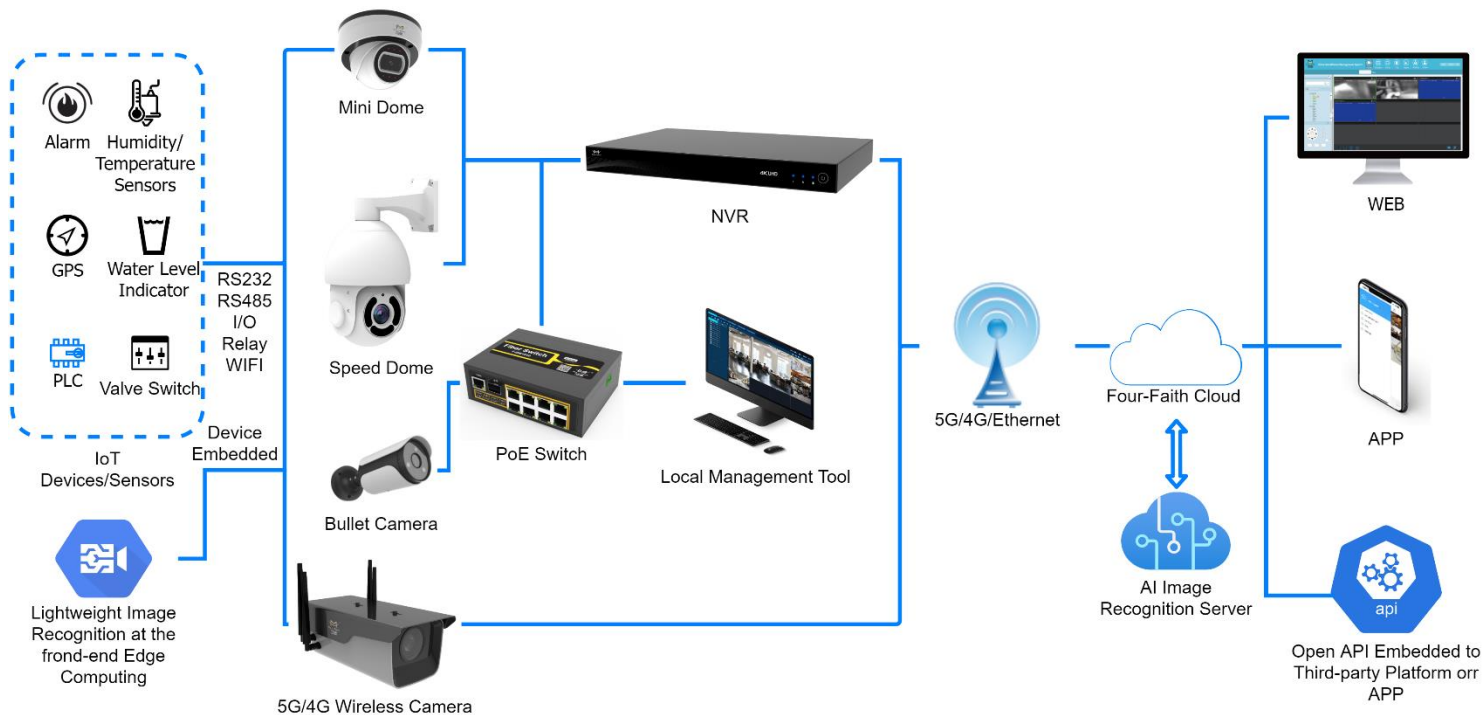| Items | Contents |
|---|---|
| Encryption Mode | WEP, WAP |
| Standard & Band | Support IEEE802.11b/g/n, 2.4G, support AP & Client mode |
| Bandwidth | IEEE802.11b/g: Maximum speed rate 54Mbps<br>IEEE802.11n: Maximum speed rate 150Mbps |
| Transmit Power | 26dBm (11b), 21.5dBm (11g), 20dBm (11n) |
| Sensitivity | <-72dBm @ 54Mbps |

# 5G/4G IoT RTU IP Camera F-SC242

| Interfaces | |
|---|---|
| **Items** | **Contents** |
| **DC-12V IN** | Standard DC12V，Support 12~60V |
| **Audio I/O @Audio Compression** | 1/1&G.711/AAC |
| **IO & Relay** | 2 x DI, 2 x DO, 2 x Relay |
| **ADC** | 2@12bit |
| **UART** | 2 x RS232 & 2 x RS485 |
| **Power Return** | 12V@500MA or 5V@1000MA |
| **Storage** | Internal Micro SD Slot, support Micro SD/Micro SDHC/Micro SDXC card (Support Maximum 512G)<br>Internal 2.5" Hard Disk SATA interface, support maximum 4TB HDD or SSD（Fixed Len Version Only） |
| **Network** | 1x 10/100/1000M RJ45 |
| **Interface Type** | M16 Waterproof Interface |

| Protocol & Industrial Standard | |
|---|---|
| **Items** | **Contents** |
| **Protocol & Industrial Standard** | Onvif Profile S<br>GB/T28181-2016<br>Modbus RTU<br>MQTT<br>IEC101*, IEC104* (*In development) |

| Others | |
|---|---|
| **Items** | **Contents** |
| **Working Temperature** | -40℃~75℃ |
| **Working Humidity** | 0~90% (Non-condensing) |
| **Power Supply** | PoE (802.3at) |
| **Power Consumption** | Standby < 0.3W<br>4G Date Mode < 4W<br>4G Night Mode < 15W |
| **Waterproof** | IP67 |
| **Explosion-proof** | IK09 |
| **Weight** | 3.55 KG（Without Accessories） |
| **Dimensions** | 297*140*110mm （Without Accessories） |
| **Warranty** | 1 Year |

# 5G/4G IoT RTU IP Camera F-SC242

## Topology



- Alarm
- Humidity/Temperature Sensors
- GPS
- Water Level Indicator
- PLC
- Valve Switch

**IoT Devices/Sensors**

Lightweight Image Recognition at the frond-end Edge Computing

RS232 RS485 I/O Relay WIFI

Device Embedded

Mini Dome

Speed Dome

Bullet Camera

5G/4G Wireless Camera

PoE Switch

NVR

Local Management Tool

5G/4G/Ethernet

Four-Faith Cloud

AI Image Recognition Server

WEB

APP

api

Open API Embedded to Third-party Platform orr APP

## Dimension (mm)



297

110

140

110

**Note: There may be differences between models of accessories and interfaces, actual products shall prevail**

# 5G/4G IoT RTU IP Camera F-SC242

## Order Information

| Models | Megapixel | Lens | Description |
|---|---|---|---|
| **F-SC242-51-5G** | 5MP | Fixed Lens | SD, DC&POE, 5G High-speed Module, Support 2.5-inch HDD/SSD |
| **F-SC242-516-5G** | 5MP | 16X AF Motorized Lens | SD, DC&POE, 5G High-speed Module |
| **F-SC242-51-4G** | 5MP | Fixed Lens | SD, DC&POE, 4G High-speed Module Support 2.5-inch HDD/SSD |
| **F-SC242-516-4G** | 5MP | 16X AF Motorized Lens | SD, DC&POE, 4G High-speed Module |

## Naming Convention

# F-SC242-516- 5GGP

Bullet

**2**-2MP
**5**-5MP

**1-** Fixed Len
**16-** 16X Len

**5G**-5G Cellular
**4G**-4G
**WF**-WIFI
**GP**-GPS
**CZ**-Customized
**RT**-Routing Function