Four-Faith

5G/4G IoT RTU IP Camera

F-SC242



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

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Industrial-grade Design

- 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

Product Specification

Processor & Camera		
Model	**F-SC242-516 (16X)**	**F-SC242-516 5G RedCap(16X)**
Items	**Contents**	
Image Sensor	1/2.8″ Progressive Scan CMOS	
Resolution	5MP	
CPU	Quad core ARM Cortex-A7	
NPU	2.0Tops, support INT8/INT16	
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	16X AF Motorized Lens 5.9~94.5mm @F1.8~F3.9	
Field of View	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	

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Network		
Model	**F-SC242-516 (16X)**	**F-SC242-516 5G RedCap(16X)**
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)	Human-vehicle recognition, passenger flow counting, water level detection, mask detection, etc. Provides deep customization of target detection and tracking algorithms tailored to industry-specific scenarios.	
Cellular (Optional)		
Items	**Contents**	
Standard & Band	5G, LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, GPRS/EDGE	
Bandwidth	5G NR: DL 3.4Gbps, UL 350Mbps FDD-LTE: DL 150Mbps, UL 50Mbps TD-LTE: DL 130Mbps, UL 35Mbps	DL: 226Mbps UL: 120Mbps
Transmit Power	<23dBm	
Sensitivity	<-97dBm	
GPS (Optional)		
Items	**Contents**	
GPS Module	Industrial GPS module，compatible with Beidou, GLONASS	
Accuracy	Positioning: 2.5m CEP SBAS: 2.0m CEP	
Sensitivity	Tracking: -160dBm，Recapture: -160dBm，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 IEEE802.11n: Maximum speed rate 150Mbps	
Transmit Power	26dBm (11b), 21.5dBm (11g), 20dBm (11n)	
Sensitivity	<-72dBm @ 54Mbps	

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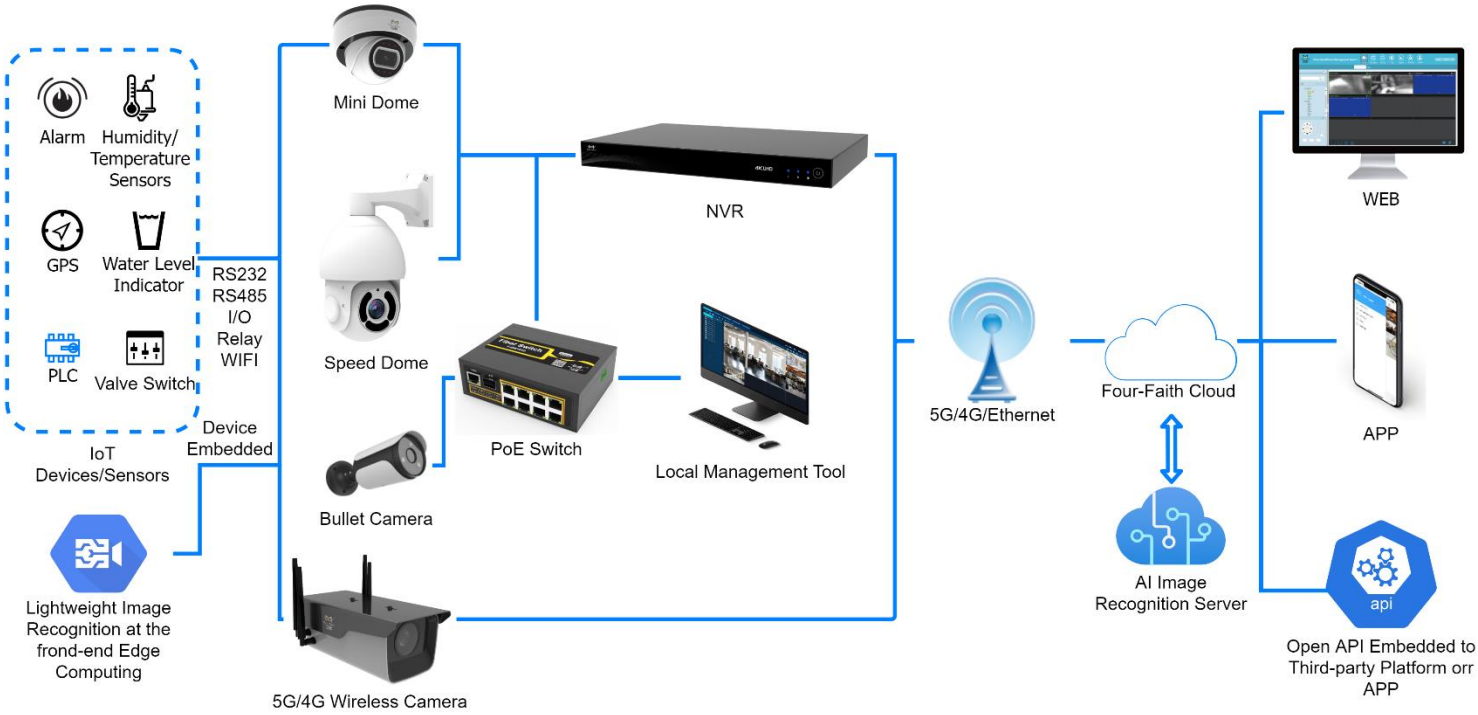


Interfaces		
Model	**F-SC242-516 (16X)**	**F-SC242-516 5G RedCap(16X)**
Items	**Contents**	
DC-12V IN	Standard DC12V，Support 12~60V	
Audio I/O @Audio Compression	1/1&G.711/AAC	
IO & Relay	2 x DI, 2 x DO, 2 x Relay	
ADC	2@12bit	
UART	2 x RS232 & 2 x RS485	
Power Return	12V@500MA or 5V@1000MA	
Storage	Internal Micro SD Slot, support Micro SD/Micro SDHC/Micro SDXC card (Support Maximum 512G) Internal 2.5” Hard Disk SATA interface, support maximum 4TB HDD or SSD	
Network	1x 10/100/1000M RJ45	
Interface Type	M16 Waterproof Interface	
Protocol & Industrial Standard		
Items	**Contents**	
Protocol & Industrial Standard	Onvif Profile S GB/T28181-2016 Modbus RTU MQTT 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 4G Date Mode < 4W 4G Night Mode < 15W	
Waterproof	IP67	
Explosion-proof	IK09	
Weight	3.55 KG（Without Accessories）	
Dimensions	297*140*110mm （Without Accessories）	
Warranty	1 Year	

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Topology



Dimension (mm)



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

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Order Information

Models	Megapixel	Lens	Description
F-SC242-516-5G	5MP	16X AF Motorized Lens	SD, DC&POE, 5G High-speed Module
F-SC242-516-4G	5MP	16X AF Motorized Lens	SD, DC&POE, 4G High-speed Module
F-SC242-516-5G RedCap	5MP	16X AF Motorized Lens	SD, DC&POE, 5G RedCap Module

Naming Convention

