

Smart3100

Edge AI Gateway



Overview

Smart3100 is a powerful and reliable AIoT edge computing terminal powered by octa-core CPU, with 8GB RAM and 32GB eMMC for high-performance computing. Running on Linux, it supports flexible secondary development and integrates hardware encryption chips to ensure software and data security. With support for mainstream PLC protocols, Smart3100 enables efficient industrial data acquisition, processing, and cloud connectivity, while supporting Hongdian Sandora Cloud Platform management. Based on advanced deep learning algorithms, it provides real-time video analytics for applications such as smart energy, smart distribution rooms, smart retail, and intelligent security.

Highlights



AI-Powered, Open Platform

- High-performance domestic octa-core CPU with 6 TOPS AI computing power and a rich AI algorithm library
- Open software architecture supporting Docker environments and secondary development



Multi-Network Connectivity, Reliable Data Transmission

- Supports 4G/5G, Gigabit Ethernet, and Wi-Fi connectivity
- Supports GPS positioning with highly available Internet access
- Wired/wireless redundancy and dual SIM backup ensure reliable data transmission



Rich Interfaces, Flexible Adaptation for Various Scenarios

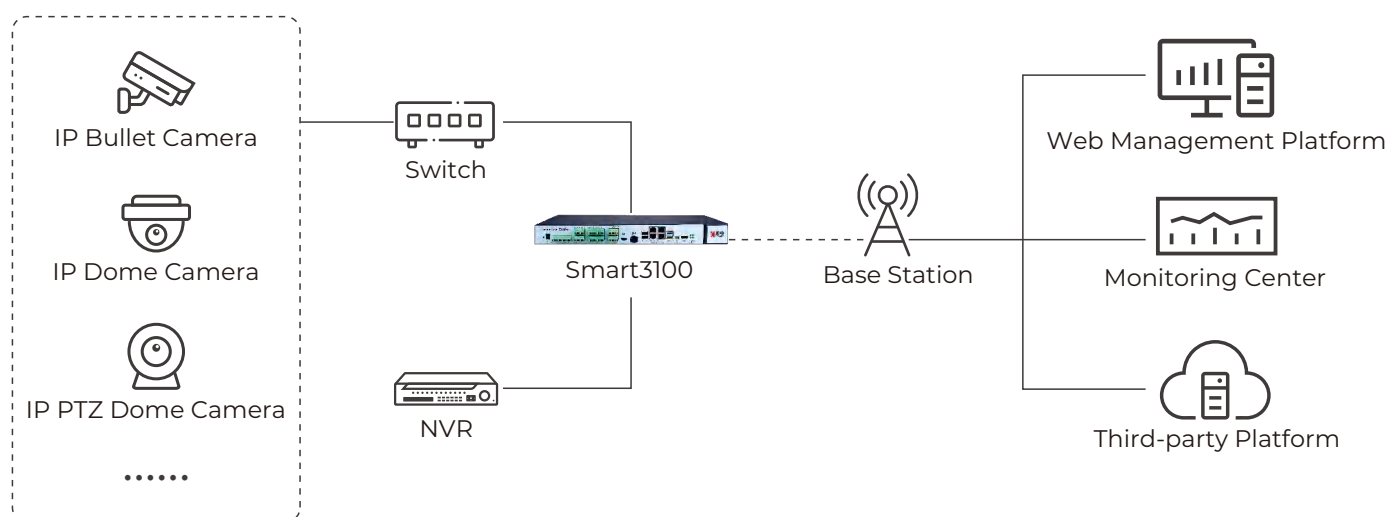
- Multiple communication interfaces including RS232/485, 4 Ethernet ports, multiple USB ports, 4-channel AIO, and 8-channel DIO
- Eight-antenna design supporting multiple wireless connections, including LTE/Wi-Fi/LoRa/Bluetooth (expandable)
- Supports 16-channel real-time video encoding/decoding and 8K video output



Data Acquisition & Cloud Integration, Easy Deployment

- Supports mainstream PLC communication protocols such as Modbus RTU/TCP, BACnet, Ethernet, and OPC-UA
- Compact 1U server form factor with rack-mount installation support for easy deployment

Topology diagram



Smart Power
Distribution Room



Smart Energy



Smart Retail



Intelligent Security

Specification

Hardware			
CPU	Rk3588	Memory	8GB/16GB
NPU	6Tops	Built-in storage	32GB/64GB/128GB
Cellular Interface			
Modem	1 × LTE Cat4 or 1 × 5G NR SA/NSA	Number of Antennas	2 for LTE Cat4 or 4 for 5G
Connector	SMA-K	SIM	2×Mini SIM (2FF) (eSIM optional)
Wireless Interface			
Standards	802.11b/g/n/ac/ax, AP or station modes		
Security	WEP, WPA, WPA2	Frequency Bands	2.4 GHz & 5 GHz
Antennas	2	Connector	SMA-K
GNSS Interface			
Number of Antennas	1 (optional)	Connector	SMA-K

Peripheral Interface			
Ethernet	2 × LAN 10/100/1000Mbps + 2×WAN/LAN 10/100/1000Mbps, Ethernet		
Serial	2 × RS-232 + 6 × RS-485	USB	2 × USB3.0, 2 × USB2.0
TF Card	1	Can	1
I/O	4 × Relay Switch, 8 × DI, 4 × AI, 4 × GPIO	Audio	Audio in/out
Display	1 × HDMI, maximum resolution 2K@30Hz, supports audio		
Loud-speaker Port	1 × PH2.02 × 3P speaker header, power amplifier output (4ohm, 5W)		
Software			
Video Code	H.265/H.264/VP9, 4K@60fpsHD video decoding		
Image processing	BMP, JPG, PNG, GIF		
AI algorithm	Face application, fall application, flame application, people flow application, counting application, license plate application, area intrusion, petroleum work clothes application, phone call application, safety helmet application, reflective clothing application, smoke application, water gauge application, animal application, lighting application, mask application, motion detection.		
Network	Muit-DNN, APN, VPDN, QoS, 5G LAN	Docker	Support docker container function
Power Supply and Consumption			
Connector	DC-Jack	Voltage Input	DC 9~36V, including ACC
Power Consumption	Idle: 330mA@12V DC, Data transceiving: 750mA@12V DC		
Others			
Reset Button	Yes	Hardware Watchdog	Yes
LED Indicators	4 indicators for SYS, WiFi, NET, PWR		
Physical Characteristics			
Ingress Protection	IP43	Housing & Weight	Aluminum+ABS plastic, about 900g
Dimension	430.6 × 243.6 × 43.5(mm)	Installations	Rack-mounting
Operating Temperature	-30 ~ +70 °C	Storage Temperature	-40 ~ +80 °C
Relative Humidity	0~90%(no condensation)		

Appearance

