

Sphinx

Ruggedized AI camera with 5G connectivity and real-time analytics

Introduction

Sphinx is a self-contained, ruggedized AI camera powered by NVIDIA Jetson Orin™ NX and Xavier™ NX system-on-modules. With dual image sensors that deliver outstanding low-light performance and built-in IR illumination, the camera offers a reliable solution for deploying various AI applications, including automatic number plate recognition (ANPR), public safety, and intelligent traffic management systems (ITMS). Sphinx has Gigabit Ethernet and 5G connectivity, ensuring seamless operations even in challenging environments.

Key Features

- Self-contained, ruggedized AI camera supercharged with NVIDIA Jetson Orin™ NX and Xavier™ NX system-on-modules.
- IP65 rated
- Dual image sensors:
 - 5 MP (30 FPS) Fixed focus, wide field of view
 - 2.3 MP (100 FPS) with optical zoom
- A 100 FPS sensor with 3 to 13.5mm motorized varifocal lens enables efficient recognition for fast-moving vehicles, capturing license plates from 20 meters across multiple lanes.
- The camera's built-in IR illumination enables it to operate in low-light conditions.
- Sphinx features built-in intuitive software that enables operators to configure and optimize image sensor performance in real-time.
- 256GB Industrial-grade NVMe storage.
- Mounting bracket with articulating arm



Specification

General	Processor	NVIDIA Jetson Xavier NX 8GB/16GB NVIDIA Jetson Orin NX 8GB/16GB
	BSP	Jetpack 5.1.1
	Storage	256GB NVMe, extreme temperatures ranging from -40°C to 85°C.
	Power Input	9V-16V DC input through M12 connector
	Certification	CE, FCC, LVD, RoHS, REACH
Physical I/O	Power/RS232	1 x DC jack, RS232 and reset (M12 connector)
	Ethernet	1x LAN port with 10/100/1000M (M12 connector)
	SIM slot	1x Nano SIM slot
	SMA (Male)	1x SMA connector for 5G antenna 2x SMA connectors for 5G/4G antennas 2x SMA connectors for WiFi antennas 1x SMA connector for GNSS antenna
	Waterproof Valve	1x IP65 Valve
Infrared LED	Peak Wavelength	4 high power LEDs, InfraRed @ 850 nm
	Radiant Distance	10 meters
Wireless Network	WiFi	Support Intel® Wireless-AC 9260 Wifi module
	5G / GPS	Support Quectel RM502Q-AE 5G module (PTCRB certified)
	4G / GPS	Support Quectel 4G module
Environment	Operating Temp.	-20°C ~ +50°C
	Storage Temp.	-40°C ~ +85°C
	Storage Humidity	95% @ 40°C (non-condensing)
	IP protection	IP65
	Condensation Resistance	System with anti-fog design and hydrophobic glass
Mechanical	Dimension	285 x 163 x 95 mm (L x W x H) (without antenna)
	Weight	3.8kg
	Installation	Wall Mount Pole Mount
Operation System	DeepStream SDK version	v.6.2.0
	CUDA Driver / Runtime Version	v.11.4
	TensorRT Version	v.8.5
	cuDNN Version	v.8.6
Peripheral	UPS	Optional
	LiDAR	Optional

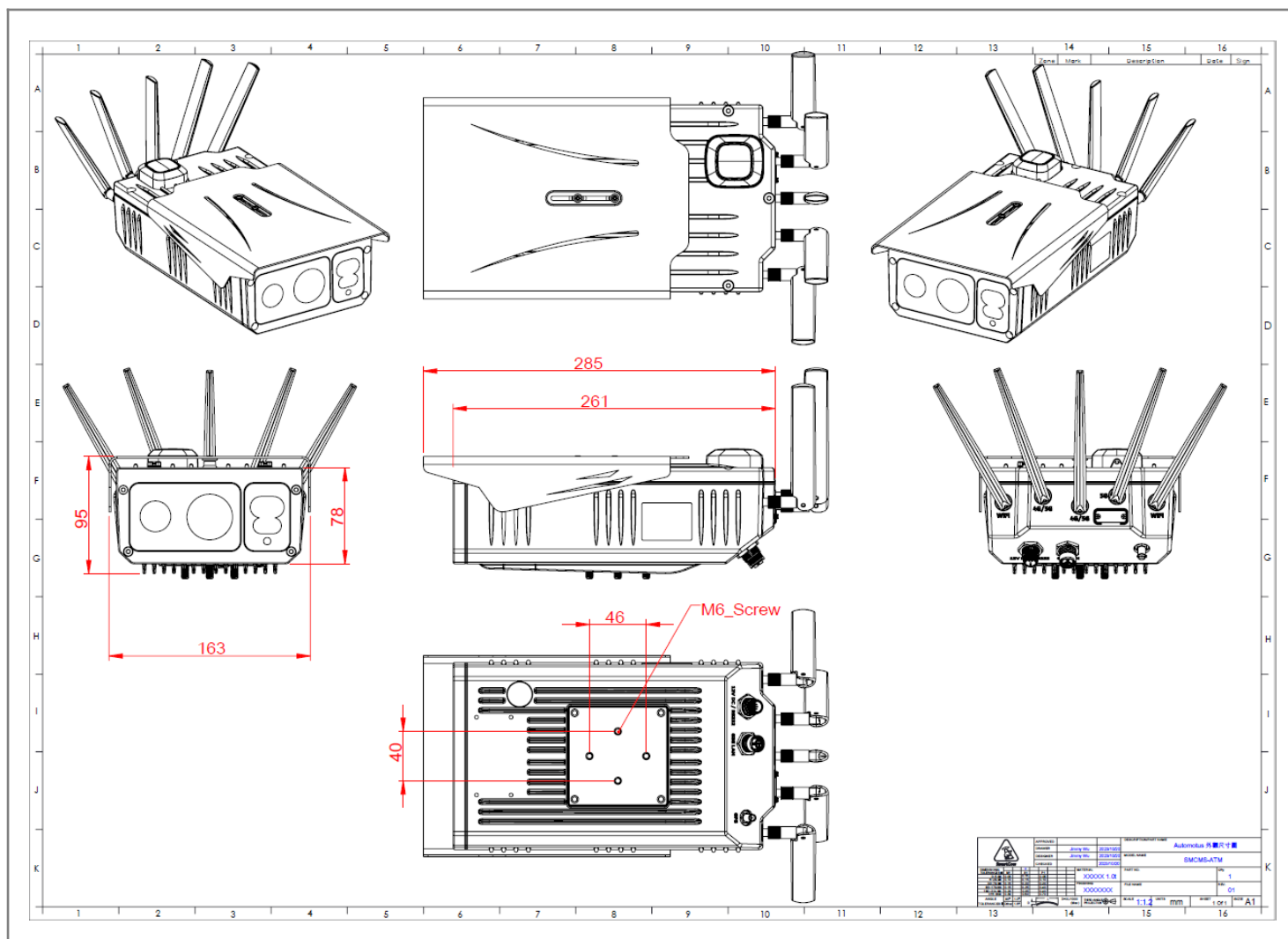
Compatible Jetson Module

	Orin NX 16GB	Orin NX 8GB	Xavier NX 16GB	Xavier NX 8GB
AI Performance	100 TOPS	70 TOPS	21 TOPS	
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3	6-core NVIDIA Carmel ARM®v8.2 64-bit CPU 6MB L2 + 4MB L3 processor	
GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores		NVIDIA Volta™ architecture with 384 NVIDIA CUDA® cores and 48 Tensor cores	
Memory	16GB 128-bit LPDDR5 102.4GB/s	8GB 128-bit LPDDR5 102.4GB/s	16GB 128-bit LPDDR4x @ 59.7GB/s	8GB 128-bit LPDDR4x @ 59.7GB/s

Camera

Specification		AR0234 (Global shutter)	IMX335 (Rolling shutter)
Image Sensor	Image Sensor	ON Semiconductor	SONY
	Max. Image Resolution	1920H x 1200V	2560H x 1920V
	Max. Frame Rate	100fps(1920x1080)	30fps(2560x1920)
	WDR	Digital WDR	HDR
	Day/Night Mode	Day/Night/Auto	Day/Night/Auto
Lens	Effective Focal Length	3.5~9.85mm	3mm
	Field of View	Wide: D128.1°×H103.1°×V60.6° Tele: D39.9°×H33.8°×V21.1°	D140.7°×H107°×V77.8°
	Focus Control	Oneshot auto focus/ Manual focus	Fixed M12 Lens
	Aperture	F1.8~F3.3	F2.0
	Iris Control	Auto	Fixed type

Mechanical



Ordering Information

Model Name	Description
SMCMS-XN08	Sphinx w/ Xavier NX 8G, 256G NVME SSD, 12V DC in, 60W adapter, -20~50°C
SMCMS-XN16	Sphinx w/ Xavier NX 16G, 256G NVME SSD, 12V DC in, 60W adapter, -20~50°C
SMCMS-RN08	Sphinx w/ Orin NX 8G, 256G NVME SSD, 12V DC in, 60W adapter, -20~50°C
SMCMS-RN16	Sphinx w/ Orin NX 16G, 256G NVME SSD, 12V DC in, 60W adapter, -20~50°C

Packing List

Item	Description	Qty
SmartCam	The Sphinx main unit	1
5G Antenna	61-UAN00005RAR Sub 6GHz 5G NR Bands Antenna	3
Adapter	12V 5A, 60W	1
Power cord	US, EU or UK version	1
M12 (12pin) cable	For power and RS232	1
M12 (8pin) cable	For Ethernet	1
Wall mount	Camera bracket	1

Accessories (Optional)

Part Number	Description
1Y0701800200LI	US Power Cord
1Y0701800100LI	EU Power Cord
1Y0701830400HY	UK Power Cord
1M1200004A0000	Pole mount
TBD	UPS unit *1pc RS232 cable *1pc
TBD	LiDAR