FLYC-300 Series

Lightweight Drone Mission Computer Powered by NVIDIA® Orin™ NX

Preliminary

Key Features

- Weighs only 297g for on-board installation
- Up to 100 TOPS GPU by Jetson Orin NX
- Supports multiple camera and sensor interfaces
  - 2x GbE and 2x USB3 for RGB/ Infrared/ hyperspectral cameras and lidar/ radar
  - 2x GMSL2 for HDR/ 3D cameras
- Built-in UART and CAN to interact with flight controller
- 1x M.2 2230 for storage and 4G/5G communication ready
- Supports 4S-14S drone battery pack

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Introduction

Neousys FLYC-300 is an NVIDIA Jetson Orin NX based mission computer tailor-made for drone and UAV applications. Designed to coincide and collaborate with the flight controller that is responsible for stabilizing and controlling drone's flight, FLYC-300 fuels compelling 100 TOPS AI performance combining versatile sensors to empower true autonomy of drone and advance applications such as autonomous navigation, obstacle avoidance, object detection and tracking.

Catering to the diverse needs of cameras and sensors like RGB, hyperspectral, infrared, LiDAR, and 3D cameras, FLYC-300 boasts a versatile array of connectivity options, including two Ethernet, two USB3.2, and two GMSL2 ports. Making it ideal for real-time video analytics applications such as drone imagery collection, surveillance, infrastructure monitoring. To command the flight of drone, FLYC-300 can communicate seamlessly with the flight controller through configurable UART, Ethernet, and CAN ports. It also accommodates a wide voltage input range from 4S to 14S battery packs via the XT30 DC-IN connector. The system is compatible and supports installation of 5G/ 4G modules for real-time transmission of images, videos, and data.

FLYC-300 can elevate unmanned systems to another level by combining vision devices with a powerful NVIDIA Jetson-based AI platform. Intelligent autonomous UAV systems can deliver enhanced operational effectiveness, risk reduction, and real-time information, making them a valuable repertoire. With its 297 grams ultra-lightweight design, versatile connectivity, FLYC-300 is ready for integration and deployment into real-world applications.

Specifications

System Core	
Processor	NVIDIA® Jetson Orin™ NX system-on-module (SOM), comprising NVIDIA® Ampere GPU and ARM Cortex CPU
Memory	8GB/ 16GB LPDDR5 @ 3200 MHz on SOM
External I/O Interface	
GMSL2	2x GMSL2 FAKRA Z connector, supporting 2x 1920x1080 @ 60 FPS or 1x 2880x1860 @ 30 FPS camera input
Ethernet	1x Gb Ethernet port by NVIDIA 1x 2.5Gb Ethernet port by Intel® I225-IT
USB	1x USB 3.2 Gen2 (10 Gbps) port 1x USB 3.2 Gen1 (5 Gbps) port
SD Card	1x Micro SD Card Slot
Native Video Port	1x DisplayPort connector
Internal I/O Interface	
USB Type-C	1x USB Type-C (for debug only)
USB	1x USB 2.0
CAN Bus	1x CAN bus 2.0
I2C	I2C
GPIO	Isolated 2x DI, 4x DO
UART	1x UART
Storage Interface	
M.2	1x M.2 2230 M key socket NVMe interface (Gen4 x4)

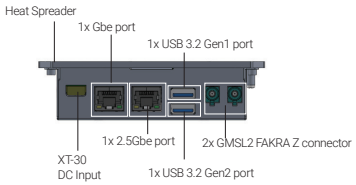
Expansion Bus	
M.2	1x M.2 3042/3052 B key with internal micro SIM socket
Power Supply	
DC Input	XT-30 for 12V to 60V DC input Supports 4S-14S battery pack
Mechanical	
Dimension	124mm x 123mm x 29.8mm (Excluded enclosure) 124mm x 123mm x 30.5mm (Included enclosure)
Weight	297g (Excluding enclosure) 345g (Including enclosure)
Mounting	Wall Mount
Fan	Optional external-accessible 65mm x 65mm fan for system heat dissipation
Environmental	

Operating Temperature	Temperature*	Heat Spreader Attachment	Compatible Battery Pack
	-25°C to 40°C	Not required	4S-14S
	-25°C to 60°C	Required**	4S-14S
	-25°C to 70°C	Required**	4S-6S

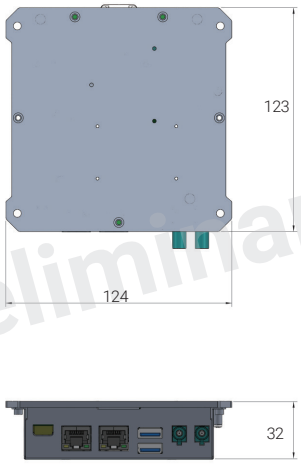
Storage Temperature	-40°C to 85°C
Humidity	10%~90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
Safety	EN62368-1
EMC	CE/FCC Class A, according to EN 55032 & EN 55035

** For sub-zero operating temperature, a wide temperature SSD is required.*
*** Conduction must be utilized by securing the FLYC's heat spreader to a metallic surface.*

Appearance



Dimensions



Ordering Information

Model No.	Product Description
FLYC-300-JON8	Lightweight Drone Mission Computer with NVIDIA OrinTM NX 8GB and M.2 2230 Storage
FLYC-300-JON8-EC	Lightweight Drone Mission Computer with NVIDIA OrinTM NX 8GB, M.2 2230 Storage and Enclosure
FLYC-300-JON16	Lightweight Drone Mission Computer with NVIDIA OrinTM NX 16GB and M.2 2230 Storage
FLYC-300-JON16-EC	Lightweight Drone Mission Computer with NVIDIA OrinTM NX 16GB, M.2 2230 Storage and Enclosure

Optional Accessories

AccsyBx-FAN-FLYC-300	Fan assembly for FLYC-300
Cblkit-FLYC-300	Cblkit-FLYC-300