

FLYC-300 Series

Low-SWaP AI Mission Computer Powered by NVIDIA® Jetson Orin™ NX

Key Features



- Low Size, Weight and Power (SWaP) at only 297g.
- Up to 100 TOPS GPU by NVIDIA® 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



Introduction

Neousys FLYC-300 is an NVIDIA Jetson Orin NX based mission computer tailor-made for UAV and UGV 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, environmental monitoring, 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 and UGV 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.

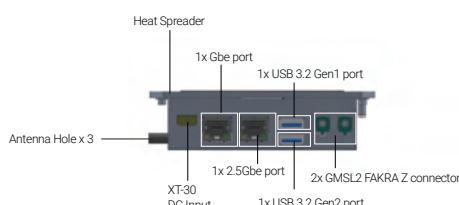
Specifications

| System Core | | Expansion Bus | |
|------------------------|----------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------|
| Processor | NVIDIA® Jetson Orin™ NX system-on-module (SOM), comprising NVIDIA® Ampere GPU and ARM Cortex CPU | M.2 | 1x M.2 3042/3052 B key with internal micro SIM socket |
| Memory | | Power Supply | |
| Memory | 8GB/ 16GB LPDDR5 @ 3200 MHz on SOM | DC Input | XT-30 for 12V to 60V DC input Supports 4S-14S battery pack |
| External I/O Interface | | Mechanical | |
| GMSL2 | 2x GMSL2 FAKRA Z connector, supporting 2x 1920x1080 @ 60 FPS or 2x 2880x1860 @ 30 FPS camera input | Dimension | 124mm x 123mm x 29.8mm (Excluded enclosure) 124mm x 123mm x 30.5mm (Included enclosure) |
| Ethernet | 1x Gb Ethernet port by NVIDIA 1x 2.5Gb Ethernet port by Intel® I226-IT/ I225-IT | Weight | 297g (Excluding enclosure) 345g (Including enclosure) |
| USB | 1x USB 3.2 Gen2 (10 Gbps) port 1x USB 3.2 Gen1 (5 Gbps) port | Mounting | Wall Mount |
| SD Card | 1x Micro SD Card Slot | Fan | Optional external-accessible 65mm x 65mm fan for system heat dissipation |
| Native Video Port | 1x DisplayPort connector | Environmental | |
| Internal I/O Interface | | Operating Temperature | Temperature* Heat Spreader Attachment Compatible Battery Pack |
| USB Type-C | 1x USB Type-C (for debug only) | -25°C to 40°C | Not required 4S-14S |
| USB | 1x USB 2.0 | -25°C to 60°C | Required** 4S-14S |
| CAN Bus | 1x CAN bus 2.0 | -25°C to 70°C | Required** 4S-6S |
| I2C | I2C | Storage Temperature | -40°C to 85°C |
| GPIO | Isolated 2x DI, 4x DO | Humidity | 10%~90%, non-condensing |
| UART | 1x UART | Vibration | Operating, MIL-STD-810H, Method 514.8, Category 4 |
| Storage Interface | | Shock | Operating, MIL-STD-810H, Method 516.8, Procedure I |
| M.2 | 1x M.2 2230 M key socket NVMe interface (Gen4 x4) | Safety | EN62368-1 |
| | | EMC | CE/FCC Class A, according to EN 55032 & EN 55035 |

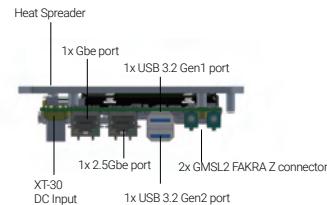
* For sub-zero operating temperature, a wide temperature SSD is required.

** Conduction must be utilized by securing the FLYC's heat spreader to a aluminum surface.

Appearance

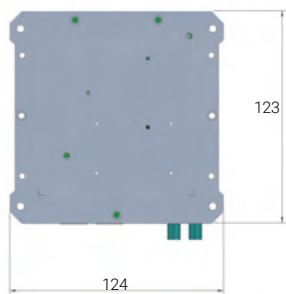
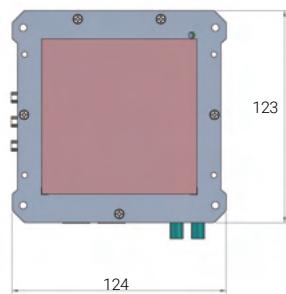


FLYC-300-EC



FLYC-300

Dimensions



Ordering Information

| Model No. | Product Description |
|--------------------------|----------------------------------------------------------------------------------------------|
| FLYC-300-JON8 | Lightweight Drone Mission Computer with NVIDIA Orin™ NX 8GB and M.2 2230 Storage |
| FLYC-300-EC-JON8 | Lightweight Drone Mission Computer with NVIDIA Orin™ NX 8GB, M.2 2230 Storage and Enclosure |
| FLYC-300-JON16 | Lightweight Drone Mission Computer with NVIDIA Orin™ NX 16GB and M.2 2230 Storage |
| FLYC-300-EC-JON16 | Lightweight Drone Mission Computer with NVIDIA Orin™ 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 |
| ThermalPad-90-FLYC-300 | Thermal pad for FLYC-300, 90x90x0.5mm |
| PA-60W-FLYC300 | 60W AC/DC power adapter 12V/5A DC, Cord end terminals with 2x splicing connector. Operating Temperature : -30-60 °C |