HIGH–PERFORMANCE EVENT–BASED VISION STARTER KIT FOR RASPBERRY Pi 5

PROPHESEE

PROPHESEE STARTER KIT GENX320 FOR RASPBERRY Pi 5

Raspberry Pi

DESCRIPTION

The GenX320 Starter Kit for Raspberry Pi 5 is a compact and powerful embedded vision development platform designed to unleash the capabilities of event-based sensing on the Raspberry Pi 5. Built around Prophesee's GENX320, the world's smallest and most power-efficient event-based vision sensor, this kit enables the development of real-time, ultra-low latency applications for robotics, drones, industrial automation, and more. It provides a streamlined path to rapidly develop, test, and prototype custom applications, making it an ideal solution for engineers and researchers looking to harness the benefits of neuromorphic vision.

FEATURES

• Interchangeable M6 Flex module lens holder
• Complete lensed event based camera board
• 20 cm flex cable MIPI Raspberry Pi compatible output
• RASPBERRYPi5 : Sold separately at: raspberrypi.com

SOFTWARE

• V4L2 Driver
• Open EB: C++/ Python APIs
https://github.com/prophesee-ai/openeb
  • Visualization
  • Sensor settings
    (biases), ROI, ERC

COMPATIBLE WITH METAVISION® SDK5 PRO (OPTION AVAILABLE FOR PURCHASE)
Source code access including:

  • Real-time object tracking
  • Vibration detection
  • Optical flow
  • Active marker detection and tracking

Learn more: prophesee.ai/SDK5Pro

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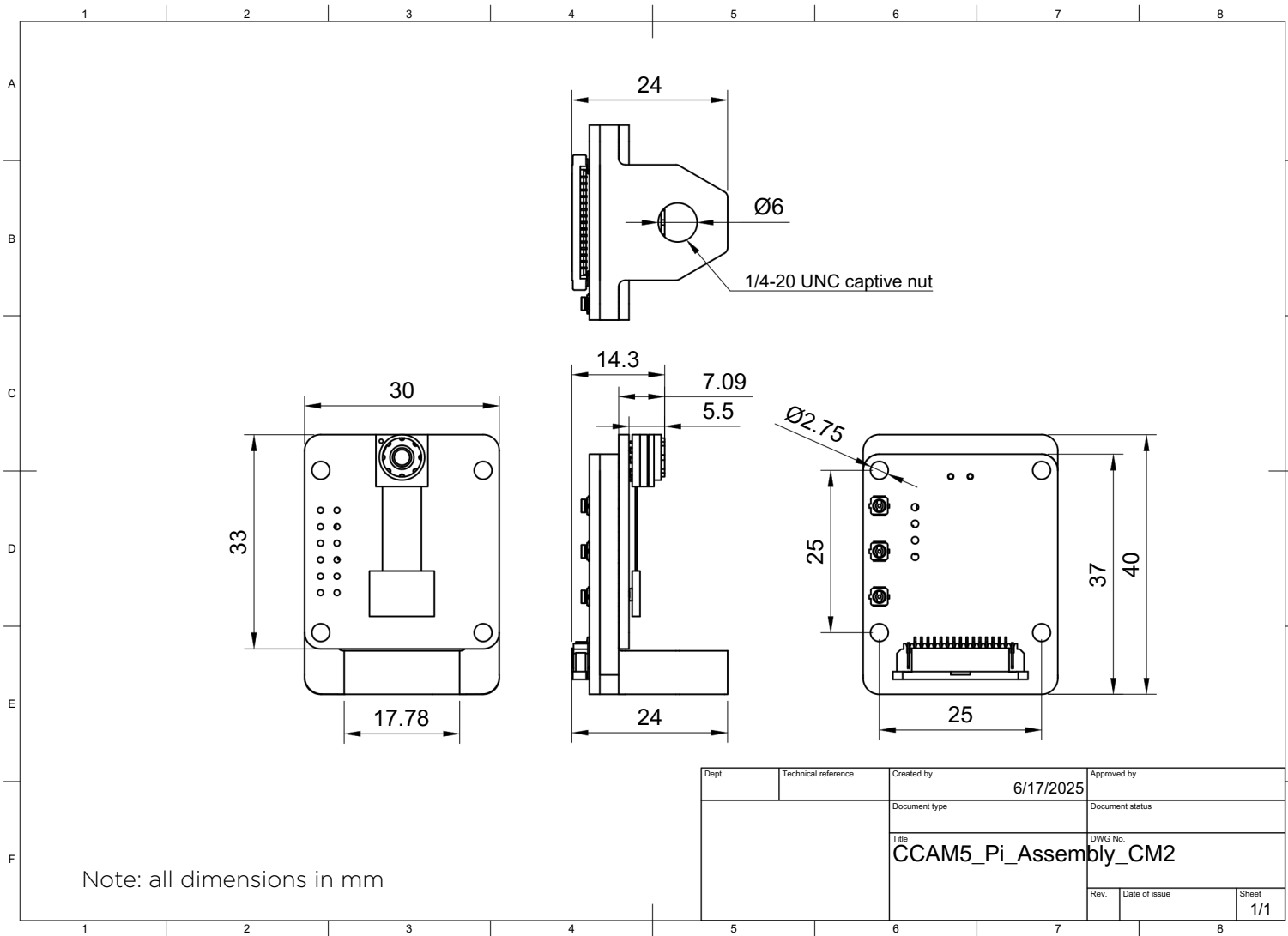
Specifications

Sensor Specification	
Sensor	Prophesee GENX320
Resolution	320 x 320 px
Event Rate	~10,000 fps equivalent
Latency	‹150 µs at 1,000 lux, ‹1,000 µs at 5 lux
Dynamic Range	›140 dB
Power Consumption	‹50 mW (sensor only)
Interface	MIPI CSI-2 (D-PHY)

Camera specifications	
Lens Mount	M6
Focal length	1.11 mm
Diagonal field of view	104°
Horizontal fiield of view	84°
Vertical field of view	84°
Focal ratio (F-stop)	f/2.4
IR cur filter	No

* Raspberry Pi 5 board needs to be purchased separately.

Systems specifications

- System power consumption (typical, metavision_viewer, 1ME/s):
- System weight (using SSD kit and Active Cooler, not including PSU):

Physical specifications

Note: all dimensions in mm

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APPLICATIONS

This kit enables untethered, high-speed, low-latency event data collection on embedded platforms, serving as the foundation for developing advanced event-based applications :

Drones:
- Detection and tracking
- Obstacle avoidance
- Real-time SLAM
- GPS-denied navigation

Industrial & IoT:
- Vibration monitoring
- Spatter tracking
- Defect detection

Surveillance:
- Fall Detection
- Intrusion Monitoring in low-light conditions

...and many others.

RPI5 : HOST PLATFORM REQUIREMENT

Recommended SKUs/Accessories for best performance:
- https://www.raspberrypi.com/products/raspberry-pi-5/?variant=raspberry-pi-5-8gb
  - PI5 MODEL B/8GB
- https://www.raspberrypi.com/products/active-cooler/
  - SC1148
- https://www.raspberrypi.com/products/27w-power-supply/
  - SC1153
- https://www.raspberrypi.com/products/ssd-kit/
  - SC1675

ORDERING CODES

PFDSX320MPRPI5 – STARTER KIT – GENX320MP-CM2 RPI 5
https://www.prophesee.ai/event-based-metavision-raspberrypi5-genx320-starter-kit/