CAM1-MT1080/720-IP7

IP67 Rating MIPI VBO SerDes miniCAM

- Integrated, cost-effective MIPI VBO (Thine V-by-One® HS) CAM for NVIDIA® Xavier NX (ATC 3530) & NVIDIA® Jetson AGX Orin™ NX (ATC 3540)
- Transmit uncompressing video streaming, up to 15/25 meters extended
- IP67-rating enclosure for AG, CON, ambulance, law-enforcement and ITS applications

- Custom-made variant of sensor modules (i.e. the view angle, EFL, DoF etc.)
- Wide range operating temperature of -20°C~70°C
- Military standard (MIL-STD-810G) of anti-vibration/shock for OHV/UAV applications
- CE/FCC, UKCA, Emark Certified

Product Overview

With increasing popularity of ADAS, industrial-grade cameras become significantly important. NEXCOM's CAM1-MT1080/MT720-IP7, the MIPI SerDes camera with IP67 rating are the best choices to deploy for applications (in-vehicle/OHV ADAS, ANPR in law enforcement, AI traffic system, automation and auto-inspection, etc.) onto the ATC3540/ATC3530/ATC3200 series.

Designed by MIPI VBO (THine V-by-One® HS) SerDes technologies, the CAM1-MT1080/MT720-IP7 is able to transmit video streaming with the image resolutions of 2.3MP/1MP 1080p60 through a PoC (Power over Cable) cable up to 15 meters which can reduce the wiring, weight and installation cost to improve the reliability and TCO. It's IP67 design fulfills the waterproof, dustproof, and military standard of anti-vibration/shock. Besides, CAM1-MT1080/720-IP7can operate in harsh environment at temperature -20°C~70°C.
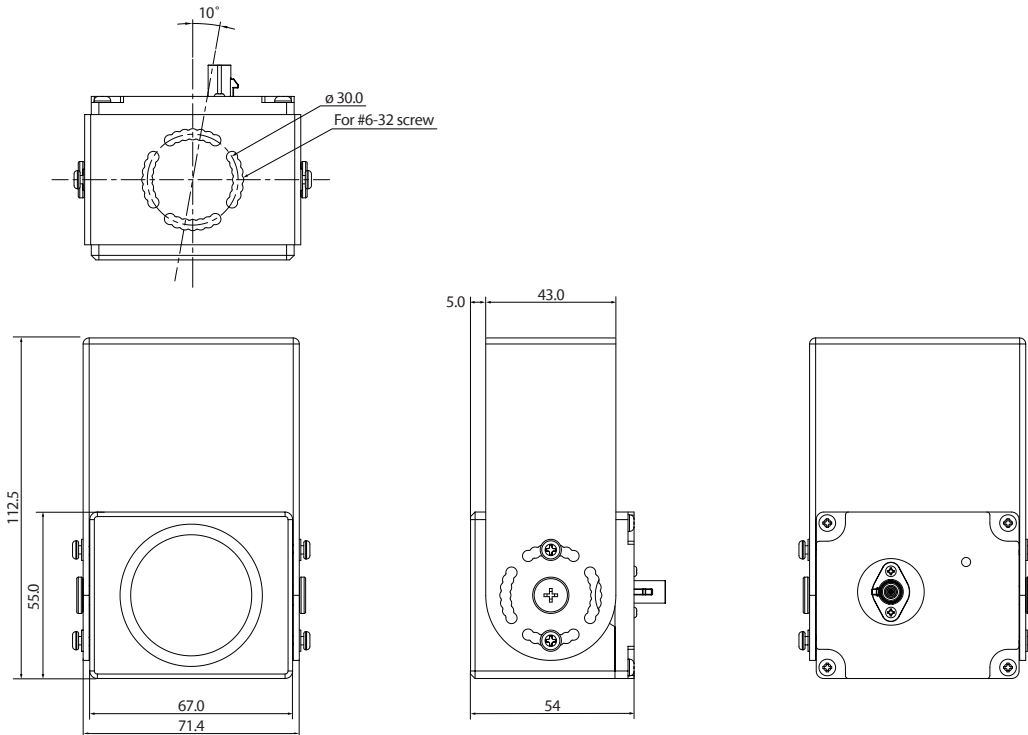
By pairing with excellent ONSEMI sensors, the CAM1-MT1080/MT720-IP7 supports HDR/WDR, global shutter, low light sensitivity and low latency characteristics suitable for diverse applications environments. As an option, NEXCOM is also able to provide, customized view angle (H)/focus length and a higher 4MP resolution.

Specifications

Model Name	CAM1-MT1080-IP7-15m	CAM1-MT720-IP7-15m
Module Dimension	67.0mm(W) x 55.0mm(H) x 54.0mm(D) (not including cable)	
Cooling system	Fanless	
Cable Type/Length	IP67 rating Fakra cable, 15 meters	
Sensor/Module Interface	MIPI/SerDes	
Control Interface	I²C over SerDes	
Output Format	YCbCr (external ISP)	
Output Format (frame rate)	1920 x 1200 x 30fps	1280 x 800 x 60fps
	1920 x 1080 x 60fps	1280 x 720 x 60fps
	1920 x 1080 x 30fps	1280 x 720 x 30fps
Chipset/Platform	Jetson NX/NANO/XAIVER/TX2	
Anti-vibration	MIL-STD-810G, 514.6C Procedure 3, Category 4	

Anti-shock	MIL-STD-810G, 516.6 Procedure I, trucks and semi-trailers=40g	
Operation Temperature	-20°C~65 °C	-20°C~70 °C
Storage Temperature	-40°C~85°C	
Relative Humidity	10%~95% (non-condensing)	
Sensor	ONSEMI AR0234	ONSEMI AR0144
Shutter	Global shutter	
Sensor Type	CMOS	
Mono/Color	Color	
Sensor Size	1/2.6"	1/4"
Unit Cell Size	3 μm(H) x 3 μm(W)	
Active Pixel	1920px(H) x 1200px(V) 2.3M	1280px(H) x 800px(V) 1.0M
Pixel Bit Depth	10 bits	12 bits

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Dimension Drawing

Lens Mount	M12	
View Angle	113.4°(D) x 95.8°(H) x 59.6°(V)	110.8°(D) x 93.4°(H) x 57.8°(V)
F-number	1.8	2.2
Construction	7G+IR	6G+IR
Max Image Circle	Ø7.62mm	Ø6.80mm
EFL	3.48mm	2.40mm
BFL	5.71mm	4.38mm
TTL	23.8±0.2% (@Infinity)	15.25mm
Cut Frequency at 50%	635±10nm	650-670nm
Depth of View	Focus@1.2m from 0.581m to infinity	Focus@0.45m from 0.223m to infinity
	Focus@0.5m from 0.347mto 0.895m	Focus@0.1m from 0.082m to 0.129m

Dimensions & Weight
- 112.5mm x 71.4mm x 54.mm, weight: 650g

Environment
- Operating temperatures: -20℃~70℃
- Storage temperatures: -40℃~85℃
- Relative humidity: 10%~95% (non-condensing)

Vibration & Shock
- Vibration in operating: MIL-STD-810G, 514.8C Procedure 6, Category 4

- IEC 60068-2-64: 2.0g@5~500 Hz
- Vibration in storage: MIL-STD-810G, 514.6E Procedure 1, Category 24, 7.7g
- Shock: MIL-STD-810G, 516.6 Procedure I, trucks and semi-trailers=40g
- Crash hazard: Procedure V, ground equipment=75g

Certifications
- CE approval, FCC Class A, UKCA, Emark Certified

Ordering Information

- **CAM1-MT1080-IP7-15m (P/N: 10AT0108001X0)**
  IP67 rating MIPI VBO SerDes CAM, 1080p60, AP-AR0234GSC-ISP-SerDes, 15m

- **CAM1-MT720-IP7-15m (P/N: 10AT0072001X0)**
  IP67 rating MIPI VBO SerDes CAM, 720p30, AP-AR0144GSC-ISP-SerDes, 15m