



DataSheet SAM-3204 Cathexis 4-channel H.264 Encoders

Features

- Power Over Ethernet (POE) Class 3 device
- Optimized H.264 video compression algorithm to facilitate transmission of High Quality video over low network bandwidth
- Built in monitoring function
- Supports PAL/NTSC
- PTZ control RS422/485 serial port for a parallel connection to all channels *
- 4x Analogue Video Inputs
- 4x Audio Input (Line In/MIC In) and 1x Audio Output. **
- Dual streaming
- Fully integrated and licensed within the CathexisVision VMS – no additional IP camera licences required.
- Hardware watchdog and Built-in-tests
- Opto-isolated inputs and relay output

The SAM-3xxx products integrate analogue cameras into security systems by means of an Ethernet network. In applications where an Ethernet network already exists, this is a significant cost-saver as it does away with the requirement for cabling. With the Power over Ethernet option there is also no need for external power feeds to the encoders.

Conveniently, there is no hardware installation or additional IP camera licenses required on the CathexisVision VMS NVR (Network Video Recorder) – each of the SAM-3204 inputs encode an analogue camera feed, converting it to a high quality digital format, which is transmitted as a digital feed to the CathexisVision VMS NVR.

The encoders integrate seamlessly into the CathexisVision VMS user interface so that each appears as simply another camera on the site. The compression ratio and resolution can be scaled independently for each encoder, providing optimum image quality under all conditions. This also enables flexible customisation of encoders to optimise the network bandwidth.

Differences between SAM3204 and SAM3104

- Significant improvement in audio quality.**
- Audio sampled at double the rate, thus improving sound quality.**
- Ability to mix NTSC and PAL camera feeds.
- Improved I/O isolation.
- 2 relay outputs as opposed to 1.
- 4 audio channel inputs (1 per video channel) as opposed to 1.**

Ordering information

SAM-3204 4-channel H.264 encoder with I/O, RS422/RS485, audio**, PoE

RCX320x 1U rack + mounting kit for 3x SAM3204/EIO/ESP

Specifications

Video format	NTSC or PAL
Video Compression	H.264
Video connection	BNC, 1 composite video baseband signal (CVBS)
Channels	4 channel PAL/NTSC 1V PTP input
Audio output**	1x 200-300mW Speaker output at RL = 8Ω using 3.5mm Audio Jack
Audio input**	4 x Audio input (Line In/MIC In) with differential Microphone Amplifier via 3.5 mm Audio Jack*
Ethernet	1x 100BaseT RJ45 single RJ11 connector Ethernet mac supports 10/100 Mbit/s Ethernet TCPIPv4 protocol stack embedded in the encoder
Power Over Ethernet	Yes
Power consumption while powered by external source	12V is ~1.8W Max output current limited to 1A.

powered by external source

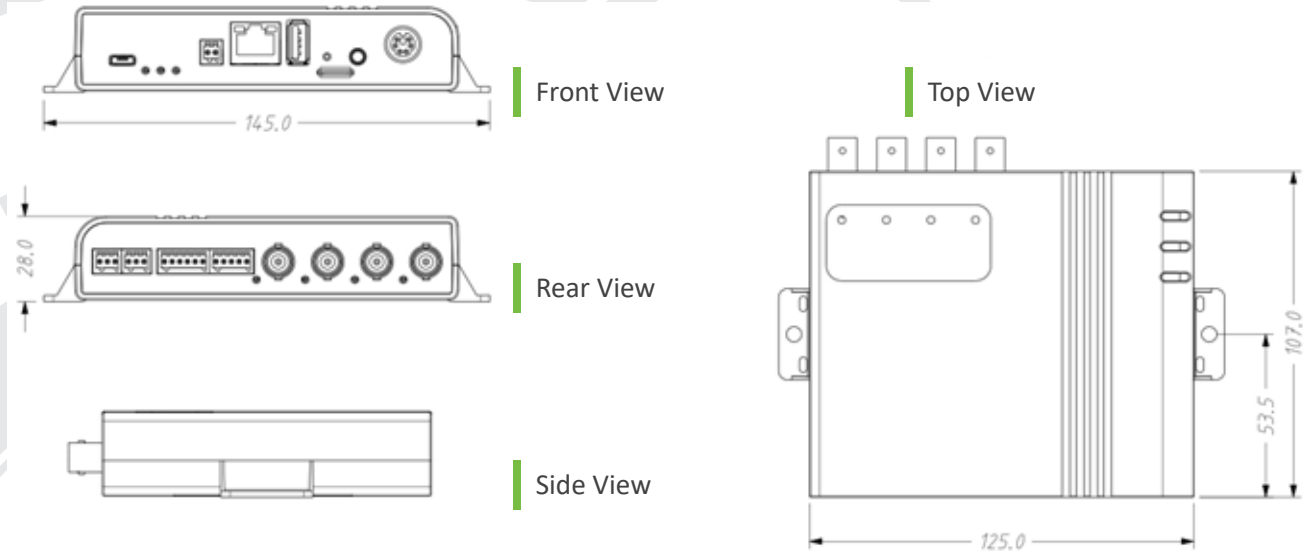
Power consumption while powered by PoE	During operation < 2.2W
RS422 serial ports	1x (with DB9 interconnects Tx and Rx)
Opto-isolated alarm inputs	4x (debounced with a 200 ms period, reporting edge changes back to the NVR)
Relay outputs	2x (permits a maximum of 1 Amp at 12 volts across the non-polarized NO and NC outputs)
Software	Compatible with CathexisVision 2016.4, 2017.2, and later. (CathexisVision 2017.1 not supported).
Physical dimensions	L,W,H of 120 x 105 x 25 (mm)
Mounting options	Flanges with 2x slotted mounting holes and DIN rail mounting option
Operating temp	0°C to 55°C Ambient (32°F to 131°F)
Enclosure / Environment	IP rating 50. The enclosure is not waterproof. The encoder should only be installed indoors.

* RS485 port settings for all PTZ channels as per Channel 1, only address changes i.e. 2,3,4

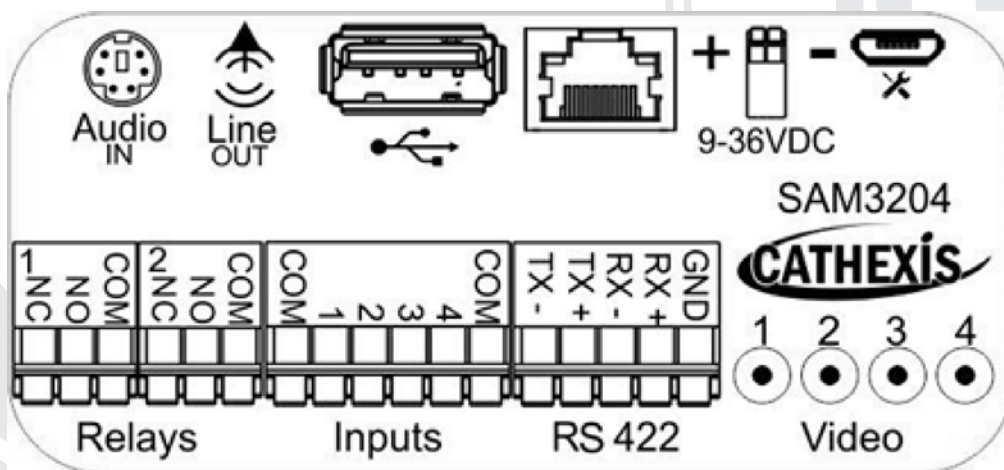
**Audio supported only in CathexisVision 2018.2

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Encoder Dimensions



Connections



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Frame Rate Performance

The performance test results for the SAM3204 encoder are presented in the tables below.

4 channels Active	Configuration Parameters		Frame Rate Achieved <small>PAL / NTSC</small>
Configuration 1:	Primary Stream	4CIF; 1Mbps; 25fps	24 / 28
	Secondary Stream	N/A	N/A
Configuration 2:	Primary Stream	4CIF; 1Mbps; 25fps	22 / 26
	Secondary Stream	CIF; 100Kbps; 5fps	5 / 5

Performance tests were conducted under ideal conditions. Actual results may vary depending on usage environment

3 channels Active*	Configuration Parameters		Frame Rate Achieved <small>PAL / NTSC</small>
Configuration 1:	Primary Stream	4CIF; 1Mbps; 25fps	25 / 30
	Secondary Stream	N/A	N/A
Configuration 2:	Primary Stream	4CIF; 1Mbps; 25fps	25 / 30
	Secondary Stream	CIF; 100Kbps; 5fps	5

*Note: The camera must be physically unplugged from the encoder.

19" rack mounting

The SAM3204 can be directly inserted into a 19" 1U rackchassis which can support 3 encoders. This must be ordered separately.



Front View of 19" rack mounting



Rear View of 19" rack mounting