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# ZBC-3 (ZBC-IMX104) IP

H.264 high profile 720p at 30fps

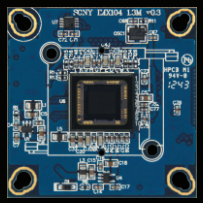
# ZBC-2 (ZBC-IMX036) IP

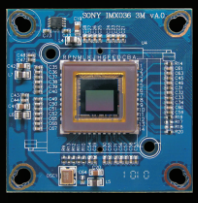
H.264 high profile 3M 20fps / 1080p 30fps

- Supper low light sensitivity
  - ZBC-3 - Color 0.1lux, B/W 0.01lux @F1.4
  - ZBC-2 - Color 0.2lux, B/W 0.01lux @F1.4
- TI DM368 SoC inside
- SONY Mega pixel progressive CMOS
  - ZBC-3 - IMX104 1.3M pixel
  - ZBC-2 - IMX036 3M pixel
- 18x optical zoom
- Advance / Adaptive noise reduction
  - ZBC-3 - 2D+3D noise filter
  - ZBC-2 - 2D noise filter
- More than 100dB WDR

TMS320DM368
Digital Media
Processor

Texas Instruments



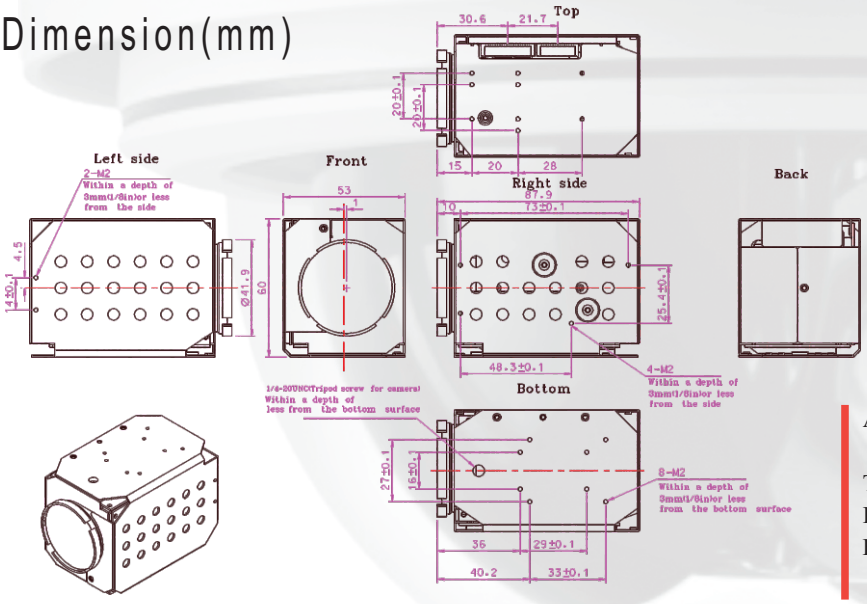


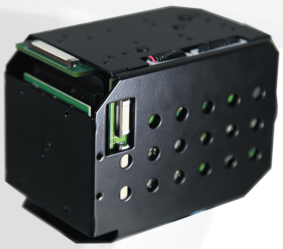
# Specifications

| ZBC-IMX036(ZBC-2) | ZBC-IMX104(ZBC-3) |
|---|---|
| ● Platform :TI TMS320DM368(432MHz) | ● Platform :TI TMS320DM368(432MHz) |
| ● Sensor : Sony 3M CMOS sensor(IMX036) | ● Sensor : Sony 1.3M CMOS sensor(IMX104) |
| ● Highest resolution : 2048 x 1536 | ● Highest resolution : 1280 x 1024 |
| **Sensor** | |
| ● Active array size : 2048x1536 | ● Active array size : 1280x1024 |
| ● Temperature range: | ● Temperature range: |
| Operating : -10℃ to 60℃ | Operating : -10℃ to 60℃ |
| Stable image : -10℃ to 60℃ | Stable image : -10℃ to 60℃ |
| ● Pixel Size : 2.5um x 2.5um | ● Pixel Size : 3.75um x 3.75um |
| ● Package dimensions : 15mm x 14.5mm | ● Package dimensions : 12.8mm x 11.6mm |
| **Lens** | |
| ● Lens : Tamron DF003N01300 | |
| ● Focal length : Fw : 4.70±0.235mm / Ft : 84.6±4.23mm | |
| ● Zoom Ratio: 18X | |
| ● Max Aperture : Fw :1.6 / Ft : 2.8 | |
| ● Angle of View : Fw : 42.1~67.3 / Ft : 2.4~4.0 | |
| ● Focus Range: 1m~INF | |
| ● Back focus with IR-CUT | |
| **Min illumination** | |
| ● Color : 0.2 lux @ F1.4 | ● Color : 0.1 lux @ F1.4 |
| ● B/W : 0.01 lux @ F1.4 | ● B/W : 0.01 lux @ F1.4 |
| ● More than 100dB WDR | ● More than 100dB WDR |
| ● 2D Noise Filter | ● 2D/3D Noise Filter |
| **Video** | |
| ● Focus : Manual focus, Auto Focus, Continuous Focus(3M~ infinite / full range) | |
| ● Preset position : 256 positions are supported (Pelco-D) | |
| ● PTZ Schedule: support up to 4 shedules, and 64 preset positions in 1 schedule. | |
| ● AWB range : AWB Wide(2000~10000K), AWB Normal(4000~6500K),SUNNY, SHADOW, INDOOR, LAMP, FL1, FL2 | |
| ● AES : 1/2~1/10000 sec | |
| ● System : NTSC/PAL | |
| ● Configuration : WDR, Brightness , Contrast , Frame rate priority, Quality priority,AWB , Sharpness , Saturation , Denoise, EV compensation | |
| ● Motion Detection : 3 levels | |
| ● Compression : H.264/MPEG4/MJPEG (Triple streaming) | |
| **External Interface** | |
| ● Interface : Ethernet (RJ-45 wired , 10/100 base-TX),Support Protocols : TCP/IP,DHCP,HTTP,UDP,UPnP,FTP,SMTP,RTP | |
| ● Serial port : RS-485,Support Pelco-D , Pelco-P | |
| ● Digital output: BT.1120 | |
| **Software** | |
| ● MontaVista Linux | |
| ● Web-broswer - Microsoft IE 6.0 or above | |
| **Audio** | |
| ● built-in microphone : μ law , 8KHz sample rate | |
| ● Reset : factory default | |
| **Others** | |
| ● LED indicator : Power / Network | |
| ● Firmware update : upgrade with SD/HTTP | |
| ● Power requirement : DC 12V | |
| ● Operation Temperature : 0℃~60℃ | |
| ● Dimension : 60(W) x 53(H) x 87.9(L) mm | |
| **Resolution** | |
| H.264 3MP 20fps | H.264 1280x720 30fps |
| MPEG4 3MP 20fps | MPEG4 1280x720 30fps |
| JPEG 3MP 20fps | JPEG 1280x720 30fps |
| H.264 1080P 30fps | H.264(1280x720 30fps)/JPEG(VGA)/G.711 dual streaming |
| MPEG4 1080P 30fps | H.264(D1)*2 dual streaming |
| JPEG 1080P 30fps | MPEG4(1280x720 30fps)/MPEG4(CIF))/G.711 dual streaming |
| H.264 SXGA 30fps | MPEG4(1280x720 30fps)/JPEG(VGA))/G.711 dual streaming |
| MPEG4 SXGA 30fps | |
| H.264(720P)/H.264(CIF)/G.711 dual streaming | |
| H.264(720P)/JPEG(VGA)/G.711 dual streaming | |
| H.264(D1)*2 dual streaming | |
| MPEG4(720P)/MPEG4(CIF)/G.711 dual streaming | |
| MPEG4(720P)/JPEG(VGA)/G.711 dual streaming | |
| H.264(720P)/JPEG(VGA)/H.264(CIF)/G.711 triple streaming | |
| MPEG4(720P)/JPEG(VGA)/MPEG4(CIF)/G.711 triple streaming | |

| 40PIN interface | |
|---|---|
| No. | Name |
| 1 | DC12V |
| 2 | DC12V |
| 3 | DC12V |
| 4 | DC12V |
| 5 | DC12V |
| 6 | AGND (1) |
| 7 | TD+ (ETHERNET: CHIP SIDE) |
| 8 | TD- (ETHERNET: CHIP SIDE) |
| 9 | TRCT |
| 10 | RD+ (ETHERNET: CHIP SIDE) |
| 11 | RD- (ETHERNET: CHIP SIDE) |
| 12 | **GND** |
| 13 | USB_VBUS (USB) |
| 14 | USB_DP (USB) |
| 15 | USB_DM (USB) |
| 16 | **GND** |
| 17 | RS485_D- |
| 18 | RS485_D+ |
| 19 | **GND** |
| 20 | MIC_IN |
| 21 | AUDIO_OUT |
| 22 | TV_OUT |
| 23 | A_GND (2) |
| 24 | **GND** |
| 25 | SD_DATA0 |
| 26 | SD_DATA1 |
| 27 | SD_DATA2 |
| 28 | SD_DATA3 |
| 29 | SD_CMD |
| 30 | SD_CLK |
| 31 | BOOT_SEL |
| 32 | IRDA_DET_IN |
| 33 | MODE |
| 34 | ALARM RESET |
| 35 | ALARM IN |
| 36 | ALARM OUT |
| 37 | KEY1/LDE1 |
| 38 | KEY2/LDE2 |
| 39 | KEY3/LDE3 |
| 40 | VCC3.3VD |
| (1) AGND: For Ethernet GND | |
| (2) A_GND: For MIC, AUDIO and TV OUT. | |

## Dimension(mm)



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