

TCB-4236F

- NDAA Compliant
- 1/2" Sony CMOS Sensor
- AI based Object Detection
- Extreme low light performance
- 36X Optical Zoom
- Max 60FPS @ 1920 x 1080
- H.265 / H.264 / MJPEG
- True WDR (120dB)
- SRT (Secure Reliable Transport)
- RTSP/RTMP/MPEG-TS
- ONVIF, PSIA Compliant



Fast & Accurate Focusing Performance

In low-light conditions, TCB series can accurately focus on complex photo scenes based on large amounts of data accumulation from various experiences.

Focus

PTZ Control: Focus Near, Focus Far, Auto Focus

Minimum Focus Length: Adjust minimum length of focus between 10cm to 10m

Advanced Focus settings:

Auto focus after zoom control, One shot AF after PTZ, AF sensitivity – adjust sensitivity of auto focus

AF area (Auto, Full, Center, Peak)

Wide Range of Zoom Ratio

With various optical x36/x40/x44, it's available to monitor any objects in long distance. Image stabilizer and optical/digital zoom are combined to enhance picture quality while maintaining the original horizontal angle of view. This ensures no compromise in image size, and reduces blurring.

De-fog

When the surrounding area of the subject is foggy and low contrast, the defog mode will reduce the effects of the fog and make the subject appear clearer



Foggy Filter ON

Foggy Filter OFF

Day & Night Mode

The TCB series deliver color images during the day. As light diminishes below a certain level, the camera can automatically switch to night mode (Black and White mode), removing the IR-cut filter to boost sensitivity for clear pictures in near-darkness to maintain good image quality. (Auto, Day, Night, External Sensor)



IR LED ON

IR LED OFF

Powerful Encoding Performance

The latest H.265 codec is available with various application such as IVS (Intelligent Video System), LPR (License Plate Recognition) and AI Solution.



Various PTZ Protocol

More than 40 protocols including Visca, Pelco D/P are included for PT system or Speed Dome Camera that allows developers to integrate the TCS Series with their systems easily.

Capture crisp, clear Full-HD

The high-performance Sony image sensor achieves superb Full-HD picture quality, even in lowlight environments. Progressive scanning assures smoother pictures with reduced blur – ideal for capturing the detail in moving images.

Image Enhancement

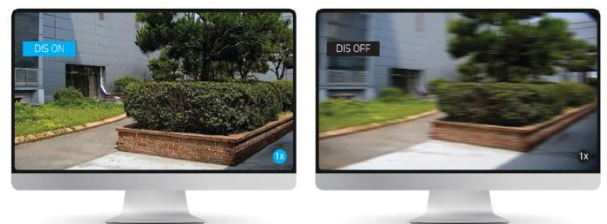
AE: A variety of AE functions are available for optimal output of subjects in lighting conditions that range from low to high (Auto, Flat, Center)

AWB: Auto Tracing White, Auto White, Manual Mode

BLC: Adjusts exposure of the entire image to properly expose the subject in foreground.

DIS: Reduces the level of blur or distortion in pictures that can result from unsteady or shaky movement.

IRIS Mode: Based on zoom magnification, close IRIS when zoom in or when low exposure (able to set limit F. Number)



Wide Dynamic Range

Wide Dynamic Range

Wide Dynamic Range mode is image processing technology which gives the ability to see clear, detailed images in high-contrast or backlit environments.



Privacy Zone Masking

Privacy Zone masking protects private objects and areas such as house windows, entrances, and exits which are within the camera's range of vision but not subject to surveillance. Privacy zone masking can be masked on the monitor to protect privacy. Mask can be displayed on 8 regions per screen and individual on/off is available.

Extreme low light performance

The high performance image sensors provide superb Full HD picture quality even in low light environment.



TRUE Light ON

TRUE Light OFF

Visibility Enhancer

Depending on the imaging scene, the Visibility Enhancer function makes the darker part of a camera image brighter, and automatically correct brightness and contrast to show bright parts clearly.

Object Detection



Object Detection technology allows operators to automatically identify and track target objects by using modeling technology that creates a fixed background in the scene, allowing the detection and monitoring of moving objects across the top.

Directional Detection



Reverse driving vehicle prevention system. Reverse driving vehicle prevention on one-way roads. Set the direction of movement within a specific area. Detect and notify objects moving in directions other than the direction of movement.

Object Blur



To protect privacy, only set objects can be blurred. It can vehicle, people or both.

Object Tracking



Object tracking is an application of deep learning. AI powered IP camera tracks the detected objects as they move.

Improperly Stopped Object Detection



Using deep learning analysis technology, all-weather unexpected situations on the road (accidents, shoulder stops, etc.) are detected in real time, classified precisely, and provided to drivers and operators to prevent accidents in advance.

Line Counting



Smart AI Camera detects/counts only selected type(s) which crossed the line you set. It can be used for monitoring traffic. Efficient monitoring to prevent jaywalking or sidewalk driving and indiscriminate notification by monitoring other objects in each area, such as detecting only people on the driveway and motorcycles on the sidewalk.



TCB-4236F Specifications

| Imaging | |
|--------------------------|--|
| Sensor | 1/2.0" Progressive scan CMOS |
| Zoom | Optical 36x, Digital 8x |
| Focal length | f = 6 ~ 216mm |
| Angle of view | Horizontal : 58.2°(wide) ~ 1.6°(tele) Vertical : 33.9°(wide) ~ 0.94°(tele) |
| Maximum aperture ratio | F1.5(Wide) ~ F4.8(Tele) |
| Min object distance | 3m |
| Focus control | Oneshot AF |
| Lens type | DC auto iris |
| Min illumination | Color : 0.005 Lux(1/30sec, 30IRE) BW : 0 Lux (IR ON) |
| Electronic shutter speed | 1/1 ~ 1/100,000 |
| Day & Night | Day / Night / Auto |
| Back light compensation | BLC / HLC / WDR |
| Wide dynamic range | 120dB |
| White balance | Auto tracing white / Auto white / Manual |
| Gain control | Auto |
| Noise reduction | Auto / Manual |
| Image stabilization | EIS(Gyro sensor) |
| Defog | Support |
| Image rotation | Horizontal(Mirror), Vertical(Flip) |
| Camera Functions | |
| Motion detection | 8 regions on 23x15 cells |
| Privacy masking | 8 regions (polygons of 8 points). Solid fill / Mosaic |
| Video analytics | Motion detection, object detection, object tracking, face detection, intrusion detection, missing object detection, abandoned object detection,, line counting, ANPR, vehicle speed detection, directional detection, defocus detection, object blurring |
| Auto tracking | N/A |
| Burn-in OSD | Camera title, direction, user-defined Multi-lingual: (English, Korean, French, German, Spanish, Italian, Russian, Japanese, Swedish, Portuguese, Dutch, Hungarian, Finnish, Special Symbols) |
| Video | |
| Compression | H.264 / H.265 / MJPEG |
| Frame rate | Max 60fps @ 1920x1080 |
| Bitrate | Primary : 32Kbps ~ 16Mbps, Secondary : 32Kbps ~ 4Mbps |
| Bitrate control | H.264/H.265: CBR / VBR / Hybrid MJPEG: VBR |
| Resolutions | Primary 1920x1080 Secondary (#1) 1920x1080~352x240 Secondary (#2) 1280x720~352x240 Secondary (#3) 720x480~352x240 |
| Streaming | Quad Streaming: Primary : H.264,H.265 Secondary x 3 : H.264, H.265, MJPEG |
| Output | Composite |
| Audio | |
| Compression | G.711 u-law |
| Sampling rate | G.711: 8KHz |
| Bitrate | G.711: 64Kbps |
| Streaming | Full-duplex |
| Input & Output | 1 x Line-In (mono), 1 x Line-Out (mono) |

TCB-4236F Specifications

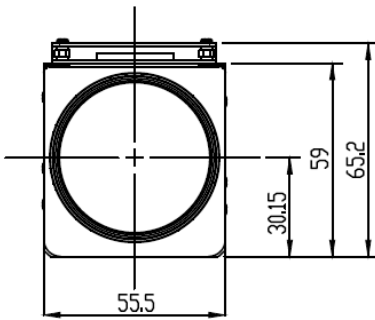
| Event and Alarm | |
|-----------------------------------|--|
| Event Source | Video analytics, Sound detection, Client disconnection, Sensor input, Tampering detection, User-defined event |
| Event actions | E-mail notification, OSD alert, FTP upload, PTZ preset, Alarm control, Recording, HTTP action |
| Network | |
| Interface | Ethernet 10/100/1000 base-T (RJ-45) |
| Protocol | IPv4/v6, TCP, UDP, IGMP(Multicast), ICMP, DHCP, HTTP, HTTPS, RTP, RTSP, FTP, SNMP, SMTP, UPnP, WS-Discovery, Zero Configuration, NTP, DDNS, RTMP |
| Security | Basic/Digest authentication, HTTPS, IP address filtering, User access log, TTA certification |
| Application programming interface | Truen protocol/SDK, ONVIF, PSIA, MPEG-TS |
| Power / Operating Conditions | |
| Power supply | Min DC12V/2A |
| Power consumption | DC12V: Max 9W |
| Operating condition | -10°C ~ 50°C / Less than 90% RH |
| Storage condition | -50°C ~ 60°C / Less than 95% RH |
| General | |
| Certifications | IP66, IK10, KC |
| External devices | 1 x Sensor-In (dry contact, NO/NC) 1 x Alarm-Out (dry contact, NO) 1 x RS-485 port: Direct PTZ control etc. |
| Edge storage | Micro SD/SDHC/SDXC (Max 512GB) |
| Color/Material | Body: Black / Aluminum, SUS |
| RAL code | Black: RAL9005 |
| Dimension | 55.5 (W) x 135.4 (L) x 65.2 (H) [mm] |
| Weight | 0.4Kg |

Pictures

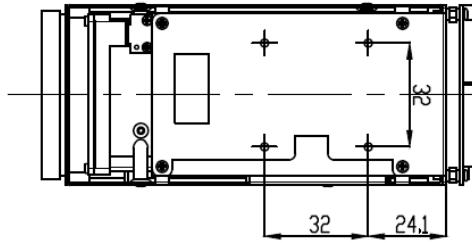


Dimensions

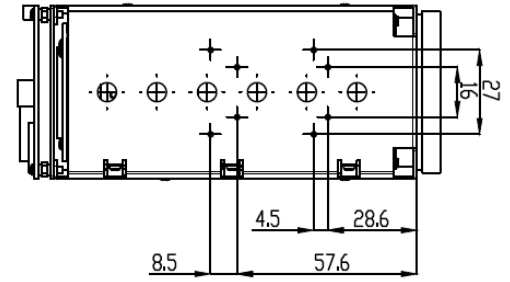
< Front >



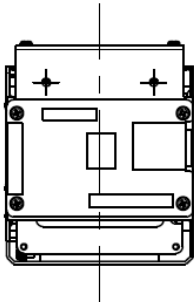
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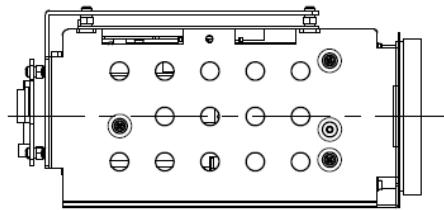
< Bottom >



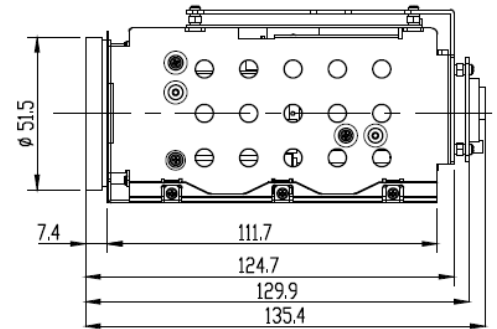
< Rear >



< Right side >



< Left side >



Pin Assignment & Connector

| R31-J3 | | | | R31-J4 | | | |
|---------|-----------|-----|---------------------------------|---------|------------|-----|--------------------------|
| Pin No. | Signal | Dir | Description | Pin No. | Signal | Dir | Description |
| 1 | EXT_RTX- | I/O | RS-485 - | 1 | NETWORK_A+ | IO | Ethernet Positive Data 1 |
| 2 | EXT_RTX+ | I/O | RS-485 + | 2 | NETWORK_A- | IO | Ethernet Negative Data 1 |
| 3 | IP_RESET | I | Factory reset Input(Active Low) | 3 | NETWORK_B+ | IO | Ethernet Positive Data 2 |
| 4 | Reserved | - | Reserved | 4 | NETWORK_B- | IO | Ethernet Negative Data 2 |
| 5 | GND | PWR | Ground | 5 | NETWORK_C+ | IO | Ethernet Positive Data 3 |
| 6 | AC_OUT_L | O | Audio Line output | 6 | NETWORK_C- | IO | Ethernet Negative Data 3 |
| 7 | GND | PWR | Ground | 7 | NETWORK_D+ | IO | Ethernet Positive Data 4 |
| 8 | AC_IN_L | I | Audio Line input | 8 | NETWORK_D- | IO | Ethernet Negative Data 4 |
| 9 | GND | PWR | Ground | | | | |
| 10 | ALARM_COM | O | Alarm signal | | | | |
| 11 | ALARM_NO | O | Alarm signal | | | | |
| 12 | SENSOR | I | Sensor signal | | | | |
| 13 | GND | PWR | Ground | | | | |
| 14 | DC12V | PWR | Supply Voltage | | | | |
| 15 | DC12V | PWR | Supply Voltage | | | | |

Accessories

- ▶ Main Cable