

TCB-4230F

- 1/2.8" Sony CMOS Sensor
- 30X Optical Zoom
- AI based Object Detection
- Max 60FPS @ 1920 x 1080
- H.265 / H.264 / MJPEG
- Autofocus
- True WDR
- 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



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)



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.



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.



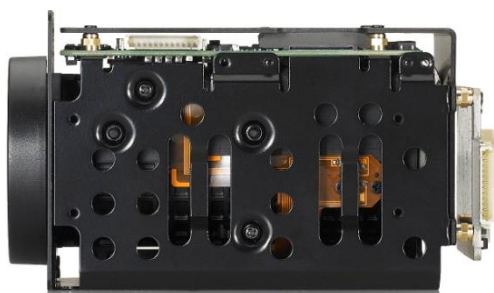
TCB-4230F Specifications

Imaging	
Sensor	1/2.8" CMOS Image Sensor
Zoom	Optical 30x, Digital 8x
Focal length	f = 5.2mm ~ 156mm
Angle of view	Horizontal : 58.1°(wide) ~ 1.94°(tele)
Maximum aperture ratio	F1.3(Wide) ~ F4.8(Tele)
Min object distance	3m
Focus control	Oneshot AF
Lens type	DC auto iris
Min illumination	TBD
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-4230F Specifications

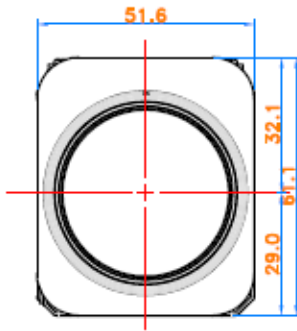
Event and Alarm	
Event Source	Video analytics, Audio detection, Client disconnection, Sensor input, Tampering detection, User-defined event
Event actions	E-mail notification, OSD alert, FTP upload, PTZ preset, Alarm control, Recording, HTTP action
Network	
Interface	Ethernet 10/100/1000 base-T (RJ-45)
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	51.6 (W) x 106.6 (L) x 61.1 (H) [mm]
Weight	0.28kg

Pictures

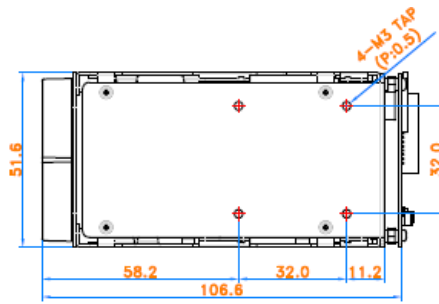


Dimensions

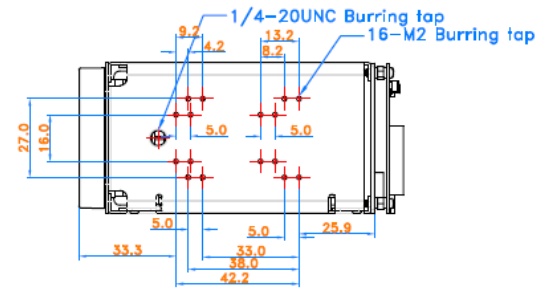
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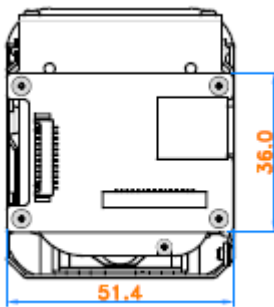
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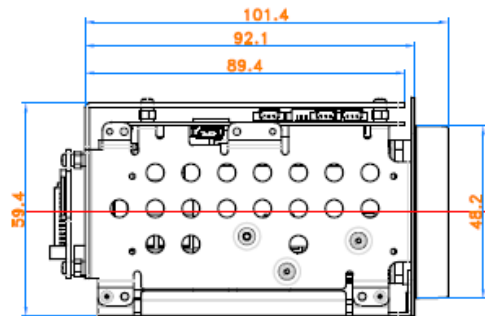
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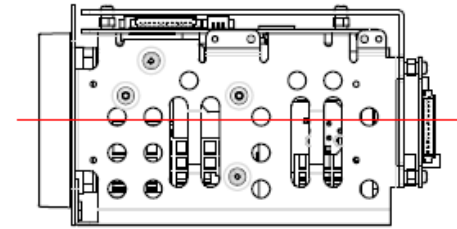
< Rear >



< 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