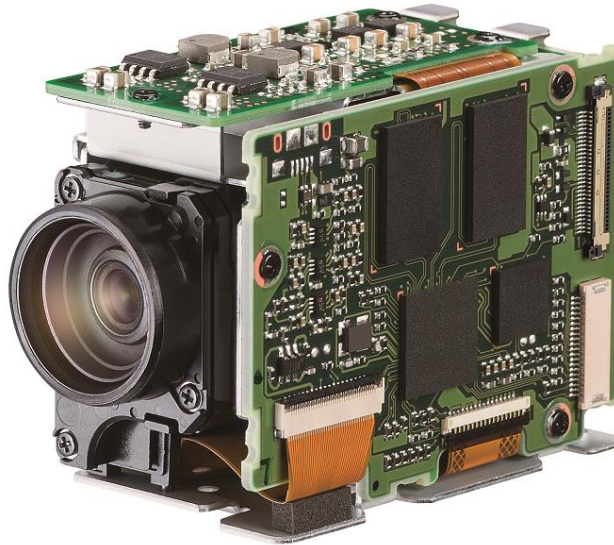


## Ultra-Compact Full-HD Camera Module

Integrated an Industry-First Optical Vibration-Compensation Feature

■ MP1110M-VC (upper model)



Ultra-Compact 10x zoom

### Key Features

#### ■ Integration of Cutting Edge Technology "Optical Vibration-Compensation"

- A proprietary optical vibration-compensation function prevents image blurring in vibrating environments and at the telephoto end, ensuring clear and crisp images.
- Miniature –size construction incorporating an optical vibration-compensation feature.

#### ■ Miniature-Size and Light-Weight Full HD Camera

- Compact size with a total length of 58.4mm and light of approx.77g
- Miniature-size and light weight construction enables re-use of current housing
- Video output compatible with Market Standard Full HD (1920 x 1080)

#### ■ Advanced Features for Various Applications

- Support Distortion Correction  
Thanks to these technologies, reproduces clearly nature images at Magnifier, Video conference etc
- Analog video output for industrial applications such as pipe inspection etc
- Embedded Various Image Processing Technologies  
Defog , Privacy Zone Masking and Motion Detection for outdoor applications

CAMERA		
Image sensor	1/3-type CMOS (Progressive Scan)	
Effective number of pixels	Approx.4,080,000 Pixels	
Output Pixels	1920 x 1080, 1280 x 720	
Signal System (HD)	1080p/60, 1080p/59.94, 1080p/25 1080p/30, 1080p/29.97, 1080p/25 1080i/60, 1080i/59.94, 1080i/50 720p/60, 720p/59.94, 720p/50 720p/30, 720p/29.97, 720p/25	
Signal System (SD)	NTSC/PAL	
Minimum Illumination	0.5 lx (1/30sec, F/1.8, Video level 50%)	
Recommended Illumination	100 lx to 100,000 lx	
Signal to Noise Ratio(S/N)	more than 50dB	
Gain	Auto/Manual	
Shutter speed	1/1 to 1/10,000 sec	
Sync System	Internal	
Exposure compensation	-12dB to + 12dB (Total 13 steps)	
Backlight compensation(BLC)	ON/OFF	
Gamma	Standard/Straight	
Aperture control	16 steps	
White Balance	ATW 1(Narrow), ATW 2(Wide) One-push, Manual Paint (B/R)	
Auto Exposure (AE)	Auto, Manual, Priority Mode(shutter/iris)	
Lens	10x optical zoom f=3.3mm (wide) to 33.0mm (tele) F/1.8 to F/3.4	
Zoom mode	Standard/Variable/Direct	
Zoom speed (wide to tele)	1.4sec (Focus Tracking ON)	
Focusing system	Auto, Manual, One-push, AF sensitivity	
Horizontal viewing angle	58.2degree(wide) to 6.9degree(tele)	
Minimum object distance	10mm(wide) to 800mm(tele)	
Horizontal resolution	800 TV lines	

CAMERA FEATURES		
Vibration Compensation (VC)	OFF/ON	
Distortion correction	OFF/ON	
Wide Dynamic Range (Wide-D)	OFF/ON	
Defog	OFF/ON	
Digital noise reduction (DNR)	2D/3D(6steps)	
Digital output	Yes	
Privacy zone masking	OFF/ON(upto 16areas)	
Motion Detection	OFF/ON(range : 17(H) x 15(V) blocks)	
Slow shutter	1/1 sec to 1/12.5 sec	
Picture effects	OFF/ON (Black and White)	
Picture freeze	OFF/ON	
Electronic-Flip (E-Flip)	OFF/ON(upside/down rotation)	
Mirror image	OFF/ON(left/right rotation)	
Position Preset	OFF/ON(upto 4positions)	
Temperature readout	Yes	
Title display	OFF/ON(upto 20characters x upto 12lines)	
INTERFACE		
Video output (HD)	Digital : Y/Pb/Pr 4:2:2 (LVDS)	
Video output (SD)	CVBS : 1.0Vp-p(sync negative)	
Camera control interface	VISCA protocol *visca is a trade mark of SONY corporation	

GENERAL		
Power requirement	8 V to 12 V DC	
Power consumption	Approx.3W	
Operating temperature	-5°C to +60°C	
Storage temperature	-40°C to +60°C	
Operating humidity	20% to 80% (no condensation)	
Storage humidity	20% to 90% (no condensation)	
Dimensions (W x H x D)	31.9 x 41.5 x 58.4mm	
Weight	Approx.77g	

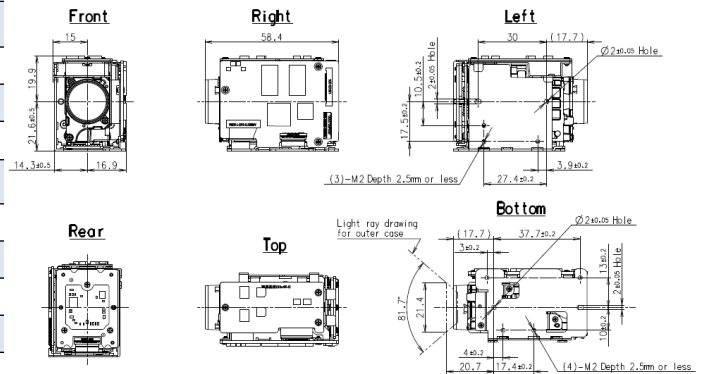
Note) \*\*Specifications are subject to change without notice

### PIN ASSIGNMENT

30pins micro coaxial connector for connection between camera and interface board

Pin No	Name	Level	Pin No	Name	Level
1	TXOUT3+		16	DC IN	8~12V DC
2	TXOUT3-		17	DC IN	8~12V DC
3	TXCLKOUT+		18	DC IN	8~12V DC
4	TXCLKOUT-		19	GND	
5	TXOUT2+		20	GND	
6	TXOUT2-		21	NC	Single out mode: open
7	TXOUT1+		22	NC	Single out mode: open
8	TXOUT1-		23	NC	Single out mode: open
9	TXOUT0+		24	NC	Single out mode: open
10	TXOUT0-		25	CVBS OUT	
11	GND		26	RESET	
12	TxD		27	NC	Single out mode: open
13	RxD		28	NC	Single out mode: open
14	DC IN	8~12V DC	29	NC	Single out mode: open
15	DC IN	8~12V DC	30	NC	Single out mode: open

### DIMENSIONS



# TAMRON