

Three Models of Shutterless Compact LWIR (Long-Wave Infrared) Camera Modules

- Horizontal FOV Angle of 90° (Model LW10F90-E)
- Horizontal FOV Angle of 42° (Model LW10F42-ET)
- Horizontal FOV Angle of 12° (Model LW10F12-ET)



Main Features

> Lineup of Lenses with Various Focal Lengths

- Three models of camera modules are offered with optimal lenses covering a wide angle of applications from wide-angle to mid-telephoto range.
 - LW10F90-E : f=1.9mm (Horizontal FOV Angle 90°)
 - LW10F42-ET: f=3.7mm (Horizontal FOV Angle 42°) (*1)
 - LW10F12-ET: f=13mm (Horizontal FOV Angle 12°) (*1)
- *1: LW10F42-ET / LW10F12-ET: Focus adjustment mechanism is incorporated.

> Consistent High Performance in Both Thermal Imaging and Temperature Measurement

- Pixel-by-pixel measurement of temperature (*2) is achieved through the use of Tamron's high-performance lenses and proprietary temperature signal processing developed for shutterless measurement. Thermal image and temperature data are simultaneously available.
 - Temperature precision of $\pm 2^{\circ}\text{C}$ (target temperature is within 10-60°C)
- *2: LW10F90-E: temperature measurement only in the central area

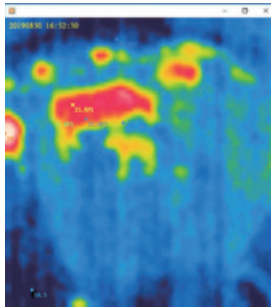
> Incorporation of Shutterless Feature

- Shutterless feature eliminates incursion of shuttering noise and interruption of image sequence. New modules improve on reliability, free from durability issue related with a mechanism shutter.

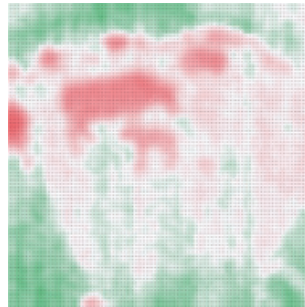
> Protection against Dust and Water

- New modules adopt a new mechanism to protect against dust and water to assist Implementation in various industry applications.

■ An Example of Application for Livestock (Prediction of delivery sign in a cowshed)



Thermal Image



Temperature Data



(Example) Photo of Cowshed

In the Livestock field, the delivery timing is observed by controlling the movement and temperature of the cow using both a visible camera and LWIR thermal camera.

■ Products specifications

Model		LW10F90-E	LW10F42-ET	LW10F12-ET
Detector	Type	Uncooled Microbolometer (8~12 μ m)		
	Resolution	80 (H) \times 80 (V)		
	Shutter	none		
Lens Type	Focal length	f=1.9mm	f=3.7mm	f=13mm
	F/No	F/1.3	F/1.1	F/1.1
	Horizontal FOV Angle	90°	42°	12°
	M.O.D	80cm	50cm	20cm
Output resolution		80 (H) \times 80 (V)		
Output data		16bit data (temperature / thermal images)		
Temperature range of measurement target/temperature precision		Only in the central area (3x3 pixel) 10°C ~ 60°C, \pm 2°C (ambient temperature: 10°C ~ 40°C) 10°C ~ 100°C, \pm 5°C (ambient temperature: 0°C ~ 60°C)	10°C ~ 60°C, \pm 2°C (ambient temperature: 10°C ~ 40°C) 10°C ~ 100°C, \pm 5°C (ambient temperature: 0°C ~ 60°C)	
Interface		10BASE-T/100BASE-TX Ethernet (UDP) M12 8-pin connector (A custom water-proof cable is included)		
Power supply		Ethernet: PoE (IEEE802.3af)		
Power consumption		1.5W		
Operating temperature		0°C ~ +60°C		
Dimension (W \times H \times D)		46 \times 46 \times 54mm	46 \times 46 \times 60mm	46 \times 46 \times 71mm
Weight		171g	190g	228g

* Surface temperature distribution is displayed, not absolute temperature values. (Variance may occur due to difference in measurement conditions)

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