

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

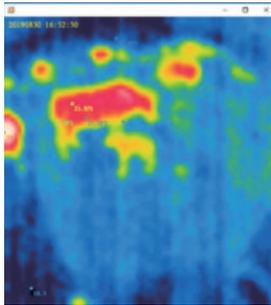
> Incorporation of Shutterless Feature

- 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.

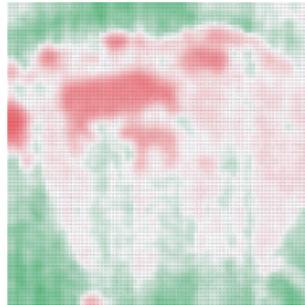
> Protection against Dust and Water

- 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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Management on Quality and Environment :

Tamron is certified with international standards: ISO 9001 for quality and ISO14001 for environmental management at its headquarters, domestic sales offices, China plant as well as production facilities in Aomori, Japan, and is fully committed to striving for continued and sustainable improvement at all levels and facets of its business operations.