

INFRARED SOLUTIONS - SYSTEMS & SERVICES



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INFRARED-CAMERA-CONFIGURATOR
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Thermal Imaging Cores
TC688 & TC388 (17 μ m)



Thermal Imaging Cores

TC688 & TC388

ULIRvision TC688 & TC388 offer comprehensive features and outstanding performances to make them satisfy many thermal integrated applications.

TC688 & TC388 are with advanced reliable shutter, same small volume and same output to provide stable quality, wonderful thermal image video and versatile compatibility.

TC688 & TC388 are convenient to be fixed into an existing system with M2.0 & 1/4" -20 mounts, also they can be integrated into various applications including thermal night vision systems, driving vision enhancement, firefighting equipments, medical equipments, thermal sights, security & surveillance products, and more.



TC688 & TC388

Accessories



Expansion board



Fixing ring



40-pin cable



4-key board



Tripod connector

Lens Data



		9mm	13mm	19mm	25mm	35mm	50mm	75mm	100mm	
F/no.		1	1	1	1	1	1	1	1	
Lens type		Athermal	Athermal	Athermal	Athermal	Athermal	Athermal/Manual	Athermal/Manual	Manual	
FOV (h x v)	TC688(17um 640*480)	62.3°×49°	45°×35°	31°×24°	25°×18°	17.6°×13.2°	12.5°×9.1°	8.3°×6.5°	6.2°×4°	
	TC388(17um 384*288)	40°×30.4°	28°×21.3°	19.4°×14.7°	15°×11°	10.6°×8°	7.5°×5.5°	5°×3.75°	3.75°×2.75°	
iFOV(mrad)	17um	1.889	1.308	0.895	0.68	0.486	0.34	0.283	0.17	
Minimum Focus Distance	Athermal	0.05m	0.1m	0.2m	0.3m	0.6m	1.5m	3.5m	5m	
	Manual			0.3m	0.5m	1m	2m	5m	8m	
Range Performance	For human	D	250	390	570	820	1140	1500	2180	2450
	Human (1.8 × 0.5m)	R	63	95	144	210	280	380	470	650
	Vehicle (2.3 × 2.3m)	I	31	47	72	104	142	190	235	330
Detection (D) Recognition (R) Identification (I)	For Vehicle	D	720	1080	1550	2200	3000	3900	4850	6000
		R	175	275	400	580	800	1060	1320	1750
		I	88	140	200	290	200	540	660	900

- 50mm/75mm lenses are available to be athermal & manual type;
- 19mm/25mm/35mm athermal lenses are available to change to manual lens (lens coating is optional for AR or DLC).
- Thread for 9mm/13mm/19mm lens is M25*0.5, the others are M34*0.5.
- Lens length is measured from the front flat surface of the lens holder to the end of the lens, the Diameter is the biggest part of the lens.
- DRI values shown are nominal values and only for estimates.
- Customized lenses are available, including particular focus length lens, motorized lens, Dual-view lens, Tri-view lens, continuous zoom lens.

Features

- Tiny size, light weight for easy integration.
- High sensitivity: 17 micron pixel size, <65mk.
- 50Hz & 60Hz frame rate for crisp thermal image video.
- PAL & NTSC switchable analog video output.
- LVDS & CMOS & BT.656 digital video options.
- Auto & Manual brightness & Contrast adjustment.
- Video output in black-and- white or colorful display.
- 2x, 4x, 8x digital zoom to see objects' details.
- Advanced image enhancement are embedded.
- Friendly interfacing for camera control and configuration.
- IP67 sealed for the first front of lens.
- Support for movable cursor.
- Start-up splash screens can be loaded by customers.
- Upgradable software & firmware available.
- Available for athermal, manual, motorized lenses and customized lenses.



Technical Specifications

Item	TC388	TC688
● Detector Data		
- Detector type	Uncooled FPA	Uncooled FPA
- IR resolution	384×288	640×480
- Pixel pitch	17um	17um
- Thermal sensitivity(NETD)	<65mk@f/1.0	<65mk@f/1.0
- Frequency	50Hz	50Hz
● Image performance		
- Analog video output	PAL(768*576)/NTSC(640*480)	PAL(640*480)/NTSC(640*480)
- Digital video output	LVDS/CMOS(14Bit)/BT656(8Bit)	LVDS/CMOS(14Bit)/BT656(8Bit)
- Image enhancement	Yes	Yes
- Brightness/Contrast	Auto/Manual	Auto/Manual
- Polarity/LUT	Black hot/White hot	Black hot/White hot
- Electronic zoom	2x, 4x	2x, 4x, 8x
- Invert/Revert	Yes	Yes
- Image frozen	Yes	Yes
- Pseudo-color enhancement	5 color pallete	5 color pallete
- Image correction	Auto/Manual	Auto/Manual
- Time to image	<2s	<3s
- Cross cursor	Yes,moveable	Yes,moveable
- Text comment	Support customized start-up logo display	Support customized Start-up logo display
- Online upgrading	Yes	Yes
● Physical Data		
- Size (w/o lens)	35.5×44.5×44.5(L×H×W)	35.5×44.5×44.5(L×H×W)
- Weight (w/o lens & rear cover)	66.5g	66.5g
- Mounting	M2×0.4, 1/4"-20	M2×0.4, 1/4"-20
● Environment Data		
- Operating temperature range	-40℃~60℃	-40℃~60℃
- Storage temperature range	-50℃~70℃	-50℃~70℃
- Vibration	4.3g 3axes, 8hours each	4.3g 3axes, 8hours each
- Shock	200g;11msec shock pulse (all axes)	200g;11msec shock pulse (all axes)
- Humidity	40℃/95%RH, Non-condensing	40℃/95%RH, Non-condensing
- Temperature-shock	5℃/min(-40℃~+60℃)	5℃/min(-40℃~+60℃)
- Electromagnetic Radiation Standard	EMC Radiation CE Class B	EMC Radiation CE Class B

Interfacing	Expansion board	Standard board
- Primary Electrical Connector	40 PIN	Hirose 50 pin
- External power interface	9~24V	4.0~5.0V
- Power consumption	<1.8W	<1.5W
- Control port	RS232/RS485/RS422(optional)	RS232
- Digital video output	LVDS/CMOS(14Bit)/BT656(8Bit)/USB2.0/Camera Link	LVDS/CMOS(14Bit)/BT656(8Bit)
- Analog video output	PAL/NTSC	PAL/NTSC
- Keypad	4 button keyboard(optional) Yes	4 button keyboard(optional) Yes

NETHERLANDS

POLAND

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AUSTRIA

SWITZERLAND

Application

Anwendungsbereich

Model

Modell



Building Investigation

Gebäudethermografie



Electrical Thermography

Elektrothermografie



Medical/Human Body Investigation

Medizintechnische Anwendungen



Predictive Maintenance

Vorbeugende Instandhaltung



Research & Development

Forschung & Entwicklung



Automation/Conditional Monitoring

Automation/Qualitätssicherung



Industrial Process Control

Industrielle Prozesskontrolle



Surveillance/Rescue Management

Fernbeobachtung/Sicherheitstechnik



Traffic Control

Verkehrsüberwachung



Furnace/Glass melting industry

Brennraum/Glasschmelze



Flame- and plastic measurement

Flamm- und Folienmessung



○ capable geeignet

◐ well suitable gut geeignet

● particularly suitable sehr gut geeignet