

Fotric P7 Datasheet

■ Specifications

Basic parameters	
Infrared Resolution	640*480
Super Resolution (SR)	Enhanced to 1280*960
Detector Type	Uncooled Infrared Focal Plane Detector
Thermal Sensitivity (NETD)	<30mK@30°C
Pixel Pitch	17μm
Spectral Response Range	8~14μm
Image Frame Rate	30Hz
Field of View (FOV)	25°*19°
Spatial Resolution (IFOV)	0.68mrad
Minimum Imaging Distance	0.25m
Focal length	25mm
Focusing Method	Autofocus, manual focus.
Lens Recognition	Automatic recognition.
Optional Lens	Refer to "Lens Parameters"
Measurement and analysis	
Temperature Measurement Range	-20~2000°C
Temperature Span	-20~120°C, 0~700°C, 300~2000°C, intelligent range
Temperature Range Extension	Supports -40°C low-temperature extension
Temperature Measurement Accuracy	Low temperature range, target temperature between 0~100°C, ±1°C; others, ±2°C or 2%, whichever is greater
Temperature Measurement Spot	25
Temperature Measurement Line	25
Temperature Measurement Box	25
Line Temperature Distribution	Support viewing line temperature distribution chart.
Global Temperature Correction	Support temperature measurement parameter correction: emissivity, ambient temperature, reflected temperature, relative humidity, target distance, infrared window parameters(temperature and transmittance) .
Local Parameters	Support emissivity correction for temperature measurement areas.
Area Alarm	Supports high/low temperature alarms for max/min temperature in measurement areas
Temperature Rise Function	Reference temperature can be the highest, lowest, average, or custom temperature in the measurement area
On-device Analysis	The device is capable of directly analyzing thermal images and full radiometric videos
Analysis software	AnalyzIR professional thermal imaging analysis software
Image display	
Display screen	5-inch, 1280*720 pixels, IPS LCD touch display with Gorilla Glass explosion-proof cover

Image mode	Thermal image mode, blend(T-DEF®) mode, and Picture-in-Picture mode, digital camera, auxiliary digital camera, dual-vision display; Blend(T-DEF®) mode and Picture-in-Picture mode is only available with alignable lens;
Blend Mode(T-DEF®)	Adjustable infrared image transparency from 0% to 100% in blend mode.
Picture-in-Picture	Overlay a movable and resizable thermal image on the visible light image
Palette	Supports 16 color palettes: Iron, Grey, Iron10, Rainbow, Grey10, GreyRed, MidGrey, Yellow, Rain, Rain10, Blue, GlowBow, Medical, MidGreen, Prism, Medical10 Supports real-time preview and switching of color palettes
Inverted Palette	Support inverted palettes.
Span Mode	Supports automatic adjustment of temperature span Supports manual adjustment of temperature span (minimum 2°C) Supports touch adjustment of temperature span (minimum 2°C)
Color Alarm	Supports color alarms for above, below, and between temperatures
Image overlay information	Display global maximum temperature, minimum temperature, ROI maximum temperature, minimum temperature, average temperature, emissivity, temperature measurement parameters, lens, compass information, as well as date and time information.
High/Low Temperature Tracking	Automatically tracks the highest and lowest temperature points within a marked measurement area
Image Detail Enhancement (IREdge)	Supports IREdge infrared image contour enhancement
Normalized Histogram Color Distribution(T-TWB®)	Optimize display of images with large dynamic range to show more details
Digital zoom	1~16x continuous zoom
Imaging function	
Digital camera	Main Camera: 5 MP, industrial-grade digital camera Auxiliary Camera: 13 MP, industrial-grade digital camera
Storage card	SD card, hot-swappable, supports up to 1TB
Single-frame capture	Under thermal image mode, blend(T-DEF®) mode, Picture-in-Picture, and dual-vision display mode, the image will be saved as an analyzable thermal image; In digital camera and auxiliary digital camera modes, the image will be saved as a digital camera image; When the lens is recognized as alignable, thermal image mode, blend(T-DEF®) mode, and Picture-in-Picture mode images include aligned digital camera images; In dual-vision display mode, auxiliary digital camera images are saved as separate digital camera images.
Timed Capture	Set time interval from 2 seconds to 1 hour to automatically save images in thermal, blend (T-DEF®), and picture-in-picture modes
Panorama	In thermal image mode, save multiple thermal images as a single panoramic thermal image for analysis
Radiometric Video Recording	In IR mode, supports radiometric video recording for analysis.
MP4 Video Recording	Supports mp4 video recording in all image modes
Image format	jpg (thermal image), jpg (visible light image)

Video Format	irs or irsx (radiometric video), MP4
Freeze Interface	In thermal image mode, blend mode (T-DEF®), picture-in-picture mode, and dual-vision mode, the camera supports enabling a freeze frame for preview.
QR Code Functionality	Supports scanning QR codes and barcodes as text annotations and tags.
Voice Annotation	Records voice for up to 120 seconds, saved in thermal images and full-radiometric videos
Text Annotation	Input text via soft keyboard, save to thermal images and full radiometric videos
Tag Table	For each row in the Tag Table, input text via drop-down list or soft keyboard, save to thermal images and radiometric videos; later, filter by tag content in the gallery
Favorites	Click the favorite button to save the favorite status to thermal images and full-radiometric videos, highlighted in the gallery preview screen, and later filter by favorite status in the gallery.
On-device gallery	Supports viewing images, videos, and reports in the gallery by icon. Supports preview of images, videos, and reports in the gallery. Supports analysis of thermal images and radiometric videos in the gallery. Supports filtering and deleting images, videos, and reports in the gallery.
On-device Report	Supports generating Word or PDF reports
Data connectivity	
WiFi Connection	Supports 2.4GHz and 5GHz frequency bands, supports 802.11a/b/g/n/ac
Bluetooth	BT4.2 LE, can be connected to Bluetooth headphones
USB interface	USB Type-C, compliant with USB 3.0/2.0 standard
HDMI Interface	Micro HDMI type, compliant with HDMI 1.4 specifications, supports transmission of 1080P images/videos at 60Hz
FTP Fast Transfer	Connect to the device via WiFi network or device's own WiFi hotspot, then access local data via FTP
PC Radiometric Video Stream	Real-time analysis of full radiometric video stream via AnalyzIR
Remote Display	View full radiometric video stream via USB Type-C interface connected to AnalyzIR, or connect to display screen or projector via HDMI interface
Remote Control	
PC Remote Control	Supports installing AnalyzIR on Windows systems for real-time data analysis and viewing and analyzing captured and recorded data.
Mobile Control	Supports installing EasyIR on Android systems to preview device screens, synchronize device data, and view, browse, share, and analyze synchronized data.
Web Browser Remote Control	Remote operation and control via built-in browser on devices such as smartphones, computers, tablets, to access, analyze, and share local data
Auxiliary functions	
Software and firmware upgrades	Supports OTA remote upgrade and SD card local upgrade
TurboFocus®	Supports smart focus system with contrast focus, laser focus, continuous focus, and touch focus.

Laser	Laser: Class 2, wavelength: 635nm, power: <1mW. Laser ranging: 0.1m-50m, accuracy: $d \cdot 0.01\% \pm 2\text{mm}$.
ROI Supplement Parameters	Support measurement of temperature line length, support measurement of rectangular and circular area of measurement area.
Geographical Location	Support Beidou/GPS/GLONASS satellite positioning, location information can be saved to thermal images and full-radiometric videos.
Compass	Supports 360° orientation, image overlay information can display orientation information, and orientation information can be saved in thermal images and full-radiometric videos
LED illumination lamp	Support flashlight illumination and flash mode
HawkAI	Text recognition.
Power system	
Battery type	3.6V, 9900mAh Rechargeable Lithium Battery, Field-Replaceable
Battery operating time	Continuous Operating Time ≥ 4 Hours (Actual runtime depends on environment and usage conditions)
Charging method	Supports charging via dock charger, direct DC 12V charging, and USB charging while powered off
Charging time	Charge up to 90% in 3 hours
Energy management	Auto shutdown, manual screen off
External power supply	Supports using DC 12V power supply for the device
Reliability and certification	
Safety standards	GB 4793.1/EN 61010-1
Electromagnetic compatibility	GB/T 18268.1/EN IEC 61326-1
Protection rating	IP54(GB/T 4208/IEC 60529)
Shock resistance	25g(GB/T 2423.5/IEC 60068-2-27)
Vibration resistance	2g(GB/T 2423.10/IEC 60068-2-6)
RoHS Directive	Compliant
Physical parameters	
Operating temperature	-20~50°C
Storage temperature	-40~70°C, without battery
Relative humidity	<95%RH
Dimensions	190mm*151mm*95mm
Weight	1.3kg(excluding lens)
Battery weight	210g
Housing material	Hard plastic: PC+ABS, soft plastic: TPE, magnesium alloy.
Mounting Method	Support tripod connection with UNC 1/4-20 interface
Warranty and maintenance	
Warranty period	2-year warranty for the whole unit
Recommended calibration interval	2 Years
Supported languages	
Supported languages	English, German, French, Spanish, Portuguese, Italian, Japanese, Korean, Traditional Chinese, Thai

Standard product configuration	
Standard configuration	Main unit ×1□Rechargeable Lithium Battery*3□Charging Dock□Power Adapter□USB Type-C to USB cable ×1□Micro HDMI to HDMI Interface Cable□Magnetic Ring*3□128G SD Card□SD Card Reader□Neck Strap□Calibration certificate□Quick start guide□Packing list□Hard Carrying Case

■ Lens

● Optional

L e n s	Lens Parameters			
	Field of View (FOV)	Spatial Resolution (IFOV)	Minimum Imaging Distance	Minimum Focal Length
				Temperature Span

L 2 5	25° *19°	0.6 8mr ad	0 2 5 m	0 5 m	2 5 m	-20~120°C, 0~700°C, 300~2000°C (temperature accuracy below -20°C is not guaranteed; calibrated at 1 m)
L 4 6	46° *35°	1.2 5mr ad	0 1 m	0 7 m	1 4 m	-20~120°C, 0~700°C, 300~2000°C (temperature accuracy below -20°C is not guaranteed; calibrated at 0.8 m)
L 1 2	12° *9°	0.3 3mr ad	1 m	1 m	5 1 m	-20~120°C, 0~700°C, 300~2000°C (temperature accuracy below -20°C is not guaranteed; calibrated at 1.5 m)
L 0 7	7°* 5°	0.1 9mr ad	2 m	N / A	8 3 m	-20~120°C, 0~700°C (measurement accuracy below -20°C not guaranteed, calibrated at 4 m)
L 8 0	80° *60°	2.1 8mr ad	0 1 m	N / A	7 m	-20~120°C, 0~700°C, 300~2000°C (accuracy below -20°C not guaranteed, calibrated at 0.6 m)
L 2 5 / L 1 2	25° *19° \ 12° *9°	0.6 8mr ad 0.3 3mr ad	0 2 5 m / 1 m	0 5 m / 1 m	2 5 m / 5 1 m	-20~120°C, 0~700°C (calibrated at 1 m / 1.5 m)
L 2 5 / L 0 7	25° *19° \ 7° *5°	0.6 8mr ad 0.1 9mr ad	0 2 5 m / 3 m	N / A	2 5 m / 7 7 m	-20~120°C, 0~700°C (calibrated at 1 m / 4 m)
M 2 0	12.8mm *9.6mm	20μm	2 9 m	N / A (m M)	4 9 m	-20~120°C, 0~700°C (measurement accuracy above 400°C not guaranteed, calibrated at 0.025 m)
M 5 0	32mm *24mm	50μm	9 8 m	N / A (m M)	2 8 m	-20~120°C, 0~700°C (measurement accuracy above 400°C not guaranteed, calibrated at 0.1 m)

● Temperature Range Extension

Lens	Temperature Range Extension
	-40°C
L25	Supported
L46	Supported
L12	Supported

L07	Supported
L80	Supported
L25/L12	Not supported
L25/L07	Not supported
M20	Not supported
M50	Not supported

■ Available Models

A251038-B001 Fotric P7-L25
 A251038-B002 Fotric P7-L46
 A251038-B003 Fotric P7-L12
 A251038-B004 Fotric P7-L07
 A251038-B005 Fotric P7-L25-L46
 A251038-B006 Fotric P7-L25-L12
 A251038-B007 Fotric P7-L25-L07
 A251038-B008 Fotric P7-L46-L12
 A251038-B009 Fotric P7-L46-L07
 A251038-B010 Fotric P7-L12-L07
 A251038-B011 Fotric P7-L25-L46-L12
 A251038-B012 Fotric P7-L25-L46-L07
 A251038-B013 Fotric P7-L25-L12-L07
 A251038-B014 Fotric P7-L46-L12-L07
 A251038-B015 Fotric P7-L25-L46-L12-L07
 A251038-B016 Fotric P7-L25/L12
 A251038-B017 Fotric P7-L25/L07
 A251038-B018 Fotric P7-M20
 A251038-B019 Fotric P7-M50
 A251038-B020 Fotric P7-L25-M20
 A251038-B021 Fotric P7-L25-M50
 A251038-B022 Fotric P7-M20-M50
 A251038-B023 Fotric P7-L25-M20-M50
 A251038-B024 Fotric P7-L46-M20-L25/L12
 A251038-B025 Fotric P7-L46-L25/L07
 A251038-B026 Fotric P7-L80
 A251038-B027 Fotric P7-L25-L80
 A251038-B028 Fotric P7-L25/L12-L46
 A251038-B029 Fotric P7-L25-JJ700
 A251038-B030 Fotric P7-L25/L12-JJ700
 A251038-B031 Fotric P7-L46-JJ700
 A251038-B032 Fotric P7-L12-JJ700
 A251038-B033 Fotric P7-L07-JJ700
 A251038-B034 Fotric P7-L25/L07-JJ700
 A251038-B037 Fotric P7-L80-JJ700

* For additional configurations, please contact us directly.

■ Accessories

● Optional

C251235 Rechargeable Lithium Battery

C251343 Charging Dock

C251240 Power Adapter

C251449 Car Charger

C251249 Test Bench

C251332 Portable Soft Bag

C251340 Hard Carrying Case

C251372 L25 Lens

C251303 L46 Lens

C251300 L12 Lens

C251331 L07 Lens

C251424 L80 Lens

C251323 L25/L12 Lens

C251327 L25/L07 Lens

C251329 M20 Lens

C251312 M50 Lens

C251261 -40°C Low Temperature Expansion

C251450 Temperature calibration service □ ≤700°C □ each temperature range □

C251451

