

# **DS-2TP23-10VM/W**

Handheld Thermography Camera















The handheld thermography camera, specially designed for temperature measurement in transformer substation. It's equipped with a 384×288 resolution thermal detector and a 5MP resolution optical light detector. The 3.5-inch touch screen displays picture in picture of optical and thermal view, fusion of both channels. It helps the staff to quickly find the fault according to accurate temperature measurement of high temperature targets in the environment. Meanwhile it provides assistant decision and ensure safety.

#### **Key Features**

- $384 \times 288$  resolution (thermal), and 1080P resolution (optical)
- DDE (Digital Detail Enhancement) technique
- 3D DNR, adaptive AGC (Automatic Gain Control)
- 640×480 resolution 3.5" LCD touch display
- Built-in rechargeable Li-ion battery
- Up to four hours continuous running





#### **Application Scenarios**

The device is mainly applied to various industries, such as Power, Photovoltaic, Metallurgy, Piping, Building, Electronics, Telecommunication, Fire control, and Data center, etc.,



Power



Photovoltaic



Metallurgy



Piping



Building



Electronics



Telecommunication



Fire Control



Data Center

#### **Functions**

### **Thermography**

Device detects the real-time temperature, and display it on the screen.

#### Storage

Device is equipped with built-in memory module to store recorded videos, captured snapshots, and important data.

#### **Fusion**

Device can display fusion of thermal view and optical view.

# Palette and Alarm

Device supports multiple palettes, and you can set the palette mode according to the alarm function

#### Wi-Fi Function

Device can be connected to Wi-Fi. You can connect the device via Wi-Fi hot spot, and you can view live view, capture, and recording, etc.

#### **Digital Zoom**

Device supports  $1\times$ ,  $2\times$  and  $4\times$  digital zoom.

#### **LED Light:**

LED light supplement makes the device a torch in required scenarios.

#### **Laser Light Supplement:**

Long-distance laser light supplement to point the thermography target.



# **Specifications**

Image Display  Palettes Fusion, Rain  Digital Zoom Thermal: 1×, 2×, 4×  Thermal / Optical Picture in Picture Support Thermal View in Optical View Fusion Support (Thermal View and Optical View Combined) Record Video Support on-board video recording		Model	DS-2TP23-10VM/W
Max. Resolution       25Hz: 384 × 288         Pixel Pitch       17μm         Response waveband       8μm to 14μm         NETD       < 40mk (@ 25 °C,F#=1.0)	Parameter		Handheld Thermography Camera
Thermal Module  Response waveband Response waveband NETD  Field of View  Focal length  IFOV (mrad)  Aperture  Filo  Max. Resolution  Picture Resolution  Video Resolution  Palettes  Digital Zoom  Thermal / Optical  Picture in Picture  Fusion  Record Video  Rules  Pixel Pitch  17μm  8μm to 14μm  8μm to 1		Image sensor	Uncooled Focal Plane Arrays
Thermal Module       Response waveband NETD       8μm to 14μm         Module       NETD       < 40mk (@ 25 °C,F#=1.0)		Max. Resolution	25Hz: 384 × 288
NETD   < 40mk (@ 25 °C,F#=1.0)		Pixel Pitch	17μm
Module   Field of View   37.5° × 28.5°		Response waveband	8μm to 14μm
Field of View  Focal length  IFOV (mrad)  Aperture  F 1.0  Max. Resolution  Picture Resolution  Video Resolution  Display: 384*288; Capture: 1920 × 1080  Monitor  Palettes  Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain  Digital Zoom  Thermal/Optical/Fusion image/Picture in picture  Picture in Picture  Support Thermal View and Optical View  Fusion  Record Video  Rules  Thermography  Field of View  1.7mrad  1.7mral  1		NETD	< 40mk (@ 25 °C,F#=1.0)
IFOV (mrad) Aperture F 1.0  Max. Resolution Picture Resolution Video Resolution Display: 384*288; Capture: 1920 × 1080  Video Resolution Display: 384*288; Record:1920 × 1080  Monitor Apalettes Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain Digital Zoom Thermal: 1×, 2×, 4×  Thermal / Optical Picture in Picture Support Thermal View in Optical View Fusion Record Video Support on-board video recording  Rules Rules Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry Thermography Thermometry Range -20 °C to 550 °C (-4 °F to 1022 °F)		Field of View	37.5° × 28.5 °
Aperture F 1.0  Max. Resolution 1920 × 1080  Picture Resolution Display: 384*288; Capture: 1920 × 1080  Video Resolution Display: 384*288; Record:1920 × 1080  Monitor 640 × 480 resolution 3.5" LCD touch display  Palettes Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain  Digital Zoom Thermal: 1×, 2×, 4×  Thermal / Optical Thermal/Optical/Fusion image/Picture in picture  Picture in Picture Support Thermal View in Optical View  Fusion Support (Thermal View and Optical View Combined)  Record Video Support on-board video recording  Rules Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  Thermography Thermometry Range -20 °C to 550 °C (-4 °F to 1022 °F)		Focal length	10 mm (Manual focus)
Max. Resolution Picture Resolution Display: 384*288; Capture: 1920 × 1080 Video Resolution Display: 384*288; Record:1920 × 1080  Monitor Palettes Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain Digital Zoom Thermal: 1×, 2×, 4×  Thermal / Optical Picture in Picture Support Thermal View in Optical View Fusion Record Video Support on-board video recording  Rules Thermography Thermometry Range  1920 × 1080  Display: 384*288; Capture: 1920 × 1080  Monitor Fusion 3.5" LCD touch display Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain Digital Zoom Thermal: 1×, 2×, 4×  Thermal / Optical Thermal/Optical/Fusion image/Picture in picture Support Thermal View in Optical View Combined) Record Video Support on-board video recording  Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry Thermometry Range  -20 °C to 550 °C (-4 °F to 1022 °F)		IFOV (mrad)	1.7mrad
Optical ModulePicture ResolutionDisplay: 384*288; Capture: 1920 × 1080Video ResolutionDisplay: 384*288; Record:1920 × 1080Monitor640 × 480 resolution 3.5" LCD touch displayPalettesBlack hot, White hot, Red hot, Rainbow, Ironbow, Fusion, RainDigital ZoomThermal: 1×, 2×, 4×Thermal / OpticalThermal/Optical/Fusion image/Picture in picturePicture in PictureSupport Thermal View in Optical ViewFusionSupport (Thermal View and Optical View Combined)Record VideoSupport on-board video recordingRulesMax. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area ThermometryThermographyThermometry Range-20 °C to 550 °C (-4 °F to 1022 °F)		Aperture	F 1.0
Video Resolution  Display: 384*288; Record:1920 × 1080  Monitor  640 × 480 resolution 3.5" LCD touch display  Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain  Digital Zoom  Thermal: 1×, 2×, 4×  Thermal / Optical  Picture in Picture  Fusion  Support Thermal View in Optical View  Fusion  Record Video  Support on-board video recording  Rules  Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  Thermography  Thermometry Range  -20 °C to 550 °C (-4 °F to 1022 °F)	<b>Optical Module</b>	Max. Resolution	$1920 \times 1080$
Monitor   640 × 480 resolution 3.5" LCD touch display		Picture Resolution	Display: 384*288; Capture: 1920 × 1080
Palettes   Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain     Digital Zoom   Thermal: 1×, 2×, 4×     Thermal / Optical   Thermal/Optical/Fusion image/Picture in picture     Picture in Picture   Support Thermal View in Optical View     Fusion   Support (Thermal View and Optical View Combined)     Record Video   Support on-board video recording     Rules   Max. Temperature; Min. Temperature; Center     Temperature; Custom Point/Line/Area Thermometry     Thermography   Thermometry Range   -20 °C to 550 °C (-4 °F to 1022 °F)		Video Resolution	Display: 384*288; Record:1920 × 1080
Thermography  Fusion, Rain  Digital Zoom  Thermal: 1×, 2×, 4×  Thermal / Optical  Thermal/Optical/Fusion image/Picture in picture  Support Thermal View in Optical View  Fusion  Record Video  Support (Thermal View and Optical View Combined)  Record Video  Support on-board video recording  Rules  Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  Thermography  Thermometry Range  -20 °C to 550 °C (-4 °F to 1022 °F)	Image Display	Monitor	$640 \times 480$ resolution 3.5" LCD touch display
Thermal / Optical  Thermal/Optical/Fusion image/Picture in picture  Picture in Picture  Support Thermal View in Optical View  Fusion  Record Video  Support on-board video recording  Rules  Thermography  Thermography  Thermometry Range  Thermography		Palettes	Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain
Picture in Picture  Picture in Picture  Support Thermal View in Optical View  Fusion  Record Video  Support on-board video recording  Rules  Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  Thermography  Thermography  Thermography  Thermography		Digital Zoom	Thermal: $1\times$ , $2\times$ , $4\times$
Fusion  Record Video  Rules  Thermography  Fusion  Support (Thermal View and Optical View Combined)  Support on-board video recording  Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  -20 °C to 550 °C (-4 °F to 1022 °F)		Thermal / Optical	Thermal/Optical/Fusion image/Picture in picture
Record Video Support on-board video recording  Rules Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  Thermography Thermometry Range -20 °C to 550 °C (-4 °F to 1022 °F)		Picture in Picture	Support Thermal View in Optical View
Rules  Rules  Max. Temperature; Min. Temperature; Center Temperature; Custom Point/Line/Area Thermometry  Thermography  Thermometry Range  -20 °C to 550 °C (-4 °F to 1022 °F)		Fusion	Support (Thermal View and Optical View Combined)
Thermography Thermometry Range Temperature; Custom Point/Line/Area Thermometry -20 °C to 550 °C (-4 °F to 1022 °F)		Record Video	
-20 C to 550 C (-4 1 to 1022 1)	Thomas quanhy	Rules	
Thermometry Accuracy Max (±2 °C, ±2%)	Inermograpny	Thermometry Range	-20 °C to 550 °C (-4 °F to 1022 °F)
		Thermometry Accuracy	
Battery Type Replaceable and rechargeable Lithium Battery	Battery		
Battery Operating Time Four hours continuous running		Battery Operating Time	
Laser Light Support (Point to the thermography target)	Functions	Laser Light	Support (Point to the thermography target)
Storage Built-in memory module (64G)		Storage	Built-in memory module (64G)
Photo Thermal/Optical/Fusion image		Photo	Thermal/Optical/Fusion image
Video Thermal/Optical/Fusion image		Video	Thermal/Optical/Fusion image
Wi-Fi Support		Wi-Fi	Support
Text Comment Support		Text Comment	Support
Voice Comment Support		Voice Comment	Support
Language English		Language	English
Power 12 V DC/1.5A, 5V DC/2A (Charging via USB)	General	Power	
Power Consumption Approx. 5 W (Wi-Fi On), 4.2 W (Wi-Fi Off)		-	
Hardware Interface micro USB			
General Working Temperature -20 °C to 50 °C (-4 °F to 122 °F)			
Protection level IP54		Protection level	IP54
Drop Test Height 2 m (6.56 feet)			
Dimension 244 mm $\times$ 100 mm $\times$ 104 mm (9.6 " $\times$ 3.9 " $\times$ 4.1 ")		Dimension	244 mm × 100 mm × 104 mm (9.6 " × 3.9 " × 4.1 ")
Weight Approx. 660 g (1.46 lb)		Weight	Approx. 660 g (1.46 lb)



Accessory

Battery, Charger, USB cable, Box

# **Order Models**

DS-2TP23-10VM/W

# **Box Content**









User Manual (×1)

Disk (×1)

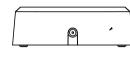
USB Cable (x1)

power Adapter (x1)

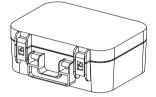


Battery (x1)





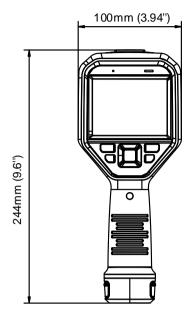


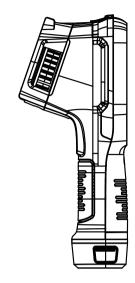


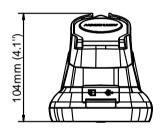
Box  $(\times 1)$ 



#### **Dimensions**







Distributed by

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