

PYROVIEW M480N portable

Handheld infrared camera for high-temperature application

600 °C to 3000 °C



PYROVIEW M480N portable

Handheld infrared camera for high-temperature measurements up to 3000 °C



- ✓ Measurement temperatures from 600 °C to 3000 °C
- ✓ High-dynamic image sensor for large continuous measurement ranges
- ✓ Easy orientation: Image display below the beginning of the measurement range
- ✓ Minimization of measurement errors caused by emissivity
- ✓ Touchscreen color display for measured value display and device adjustment
- ✓ Storage of freeze image and sequences
- ✓ Ethernet (RJ45) interface for data transmission
- ✓ Temperature resistant and shock resistant housing
- ✓ Operation during the measurement possible with protective gloves

Description and application

The infrared camera PYROVIEW M480N portable is the world's first portable IR camera for the measurement of high temperatures at short wavelengths. By using a high-dynamic Si array a large continuous measurement range from 600 °C to 1500 °C is realized. Optionally, there is a continuous temperature measurement range from 1400 °C to 3000 °C available.

The device PYROVIEW M480N portable measures online thermal images with 480 x 360 pixels and an image rate of 25 Hz. In addition, there is an optical display of image areas below the minimum measurement temperature so that the user gets spatial image information.

The thermal images are visualized on a touchscreen color display. In addition, the center or the maximum temperature including the location are displayed as a numeric value. Via an easy to use menu, all important parameters of the camera can be adjusted by touchscreen input.

The camera allows the radiometric recording of freeze images and sequences. An Ethernet interface (RJ45) transfers the data of the stored freeze images and sequences to a computer.

Measurements in the metallurgy, the ceramic and cement industry as well as in glass production and working are preferred application areas of the new portable and robust infrared camera.

Optimal protection:

The removable and replaceable cap for the housing prevents damage to the device and reflections on the display



Did you know?

To reduce the influence of the emissivity on the temperature accuracy, a measurement at short wavelengths is very important. For example: The object temperature is 1200 °C and the emissivity is set false by 10 %. The measurement error in the shortwave spectral range (0.8 µm to 1.1 µm) is only 1.3 %. But if you measure with a device in the longwave spectral range (LWIR, 8 µm to 14 µm), the measurement error is larger than 11 % (140 °C). For increasing object temperatures, the measurement error grows even bigger. The measurement at short wavelengths is though imperative to guarantee high measurement accuracies.

PYROVIEW M480N portable

Handheld infrared camera for high-temperature measurements up to 3000 °C

Technical data	
Part number	2102A10101
Spectral range	0.8 µm to 1.1 µm
Measurement temperature range	600 °C to 1500 °C (one continuous measurement range), optional 1400 °C to 3000 °C
NETD ^{1,2}	< 1 K (600 °C, 25 Hz) ³
Field of view	optics 33° × 25°, measurement distance 0.2 m to infinite
Sensor	highdynamic 2D-Si-CMOS array (480 × 360 pixels)
Measurement uncertainty ²	2 % of measured value in °C (object temperature < 1400 °C) ⁴
Measurement frequency	approximately 25 Hz
Response time	approximately 80 ms
Interface	Ethernet RJ45 connector for data transmission (offline)
Display	touchscreen color display, full calibrated thermal image with center temperature or maximum temperature (hotspot)
Data storage	storage of single images and sequences in IRDX format for PYROSOFT Compact and Professional
Settings via touchscreen	emissivity 10 % to 100 %, center/hotspot display, color scales, digital zoom (1x, 2x, 4x), display and delete images/sequences, display parameter
Operation via two-stage push-button	Stage 1: Turn-on camera or end standby mode Stage 2: Push shortly: Save single image, Push long: Save sequence
Settings via web server	date, time, time zone, color palettes, emissivity, ambient temperature, measurement unit °C/°F/K, shutdown times, sequence recording speed
Power supply	4 lithium ion batteries á 3.7 V, 2600 mAh, rechargeable via PoE, complete recharge in approximately 4 hours
Weight	0.8 kg
Housing	aluminium/plastics housing IP50
Operating temperature of the camera	0 °C to 50 °C (battery recharging: 0 °C to 40 °C)
Storage conditions	-20 °C to 70 °C, max. 95 % rel. humidity
Software	control and display program PYROSOFT Compact for Windows, optional PYROSOFT Professional
Scope of delivery	infrared camera PYROVIEW M480N portable, calibration certificate, user manual, software PYROSOFT Compact, Ethernet connection cable, PoE power pack, lithium ion batteries, lanyard, transport case

¹ Noise equivalent temperature difference. ² Specifications for black body radiators and ambient conditions 25 °C. ³ < 6 K (2000 °C, 25 Hz).
⁴ 3 % of measured value in °C (object temperature > 1400 °C).

Optics

HFOV × VFOV	D [m]	W [m]	H [m]	w [mm]	h [mm]
33 × 25°	1	0.60	0.45	1.3	1.3
	3	1.80	1.35	3.8	3.8
1.2 mrad	10	6.00	4.50	13	13

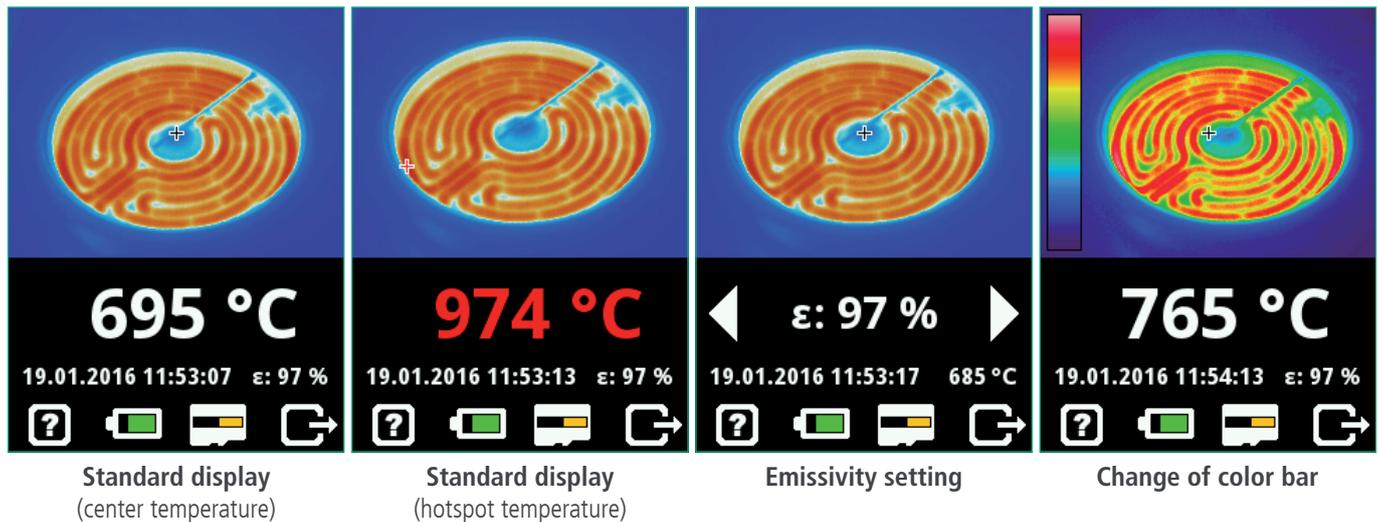
Values are valid for internally saved images and sequences as well as for the touch display at digital zoom 1x.

HFOV ... Horizontal Field Of View
VFOV ... Vertical Field Of View
IFOV ... Instantaneous Field Of View
D ... Measurement distance
W ... Image width
H ... Image height
w ... Pixel width
h ... Pixel height

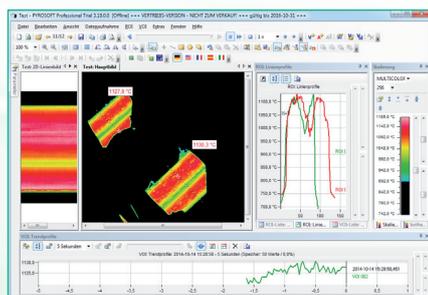
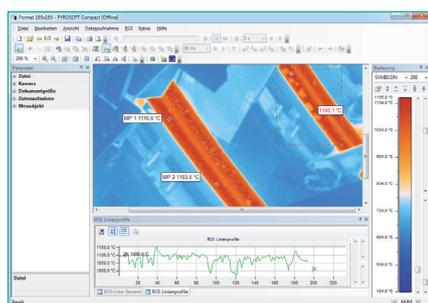
PYROVIEW M480N portable

Handheld infrared camera for high-temperature measurements up to 3000 °C

Displays



Software: PYROSOFT Compact and PYROSOFT Professional



PYROSOFT Compact and PYROSOFT Professional are two universal and multilingual software versions for Windows® (from version XP) for the display, analysis, evaluation and documentation of thermography data. PYROSOFT Compact is a free version that is delivered with every DIAS infrared camera.

Functions of PYROSOFT Compact are for example:

- Open saved files and sequences
- Bitmap export (BMP, JPG, PNG)
- Video export (AVI, WMV)
- Select color bars and scaling
- ROI functions (Regions Of Interest)
- Integrated report function

PYROSOFT Professional enables additionally the following functions:

- Multi document structure for multiple documents or cameras
- Extended display functions, e.g. isotherms and 3D display with auto rotation
- Extended analysis functions, e.g. histogram and spot calculation
- VOI functions (Values Of Interest) with alarm and trend charts
- Multi reports for album files from multiple documents

Accessories

Part number	Description
3310A12081	Lithium ion batteries for portable devices (set with 4 pieces)
2102A20001	PoE power pack for PYROVIEW M480N
2102A20002	Ethernet connection cable for PYROVIEW M480N
3310A12080	Power pack external for portable devices
3310A27080	Transport case for portable devices
3310A20003	Device and glare cover



We are certified for many years according to ISO 9001

Phone: +49 351 896 74-0
 Fax: +49 351 896 74-99
 Email: info@dias-infrared.de
 Internet: www.dias-infrared.com

DIAS Infrared GmbH
 Pforzheimer Straße 21
 01189 Dresden
 Germany