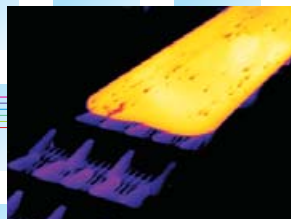
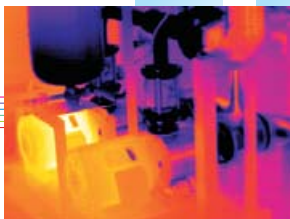


CPA-L

Fixed Mount Type Thermal Image Measuring Device ThermoPix

NEW

*Fixed Mount Type Thermal Image Measuring Device
for Online Monitoring, Measurement, and Inspection*



Camera

Pictures shown in this brochure are for representation purposes only.

Controller

<http://www.chino.co.jp>
Website

CHINO



The CPA-L series consists of a fixed mount type camera using an uncooled element and a controller.

The camera, supporting measuring wavelengths of 8 to 14μm and a temperature detecting range of -40°C to 500°C, is compact, lightweight, and excellent in dust and drip proofing performance.

The controller has image processing functions such as binarization and particle analysis functions in addition to the temperature measurement processing function and can provide output via a LAN and as analog/digital signals.



ThermoPix CPA-L series

FEATURES

Offers on-line monitoring

- The camera element, being an uncooled type, offers continuous use.
- The camera features a dust-proof and drip-proof construction, coming complete with a protective camera case.
- The controller supports four cameras at the maximum and is HDD-free.

Versatile functions on measurement & inspection

- In addition to the temperature measurement function, image processing functions such as binarization are equipped. Numeric and logical operation functions can be implemented on the controller without the use of additional software.
- The internal memory of the controller can store 100 images at the maximum.

System extensibility

- Measurement start and product changeover using contact input/LAN are available.
- Measurement values and image data can be transmitted over a LAN.
- Measurement values and assessment results can be output externally (analog/digital).
- Output items can be freely assigned and configured using the controller.

Major Applications

Production lines

- Temperature monitoring and measurement/inspection in heat treatment, molding, machining, and other processes
- Inspection of products for heat loads and heat generation
- Monitoring of facilities for heat generation and heat insulation
- Acquisition of product inspection data

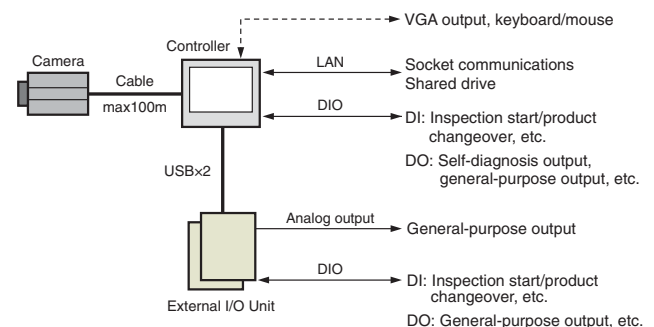
Area monitoring

- Monitoring of power, steel, chemical, and other plant facilities
- Monitoring of waste treatment facilities for heat generation
- Detection of embers in fire fighting

Tests and researches

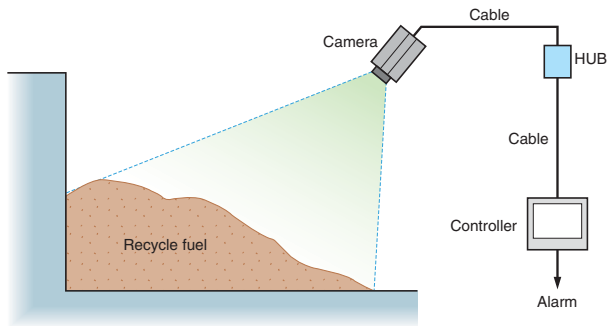
- Heat-related tests

Basic configuration



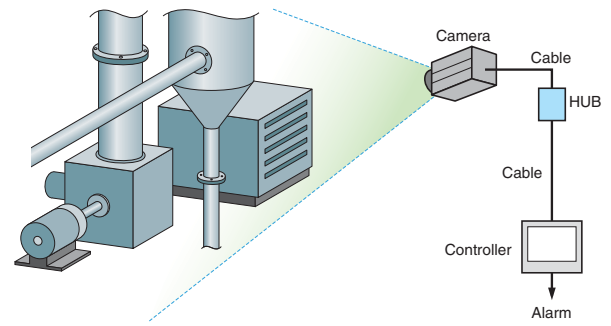
Heat generation monitoring

Waste treatment and recycle fuel fabrication plants can be monitored to detect heat generation. An alarm can be issued as contact output regarding the maximum temperature of a measurement area specified in thermal images.



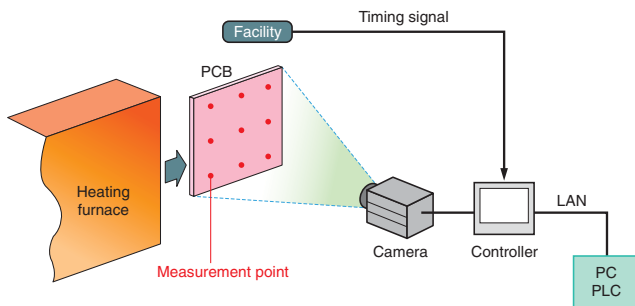
Abnormal heating monitoring

In plant facilities, abnormal heating may result in a major accident. Even though possible locations of abnormal heating cannot be identified, detection is possible through area monitoring using the thermal image measuring device.



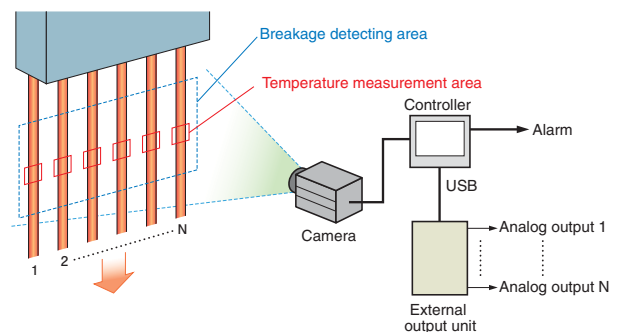
Process temperature measurement

In processes of preheating and surface treatment of plate materials, the temperature distribution on the plates can be measured. Measurement is executed in synchronization with timing signals when plates arrive at the measurement point.



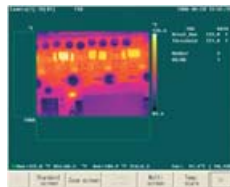
Process thermo image

An alarm is output if there is a break in any of the strands of a rod-like object that has been hot-formed. Simultaneous use of temperature measurement and particle analysis functions allows you to identify a break in the strands.



Offline Display and Setup Software CPY-ZFP001

An image stored using the controller can be replayed on a PC. The settings such as measurement and inspection conditions can be configured offline. This software provides a similar display format and operability to those of the controller and supports daily operation management.



● Replay display

Image retrieval: Specify a folder and time, then select from thumbnails

Display: Standard, Zoom, and Multi screens

Other: BMP file conversion

● Product settings

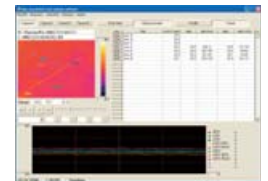
Product management: Initialize All Products and Copy between Products

Setting items: All settings items on the controller

Data Acquisition and Analysis Software CPY-ZFP002

A software package for supporting acquisition of large-sized images via the host LAN and analysis of them.

Suitable for use on a general-purpose image data acquisition system.



● Data acquisition function

Number of units/Cycle: 1 controller/Max. 4 cameras

Display during acquisition: Realtime display update when the cycle is 10 seconds or longer

File management: (1) Management by date, (2) Management by lot

● Analysis function

Image retrieval: (1) Read one image, (2) Retrieval by time and read, (3) Read from folder

Screen configuration: Thermal image display, measurement data display, line profile/trend display

Measurement items: 100 spots, 20 lines, 20 areas

Other: CSV output (trend data), screen print, screen BMP file conversion

MODELS

● Camera

CPA-L B

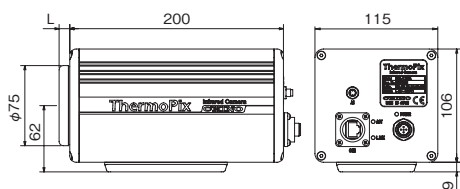
Lens 12: 12° Lens
 25: 25° Lens
 50: 50° Lens
 99: 114° Lens

● Controller

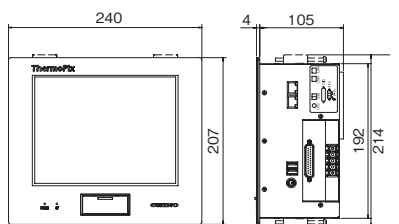
CPG-GMP

External Dimensions

● Camera 25° L=10
 50° L=18



● Controller



unit: mm

Camera Specifications

Element:	Uncooled solid state imaging element, 320 by 240 pixels
Measuring wavelength:	8 to 14 μm
Frame rate:	30 Hz
Temperature detecting range:	-40 to 150°C/0 to 500°C
Temperature indicating accuracy:	±2% of measurement value or ±2°C, whichever is greater (However, ±3°C if ε=1.0 and the temperature is less than 0°C)
Angle of viewing:	12° horizontal by 9° vertical (12° lens type) 25° horizontal by 18° vertical (25° lens type) 50° horizontal by 37° vertical (50° lens type) 114° horizontal by 86° vertical (114° lens type)
Measuring distance:	12°: 1.5 m to ∞ 25°: 0.5 m to ∞ 50°: 0.2 m to ∞ 114°: 0.5 m to ∞ (remote focus operation from the controller)
Image data transmission:	Dedicated digital communications to the controller Max. 100 m via exclusive cable (max. 300 m using repeater hubs) Max. 2 km optical fiber
Working temperature range:	-10 to 50°C
Power supply:	24V DC (Accessory DC power supply for 100 to 240V AC)
Protective structure:	IP65 compliant
Weight:	About 2.7 kg (with 25° or 50° lens mounted)

Controller Specifications

■ General Specifications

Camera connection:	Max. 4 units
Display unit:	8.4-inch TFT color LCD with VGA output
External I/O:	Contact output ... Max. 40 points (8 points on main unit, others via the external I/O unit)
	Contact input ... Max. 40 points (8 points on main unit, others via the external I/O unit)
	Analog output ... Max. 32 points (via the external I/O unit)
Host interface:	100 Mbps Ethernet
Power supply:	24V DC, 50 W (Accessory DC power supply for 100 to 240V AC)
Working temperature and humidity range:	0 to 45°C, 20 to 85%RH (with no condensation)
Protective structure:	IP65 compliant (front panel)
Mounting:	Embedding in panel front (or installation on panel back)
Weight:	About 3.3 kg

■ Data Processing Function

Processing products:	32 products
Measurement and inspection modes:	Single/Repetitious/Auto Repeat
Camera NUC:	Manual/Auto/External contact/LAN
Emissivity compensation:	0.001 to 1.999
Image data display:	Thermal image display ... Standard/Zoom/Multi switching and image freezing available Pseudo color: Iron/Rainbow/Gray, etc.
	Data display ... Measurement values, evaluation values, and computed values Realtime trends, temperature profiles, and histograms
	Binary image
Spot processing:	16 points per product, temperature value, and upper and lower limit assessment
Line processing:	32 lines per product
Area processing:	Temperature measurement (MAX, MIN, and AVE), and binarization 32 areas per product Temperature measurement (MAX, MIN, and AVE), binarization, particle analysis, and gray level edge
Numeric operation:	Operation expressions ... 64 per product
Logical operation:	Operation expressions ... 64 per product
Output:	Any of setting and measurement values, evaluation values, and operation results can be assigned to the output.
Image storage/replay:	Image data storage ... 100 images per camera Storage trigger ... Manual/Interval/Event/External Contact/LAN
Host LAN:	Socket communications: Sending measurement values and others to the host PC and PLC Shared drive: Writing image data to the drive of the host PC
Self diagnosis:	Error contact output, WDT

■ External I/O Unit (Option)

AC/DC power unit:	100 to 120V AC
IO controller module:	USB connection to USB controller
DIO module:	8 input points and 8 output points per module
AO module:	4 output points per module Output ... 1 to 5V DC or 4 to 20mA DC (each module)
Working temperature and humidity range:	0 to 45°C, 20 to 80%RH (with no condensation)

Accessories

<input type="checkbox"/> Air-cooled protective case:	Type	CPY-ZE
<input type="checkbox"/> Air-cooled protective case with retractable cable:	Type	CPY-ZG
<input type="checkbox"/> Water-cooled protective case:	Type	CPY-ZH
<input type="checkbox"/> Repeater hub:		
<input type="checkbox"/> Pan head:	Type	IR-VMH (used for protective case)
<input type="checkbox"/> Cover glass for protective case:	Type	CPY-ZCW
<input type="checkbox"/> Standard DIO cable:	Type	CPY-ZMD (for controller)
<input type="checkbox"/> Close-up lens 400/300/200 μm:	Type	CPY-ZCL (used for 25° lens)
<input type="checkbox"/> Optical transducer box:	Type	CPY-ZOP

*Specifications subject to change without notice.