

## TP-L0260EN

# Thermal Imaging Sensor

TP-L series is a compact infrared thermal imaging sensor utilizing a thermopile array detector.

This CHINO developed detector allows the sensor to measure real time temperature.

Ethernet connectivity allows the sensor to communicate with PC running CHINO Imaging Software or customer's LAN.



### FEATURES

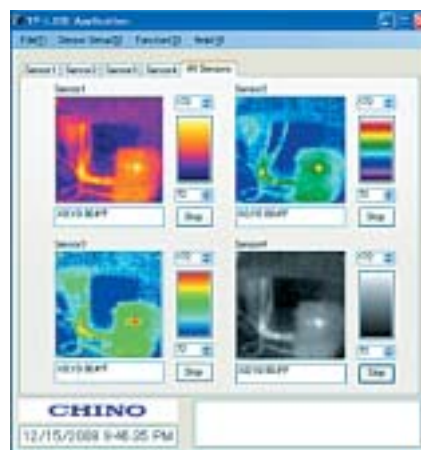
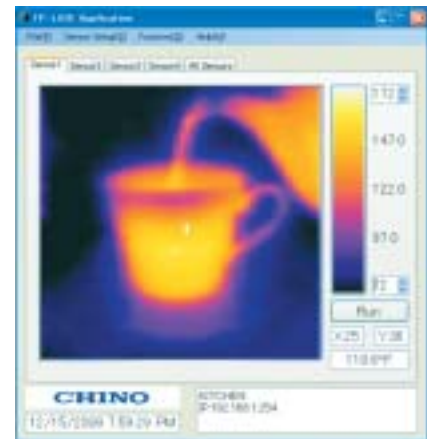
- Easy to Use and Implement
- 2000 pixel Resolution
- Built-In Alarms
- IP65 / NEMA4

### MODEL

TP-L0260EN

### SPECIFICATIONS

Temp Range:	-20 to 300°C
Resolution:	0.5° (At black body temperature of 100°C)
Accuracy:	±2% of reading or ±3°C whichever larger (At Ambient temp of 25°C ±2°C)
Detector:	Thermopile array Approx.2000 Pixel
Wavelength:	Center wavelength 10μm
Viewable Angle:	60°×60°
Radius Resolution:	21.8mrad
Frame Speed:	3fps (1fps for alarm output)
Focus:	Fixed focus
Emissivity:	0.10 to 1.00
Ethernet:	10BASE-T/100BASE-TX
Alarm:	2 points(Non voltage contact output)
Power Supply:	12 to 24V DC
Power Consumption:	Max 2VA (At 12V DC)
Inrush Current*1:	Max 1.3A (At 12V DC)
Working Temp:	-10 to 50°C
Working RH:	10 to 80%RH (No dew condensation)
Casing:	Polycarbonate (Color: Black)
Weight:	Approx. 150g (sensor only)
Protection:	IP65 (w/ provided exclusive cable and tripod screw)
Standards:	CE (EN61326 Annex A)



\*1 The inrush current should be considered for the selection of power

## FUNCTIONS

### Monitoring mode (with exclusive viewer software)

The temperature data is outputted continuously by a command from the PC.

### Capturing mode (without using exclusive viewer software)

The temperature data is outputted row-by-row horizontally by a command from PLC, etc.

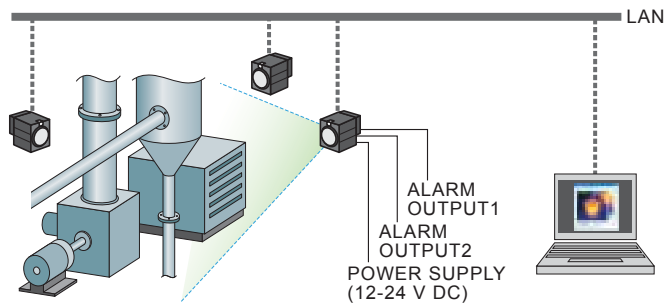
## CONNECTIVITY

Up to 4 sensors can be connected to a PC via LAN and Viewer Software allows you monitor thermal images, measuring temperature and alarms.

### Monitoring Mode

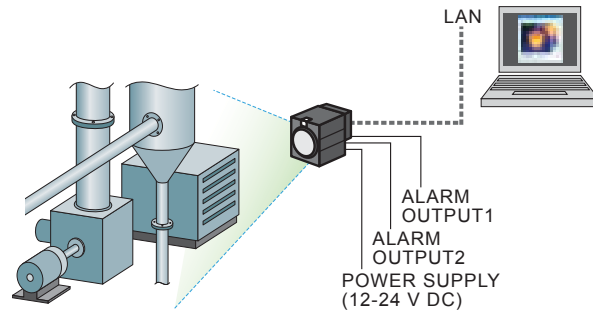
#### Multiple unit connection (LAN)

- Up to 4 sensors can be connected
- Monitoring and alarm outputs from sensor can be used together.



#### Single unit usage

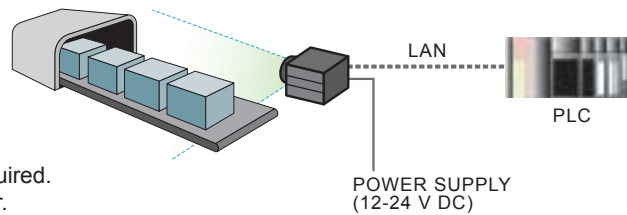
- Single unit can monitor 1 area and has 2 alarm outputs.
- When alarm goes on, the unit stores 1 image to the memory.
- Image saving updates every occurrence of alarm.
- Reading the data from host PC is possible.



### Capturing Mode

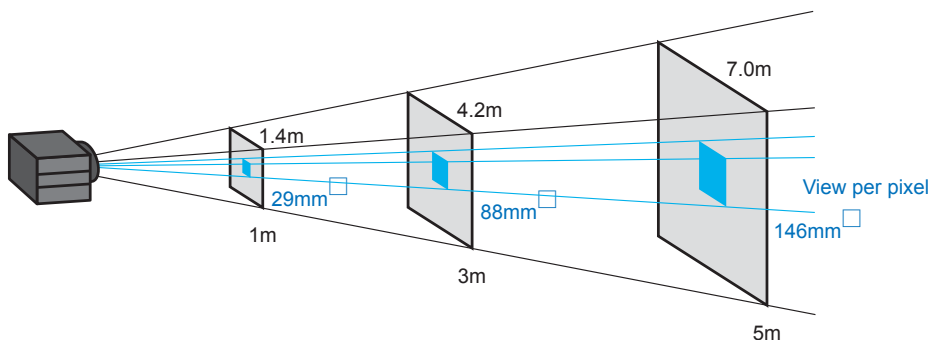
#### PLC connection

- The temperature data is outputted row-by-row horizontally by a command from PLC, etc.



When the capture mode is used, acquisition of command is required. For the acquisition of command, contact your nearest distributor.

## MEASURING SPOT SIZE AND DISTANCE



D	1m	3m	5m
Width (m)	1.4	4.2	7.0
Width/Pix (mm)	29	88	146

## CONNECTION

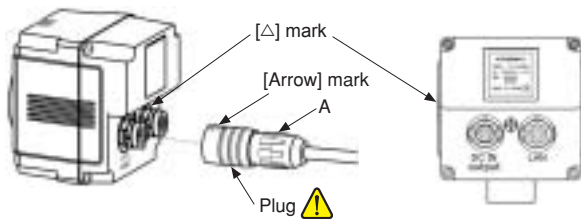
- Connect the exclusive power/alarm output cable and the exclusive LAN cable to this product.

Connect them to fit the marks of [△] back of this product and [Arrow] of the cable connectors.

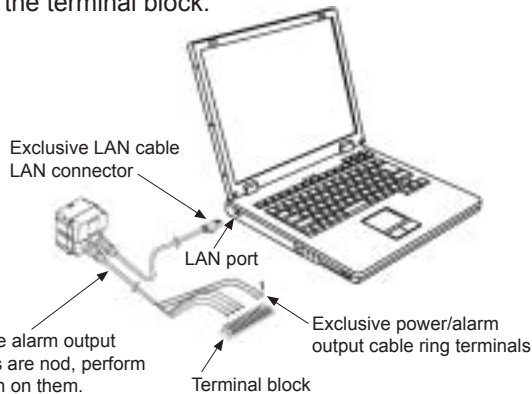
**!** For protection of misconnections, the exclusive LAN cable is designed not to connect to the power/alarm output connector of this product. Similarly, the exclusive power/alarm output cable cannot be connected to the LAN connector of this product.

**!** The plug is a one-touch lock type. Insert the plug until it clicks.

In addition, for removing the plug, pull it by sliding its [Arrow] marking part toward you. If the "A" part is pulled, it may cause disconnection and damage of the plug.



- Connect the connector of the exclusive LAN cable to the LAN port of a master unit (PC, etc.) and connect the ring terminals of the exclusive power/alarm output cable to the terminal block.

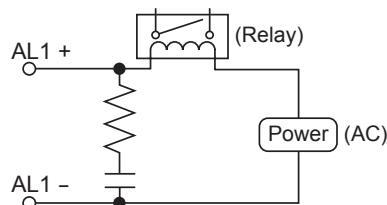


**!** When the alarm output terminals are not used, perform insulation on them.

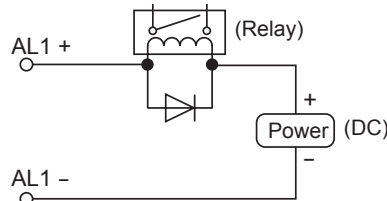
- Example of contact output circuit

**!** Use the contact output with a protection element for preventing malfunction.

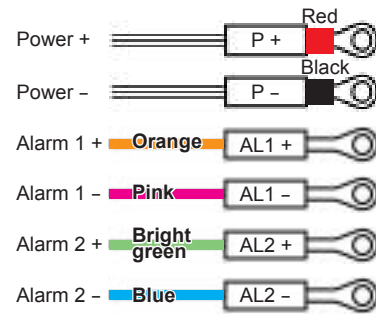
- Alarm 1, In case of AC



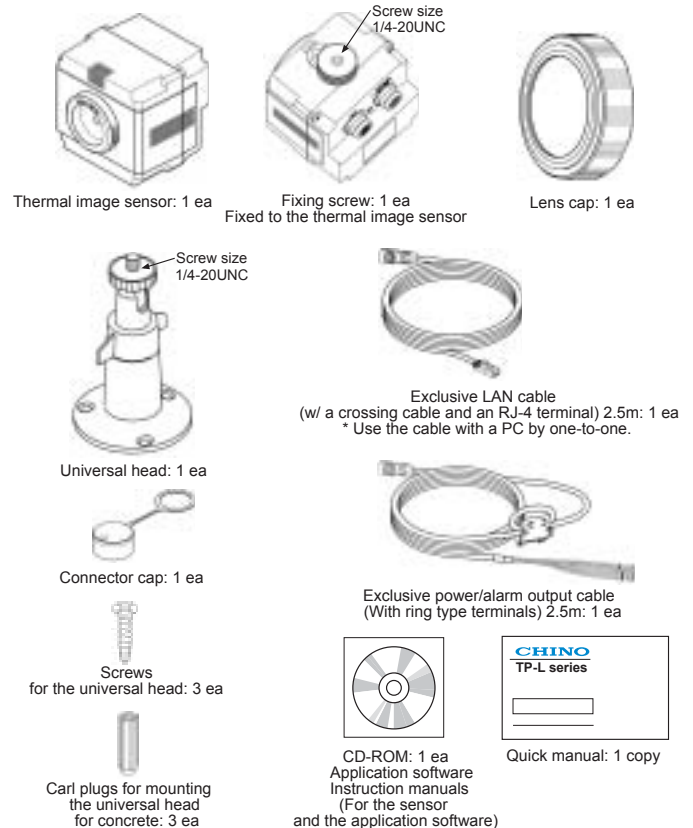
- Alarm 1, In case of DC



- Details of exclusive power/alarm output cable Ring terminal 0.5-3



## STANDARD CONFIGURATION

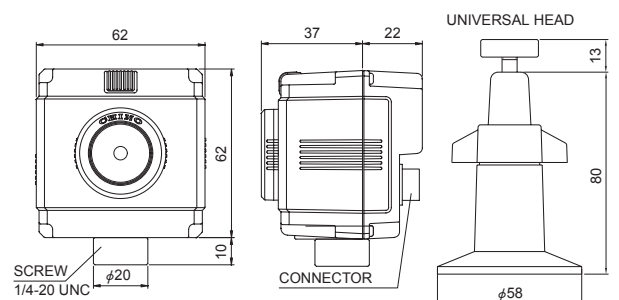


- AIR PURGE CASE (OPTIONAL) MODEL : TP-ZCC1

The airpurge case is used to disperse dust and fume for keeping the light path.



## DIMENSIONS



## APPLICATION SOFTWARE

### Requirements

- OS : Windows 2000 (SP4 or later)/XP/Vista (Windows XP or later recommended)  
 \* NET Framework 2.0 or later (required)
- Memory : Windows 2000/XP.....1GB recommended (512MB or more)  
 : Windows Vista.....2GB or more recommended
- CPU : Windows 2000/XP.....1.5GHz or faster recommended  
 : Windows Vista.....2GHz or faster recommended

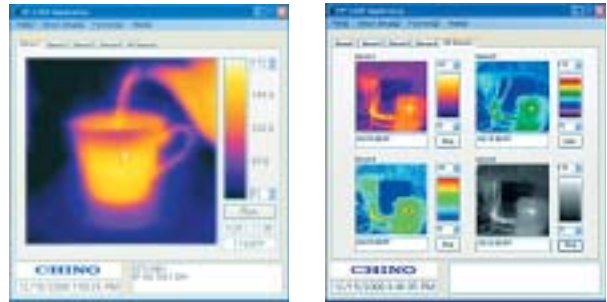
\* "Microsoft" and "Windows" are either trademarks or registered trademarks of Microsoft Corporation, USA.

\* "Intel" and "Pentium" are either trademarks or registered trademarks of Intel Corporation, USA.

### Basic function

When the LAN settings are completed correctly between a PC and the thermal image sensor and the LAN communication is established, thermal image screen will appear.

The thermal images up to 4 sensors can be displayed with this application software, and the simultaneous display for 4 images and the individual display for each sensor can be switched.



### Various settings of sensor

LAN settings / Alarm settings of the sensors / Emissivity setting

### Data storage

Image temperature data storage (temperature data/csv for 2000 pixels) / Thermal image screen storage (JPEG)

### Image processing

Screen averaging / Spatial smoothing / Median filter / Rotation / Maximum & Minimum values indications

### Trend graph

By specifying a graph area, data can be displayed by the trend graph and the graph data can be stored by setting. (Max. 8 areas)

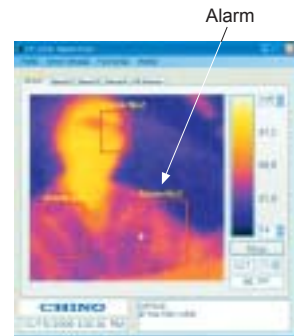
### Alarm settings by the application software

By specifying a graph area, alarms can be set. (Max. 8 areas)


Separately from the alarm settings of the sensor, the alarm screening by the application software can be performed. (Max. 8 areas)



Trend graph



Alarm screening

 The alarm of the sensor is interlocked with the contact output, but the contact output cannot be activated with the alarm by the application software.

## PRECAUTIONS

- This product contains an item under export control. Therefore, delivery is subject to necessary export licenses by the Ministry of Economy, Trade and Industry (METI) in Japan. It is strictly regulated to export the product to certain area. In case of retransfer, resale and/ or reexport of the product, prior authorization by the METI is required.

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