

## Thermography Sensor P/N: 31-ENV-THIMG-(L, M, S, XS)

Effective: October 2025  
K-31-506 Rev. AA

### Description

A regular temperature sensor provides the temperature of the air surrounding the sensor. However, a thermography sensor provides the temperature of anything it sees; up to a distance of 50 yards or 45m. The sensors cover 192(XS), 768(S), 4800(M), or 19200(L) temperature measurement points in one image, analyzed every 2 seconds. Minimum and maximum temperature data is available to industrial and IT automation platforms via Modbus TCP or SNMP.

The SensorGateway can connect up to 5 Thermography sensors, provided that they are connected to the high-speed ports (1, 2, 3, 4, and 7) of the Sensor Hub.

### Use

- Switchgears
- Motors
- Transformers
- Bearings
- Electrical Panels
- Other equipment where overheating could indicate faults

### Advantages over a Standard Thermal Camera

A thermal camera gives a 2D thermal image of a general area. The Thermography sensors provide targeted, continuous monitoring of specific objects.

The image from the Thermography sensor can be divided into 4 different logical temperature sensors. This enables reporting of each bus bar, feeder cable, or other equipment part as a discrete temperature sensor via Modbus TCP.

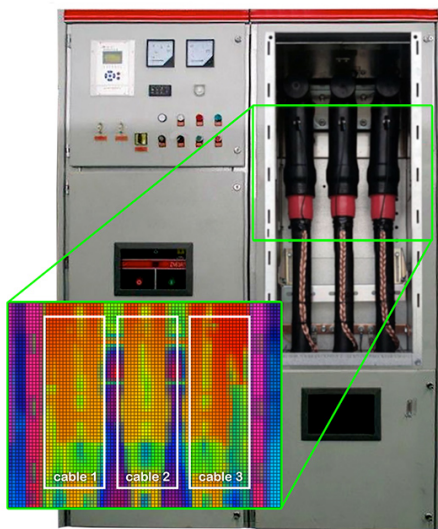


Figure 1. Thermography Sensor Zones



Figure 2. Thermography Sensors XS/S (left) M/L (right)

### Certification:

The 31-ENV-THIMG sensors are cULus 62368-1 Listed.

### Environmental Specification

<b>Operating Temperature Range</b>	14 to 176°F (-10 to 80°C)
<b>Humidity (Operating and Storage)</b>	< 90% rH (non-condensating)
<b>Life Span</b>	Up to +10 yrs

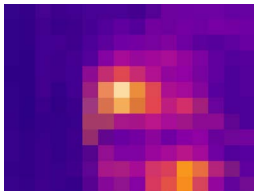
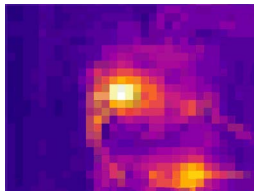
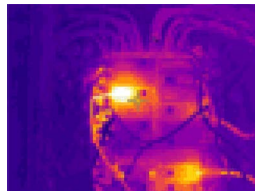
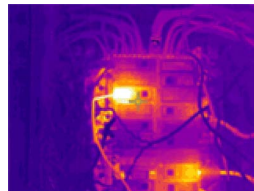
### Physical Specification

<b>Sensor Enclosure</b>	Steel Enclosure, Industrial Grade
<b>Mounting Options</b>	0U rack, DIN rail, magnetic, or wall mountable sensor
<b>Dimensions</b>	2.9 in. (74mm) x 2.6 in. (68mm) x 1.1 in. (29 mm)
<b>Weight</b>	0.144lbs (650g)

### Technical Specification

<b>Powered by and communicates with</b>	Base Unit (BASE-XX) (required) Requires the optional BASE-FW-SSLS firmware add on for the Base Unit
<b>Connectivity</b>	RJ45 cable transmitting data & power from Base Unit to Sensor
<b>Cable Specifications</b>	RJ45 CAT 6/7 recommended Up to 100m (330ft) subject to cable quality & interference
<b>Sensor Power Usage</b>	492 mW

**Table 1: Thermography Sensor Version Specifications**

Model	31-ENV-THIMG-XS	31-ENV-THIMG-S	31-ENV-THIMG-M	31-ENV-THIMG-L
<b>Resolution</b>	Extra Small	Small	Medium	Large
<b>Object Temperature Range</b>	-40 to 572 °F (-40 to 300 °C)	-40 to 572 °F (-40 to 300 °C)	32 to 248 °F (0 to 120 °C)	32 to 248 °F (0 to 120 °C)
<b>Thermography Image Size*</b>	192pts (16x12 pixels)	768 pts (32x24 pixels)	4800 pts (80x60 pixels)	19200 pts (160x120 pixels)
	 192 points (extra small)	 768 points (small)	 4800 points (medium)	 19200 points (large)
<b>Zones per Thermal Image</b>	4	4	4	4
<b>Temperature Reporting per Zone</b>	Maximum Temperature Only	Maximum Temperature Only	Minimum to Maximum Temperature Range	Minimum to Maximum Temperature Range
<b>NFPA 70B: Delta Temperature Between Zones (Bus Bars)</b>	✓	✓	✓	✓
<b>NFPA 70B: Delta Temperature with Ambient</b>	✓	✓	✓	✓
<b>Horizontal Field of View</b>	110° (wide)	110° (wide)	51° (narrow)	95° (wide)
<b>Vertical Field of View</b>	75°	75°	63°	71°
<b>Maximum Object Distance</b>	< 6.6 ft (< 2m)	< 16.4 ft (< 5m)	147.6 ft (45m)	147.6 ft (45m)
<b>Accuracy</b>	±1.8°F (±1°C)	±1.8°F (±1°C)	±9°F (±5°C)	±9°F (±5°C)
<b>Industrial IP Protocols*</b>	Modbus TCP SNMP MQTT	Modbus TCP SNMP MQTT	Modbus TCP SNMP MQTT	Modbus TCP SNMP MQTT
<b>Other Industrial Protocols</b>	Modbus RTU over RS-485 with BASE-XX-6	Modbus RTU over RS-485 with BASE-XX-6	Modbus RTU over RS-485 with BASE-XX-6	Modbus RTU over RS-485 with BASE-XX-6

\*Images all represent the same object at approximately the same distance. The differences is caused by resolution of the sensor.

**EXPORT INFORMATION (USA)**

Jurisdiction: EAR

Classification: EAR99

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