Handheld Infrared Thermometers for All Applications

The new OS520/OS530 series handheld infrared thermometers from OMEGA Engineering adapt to virtually all remote temperature measurement applications. These universal instruments combine the features found in many specialized units into one high performance design. Rugged assembly and state-of-the-art measurement techniques are an integral part of these dependable and portable temperature measuring tools.

IMPROVED MEASUREMENT ACCURACY

Select from models of the OS520/OS530 series with temperature ranges from –18 to 2482°C (0 to 4500°F). Temperature readings are switchable from °F to °C via the keypad. Reading accuracy is to 1%. This accuracy is obtained through a unique keypad emissivity adjustment. The operator sets the infrared gun to match target material emissivity (0.10 to 1.00 in 0.01 increments) thus eliminating target emissivity error.

Units have standard “V” groove gun sights for proper aiming accuracy. Laser sighting is an available option. Measurable target distances are from a few inches to approximately 200 feet (limited by line of sight and target size).

To assure the operator that the target fills the field of view, near and far field-of-view diagrams are supplied with each unit and all instruments are labeled with a distance versus spot size chart. The distance to spot size ratio is from 10:1 to 110:1 depending on the model.

VERSATILE DISPLAY AND PROGRAMMING FEATURES

The Custom backlit LCD display provides a dual parameter presentation. When the unit is turned on, the emissivity setting is displayed. Target temperature is then displayed simultaneously with either minimum, maximum, differential, or average temperature as selected by the operator.

Non-volatile memory assures that all set parameters, such as target material emissivity, alarm setpoints, etc., remain in memory until reset.

An electronic lock feature on the control panel keypad sets a trigger mechanism for continuous measurements. With the trigger programmed in the lock position, the instrument reads and displays temperature data up to 4 times per second. The electronic trigger is also used to enable/disable special functions like the audible/visual alarms.

ANALOG AND DIGITAL OUTPUTS FOR DATA PROCESSING

Analog and digital outputs are available for data recording and processing. The analog output is 1 mV/°C or °F (0.5mV/degree for OS524); the digital output interface is RS-232.

High and low audible and visible alarms indicate preset temperature setpoints.

THERMOCOUPLE INPUT FEATURE

The OS530 Series thermometers offer thermocouple input. This allows measurement of target temperatures either by contact or non-contact means.

RUGGED AND FUNCTIONAL DESIGN EASES HANDLING

For safety and ease of carrying, a soft holster and wrist strap are supplied with each infrared thermometer. Rubber boots encapsulate the lens and the display to ensure mechanical integrity during rough handling or mechanical shock.

The OS520/OS530 series features a sealed keypad display. Unique packaging and styled design provide ease of handling and convenient trigger operation. The laser sighting option ensures added accuracy for target acquisition and definition.

UNIVERSAL PROBLEM SOLVER

Handheld infrared thermometers are ideal for applications where non-contact temperature measurements are required. Typical examples include moving objects, materials in contaminated or hazardous areas, and locations of high voltage or very high temperature. In each of these environments, accurate and repeatable measurements are obtained at a safe distance using the OS520/OS530 infrared thermometers.

DIVERSE APPLICATION EXAMPLES

Example 1:
Predict and Prevent Process Failure
Manufacturing and processing facilities, such as chemical and petrochemical plants, utilize solenoid valves to control critical functions. The solenoids are often inaccessible and difficult to test. Process engineers know that an upward shift in solenoid temperature is indicative of a pending malfunction. The portable OS520/OS530 thermometers are used to remotely sense the temperature of the solenoid housings. Utilizing the instrument's audible and visual alarm system, a temperature shift from a pre-set norm signals the operator. The suspect solenoid valve is identified and replaced before a critical process failure occurs.

***Example 2*:**
Perform Energy Auditing
Plant and maintenance engineering are required to reduce building heating costs by locating wall insulation voids. Variations in wall temperatures indicate areas of improper insulation. The OS520/OS530 series measures wall temperatures to identify areas of heat leakage. A unique target ambient temperature compensation feature allows precise target (wall) temperature measurement. Data is downloaded to a computer for mapping of wall temperature gradients.

***Example 3*:**
Identify Permanent Test Sights
Engineering must determine if a process warrants permanent temperature monitoring. Wide variations in process temperature indicate the need for tighter controls. The OS520/OS530 series mounts on a tripod for preliminary evaluation of that process (integral tripod mount is standard). Temperatures are measured and updated automatically using a unique trigger lock feature. Data can be transmitted to a recorder or a computer for evaluation. The need for permanent temperature monitoring is evaluated using the analyzed data.

Example 4:
Prevent Contamination
Many processes in the food industry are sensitive to temperature limits and variations. Maintaining tight temperature controls of the processing, canning, packaging or freezing of food is critical to prevent spoilage and to ensure elimination of contaminant's. Placement of temperature measuring devices within the food is discouraged due to possible introduction of impurities and contaminant's. A remote temperature indicating instrument is required. The OS520/OS530 handheld infrared thermometers take accurate temperature readings without direct contact to food or packaging material. The instrument is adaptable to either a temporary or permanent installation. Intermittent measurements are performed utilizing the handheld configuration. A permanent setup is established using the tripod mount and the data downloading/ recording capabilities.

ENGINEERING SUPPORT

Unlimited applications and system support are provided by the full resources of OMEGA Engineering. Petrochemicals, pharmaceuticals, steel production, food processing, paper manufacturing and laboratory testing are just a few of the industries where OMEGA applications and systems personnel are currently providing close customer support.

ALL-IN-ONE INDUSTRY LEADER

The OMEGA Engineering OS520/OS530 series handheld infrared thermometers respond to the need for a comprehensive remote temperature measuring instrument. Unique features such as ambient target temperature compensation, electronic trigger lock, adjustable emissivity set, themocouple input and audible/visual alarms ensure accurate and dependable readings. The OS520/OS530 series are competitively priced, are manufactured and tested in the United States and are CE approved for the European Market.

COMMON SPECIFICATIONS

Repeatability: ±(1% of reading + 1 digit)

Resolution: 1°F or 1°C

Response Time: 250 to 500 msec

Display: Backlit LCD, displays current and min., max., diff., or average temperature simultaneously

Spectral Response: 8 to 14 microns

Emissivity: 0.10 to 1.00 in 0.01 increments

Distance to Spot Size Ratio: From 10:1 to 110:1 depending on the model

Temperature Range: –18 to 2482°C (0 to 4500°F)

Operating Ambient: 0 to 50°C (32 to 122°F)

Power: 4 "AA" size batteries or AC adaptor

Battery Life: 60 hrs., alkaline; 10 days, lithium under normal operation