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prosense **optris** infrared sensing

Temperature Sensors

Reliable process measurement for less -
Temperature Sensors, Switches, Transmitters, and Thermometers

Temperature Transmitters

prosense XTD Series DIN Rail Mounted Temperature Transmitters

ProSense XTD series DIN rail-mounted fixed range temperature transmitters easily mount inside control panels on 35mm DIN-rail and are available for a variety of thermocouple and RTD types.

- Models for thermocouple Types J, K, or T
- Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured measuring ranges
- 4 to 20 mA analog output signal
- 2 kVAC isolation

Starting at $109.00
(XTD-0100F-J)

Temperature Switches

prosense TSDA25 Series Temperature Switches

ProSense TSDA25 series compact temperature switches offer a simple setup using mechanical adjustment dials.

- Temperature setting ranges: -4 to 284°F (-20 to 140°C) for TSDA25N-0P-0284-H -13 to 284°F (-25 to 140°C) for TSDA25N-AP-0284-H
- Extremely durable housing with 316 stainless steel wetted parts
- LEDs indicate power and function status
- Two DC switching outputs

Starting at $107.00
(TSDA25N-AP-0284-H)

Digital Temperature Switches/Transmitters

prosense ETS Series Digital Temperature Sensors

ProSense ETS series digital temperature sensors combine a precision RTD sensing element, measuring electronics, and process fitting in a stainless steel probe.

- Two solid-state switch outputs
- One output configurable as a scalable analog 4 to 20 mA signal (on select models)
- Wide measuring range of -58 to 302°F
- Easily configured with pushbuttons or free ProSense XT-SOFT
- 30, 50, 100, or 150mm probe lengths
- 1/4" or 1/2" male NPT threads for direct mounting or in thermowells
- Built-in digital display with two yellow status LEDs
- Housing rotates up to 310° and display flips for inverted installations
- IP65/IP66 ingress protection rating

Starting at $146.00
(ETS25N-30-1003)

prosense XTH Series Head Mounted Temperature Transmitters

ProSense XTH series head mounted fixed range temperature transmitters are available for a variety of thermocouple and RTD types. These convenient transmitters can be installed in any ProSense connection head or any DIN Form B sensor head.

- Models for thermocouple Types J, K, or T
- Models for RTD Type Pt100 3-wire
- Select from a variety of pre-configured measuring ranges
- 4 to 20 mA analog output signal
- 2 kVAC isolation

Starting at $86.00
(XTH-0100F-J)

Temperature Transmitters with Integral Sensor

prosense XTP Series Temperature Transmitter Probes

ProSense XTP series temperature transmitters conveniently combine a precision RTD and transmitter in a single stainless steel body. Available in three pre-configured measuring ranges, they are ready to use out-of-the-box or can be custom configured using the free XT-SOFT software.

- Probe insertion lengths ranging from 30mm up to 360mm
- Program custom measuring ranges and change other parameters using the free ProSense XT-SOFT software
- 4 to 20 mA output
- Models with 1/4" or 1/2" male NPT threads for direct mounting or in thermowells
- Models with 3-A approved sanitary CIP tri-clamp, or compression fitting for adjustable insertion depth models
- Models with M12 quick-disconnect available
- IP66/67 or IP69K with appropriate cable

Starting at $117.00
(XTP-160-N40140F)

prosense TTD-20 Series Temperature Transmitters

ProSense TTD-20 series temperature transmitters mount directly to the M12 connection port of select RTDs.

- Converts temperature probe outputs to 4 to 20 mA signals
- High accuracy 2-wire or 3-wire 4 to 20 mA temperature transmitter
- M12 Quick-disconnect for fast mounting
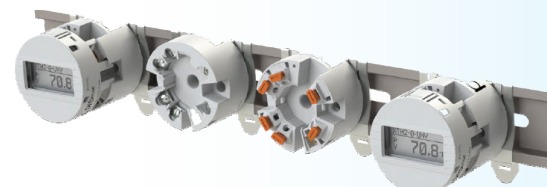- Two available temperature ranges
- LED indication of loop current

Starting at $79.00
(TTD-20-N40160F-H)

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proSense® XTD2 and XTH2 Series Temperature Transmitters

ProSense XTD2 series DIN rail mounted and XTH2 series head mounted universal programmable temperature transmitters are ideal for a wide range of industrial applications. These versatile and reliable temperature transmitters offer several mounting options and can be used with a variety of sensors and process inputs. Convenient XTH2 head mounted fixed range transmitters are also available for Type Pt100 3-wire RTDs. They require no programming and are ready to use out of the box.

- RTD, thermocouple, volts, milliamps, or potentiometer input types
- 4 to 20 mA analog output signal
- Selectable units
- Screw or push-in terminal options
- 2 kVAC isolation

- DIN rail mounting clips available for the XTH2 head mount units
- ProSense Field Device Configurator software (free download) and XT-USB cable required for configuring universal transmitters
- Fixed range models for Type Pt100 3-wire RTDs with a variety of pre-configured measuring ranges

Starting at $110.00
(XTH2-0100F-PT1)

XTH2 units can be used with DN-CLIP-FM4 mounting clips (sold separately) as a low cost DIN rail mounted temperature transmitter with or without a display

proSense® Digital Display

The ProSense XTH2-UNV-DISP is a convenient, easy-to-use plug-on display accessory for the XTH2 head-mounted programmable temperature transmitters to get a digital readout of the transmitter scaled output.

Starting at $75.00
(XTH2-UNV-DISP)

proSense® XTH2 Probe and Field Mount Housings

ProSense probe and field mount housings are designed to accommodate both the XTH2 transmitter and the digital display, and they include a window to view the reading from outside the housing.

- Rugged aluminum construction
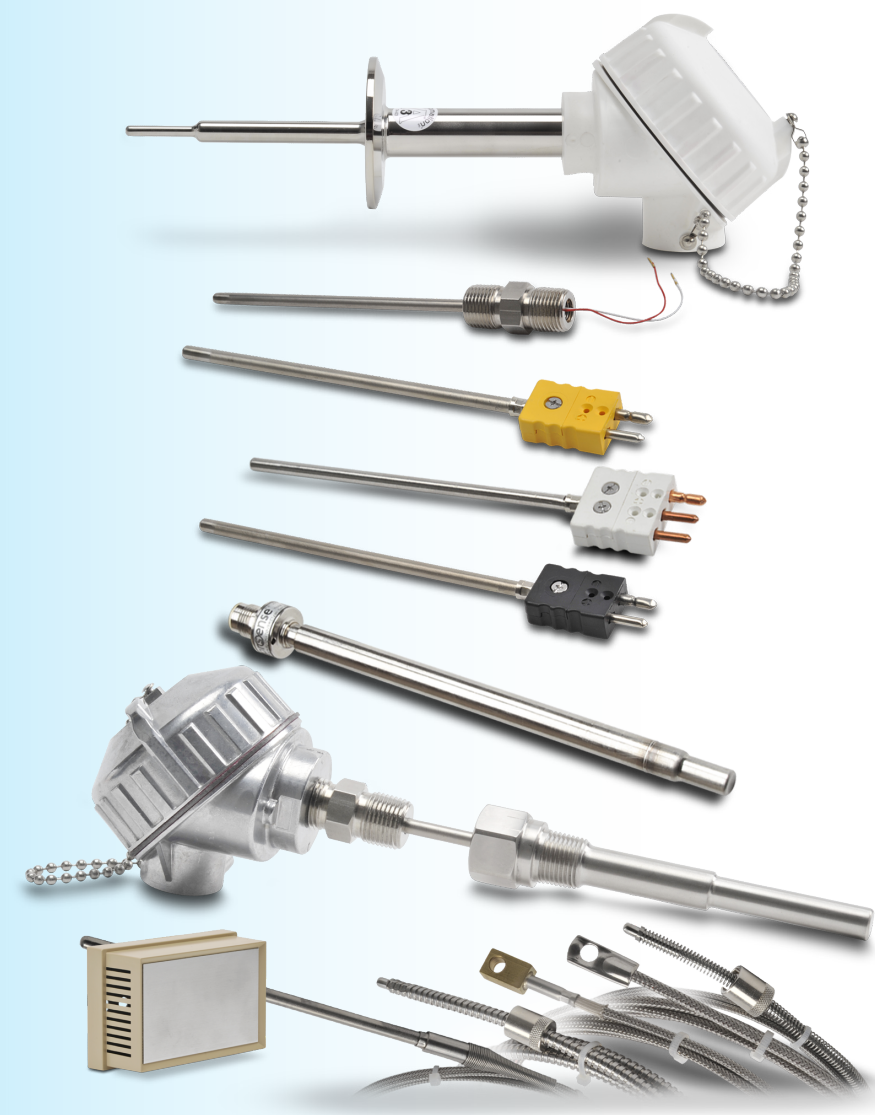- Two 1/2" female NPT ports
- NEMA 4X, IP66/68 protection rating

Starting at $60.00
(XTH2-ENC-F)

proSense® XTH2 Enclosure Mounting Brackets

Wall and pipe mounting brackets are available for use with the XTH2-ENC-F field mount aluminum housing.

- 316L stainless steel construction
- Mounting hardware included

Starting at $21.00
(XTH2-ENC-BKT1)

proSense® RTD Sensors

Most RTD sensors are pre-built stock items. RTD sensors and probes are 100 ohm platinum in 3- or 4-wire styles. Models available include:

- Probes with connection head
- Heat trace probes with connection head
- Flange mount probes
- Cuttable length Probes (24")
- Melt-bolt probes
- Threaded bolt sensors
- Spade sensors
- Spring-loaded probes with connection head
- Probes with hex nipple
- Spring-loaded probes with hex nipple

- Probes with attached plug
- Probes with lead wire transition
- Adjustable immersion sensors
- Bolt-on ring sensors
- Probes with M12 cable connector
- Sanitary clean-in-place (CIP) probes
- Room temperature sensors
- Class A accuracy (most models)

proSense® Thermocouples

All thermocouples are pre-built stock items. Probes are available with type J, K, or T thermocouple elements to meet many temperature sensing applications. Models available include:

- Probes with connection head up to 2,100 °F
- Heat trace probe with connection head
- Probes with cuttable length (24")
- Probes with flange mount, up to 18" probe legth
- Melt-bolt probes with attached plug
- Threaded bolt sensors
- Spade sensors
- Magnet mount sensors
- Probes spring-loaded with connection head

- Probes with hex nipple
- Probes spring-loaded with hex nipple
- Probes with attached plug
- Probes with lead wire transition
- Adjustable immersion sensors
- Bolt-on ring sensors
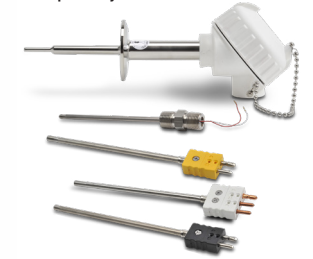- Room temperature sensors
- Made in the USA
- RoHS

proSense® Thermowells

All thermowells are pre-built stock items. Models available include:

- Thermowells for RTD probes with M12 cable connector
- Thermowells for spring-loaded thermocouple and RTD probes or thermometers
- TW series designed for use with ProSense thermocouples
- RTDTW series designed for use with ProSense RTD probes or ProSense thermometers
- Thermowells designed for sanitary clean-in-place (CIP) and 3-A approved. These thermowells allow the use of standard temperature sensors in hygienic applications

Accessories

- Compression mounting fittings for temperature probes
- Bayonet mounting adapter for temperature sensors
- Thermocouple and RTD connectors and panel jacks

proSense®

Bi-Metal Thermometers

- Bi-metallic sensing element for reliable readings
- 3 and 5-inch dials
- Back or adjustable angle connection
- 304 stainless steel
- ±1% accuracy

Starting at $35.00
(T30-N40160-25C)

For the latest prices, please check AutomationDirect.com.   For the latest prices, please check AutomationDirect.com.

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Non-Contact Temperature Measurement

optris infrared sensing

optris Infrared Pyrometers

Infrared pyrometers determine the surface temperature of an object based on its emitted infrared radiation. These sensors read the temperature of inaccessible or moving objects without difficulty. An essential feature of infrared temperature sensors is that they allow non-contact sensing, preventing contamination or exposure to hazardous materials. Optris infrared temperature sensors are an excellent choice for applications that are moving, cannot be reached, are in areas that are too hot, or are near electrical interference.

optris CS LT Series Infrared Pyrometers

Optris CS LT series infrared pyrometers have a rugged stainless steel construction and are perfect for temperature measurement in small and narrow environments.
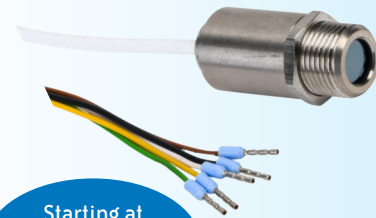
Starting at $125.00 (OPTCSLT15SFCB1)

- -50°C to 1030°C (-58°F to 1886°F) measurement range
- Up to 80 °C ambient temperature without cooling
- 0 to 5 VDC, 0 to 10 VDC, Type K thermocouple, or alarm output
- 8-14 µm spectral response
- 15:1 optical resolution (26.7mm @ 400mm)
- 14 ms response time
- 5 to 30 VDC operating voltage
- IP63 protection rating

optris CSmicro LT Series Infrared Pyrometers

Optris CSmicro LT series infrared pyrometers feature a miniature stainless steel measuring head and are perfect for applications requiring installation in tight spaces.

- -50°C to 1030°C (-58°F to 1886°F) measurement range
- Up to 120 °C ambient temperature without cooling
- 0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA, alarm or pulse output
- 8-14 µm spectral response
- 15:1 optical resolution (26.7mm @ 400mm)
- 14 ms response time
- 5 to 30 VDC operating voltage
- IP65 (NEMA 4) protection rating

Starting at $250.00 (OPTCSMALT15SF0505)

optris CSmicro LTH Series Infrared Pyrometers

Optris CSmicro LTH series infrared pyrometers feature a miniaturized stainless steel measuring head and are an excellent option for space-limited applications. Their small size and temperature resistance make mechanical integration very cost-effective.

Starting at $370.00 (OPTCSMALT22HSF0505)

- -50°C to 1030°C (-58°F to 1886°F) measurement range
- Up to 180°C ambient temperature without cooling
- 0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA, alarm or pulse output
- 8-14 µm spectral response
- 22:1 optical resolution (50mm @ 1100mm)
- 150 ms response time
- 5 to 30 VDC operating voltage
- IP65 (NEMA 4) protection rating

optris CSmicro 3ML Series Infrared Pyrometers

Optris CSmicro 3ML series infrared pyrometers have a short measuring wavelength. With a spectral range of 2.3 µm, it is well-suited for measuring the temperature of metallic surfaces and even allows temperature measurement through glass.

Starting at $625.00 (OPTCSMA3MLSF0505)

- 50 to 350°C (122 to 662°F) measurement range
- Up to 85 °C ambient temperature without cooling
- 0 to 5 VDC, 0 to 10 VDC, or 4 to 20mA with alarm or pulse output
- 2.3 µm spectral response
- 22:1 optical resolution (50mm @ 1100mm)
- 8 ms response time (mA version: 20 ms)
- 5 to 30 VDC operating voltage
- Tough, stainless steel construction
- IP65 (NEMA 4) protection rating

optris CSmicro 3MH Series Infrared Pyrometers

Optris CSmicro 3MH series infrared pyrometers offer a broad temperature measuring range. Their short measuring wavelength makes them an optimum solution for temperature measurement of metallic surfaces. This series is also able to make temperature measurements through glass.

Starting at $475.00 (OPTCSMA3MHSF0505)

- 100 to 600°C (212 to 1112°F) measurement range
- Up to 85 °C ambient temperature without cooling
- 0 to 5 VDC, 0 to 10 VDC, or 4 to 20mA with alarm or pulse output
- 2.3 µm spectral response
- 33:1 optical resolution (48.5mm @ 1600mm)
- 8 ms response time (mA version: 20 ms)
- 5 to 30 VDC operating voltage
- Tough, stainless steel construction
- IP65 (NEMA 4) protection rating

optris CSmicro 2MH Series Infrared Pyrometers

Optris CSmicro 2MH series pyrometers have a wide temperature sensing range and a spectral range of 1.6 µm, making them the ideal IR pyrometers for temperature measurements of metals. Their small infrared measuring head is perfectly suited for installation in limited spaces and allows for a cost-effective installation.

Starting at $510.00 (OPTCSMA2MHSF0505)

- 385 to 1600°C (725 to 2912°F) measurement range
- Up to 125°C ambient temperature without cooling
- 0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA with alarm or pulse output
- 1.6 µm spectral response
- 75:1 optical resolution (16mm@1200mm)
- 8 ms response time (mA version: 20 ms)
- 5 to 30 VDC operating voltage
- Tough, stainless steel construction
- IP65 (NEMA 4) protection rating

Accessories

- Close focus lens
- Swivel mounting bracket
- M12x1 mounting bolt
- Standard air purge collar
- Right angle mirror
- USB configuration cable

Starting at $28.00 (ACCTMB)

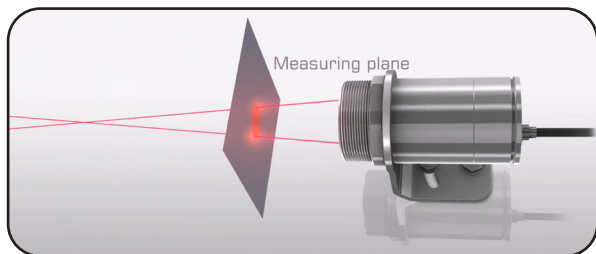# optris *infrared sensing* CSlaser Series Infrared Pyrometers

Optris CSlaser series infrared pyrometers feature an innovative double laser aiming system, a broad measurement range, and a rugged, stainless steel construction. With integrated electronics and fast response times, these performance sensors offer high accuracy and repeatability for applications where precise temperature measurement is critical.

- Up to 1600°C (2912°F) measurement range
- Up to 85 °C ambient temperature without cooling
- 4 to 20mA with alarm output
- 8-14 or 1.6 μm spectral response
- CSlaser LT: 50:1 optical resolution (24mm @ 1200mm)

- CSlaser 2ML: 150:1 optical resolution (7.3 mm @ 1100mm)
- CSlaser 2MH: 300:1 optical resolution (3.7 mm @ 1100mm)
- CSlaser LT: 150 ms response time
- CSlaser 2ML/2MH: 10 ms response time
- 5 to 30 VDC operating voltage
- M48x1.5mm threaded end mount
- IP65 (NEMA 4) protection rating

Starting at $635.00 (OPTCSLLTSF)

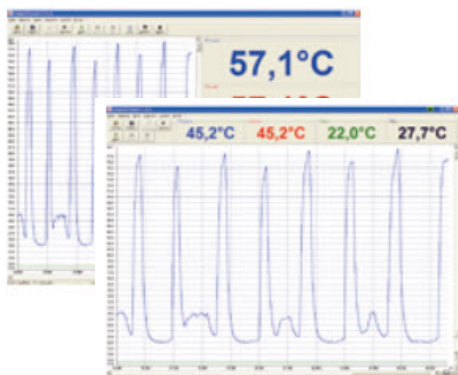## CSlaser Pyrometer Operation

Optris CSlaser pyrometers use dual lasers that intersect at the focal point where the spot size is the smallest, making it easy to aim the sensor without a spot size chart. These laser pyrometers offer optical resolutions up to 300:1, allowing long distances between the sensors and their target measuring points.

Measuring plane
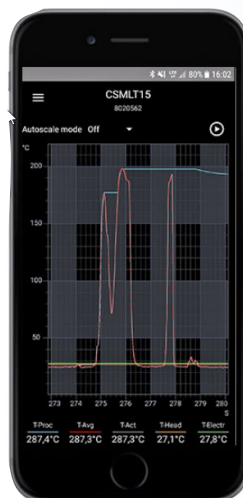
Optris Compact Connect Interface Software

The free Windows-based Optris CompactConnect software features an intuitive user interface that displays temperature trends and automatically logs data for analysis and documentation. It requires the ACCSMIACC communication cable (sold separately).

The CompactConnect Windows sofware can be downloaded from Automationdirect.com

IRmobile Android App

The free Optris IRmobile Android App allows temperature monitoring on a smartphone or tablet. This app requires the ACCSMIACC communication cable (sold separately) and works on most Android devices running 5.0+ with a USB-C port supporting USB-OTG (On The Go).

- Configure emissivity, transmissivity, and other parameters
- Select units: Celsius or Fahrenheit
- Analog output scaling
- Alarm output setup
- Temperature time diagram with zoom function
- Integrated simulator

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