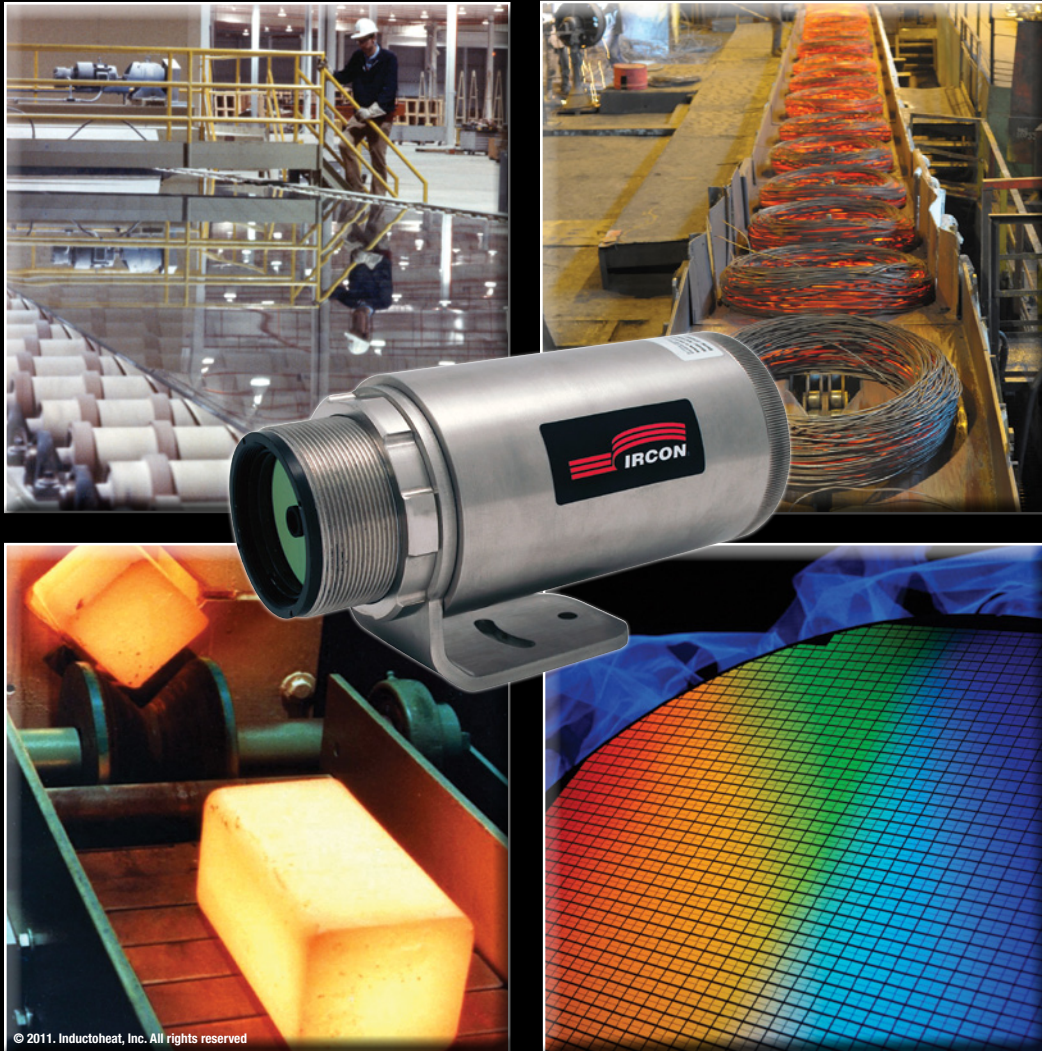
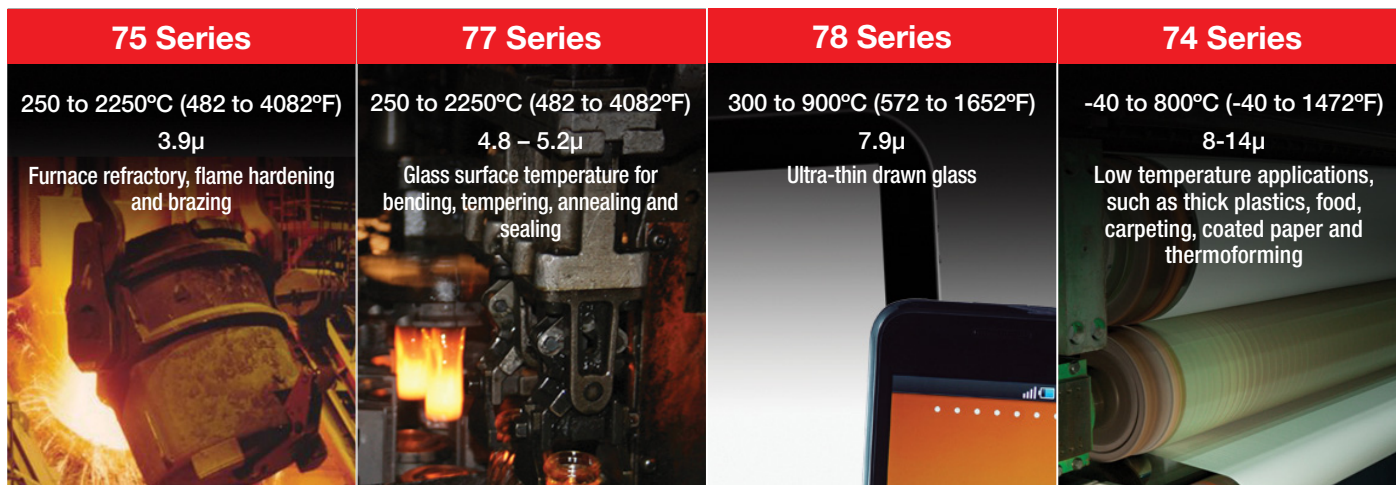


# Modline<sup>®</sup> 7 Infrared Thermometers



Noncontact temperature sensors to serve  
a wide range of applications



## Modline® 7 Highlights

Designed for rugged industrial environments, the Modline 7 sensors have 4 different series to choose from (75, 77, 78 & 74). All sensor components are sealed within an IP65 (NEMA 4) enclosure featuring standard motorized focus control, as well as through-the-lens and laser sighting. Also included is an integral stainless steel water cooled enclosure. All Modline 7 systems are backed with a 5 year warranty.

The sensing head can operate as a stand-alone sensor, providing simultaneous analog and digital outputs of process temperatures.

Sensor setup and monitoring can be accomplished either through the rear panel of the sensor or through the Modview™ Pro software, allowing the user to perform PC-based temperature monitoring, trending and archiving with an intuitive graphical user interface.

### Alarms:

A programmable relay output can be triggered by:

- Product Temperature (process alarm)
- Sensor Internal Temperature (sensor alarm)
- Manually

### Communications:

- Bi-directional RS-485 communications
- Windows ModView™ Pro Software
- Field Calibration software

### Features:

- Broad temperature range -40°C to 3000°C (-40°F to 5432°F)
- Spot size down to 1mm

## Performance

### Accuracy

75

± 2°C or ± 2%\* for T<sub>meas</sub> < 350°C (662°F)

± 1% of reading for T<sub>meas</sub> > 350°C (662°F)

77 / 78

± 1% of reading

74

± 2°C for T<sub>meas</sub> < 0°C (32°F)

± 1% of reading or ± 1°C\* for T<sub>meas</sub> > 0°C (32°F)

### Repeatability

75

± 0.5% of reading or ± 0.5°C\*

77/78/74

± 0.5% of reading or ± 0.5°C\*

\*whichever is greater

### Temperature Resolution

All models

0.1°C

## Electrical

### Power Supply

24 VDC ± 20%, 500 mA

### Outputs Analog

0 - 20 mA, 4 - 20 mA, 14 bit resolution, max. current loop impedance: 500 ohms.

### Digital RS-485

Networkable to 32 sensors, Baud rate: 300, 1200, 2400, 9600, 19200, 38400, 57600, 115200. 4-wire mode (full-duplex) or 2-wire mode (half duplex), (2-wire: max. 38400 Baud),

### Relay

Contacts max. 48 V, 300 mA, response time < 2 ms, (software programmable)

### Display

5 digit backlit LCD display

### External Input Voltage

0 to 5 VDC functions: trigger, ambient background temperature compensation, emissivity setting, or laser ON/OFF switching

## Environmental

### Environmental rating

NEMA-4 (IEC 529, IP 65)

### EMI

CE compliant to IEC 61326

### Relative Humidity

10% to 95% non-condensing

### Storage Temperature

-20°C to 70°C (-4°F to 158°F)

### Ambient Temperature with integral cooling

without cooling 5°C to 65°C (41°F to 150°F)

with air cooling 10°C to 120°C (50°F to 250°F)

with water cooling 10°C to 175°C (50°F to 350°F)

### with high temperature waterjacket cooling

water cooled 10°C to 315°C (50°F to 600°F)

### Vibration

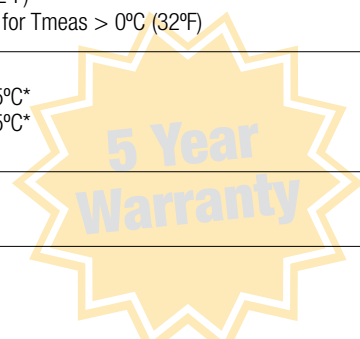
MIL-STD-810D (IEC 68-2-6) 2G's, 10 - 150 Hz, 3 axis

### Mechanical Shock

MIL-STD-810D (IEC 68-2-27) 5G's, 11 ms duration, 3 axis

### Weight

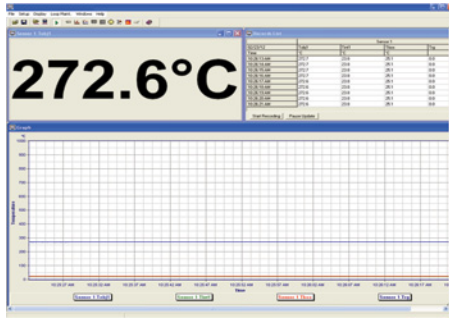
1.95 kg (4.3 pounds)



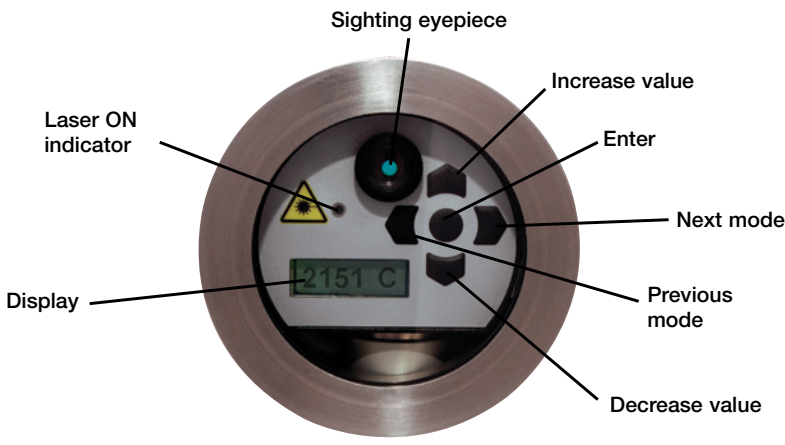
# ModView™ Pro Software

ModView Pro PC based software with built-in user interface displays target temperature and allows for sensor parameter adjustment to configure or fine tune your sensor remotely.

Easily configure individual alarms for early warning detection, change temperature display from °F to °C, set or change emissivity levels, scale the range, focus the sensor, and turn on or off filters, such as peak hold, valley hold, and averaging, as well as save data for future reference, graphing or quality record keeping.



## Easy-to-Use Interface



## Modline 7 sensor with standard integral water cooling

The Modline 7 sensor with integral water cooling enclosure enables use in ambient temperatures up to 175°C (350°F).



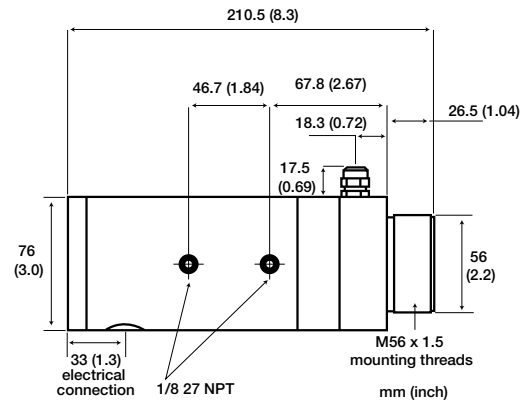
## Modline 7 sensor with optional high temperature water jacket accessory

For high ambient temperature applications, the Modline 7 with high temperature water jacket and integrated air purge enables use in ambient temperatures up to 315°C (599°F).

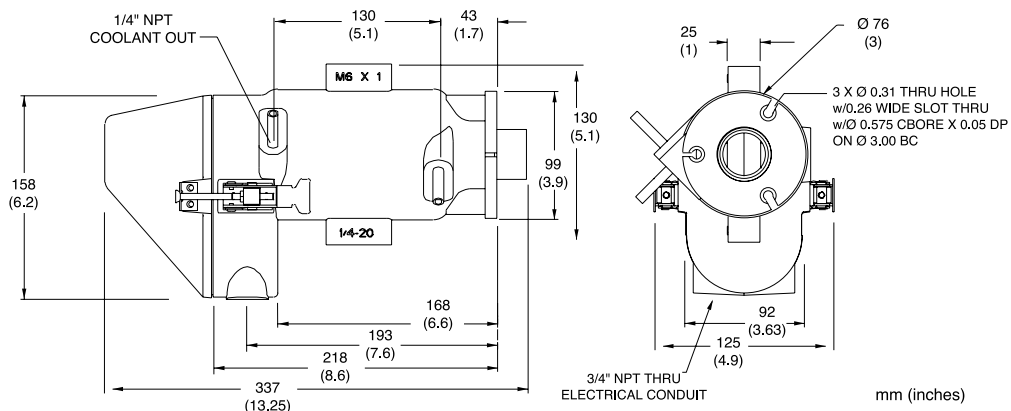


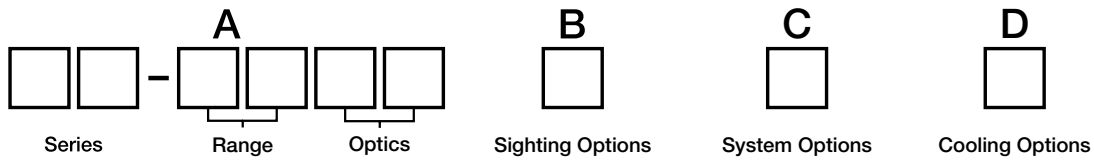
## Physical Dimensions

*Modline 7 sensor with integral water cooling and optional air purge collar*



*Modline 7 high temperature water jacket*





| Block A        | Temperature Range       | Spectral Range | Optical Resolution (measured at focal point) | Response Time | Primary Applications  |
|----------------|-------------------------|----------------|--|---------------|---|
| <b>75-1107</b> | 250-1100°C (482-2012°F) | 3.9µm          | D/70   | 120ms         | Furnace refractory, flame hardening and brazing   |
| <b>75-2207</b> | 450-2250°C (842-4082°F) | 3.9µm          | D/70   | 120ms         |   |
| <b>77-1607</b> | 250-1650°C (482-3002°F) | 4.8-5.2µm      | D/70   | 60ms          | Glass surface temperature for bending, tempering, annealing and sealing                               |
| <b>77-2207</b> | 450-2250°C (842-4082°F) | 4.8-5.2µm      | D/70   | 60ms          |   |
| <b>78-0910</b> | 300-900°C (572-1652°F)  | 7.9µm          | D/100  | 120ms         | Ultra-thin drawn glass  |
| <b>74-0807</b> | -40-800°C (-40-1472°F)  | 8-14µm         | D/70   | 120ms         | Low temperature applications, such as thick plastics, food, carpeting, coated paper and thermoforming |

| Block B | Sighting Options       |
|---------|------------------------|
| 0       | Visible/Laser Sighting |

| Block C | System Options     |
|---------|--------------------|
| 0       | Stand Alone Sensor |

| Block D | Cooling Options  |
|---------|--|
| 0       | Sensor with integral water cooling for ambient temperatures up to 175°C (350°F)              |
| 1       | Sensor supplied with WJ-7 waterjacket accessory for ambient temperatures up to 315°C (600°F) |

## Accessories

|                 |  |              |  |
|-----------------|--|--------------|--|
| <b>APA-7</b>    | Aluminum air purge collar                                  | <b>POI-7</b> | Power supply (24VDC, 100/240VAC input) & terminal block mounted in a NEMA 4 (IP65) enclosure |
| <b>APS-7</b>    | Stainless steel air purge collar                           | <b>PS-7</b>  | 24VDC 1.2A Industrial power supply, DIN rail mount (100/240VAC input)                        |
| <b>RAM-7</b>    | Stainless steel adjustable bracket                         | <b>TSP-7</b> | Spare terminal block accessory   |
| <b>WJMB-7</b>   | Adjustable mounting base for water jacket                  |              |  |
| <b>WJMFST-7</b> | Mounting flange for use with sighting tubes                |              |  |
| <b>WJST12</b>   | 30cm (12") Stainless steel sight tube (up to 800°C/1472°F) |              |  |

The accessories shown are only a few of the many products available for Modline 7 sensors to support a variety of application needs. A complete list of power and communication accessories, protective windows and environmental protection products, as well as mounting brackets, can be found in the Modline 7 sensor manual. Please contact your local IRCON sales representative for detailed information.

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### Worldwide Service

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