IMPAC SERIES 600

Digital, modular pyrometer with exchangeable sensor heads for non-contact temperature measurement of various surfaces in different temperature ranges

Advanced Energy's Impac® series 600 modular pyrometer offers different communication hardwares and sensor heads. They are available in a flexible configuration to meet any applicaiton.

PRODUCT HIGHLIGHTS

- Removeable sensor heads for easy exchange without the need to remove the complete sensor cable and without recalibration
- Connection of up to 8 sensor heads to one converter box (8 measuring points in one pyrometer system). If wanted, sensor heads with different wavelengths can be connected to the same converter box.
- Converter box available with or without display
- Optional communications: analog and/or RS-232/RS-485 and/or Profinet

TYPICAL MARKETS & APPLICATIONS

- Glass surfaces
- Metal processing
- Automotive
- Plastic
- Chemicals
- OEMs
- Fibers & Texiles
- Food & Beverage
- Mining, Metals & Cement
- Pulp & Paper
- Tire & Rubber

etc.

*: The IN 600/5-HT is still under evaluation. Contact AE for availability.

AT A GLANCE

Temperature Ranges

IN 600: -40 to 700 °C (MB 7)
IS 600: 550 to 1400 °C (MB 14)
650 to 1800 °C (MB 18)
700 to 2500 °C (MB 25)
IGA 600: 250 to 1200 °C (MB 12)
350 to 1800 °C (MB 18)
400 to 2500 °C (MB 25)
IGA 600/23: 100 to 1000 °C (MB 10)
150 to 1800 °C (MB 18)
IN 600/5 & IN 600/5-HT*:
100 to 1300 (MB 13)

Spectral Range

Sensor Heads
IN 600: 8 to 14 µm
IS 600: 0.7 to 1.1 µm
IGA 600: 1.45 to 1.8 µm
IGA 600/23: 2 to 2.6 µm
IN 600/5 & IN 600/5-HT*: 5.14 µm

Repeatability

IN 600, IN 600/5 & IN 600/5-HT*: 0.5% of measured °C value or 0.8 °C
IS 600, IGA 600 & IGA 600/23: 0.25% of measured °C + 1 °C

OVERVIEW

The series 600 is a modular, digital pyrometer that provides a customizable design with easy installation and maintenance. The long wavelength IN 600 is best suited for non-contact temperature measurement on non-metallic or coated metallic objects. The IS 600, IGA 600, and IGA 600/23 are short wavelengths digital pyrometers for measurements of metals, ceramics or graphite. The IN 600/5 is specifically designed to measure the temperature of glass surfaces.

CONFIGURATION GENERAL CONCEPT

The modular concept allows for various combinations of the system components. The standard configuration includes an electronic converter box, a sensor cable, and a removable sensor head to allow for easy exchange. Alternatively, each converter box as well as the multi analog box can connect up to two sensor heads or up to two optional multi-sensor boxes with connections for up to four sensor heads each. To ensure maximum flexibility, the system allows for any combination of the available sensor heads, even with different wavelengths.

Configuration Selection		
Item	**Configuration part name**	**Description**
1	Communication hardware	Converter box, analog box or direct USB connector Required for each configuration
2	Multi-sensor box	1 for 3…5 sensor heads 2 for 6…8 sensor heads Required for configurations with more than 2 sensor heads
3	Sensor head	IN 600, IS 600, IGA 600, IGA 600/32, or IN 600/5 Required according to desired measurement points and applications
4	Sensor cable	Per sensor head 1 sensor cable with connector required
5	Extension cable	Optional if needed
6	Sensor cable for multi-sensor box	Per multi-sensor box 1 sensor cable without connector required
7	Other acceccories	Optional if needed

Refer to section "POSSIBLE CONFIGURATION" for the configuration examples.

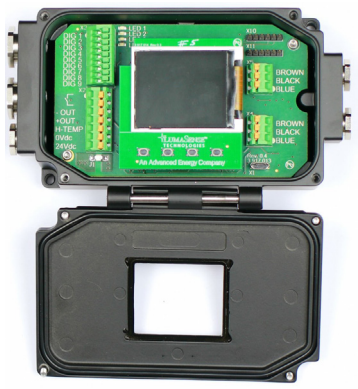
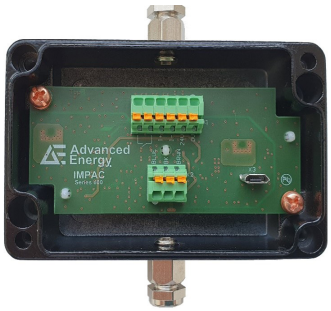
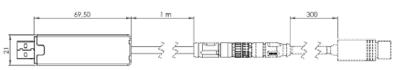
ORDERING INFORMATION - COMMUNICATION HARDWARE

To read out and display the measuring data collected by the sensor head(s), one of the following communication hardware needs to be selected.

Converter Box, Analog Box, Direct USB

Choose one of the available communication hardware options. Depending on the selection, one or multiple sensor heads can be connected.

Converter Box	
PN	**Description**
3 917 010	ICB 600 converter box with display, no digital interface (1-8 sensor heads)
3 917 020	ICB 600-RS converter box with display, RS-232/RS-485 (1-8 sensor heads)
3 917 040	ICB 600-PN converter box with display, Profinet (1-8 sensor heads)
3 917 080	ICB 600-N converter box without display, no digital interface (1-8 sensor heads)
3 917 090	ICB 600-N-RS converter box without display, RS-232/RS-485 (1-8 sensor heads)
3 917 110	ICB 600-N-PN converter box without display, Profinet (1-8 sensor heads)
3 917 160	ICB-A converter box, single analog (1 sensor heads)
3 917 170	ICB-8A converter box, multi analog (1-8 sensor heads)
3 917 400	USB cable with M8 connector, for connection of series 600 sensor heads, 1m (1 sensor head)

Standard Converter Box	Analog Box	Direct USB Connector
With or without display Optional digital interfaces	**Single or multi analog boxes**	**USB connector (PC) to standard M8 connector (sensor head)**
 	Single analog box  Multi analog box 	 

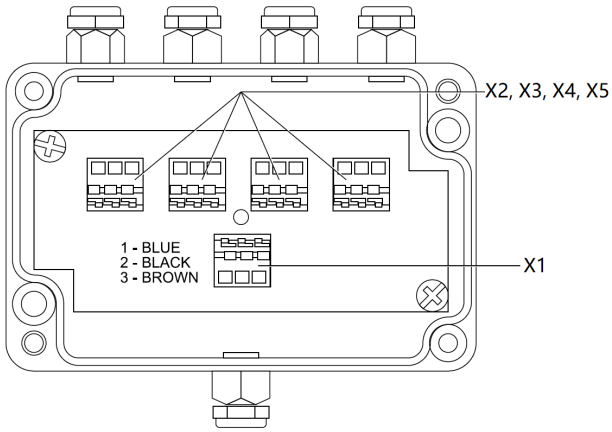
ORDERING INFORMATION - MULTI-SENSOR BOX

Depending on the desired number of sensor heads, additional multi-sensor boxes might be required.

No. of Desired Sensor Heads	No. of Required Multi-Sensor Boxes
1 or 2	0
3 to 5	1
6 to 8	2

PN	Description
3 917 150	Multi-sensor box

Multi-Sensor Box



X1 is for connecting a sensor cable from the multi-sensor box to a converter box.
X2, X3, X4, X5 are for connecting sensor cables from the multi-sensor box to the sensor heads.

ORDERING INFORMATION - SENSOR HEAD

There are multiple sensor heads available within series 600.

The long wavelength IN 600 is best suited for non-contact temperature measurement on non-metallic or coated metallic objects.

The IS 600, IGA 600, and IGA 600/23 are short wavelengths digital pyrometers for measurements of metals, ceramics or graphite.

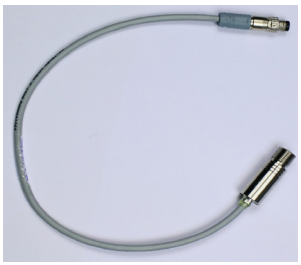
The IN 600/5 is specifically designed to measure the temperature of glass surfaces.

For configurations with more than 1 sensor head, any combination of the available sensor heads is possible, independent on wavelengths, temperature range or optical performance.

Sensor Heads	
PN	**Description**
3 917 200	IN 600, MB 7, 8 to 14 µm, -40 to 700 °C, optics 1N (2:1)
3 917 210	IN 600, MB 7, 8 to 14 µm, -40 to 700 °C, optics 2N (10:1)
3 917 220	IN 600, MB 7, 8 to 14 µm, -40 to 700 °C, optics 3N (20:1)
3 917 260	IS 600, 550 to 1400 °C, 0.7 to 1.1 µm, optics 1S
3 917 270	IS 600, 650 to 1800 °C, 0.7 to 1.1 µm, optics 1S
3 917 280	IS 600, 700 to 2500 °C, 0.7 to 1.1 µm, optics 1S
3 917 290	IGA 600, 250 to 1200 °C, 1.45 to 1.8 µm, optics 1S
3 917 300	IGA 600, 350 to 1800 °C, 1.45 to 1.8 µm, optics 1S
3 917 310	IGA 600, 400 to 2500 °C, 1.45 to 1.8 µm, optics 1S
3 917 320	IGA 600/23, 100 to 1000 °C, 2 to 2.6 µm, optics 1S
3 917 330	IGA 600/23, 150 to 1800 °C, 2 to 2.6 µm, optics 1S
3 917 420	IN 600/5, 100 to 1300 °C, 5.14 µm, optics 2N
3 917 430	IN 600/5, 100 to 1300 °C, 5.14 µm, optics 3N
3 917 470	IN 600/5-HT, 100 to 1300 °C, 5.14 µm, 10 m HT cable, optics 2N
3 917 480	IN 600/5-HT, 100 to 1300 °C, 5.14 µm, 10 m HT cable, optics 3N

Standard Sensor Head

Ambient temperatures up to 80°C
30 cm pigtail
Different wavelengths and optical performance



ORDERING INFORMATION - SENSOR CABLE

Per sensor head 1 sensor cable with connector required: 3 m or 15 m

Add extension cable(s) if needed for longer distance.

Sensor cable without connector is used to connect between converter box or multi analog box and multi-sensor box if needed.

Sensor and Extension Cables	
PN	**Description**
3 921 200	Sensor cable, with connector, 3 m
3 921 210	Sensor cable, with connector, 15 m
3 921 220	Extension cable, with connector, 15 m
3 921 230	Sensor cable, w/o connector, 1 m
3 921 240	Sensor cable, w/o connector, 3 m
3 921 250	Sensor cable, w/o connector, 15 m

ORDERING INFORMATION - CONNECTION CABLE AND OTHER ACCESSORIES

Electrical Connection Cables	
PN	**Description**
3 821 010	Electrical connection cable, 2 m, 10-wire, with digital connection (1 m)
3 821 980	Electrical connection cable, 15 m, 10-wire, with digital connection (1 m)
3 821 020	Electrical connection cable, 2 m, for power supply and thermocouple output
3 921 270	Electrical connection cable, 2 m, 7-wire, analog out only
3 921 280	Electrical connection cable, 15 m, 7-wire, analog out only
3 921 300	Electrical conncetion cable, 2 m, 10-wire, analog out
3 921 310	Electrical connection cable, 15 m, 10-wire, analog out
3 921 320	Electrical connection cable, 2 m, 12-wire, analog out
3 921 330	Electrical connection cable, 15 m, 12-wire, analog out
3 921 290	Micro USB 2.0 cable, 1m

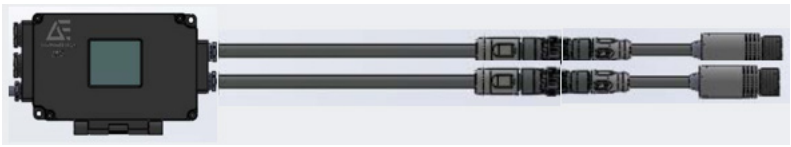
Other Accessories	
PN	**Description**
3 834 370	Fixed mounting angle (for sensor head or air purge with sensor head 10:1)
3 834 380	Adjustable mounting angle (for sensor head or air purge with sensor head 10:1)
3 835 800	DIN rail mount adapter for converter box
3 835 810	Air purge (for sensor head 10:1 and 20:1)
3 835 820	Air purge (for sensor head 2:1)
3 835 840	Cooling jacket for optical head, with air purge, cooling hose 0.75 m
3 835 850	Cooling jacket for optical head, with air purge, cooling hose 2.5 m
3 835 830	90° mirror (only for sensor head 10:1)
3 852 290	Power supply NG DC for DIN rail mounting; 100 to 240 VAC ⇒ 24 VDC, 1 A

POSSIBLE CONFIGURATION ILLUSTRAIONS

Standard

Up to 2 measurement points

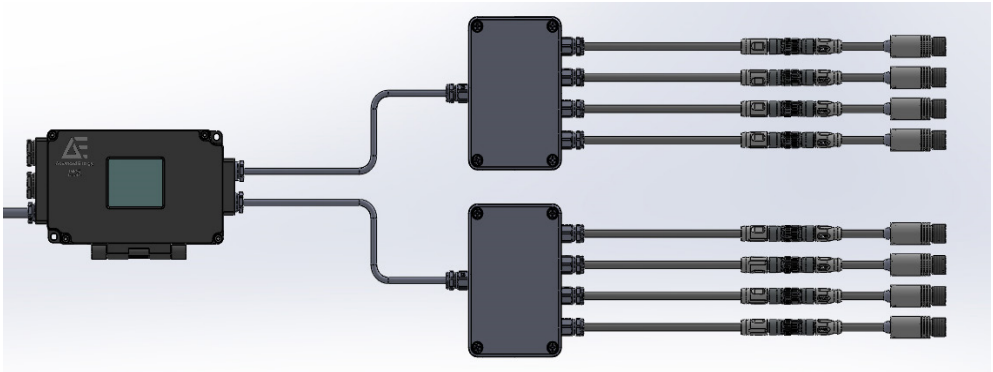
1 converter box + 2 sensor cables + 2 sensor heads



Multi-box

Up to 8 measurement points

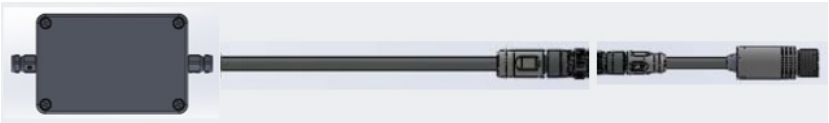
1 converter box + 2 sensor cables w/o connector + 2 multi-sensor boxes + 8 sensor cables + 8 sensor heads



Analog Converter

1 single analog converter box + 1 sensor cables + 1 sensor heads

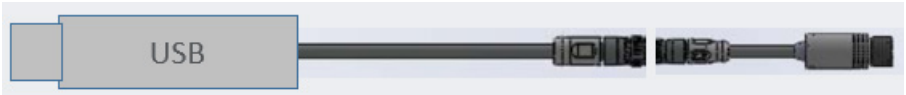
Multi-analog version to be configured similar to the standard and multi-box



Direct USB

1 single analog converter box + 1 sensor cables + 1 sensor heads

Multi-analog version to be configured similar to the standard and multi-box



ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

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