

Infrared Fiber Optic Polymer Bolt Temperature System

Series 4121
\$2195
 All Models



Model 4121
 Polymelt Temperature
 System 98° to 463°C
 (210° to 865°F)
 In Sub Ranges.

- ✓ Response Time
10 Milliseconds
- ✓ Fiber Optic Cable
- ✓ Withstands Pressure
up to 30,000 psi
- ✓ FM and CSA Approved
Intrinsically Safe Models
Available Steel
Construction
- ✓ High Operating
Temperature
- ✓ Hermetically Sealed for
Harsh Environments

The 4121 Polymelt System offers a unique non-contact method of measuring polymer melt temperatures. Unlike thermocouples, its 10 millisecond response time provides unsurpassed real-time temperature data and tighter process control. Since the probe tip is flush with the barrel's ID, it "looks into" the melt and is completely non-intrusive, producing no error due to polymer shear effects or heat sinking.

This compact and rugged system allows maximum installation flexibility and requires a minimum amount of space for installation. The 4121 polymelt system offers a fast and accurate method to monitor polymer temperature in the extruder nozzle or barrel or in the injection molding cavity.

The polymelt transducer system incorporates a chopper stabilizing detector for drift free operation and is directly interchangeable with thermocouple instrumentation such as meters or controllers with cold junction compensation. The 4121 is manufactured using advanced laser



4121-G-F-J, infrared detector, \$2195.

2120-6-2516-T1-7-1-2 polymelt probe, \$1170.

PATENTED
 Covered by U.S. and
 International patents and
 pending applications

Both models shown smaller than actual size.

soldering technology and incorporates surface-mount devices for exceptional reliability and compactness.

The 4121 polymelt system consists of a patented polymer probe with a rugged, flexible fiber optic cable assembly. The probe tip contains an abrasion resistant sapphire window which is capable of withstanding 30,000 psi pressure. The standard Hastelloy tip allows use on more abrasive polymer materials. The fiber optic assembly easily connects to the transducer. The 4121 polymelt system output ties directly to dataloggers, process controllers, and recorders. It incorporates a digital emissivity control for precise and repeatable setting of emissivity.

Specifications

Temperature Range: 98 to 463°C (210 to 865°F) (in sub-ranges)
Temperature Accuracy: ±1% of reading

Linearization Accuracy:

±1% of reading or 2°C, 4°F, whichever is greater

Emissivity Control:

0.10 to 0.99 in 0.01 steps

Output: 1 mV/° standard, secondary output either 4 to 20 mA, 0 to 10 Vdc, J T/C

Ambient Temperature:

Model 4121: 10 to 50°C (50 to 122°F)

Fiber Optics: 10 to 150°C (50 to 300°F)

Spectral Response:

1.0 to 2.7 microns

Response Time: 10 ms

Power Supply: ±15 Vdc, 100 mA (±0.05% regulation)

Power Consumption: 2 W

Mating Cable Connector:

Bendix PT06A-10-65SR

Dimensions:

Model 4121: 62 Dia. x 185 L mm (2.43 x 7.3")

Fiber Optic Probe:

See dimensional diagrams

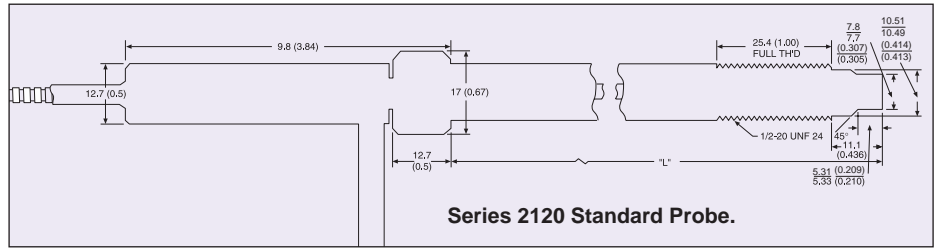
Weight:

Series 4121 Detector: 0.9 kg (2 lb)

Fiber Optics: 0.7 kg (1.5 lb)

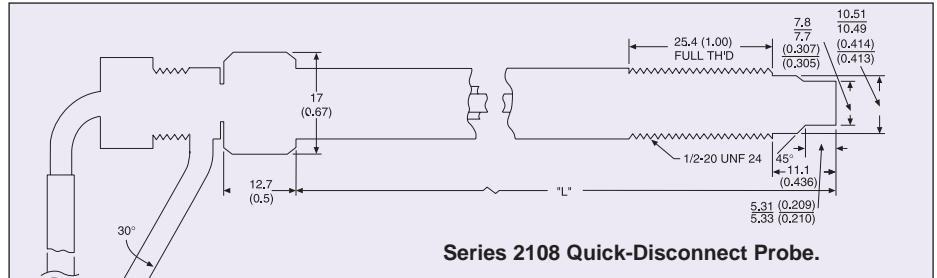
Series 2120 \$1170

Series 2120 standard polymer probe is available in lengths from 165 to 305 mm (6.5 to 12.00") and is installed as shown below. The fiber optic cable is permanently attached to the bolt assembly. The air purge fitting is at 90° from the probe body.



Series 2108 \$1290

Series 2108 quick-disconnect polymer probe, measuring as small as 76 mm (3") overall, is used where the available mounting space is at a premium. The fiber bundle exits the probe at a right angle and is easily removable from the probe body by a knurled twist nut. Air purge fitting is at 60° from the probe body.

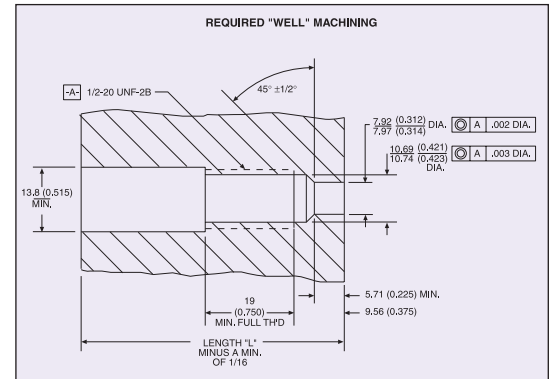


4121 Infrared Detectors†

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)			
Model No.	Price	Description	Outputs
4121-G-F-1	\$2195	Infrared detector	1mV/° and 0 to 10 Vdc outputs
4121-G-F-4	2195	Infrared detector	1mV/° and 4 to 20 mA outputs
4121-G-F-J	2195	Infrared detector	1mV/° and J outputs

†Note: A complete system consists of a Series 4121 detector and either the 2120 or 2108 fiber optic probe assembly. You must order at least one detector and one probe from the tables below.



Fiber Optic Polymer Bolt Assemblies (Both styles are fitted for air purging)

To Order (Specify Model Number)			
Model No.	Price	Temperature Range	Cable Length
Fiber Optic Assembly with Standard Polymer Bolt (with fiber optic cable hardwired to bolt)			
2120-[*]-2516-T1-7-1-2	\$1170	98 to 316°C (210 to 600°F)	0.3 m (1') fiber optic cable
2120-[*]-2516-T1-7-2-2	1190	121 to 371°C (250 to 700°F)	0.6 m (2') fiber optic cable
2120-[*]-2516-T1-7-3-2	1210	135 to 390°C (275 to 735°F)	1 m (3') fiber optic cable
2120-[*]-2516-T1-7-4-2	1240	154 to 415°C (310 to 780°F)	1.2 m (4') fiber optic cable
2120-[*]-2516-T1-7-5-2	1265	163 to 438°C (325 to 820°F)	1.5 m (5') fiber optic cable
2120-[*]-2516-T1-7-6-2	1290	174 to 463°C (345 to 865°F)	1.8 m (6') fiber optic cable
Fiber Optic Assembly with Quick Disconnect Polymer Bolt (with right angle fiber optic cable for disconnecting fiber optic cable from bolt)			
2108-[**]-2008-0001-1	\$1290	98 to 316°C (210 to 600°F)	0.3 m (1') fiber optic cable
2108-[**]-2008-0001-2	1320	121 to 371°C (250 to 700°F)	0.6 m (2') fiber optic cable
2108-[**]-2008-0001-3	1360	135 to 390°C (275 to 735°F)	1 m (3') fiber optic cable
2108-[**]-2008-0001-4	1390	154 to 415°C (310 to 780°F)	1.2 m (4') fiber optic cable
2108-[**]-2008-0001-5	1425	163 to 438°C (325 to 820°F)	1.5 m (5') fiber optic cable
2108-[**]-2008-0001-6	1460	174 to 463°C (345 to 865°F)	1.8 m (6') fiber optic cable

* Insert 6 to 12" probe length.
** Insert 3 to 12" probe length.

Ordering Examples: 4121-G-F-J, Series 4121 infrared detector with 1 mV/° and Type J thermocouple outputs, \$2195. 2108-3-2008-0001-3, quick-disconnect polymelt probe, 3" long, with a 3' fiber optic cable, and a 135 to 390°C (275 to 735°F) temperature range, \$1360. \$2195 + \$1360 = \$3555. 4121-G-F-4, Series 4121 infrared detector with 1 mV/° and 4 to 20 mA outputs, \$2195. 2120-7-2516-T1-7-4-2, standard polymelt probe, 7" long, with a 4' fiber optic cable, and a 154 to 415°C (310 to 780°F) temperature range, \$1240. \$2195 + \$1240 = \$3435.

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