

Pyro MATION[®], INC.



HEAD LINE NEWS

Pyromation's temperature sensor connecting heads set the industry standards. They can be found in use worldwide in virtually all industrial processing, HVAC, clean-room, laboratory, and other general temperature sensing applications. However, their use is not strictly limited to temperature, as they are also used in other general enclosure applications. Our heads are offered in five different metal alloy configurations and in two thermoplastic materials to provide protection from a variety of natural and man-made environments.

All of our screw cover heads are provided with stainless steel ball swivel chains and pins. Each of these heads can accommodate our integrally mounted Series 401 RTD transmitters, or a choice of six different ceramic terminal blocks. However, the two thermoplastic heads are supplied with molded-in terminals as a standard product. A miniature steel head or an aluminum general purpose head is also available with a choice of terminal and terminal block configurations.

To meet application requirements, environmental conditions, or technical demands, Pyromation can provide a connecting head to meet your needs, and with your own private logo if desired.

NEMA RATINGS

Pyromation connecting heads meet several of the different NEMA (National Electrical Manufacturers Association), IEC (International Electrotechnical Commission), and NEC (National Electrical Code) enclosure requirements for clas-

sifying enclosures according to the environmental conditions that the heads provide protection against. The accompanying chart lists the NEMA and IEC types under which our various heads qualify.

ENVIRONMENTAL CONDITIONS PROTECTED FROM:	NEMA ENCLOSURE TYPE							
	2	4	4X	6	6P	7	9	13
Falling Dirt	X	X	X	X	X	X	X	X
Falling Liquids	X	X	X	X	X	X	X	X
Hosedown, Splashing Water		X	X	X	X			
Oil, Coolant Spraying								X
Corrosive Agents			X		X			
Temporary Submersion				X	X			
Occasional Prolonged Submersion					X			
Rain, Snow, Icing		X	X	X	X			
NEC Class I Group C, D						X		
NEC Class II Group E, F, G							X	
Conversions to IEC-529	IP11	IP56	IP56	IP67	IP67			IP54

TEMPERATURE SENSOR

DIECAST ALUMINUM (SERIES 301-306)

A lightweight general purpose aluminum connecting head that finds use in a variety of process applications. This head is suitable for use at moderate ambient temperatures, and in environments that are not unfavorable to the aluminum body and cap.

CAST IRON (SERIES 307-309)

A heavy duty general purpose cast iron connecting head suitable for use in heavier industrial process applications where high ambient temperatures can be experienced, and where environmental conditions are not unfavorable to the cast iron body and cap.

316L STAINLESS STEEL (SERIES 904-905)

A rugged general purpose stainless steel head that provides excellent corrosion and chemical resistance and of a material that is FDA compliant. Suitable for use in corrosive chemical environments and in sanitary, pharmaceutical or food processing applications.

UL LISTED 316 STAINLESS STEEL (SERIES 804-805)

A unique, stainless steel explosion-proof head that is UL listed and exhibits excellent chemical and corrosion resistance. Suitable for use in hazardous locations and in highly corrosive chemical environments. UL approved for use with or without moisture-sealing gasket.

UL LISTED CAST IRON/ALUMINUM (SERIES 807-808)

A low cost explosion-proof head incorporating a cast iron body and aluminum cap that meets UL requirements for use in hazardous locations, suitable for indoor use in environments that are not unfavorable to the cast iron and aluminum. UL approved for use with or without moisture-sealing gasket.

WHITE POLYPROPYLENE (SERIES 480-486)

This lightweight thermoplastic polypropylene head provides excellent resistance to acids, alkalines, and most process chemicals. This material is also FDA compliant for use in sanitary applications. Its maximum temperature rating is 198°F (92°C).

UL[®] Listed²
 cUL[®] Listed²
 File E160596



PART NUMBER	301-306	307-309	904-905	804-805
MATERIAL	DIECAST ALUMINUM	GREY IRON	316L SS	316L SS
PROCESS CONNECTION	1/8" THROUGH 1" NPT	1/2" THROUGH 1" NPT	1/2", 3/4" NPT	1/2", 3/4" NPT
CONDUIT CONNECTION	3/4" NPT	3/4" NPT	3/4" NPT	3/4" NPT
STANDARD FINISH	POLISHED	PLATED	POLISHED	POLISHED
APPROX. WEIGHT	.62 LBS.	1.70 LBS.	1.90 LBS.	1.90 LBS.
NEMA TYPE	NEMA 4, 13	NEMA 4, 13	NEMA 4X, 13	NEMA 4X, 7, 9, 13
CAP STYLE	SCREW COVER	SCREW COVER	SCREW COVER	SCREW COVER
GASKET MATERIAL	COMPRESSED GRAPHITE ¹	COMPRESSED GRAPHITE ¹	COMPRESSED GRAPHITE ¹	COMPRESSED GRAPHITE ¹
HEAD OPTIONS*	B, R, W, HS	B, R, W, HS	B, R, HS	B, R, HS
TERMINAL BLOCKS	340 SERIES	340 SERIES	340 SERIES	340 SERIES
TRANSMITTER ACCEPTABLE	YES	YES	YES	YES

Footnote 1: The standard gasket of 75% pure pressed graphite has excellent resistance to chemicals, oils, steam and water, and a maximum service temperature of 825°F (440°C).

Footnote 2: UL listing is to ANSI/UL 886 and CSA C22.2 for Class I, Division I, Group C, D; Class II, Division I, Group E, F, G.

R CONNECTING HEADS

GREY DELRIN[†] (SERIES 390-396)

This thermoplastic Delrin head provides good resistance to weak acids, alkalines, salt water, and good weathering resistance to sunlight. Its 275°F (135°C) temperature rating allows its use in relatively high ambient temperatures. The head can be attacked by strong acid solutions.

SANDCAST ALUMINUM (SERIES 101-106)

This aluminum head is smaller in size than the screwcover heads. Its cap is secured with two screws and can be removed with a twist and lift motion after loosening the cap screws. It finds general purpose use in a variety of process applications that are not unfavorable to aluminum.

MINIATURE STEEL (SERIES 360-370)

These nickel plated, miniature steel heads are provided with an "O-Ring" moisture seal and with either a grommeted leadwire exit or a compression type fitting for use with flexible armor-covered leads. Their small size allows them to be used where space is limited.

SPECIAL NONSTANDARD CONNECTING HEADS

Pyromation can provide nonstandard connecting heads of different materials and designs, in addition to special machining services on standard heads, to meet most customer requirements. Consult factory for the availability of your custom requirements.

HEAD OPTIONS

Several options, as listed in the table below, are available for the Pyromation connecting heads depicted on these pages. Consult factory for the availability of other desirable options.

*STANDARD HEAD OPTIONS

OPTION CODE	DESCRIPTION
B	Ground Screw
R	Rubber Gasket ³
W	External White Epoxy Coating
HS	Wire Seal Security Cap Screws
353	Mounting Plate for Spring-Loading, Ceramic Terminal Block and RTD Transmitters

 Listed²
 Listed²
 File E160596



807-808	480-486	390-396	101-106	360-370
IRON/ALUMINUM	POLYPROPYLENE	DELRIN [†]	SANDCAST ALUMINUM	STEEL
1/2", 3/4" NPT	1/2" NPT	1/2" NPT	1/8" THROUGH 1" NPT	1/8", 1/4" NPT
3/4" NPT	3/4" NPT	3/4" NPT	1/2" NPT	GROMMET OR COMP. FTG.
PLATED	WHITE	GREY	SHOT BLAST	NICKEL PLATED
1.50 LBS.	.17 LBS.	.25 LBS.	.47 LBS.	.25 LBS.
NEMA 7, 9, 13	NEMA 4X, 6P, 13	NEMA 4, 6, 13	NEMA 2	NEMA 2
SCREW COVER	SCREW COVER	SCREW COVER	SCREW SLOTTED CAP	SCREW SLOTTED CAP
COMPRESSED GRAPHITE ¹	O-RING ³	O-RING ³	COMPRESSED GRAPHITE ¹	O-RING ³
B, R, W, HS	HS, 353	HS, 353		
340 SERIES	INTEGRAL OR 340 SERIES	INTEGRAL OR 340 SERIES	140 SERIES	2, 3 OR 4 POLE CERAMIC
YES	YES	YES	NO	NO

Footnote 3: The rubber gaskets and O-Rings are ethylene propylene and provide protection against oxidation, chemicals and oils as well as protection in hoses down applications. Their maximum service temperature is 300°F (149°C).

[†] Trade Name of E.I. DuPont

RTD TEMPERATURE TRANSMITTERS

The patented Pyromation RTD transmitters are designed to produce a linearized 4 - 20 mA DC output current signal, which is directly proportional to the temperature of the RTD temperature sensing element. A variety of models are available for 2 or 3 wire RTD sensor inputs of different element values and different temperature coefficients. The model described is designed for use with RTDs that have platinum measuring elements with temperature coefficients of .00385 and .00392. Small size allows universal mounting in all Pyromation screw cover heads, thermostat housings, electrical handboxes, and surface mounting on panel subplates. Consult factory for other available models.

SERIES 401 SPECIFICATIONS

Platinum RTD Inputs
Linearized 4 - 20 mA Output
Degrees "F" or "C" Ranges
Minimum Temperature Span: 50°F (28°C)
Maximum Temperature Span: 1000°F (556°C)
Non Isolated
Ambient Temperature Limit: -30 to 165°F (-34 to 74°C)
Screw Terminal Connections: 28 to 14 Ga. Wire
Loop Powered Supply Voltage: 13 - 40 VDC
Reverse Polarity Protection
Power Supply Effect: .001% per Volt
Minimum Current: 3.4 mA
Maximum Current: 30 mA
Burnout Protection: Upscale or Downscale
Calibration Accuracy: $\pm .1\%$ ($\pm .016$ mA)
Conformity: $\pm .1\%$ of Span
Zero Trimming Adjustment: $\pm 10\%$
Span Trimming Adjustment: $\pm 10\%$



CERAMIC TERMINAL BLOCKS



PART NUMBER	341	342	343-2, 3, 4, 6	141	142
NUMBER OF TERMINALS	2	4	2, 3, 4 OR 6	2	4
MAXIMUM WIRE SIZE	8 AWG	8 AWG	10 AWG	8 AWG	14 AWG
SPRING LOADING CAPABILITY	NO	NO	YES	NO	YES
BLOCK BASE MATERIAL	STEATITE	STEATITE	STEATITE	STEATITE	PORCELAIN
ELECTRICAL RATING ⁴	NEC CLASS 2	NEC CLASS 2	NEC CLASS 2	NEC CLASS 2	NEC CLASS 2
CONNECTION SCREW TYPE	8-32 SS	8-32 SS	5-40 SS	8-32 ZINC/STEEL	6-32 NICKEL/BRASS

Footnote 4: These terminal blocks are not rated for high voltage use, but can be used in temperature sensor or low voltage NEC class 2 circuits.

PRIVATE LABELING

CONNECTING HEADS

Pyromation offers our customers private labeling of our connecting heads to help ensure that they receive the repeat replacement business from the end users. This private labeling is in the form of a custom designed private logo that attaches to the connecting head cap to promote "Your Company Name". These logos are available in one, two, or three-color designs and typically are modeled after a company's letterhead or business card design. They can also include a company insignia if desired.

Once the design work is completed, and the logos are in Pyromation's inventory, they will be shipped with each customer



order for connecting heads. Logos are shipped unattached for customer installation at the time of assembly.

There is a minimal one-time charge for providing this service. Please contact factory for pricing and design detail requirements.

RTD TRANSMITTERS

Private customer labels can be affixed to Pyromation's Series 401 RTD transmitters. These labels would typically include your company name, the model and serial number of the device, and its range. Please consult the factory for charges and other requirements to provide this service.

BLANKET ORDER CONDITIONS

Pyromation will accept blanket purchase orders for customer purchases of our connecting heads, terminal blocks, and RTD transmitters under the following conditions. Consult factory for other terms and conditions of blanket order sales.

1. A minimum blanket order of 100 heads, 100 terminal blocks, or 50 transmitters is required.
2. A minimum line item per order and per release of 25 heads, 25 terminal blocks, or 5 RTD transmitters is required.
3. Releases must cover a minimum 90 day shipment period, with scheduled releases received 30 days in advance of the first requested release.
4. Blanket orders are only accepted under a single purchase order with scheduled releases designated by a suffix release number (Rel. #1, Rel. #2, etc.).
5. All connecting heads or all terminal blocks listed in this brochure are combinable for maximum quantity discounts, but heads and terminal blocks are not combinable with each other for quantity discounts.

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