



## **Manufacturing Contact Information**

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## **Safety Warnings**

 Failure to abide by any of the safety warnings could result in serious injury or death.

### **General**

- ▶ Improper selection, installation, maintenance, misuse, or abuse of regulator can cause death, serious injury and property damage.
- ▶ Do not exceed any equipment pressure or temperature ratings.
- ▶ Do not use the regulator as a shut-off device. Prior to use in a system, a properly sized relief device is to be installed which limits the use to 111% of the Maximum Allowable Working Pressure (MAWP).
- ▶ Surface temperatures will approach temperature limit stated in technical specifications. Gloves may be required for handling or adjustment.
- ▶ Do not install the regulator in an enclosure that is heated above the regulator's maximum ambient temperature.
- ▶ Apply pressure gradually, avoiding a sudden surge of fluid or pressure.
- ▶ Not designed for external fire

## Safety Warnings (Continued)

 Failure to abide by any of the safety warnings could result in serious injury or death.

### Electrical

- ▶ Electrical power must be “OFF” before and during installation and maintenance.
- ▶ All appropriate national, state and local electrical codes must be followed.

### For Model JTR-H

- ▶ The power supply is with the help of a silicone cable, notch and oil resistant. The cable is intended for installation inside a rigid metallic conduit, cable tray or a similar method which provides sufficient mechanical strength to the cable against stress and bending. Grounding to be provided at the final location of installation.

### For Model 901-JTR

- ▶ Do not remove the temperature controller from the instrument enclosure; the wires may disconnect from the controller terminals.
- ▶ Do not exceed 5 minutes with power without fluid flow or the thermal cutoff will open the circuit.
- ▶ Sealing fitting must be installed with access allowing the dams to be made and the sealing compound to be properly poured.
- ▶ All unused conduit openings must be plugged. Plugs must be a minimum of 1/8” thick and engage a minimum of 5 full threads.

## Tools Required

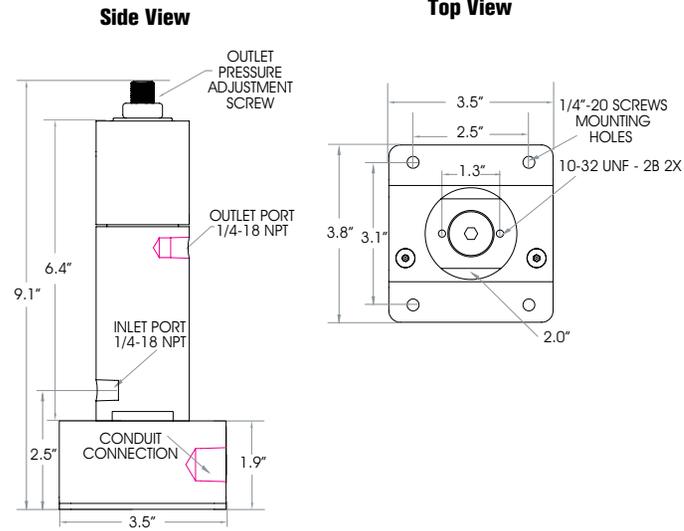
- ▶ Flat or phillips head screwdriver.

## Technical Specifications

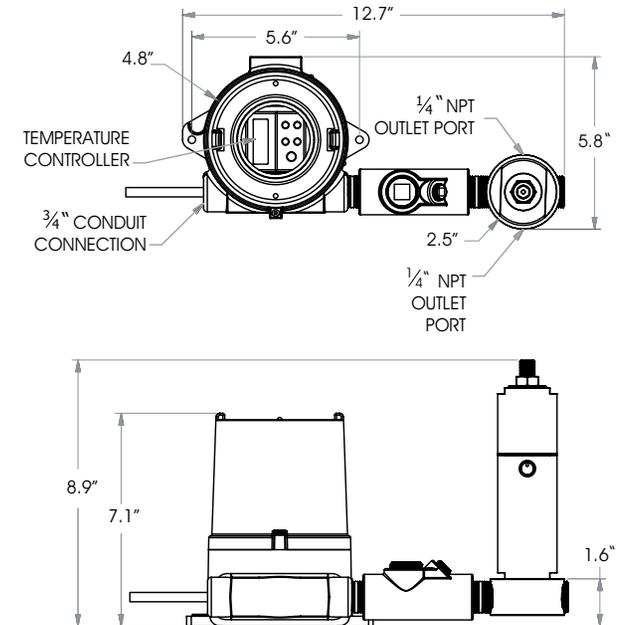
| Technical Specifications   |  |
|--|--|
| <b>Maximum pressure rating</b>   | 300 - 6000 psig (20.7 - 413.7 barg) per criteria of ANSI/ASME B31.3  |
| <b>Outlet pressure range</b>   | 0-10 psig (0-0.7 barg), 0-25 psig (0-1.7 barg), 0-50 psig (0-3.4 barg), 0-100 psig (0-6.9 barg), 0-250 psig (0-17.2 barg), 0-500 psig (34.5 barg)  |
| <b>Temperature range</b><br><small>* Actual limit depends on sealing material chosen. Refer to Temperature Range Comparison Chart.</small> | <p><b>*Ambient:</b><br/>           JTR-H (CSA): -40 to 302°F (-40 to 150°C)    901-JTR: 0 to 145°F (-18 to 63°C)<br/>           JTR-H (ATEX): -40 to 140°F (-40 to 60°C)</p> <p><b>*Process (all models):</b><br/>           -40°F (-40°C) to 300°F (149°C)</p> <p><b>901-JTR controller:</b> 95 to 300°F (35 to 149°C) set at 300°F (149°C); backup thermal cutoff opens at 338°F (170°C)</p> |
| <b>Port sizes</b>  | 1/4” female NPT  |
| <b>Cv Coefficient</b>  | 0.009  |
| <b>Maximum flow rate</b>   | ~10 SLM (consider heat transfer limitations)   |
| <b>Wetted materials</b>  | <p><b>Machined parts:</b> 316/316L stainless steel / NACE compliant<br/> <b>All other metal parts:</b> stainless steel / NACE compliant<br/> <b>Regulator seat material:</b> PFA    <b>Seals:</b> User Defined</p>   |
| <b>Electrical connection</b>   | <p><b>Conduit (CSA):</b> JTR-H: 1/2” female NPT    901-JTR: 3/4” female NPT<br/> <b>Cable OD (ATEX/IECEX):</b> 3/8” (10mm)</p>   |
| <b>Power requirements</b>  | <p>JTR-H: 110/220 VAC, 80W or 24 VDC, 25W<br/>           901-JTR: 200 W @ 110 VAC or 700 W @ 240 VAC</p>   |
| <b>Electrical approval</b>   | <p><b>CSA Certified Assembly:</b> File # 235756; Class 1, Division 1, Groups B, C, &amp; D; T3<br/> <b>ATEX/IECEX Heater Block (Model JTR-H only):</b> II2G Ex db IIC T3</p>   |

## Dimensions

### JTR-H



### 901-JTR



## Installation Instructions

**WARNING - Electrical power must be “OFF” before and during installation and maintenance or personal injury may result**

### Caution

- ▶ Do not install the regulator in an enclosure that is heated above the regulator’s maximum ambient temperature.
- ▶ Do not plug the atmospheric reference port for the regulator.

### Step 1. Depressurize the system

- ▶ Valve off the sample flow prior to installation of the Genie® Heated Regulator.

### Step 2. Connect the Genie® Pressure Regulator

- ▶ The regulator’s inlet and outlet ports are labeled. Connect tubing from the sample stream to the Inlet port (must have a minimum inlet pressure of 300 PSIG, consult factory for applications with a lower pressure). Connect tubing from the outlet port to the next device in the sample system.

### Step 3. Connect Power

#### Model JTR-H

- ▶ Refer to the INTERTEC literature provided with the unit for electrical wiring.

#### Model 901-JTR

- ▶ With all electrical power off, connect the power source to the wire pigtail as follows: black wire to line/hot, white wire to neutral, green wire to ground/earth.
- ▶ A sealing fitting is required on the AC power supply to the enclosure.
- ▶ Add fiber and sealing compound to the sealing fittings. Sealing fittings are approved for use in hazardous locations only when fiber and sealing compound are used to make the seal.
- ▶ The regulator’s controller is preset to 300°F. If a different set temperature is required, remove enclosure cover and make adjustments using arrow keys. Replace enclosure cover when finished.
- ▶ Allow the regulator to be powered for 2-5 minutes before starting flow through the regulator. Do not exceed 5 minutes with power without fluid flow or the thermal cutoff will open the circuit.

### Step 4. Establish Flow

- ▶ To allow sample flow, slowly open external valving.

### Step 5. Adjust Pressure

- ▶ Turn off electrical power to the regulator, and take precautions to prevent burns. The regulator will be **HOT**.
- ▶ Turn the pressure adjustment screw located on top of the regulator to adjust the pressure while gas is flowing through the regulator. To raise the outlet pressure, turn the screw clockwise. To lower the outlet pressure, turn the screw counterclockwise.
- ▶ To allow sample flow, slowly open external valving.

Note: At high supply pressure, a sudden change may be observed on the downstream pressure gauge as the valve stem moves away from the seat. Slight re-adjustments may be necessary until the pressure and flow have equilibrated.

- ▶ Tighten the pressure adjustment screw lock nut firmly against the washer to prevent unintended changes in pressure adjustment.



## Maintenance Notes

- ▶ Frequent inspection should be made. A schedule for maintenance checks should be determined by the environment and frequency of use. It is recommended that it should be at least once a year.
- ▶ Perform visual, electrical and mechanical checks on all components on a regular basis.
  - ▶ Visually inspect for undue heating evidenced by discoloration of wires or other components, damaged or worn parts, or leakage evidence by water or corrosion in the interior.
  - ▶ Visually inspect to make sure that all electrical connections are clean and tight and that the device is operating properly.
- ▶ Contact the factory for evaluation of any failures or needed repairs.

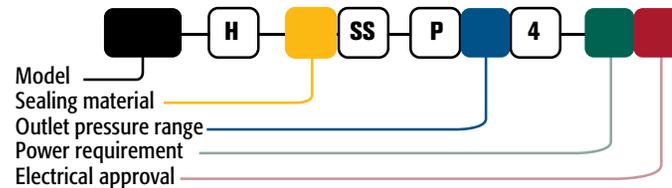
## Model Numbering & Additional Part Numbers

### Model Numbering & Additional Part Numbers

Your model number is determined by your specific needs. Materials of construction must be compatible with process fluid.

|                                     |   |   |           |           |           |          |
|-------------------------------------|---|---|-----------|-----------|-----------|----------|
| <b>Model</b>                        | JTR-H = JTR with self-limiting block heater | 901-JTR = JTR with temperature controller                                       |           |           |           |          |
| <b>Sealing material</b>             | 0 = Fluoroelastomer                         | JW = RGD resistant HNBR <small>(other materials available upon request)</small> |           |           |           |          |
| <b>Outlet pressure range (psig)</b> | 0 = 0-25                                    | 1 = 0-50  | 2 = 0-100 | 3 = 0-250 | 4 = 0-500 | 9 = 0-10 |
| <b>Power requirement</b>            | 1 = AC power                                | 2 = DC power (not available in Model 901-JTR)                                   |           |           |           |          |
| <b>Electrical approval</b>          | C = CSA                                     | A = ATEX/IECEx (not available in Model 901-JTR)                                 |           |           |           |          |

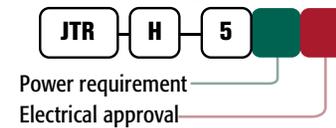
#### How to build the model number:



#### How to build the seal replacement kit model number:



#### How to build the heater replacement kit part number:



#### Spare Parts & Accessories (sold separately)

- Kozy Insulated Cover - Part # KZ-10-L (not for enclosures)
- 901 Heater Base & Controller Replacement - Part # 901-00-SS
- Manifold with pressure gauge, ball valve, & relief valve - for ordering information, refer to the Genie® Probe Regulator Accessory Manifold product sheet
- Inlet filter replacement - Part # JTR-5FSS
- Seat & Seal replacement kit - Seat, Valve Stem, Bias Spring & O-Rings



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# SL BLOCKTHERM C Self-limiting Block Heater

## 1 Application

The self-limiting electric conduction heater is designed to be attached directly to manifolds, measuring or analyzing instruments, control valves and similar equipment installed in hazardous areas. It heats the device by conduction. This is the easiest, safest and most economical method of freeze protection or temperature maintenance.

## 2 Features & Advantages

- Energy saving, high output
- Self-limiting, no fusible link or limiter
- Compact, requires very little space
- Adjusts automatically to the voltage

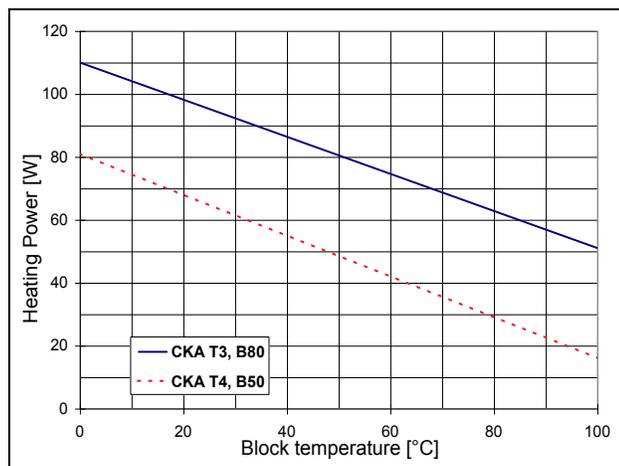
## 3 Description

BLOCKTHERM is a metal heating block with a ½" NPT thread to connect to a conduit. The PTC cartridge provides the heat that is transferred through the heater block to the device to which it is attached.

## 4 Performance

A conduction heater requires considerably less power than a finned convection heater, as the heat conduction qualities of metal are much better than those of air. The air surrounding the whole installation in the enclosure serves as additional insulation.

The diagram below shows the heating power at different block temperatures.



## 5 Explosion Protection

|                        |   |
|------------------------|---|
| CSA Certificate        | 1655545 (LR43674)                           |
| CSA Type of Protection | Cl. 1, Div. 1, Grp, ABCD<br>Cl. 2, Grp, EFG |

## 6 Technical Data

|                     |  |
|---------------------|--|
| Ingress Protection  | IP 68                                    |
| Nominal voltage     | 110 to 277 V                             |
| Ambient Temperature | -76 F to 302 F / -60° C to +150° C       |
| Connection cable    | 3x AWG16; Ø 0,37" / 9,4 mm               |
| Conduit connection  | ½" NPT                                   |
| Length of Cable     | 39" / 1 m                                |
| Dimensions          | see Types and drawings page 2            |
| Material            | seawater-proof aluminium, black anodized |

| SL BLOCKTHERM               |                 |               |                  |               |
|-----------------------------|-----------------|---------------|------------------|---------------|
| Profile                     | CKA T3          | CLA T3        | CKA T4           | CLA T4        |
| Temperature Class           | T3              |               | T4               |               |
| Nominal Power               | 80 W            |               | 50 W             |               |
| Length of Block (see Pt.11) | 3.5" / 90 mm    | 4.1" / 105 mm | 3.5" / 90 mm     | 4.1" / 105 mm |
| Weight                      | ca. 1,1lb/ 500g |               | ca. 1,1 lb/ 500g |               |

All INTERTEC explosion-proof heaters can also be supplied

- European standard (ATEX)  
e.g.: SL BLOCKTHERM **DKA** T3
- as Bi-Standard (see datasheet HD508)
- in a less expensive, **Non**-explosion-proof design  
e.g.: SL BLOCKTHERM **NKA**

## 7 Options

|         |   |
|---------|---|
| TSxx JC | Thermostat kit with 3 port junction box   |
| AM      | Failure alarm, opens at < 41 F / 5 °C and can only be ordered on the "L" version body |
| 3M      | Connection cable 10' / 3m long  |

Not all options can be combined.

### Ordering example:

SL BLOCKTHERM CKA T3 **3M**



# SL BLOCKTHERM C Self-limiting Block Heater

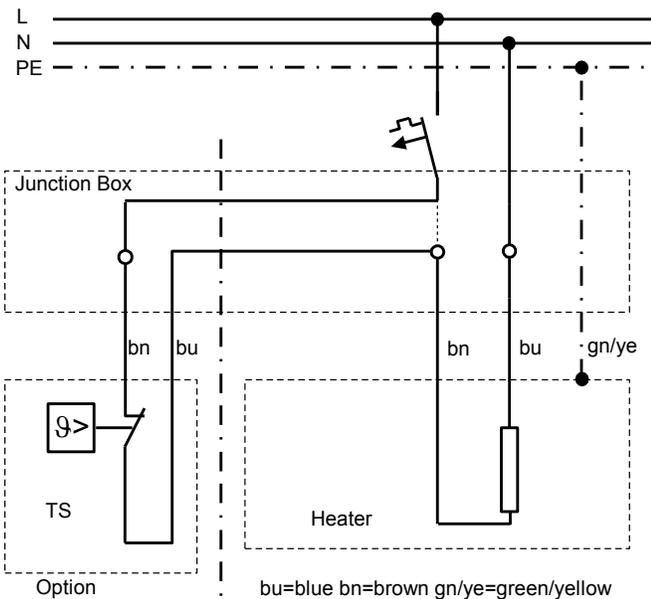
## 8 Temperature Limitation

PTC-Elements (Positive Temperature Coefficient) raise their electric resistance with rising temperature. High resistance results in low heating power. The heating power is very low at high temperatures so that the temperature cannot exceed the maximum temperature of the respective temperature class.

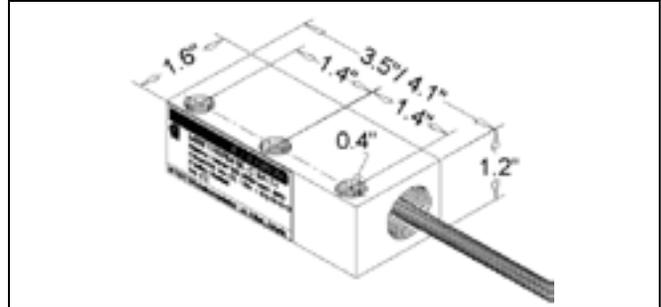
## 9 Supply Voltage

In addition to the above mentioned temperature characteristics, the PTC elements show a varistor effect. They control their resistance in accordance to the supply voltage. The nominal power supply voltage may be 110 to 277 V with the same heater. The output may be a maximum of 15% higher than that shown on the diagram on page 1.

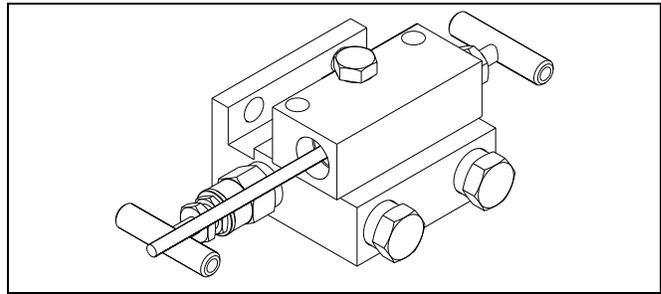
## 10 Electric Wiring



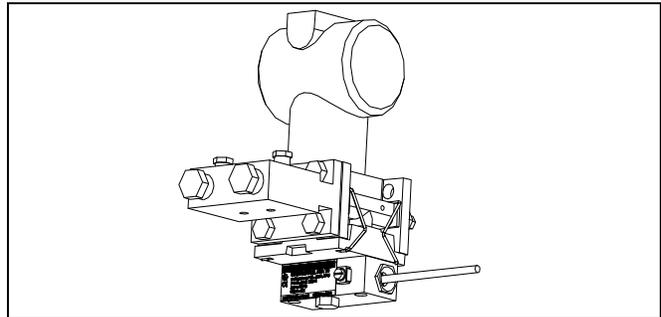
## 11 Dimensions



## 12 Mounting



The BLOCKTHERM heater dissipates the heat by conduction. It should be mounted to a flat surface of a heat conducting material (e.g. metal). One bolt is sufficient to mount the heater.



### Example:

The SL BLOCKTHERM CKA T4, which is attached to a Fisher-Rosemount 3051H Transmitter by means of an aluminum adapter block, guarantees freeze protection for the transmitter, manifold and impulse lines installed in an INTERTEC Instrument Enclosure at an outside temperature as low as -13 °F/ -25 °C.

As well the SL BLOCKTHERM CKA T3 will provide protection to -49 °F/ -45 °C.



# Operating Instructions for Heaters SL ...THERM



## 1 Application

SL ...THERM Heaters are manufactured in accordance with Directive 94/ 9EC (ATEX 100a) and are approved as conduction heaters (direct heating via flange-mounting to the instrument) and/or as convection heaters (heat transfer to the ambient air by natural convection) for use in Ex-zones 1 and 2 for explosion groups G/ D in temperature classes T3 to T6.

Optional thermostats can be integrated in the connecting cable.

The respective operating instructions have to be observed.

EC Type Examination Certificate

PTB 02 ATEX 1116X with Schedule and Supplements in German and English as well as IEC Scheme Certificate IECEX PTB 07.0055X please see [www.intertec.info](http://www.intertec.info).

## 2 Technical Data

|   |                       |
|---|-----------------------|
| Rated voltage   | 110 to 250 V AC or DC |
| Permissible operating voltage                                 | Max. 265 V AC or DC   |
| Rated current (taking into account VDE 0298)                  | Max. 10 A             |
| Ambient temperature   | - 60 to + 60 °C       |
| Max. permissible operating temperature range at normal rating | - 60 to + 180 °C      |
| Switching capacity of failure alarm                           | 10 A/ 250 V AC        |

## 3 Installation

Take care not to bend or exert any load on the connection cable during the transportation or unpacking of the heater.

To ensure effective convection, the heater should be installed in accordance to the installation and minimum clearance requirements described in the data sheets.

Please note that the absolute heat transfer coefficient of the surrounding enclosure must not be smaller than 0.5 W/ K. Also make sure to comply with the permissible operating temperature range.

Before entry in the customer-supplied junction box, the cable must be firmly installed, observing the permissible bending radius of 5 times the outside cable diameter.

In the dust - hazardous area with the applicable requirements of the EN 60079-14 have to be observed.

## 4 Connection

The heater must only be connected and secured by personnel technically qualified in accordance with the label specifications "rated voltage" and "rated current":

If operating voltage = rated voltage, the heater will generate the specified nominal output, with an allowance to voltage fluctuations of up to 10 %.

Circuit breakers suitable for up to 16 A can be used for short circuit and line protection.

A ground terminal is provided for the purpose of ensuring potential equalization. The terminal is marked as such.

In a TT or TN system, a residual current operated protective device (RCD) must be used whose rated response fault current does not exceed 100 mA. Residual current devices with a rated response fault current of 30 mA are to be preferred.

In an IT system, an insulation monitor must be used that switches off the power supply as soon as the insulation resistance falls to 50 ohms per volt of the rated voltage or lower (see DIN EN 60079-14:2008; section 7.4).

## 5 Initial Operation

The heater can be switched on as soon as it is properly installed in accordance with the installation instructions specified in points 3 and 4, ensuring free convection and the necessary clearances.

## 6 Maintenance

Due to the type of construction, the heater requires no maintenance.

Performance and safety tests can be conducted at intervals to be determined by the operator in compliance with current regulations.

Repair work must only be carried out by the manufacturer. In the dust - hazardous area with the applicable requirements of EN 60079-17 and the EN 60079-19 have to be observed.

## 7 Safety instructions

Installation of the heater in an exposed position involves a certain risk of injury, with especially the ends of the fins and hot surfaces posing a potential danger.

- Max. 160°C with T3 Heaters
- Max. 100°C with T4 Heaters
- Max. 70°C with T5 heaters
- Max. 50°C with T6 heaters