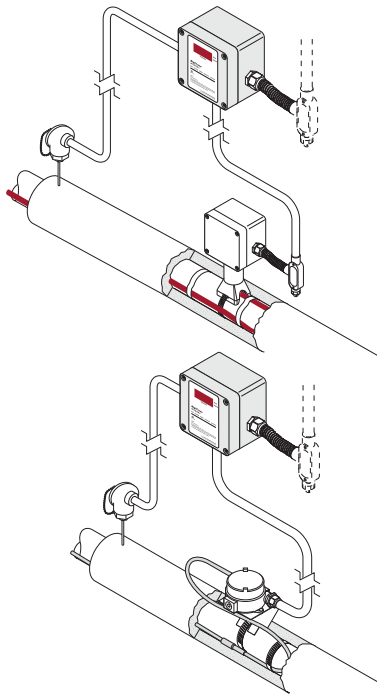


DigiTrace JBS-100-ECW-A

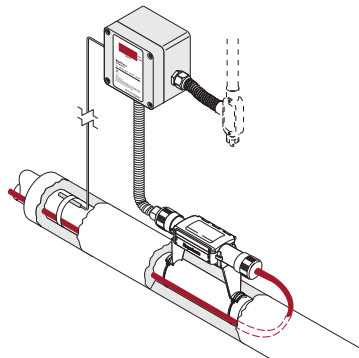
WALL-MOUNTED DIGITAL ELECTRONIC CONTROLLER

For nonhazardous locations

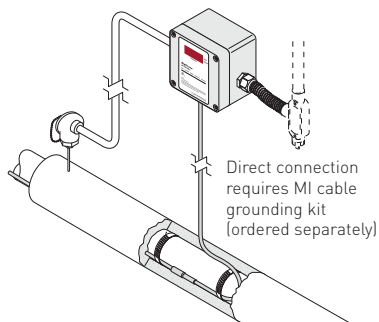
Heating cables using junction box



Heating cables using RayClic connection kit



MI heating cable using direct connection



PRODUCT OVERVIEW

The DigiTrace JBS-100-ECW-A is an electronic temperature controller that provides accurate control for all heating cables.

Housed in a NEMA 4X enclosure and designed to be wall mounted, the unit includes a window and a digital display that shows the monitored actual/set point temperatures and alarm conditions (RTD failure, high or low temperature) if detected. Alarm conditions can be remotely indicated via a form C dry contact. Status LEDs indicate whether the digital display is showing the set point or actual temperature.


Programming the set point temperature, deadband, and high and low alarm thresholds on the JBS-100-ECW-A is accomplished using the built-in digital display and push buttons.

The JBS-100-ECW-A is programmable to maintain temperatures of 425°F (218°C), can be used with voltages from 100 to 277 Vac, and is capable of switching current up to 30 Amps.

Temperature data is provided by a customer supplied 100-ohm platinum RTD, which can provide feedback for either temperature maintenance or ambient sensing for freeze protection.

The kit contains all the necessary materials for a complete installation. For a direct connection to a Pyrotenax MI cable, eliminating the need for a field power connection device, a grounding kit is required (ordered separately).

GENERAL

| | |
|----------------|---|
| Approvals | <p>Nonhazardous locations</p>  |
| Supply voltage | <p>100–277 Vac ±10% 50–60Hz Common supply for controller and heat tracing circuit</p> |

ENCLOSURE

| | |
|--|--|
| Protection | NEMA 4X |
| Material | Fiberglass reinforced polyester plastic |
| Entries | <p>2 x 3/4 in (19 mm) conduit entries for power and heater 1 x 1/2 in (13 mm) conduit entry for RTD sensor</p> |
| Relative humidity | 0% to 90%, noncondensing |
| Ambient installation and usage temperature | –40°F to 140°F (–40°C to 60°C) |

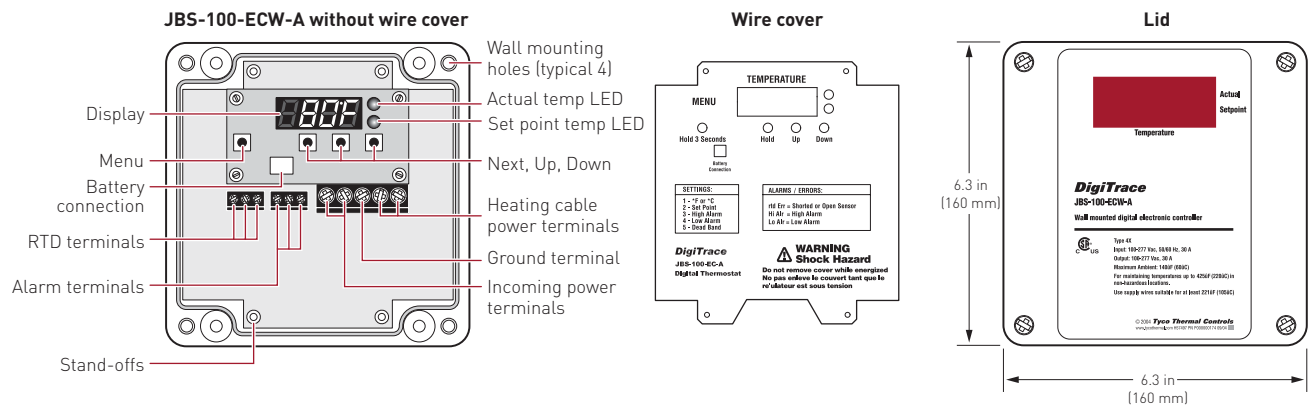
CONTROL

| | |
|---------------|--------------------------------------|
| Relay type | Double-pole, mechanical |
| Control range | 32°F to 425°F (0°C to 218°C) |
| Deadband | Adjustable 2°F to 10°F (2°C to 10°C) |
| Accuracy | ±3°F (1.7°C) of set point |

INPUT POWER

| | |
|------------------------|-----------------------------------|
| Voltage | 277 Vac nominal, 50/60 Hz maximum |
| Current | 30 A maximum |
| Circuit breaker rating | 40 A maximum |

ENCLOSURE



MONITORING AND ALARM OUTPUT

| | |
|-------------|---|
| Temperature | <p>Low alarm range: 20°F–420°F (–6°C–216°C) from set point, or OFF High alarm range: 38°F–482°F (3°C–250°C) from set point, or OFF</p> |
| RTD failure | Shorted or open RTD sensor |
| Alarm relay | <p>Form C: 2 A at 277 Vac, 2 A at 48 Vdc Normally energized; changes state upon an alarm</p> |
| Voltage | Alarm relay changes state upon loss of voltage to the controller |

TEMPERATURE SENSOR (NOT INCLUDED)

| | |
|------------|---|
| Input type | 100 Ω platinum RTD, 3 wire $\alpha = 0.00385 \Omega/\Omega/^\circ\text{C}$ |
|------------|---|

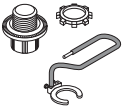
PROGRAMMING AND SETTING

| | |
|-------------------|---|
| Method | Programmable at controller – Set/Up/Down push buttons on front panel |
| Units | $^\circ\text{F}$ or $^\circ\text{C}$ |
| Digital display | Four numeric display digits for parameter and error/alarm indication |
| LEDs | Indicate actual and set point from display |
| Memory | Nonvolatile, restored after power loss |
| Stored parameters | Parameters can be programmed without power supply (external battery) and parameters are stored in nonvolatile memory. |
| Alarm conditions | Low/high temperature and RTD failure (open or shorted) |

CONNECTION TERMINALS

| | |
|----------------------|------------------------------------|
| Power supply input | Screw rising cage clamp, 18–6 AWG |
| Heating cable output | Screw rising cage clamp, 18–6 AWG |
| Ground | Screw rising cage clamp, 18–6 AWG |
| RTD | Screw rising cage clamp, 22–14 AWG |
| Alarm | Screw rising cage clamp, 22–14 AWG |

ORDERING DETAILS**JBS-100-ECW-A**

| Description | Catalog number | Part number | Weight/lbs |
|---|----------------|-------------|------------|
| Wall mounted digital electronic controller | JBS-100-ECW-A | P000000181 | 4.0 |
| Spare Parts and Accessories | | | |
| MI cable grounding kit (required if installing MI heating cable) | MI-GROUND-KIT | P000000279 | 0.2 |
|  | | | |
| Replacement controller unit | JBS-100-EC | P000000217 | 1.0 |



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