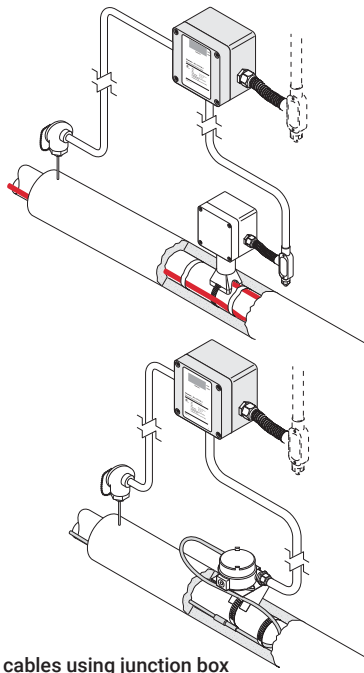
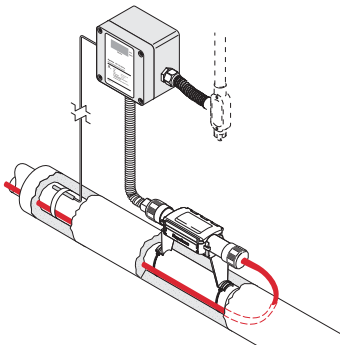


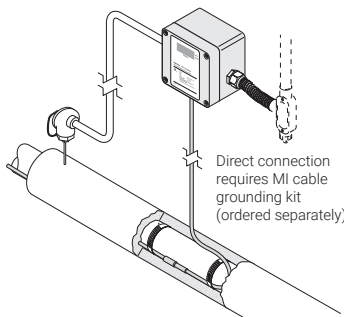
WALL-MOUNTED DIGITAL ELECTRONIC CONTROLLER FOR NONHAZARDOUS LOCATIONS



Heating cables using junction box



Heating cables using RayClic connection kit



MI heating cable using direct connection

PRODUCT OVERVIEW

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

Housed in a TYPE 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 RAYCHEM 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 \pm10% 50–60Hz Common supply for controller and heat tracing circuit</p>

ENCLOSURE

Protection	TYPE 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)

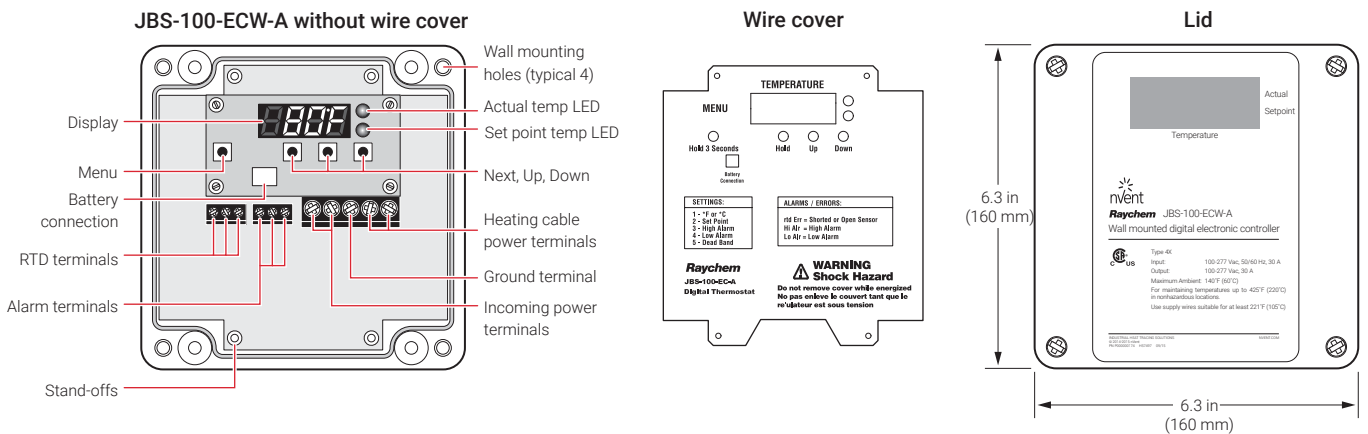
CONTROL

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	\pm 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

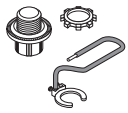
Method Programmable at controller – Set/Up/Down push buttons on front panel
Units $^\circ\text{F}$ or $^\circ\text{C}$
Digital display Four numeric display digits for parameter and error/alarm indication
LEDs Indicate actual and set point from display
Memory Nonvolatile, restored after power loss
Stored 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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