

# Elexant 4010i Heat Trace Controller



nVent RAYCHEM Elexant 4010i Series is a range of compact, full-featured, touch screen based, single-point heat-tracing controllers, with ground fault protection. It provides control and monitoring for both freeze protection and process temperature maintenance. Available with either an electromechanical relay (EMR) for use in non hazardous areas, or solid-state relay (SSR) for use in non hazardous and Class I Div. 2 / Zone 2 hazardous locations. Capable of controlling up to 32A at 277 Vac.

## FEATURES

Global approvals for CID2/Zone 2, ATEX Zone 2, IEC Ex Zone 2

Ready to install: no need for custom panel design or field assembly

Flexible control options: up to three directly- connected temperature sensors; also supports 4-20 mA inputs, allowing the use of external temperature sensor converters with thermocouples or other sensor types; also line sensing, ambient sensing, proportional ambient sensing control (PASC) and power limiting modes.

Flexible monitoring options: ground fault, temperature, current and voltage to ensure system integrity

Multiple communication ports: RS485 and Ethernet, readily connected to a distributed control system (DCS); support both the Modbus RTU and Modbus/TCP protocols; can network to a host PC running Windows®-based nVent RAYCHEM Supervisor software for central programming, status review, and alarm annunciation

Reliable during long life: 10 year product warranty available

Soft-Start, ground fault trip and high/low temperature limit features for equipment protection

Multiple communication ports: RS485 and Ethernet, readily connected to a distributed control system (DCS)

Support both the Modbus RTU and Modbus/TCP protocols

Automatic network configuration with DHCP, or static IP configuration

Firmware updates using USB thumb drive

Multi-language interface: English, French, German, Spanish, Russian

Two multi-purpose digital inputs for connection to external dry (voltage free) contact or DC voltage

## SPECIFICATIONS

|                            |             |
|----------------------------|-------------|
| <b>Current Alarm:</b>      | 0.1 – 100 A |
| <b>Autocycle:</b>          | 1 – 750 h   |
| <b>NEMA Rating:</b>        | 4X          |
| <b>Ground Fault Alarm:</b> | 10 – 500 mA |

|                                            |                                                                       |
|--------------------------------------------|-----------------------------------------------------------------------|
| <b>Ethernet:</b>                           | 10/100 Base-T                                                         |
| <b>Max Power Supply Input Wire Size:</b>   | 16.8 mm <sup>2</sup>                                                  |
| <b>Max Heating Cable Output Wire Size:</b> | 16.8 mm <sup>2</sup>                                                  |
| <b>Control Max Current:</b>                | 32A @ 40°C, De-Rated to 24A @ 50°C and Further De-Rated to 16A @ 60°C |
| <b>Max Ground Terminal Wire Size:</b>      | 33 mm <sup>2</sup>                                                    |
| <b>Voltage Alarm:</b>                      | 80 – 300 V                                                            |
| <b>Control Max Voltage:</b>                | 277 VAC Nominal, 50/60Hz                                              |
| <b>Temperature Control Range:</b>          | –200 to 700 °C                                                        |
| <b>Temperature Alarm:</b>                  | –200 to 700 °C                                                        |
| <b>Operating Temperature:</b>              | –40 to 60 °C                                                          |
| <b>Relative Humidity:</b>                  | 0% to 90%, Noncondensating                                            |
| <b>Communication:</b>                      | RS-485; Ethernet                                                      |
| <b>Communication Protocol:</b>             | Modbus/TCP; Modbus RTU                                                |
| <b>RS-485 Cable Type:</b>                  | One 2-Wire, Shielded Twisted Pair                                     |

Table 1/2

| Catalog Number | Item Name       | Material                 | IP Rating | Control Relay Type       | Control Algorithms                                | Height |
|----------------|-----------------|--------------------------|-----------|--------------------------|---------------------------------------------------|--------|
| 10380-009      | 4010i-EMR-IS-FW | Fiber-Reinforced Plastic | IP64      | Double-Pole, Mechanical  | On/Off, PASC, Always On, Always Off               | 305 mm |
| 10380-012      | 4010i-SSR-IS-SW | Stainless Steel, 304     | IP66      | Double-Pole, Solid-State | On/Off, Proportional, PASC, Always On, Always Off | 308 mm |
| 10380-011      | 4010i-EMR-IS-SW | Stainless Steel, 304     | IP66      | Double-Pole, Mechanical  | On/Off, PASC, Always On, Always Off               | 300 mm |
| 10380-010      | 4010i-SSR-IS-FW | Fiber-Reinforced Plastic | IP64      | Double-Pole, Solid-State | On/Off, Proportional, PASC, Always On, Always Off | 308 mm |

Table 2/2

| Catalog Number | Item Name       | Width  | Depth  | Intrinsically Safe Barriers on RTD Inputs |
|----------------|-----------------|--------|--------|-------------------------------------------|
| 10380-009      | 4010i-EMR-IS-FW | 226 mm | 156 mm | Yes                                       |
| 10380-012      | 4010i-SSR-IS-SW | 231 mm | 191 mm | Yes                                       |
| 10380-011      | 4010i-EMR-IS-SW | 231 mm | 160 mm | Yes                                       |

| Catalog Number | Item Name       | Width  | Depth  | Intrinsically Safe Barriers on RTDInputs |
|----------------|-----------------|--------|--------|------------------------------------------|
| 10380-010      | 4010i-SSR-IS-FW | 226 mm | 184 mm | Yes                                      |

## WARNING

nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at [www.nvent.com](http://www.nvent.com) and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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