Terminator ECM™

Electronic Control Module

Application . . .

The Terminator ECM is an electronic control module specifically designed for controlling electric heat trace circuits used in freeze protection and temperature maintenance applications. Available in both pipe/vessel (XP) and wall (WP) mount options. The ECM serves as both the temperature control as well as the sensor and power connection for a heat trace circuit.

The ECM is housed in a glass reinforced nonmetallic enclosure with an environmental protection rating of IP66. Depending on options selected, the ECM may be used as a combination temperature control and limiter, a temperature controller, or a temperature limiter. Rotary switches are provided for adjusting temperature control and limiter set points. The standard version of the ECM communicates on a physical network of RS485 by using a Mod-bus RTU communication protocol. Additionally, two alternate communication network options are available: CAN-Bus or 4-20mA output.

The ECM is approved for use in both ordinary (nonclassified) and hazardous (classified) areas. The ECM-OS is available in a stainless steel junction box for use in offshore applications.

Ratings . . .

Operating/control voltage120 Vac +10%/-15% (50/60 Hz) 240 Vac +10%/-15% (50/60 Hz)
Operating ambient range60°C to 55°C
Minimum ambient storage range74°C
Control switch type optionsSPST and DPST
Switching current ratings ¹
SPST30/30/20 amps (25°C, 40°C, 55°C)
DPST28/23/17 amps (25°C, 40°C, 55°C)
Alarm output current rating 2 Amps
Electrical connection terminal blocks ³
Adjustable temp. control range 0° to 500°C
Temperature measurement range60° to 500°C
Temp. measurement accuracy \pm 1°C (0°C to \pm 55°C ambient)
\pm 2°C (0°C to -60°C ambient)
Temperature sensor(s)100 Ohm three wire Platinum RTD
High temp. alarm/trip programmable (auto or manual reset)
RTD input circuitryintrinsically safe (EXi)



1. When located outdoors and subject to solar gain, some current de-rating will be required. Contact Thermon for additional information.

Life expectancy......100,000 cycles

- 2. The pipe mount expediter has a maximum pipe exposure temperature of 232°C.
- 3. The terminal blocks consist of:
 - (6) 10mm2 line/load/PE terminals
 - (3) 3mm² comm. port terminals
 - (3) 3mm² alarm relay terminals
 - (2 x 3) 2.5mm² sensor terminals
 - See installation instructions for maximum wire size.
- 4. Refer to Form TEP0010U, System Accessories Heat Tracing Cabels for additional accessories.

Product Specifications





Construction . . .

- Junction Box, Glass-Reinforced Polymer
- Pipe-Mount Expediter², Glass-Reinforced Polymer
- Three-wire RTD Sensor (order separately) 3
- Stainless Steel Mounting Bracket

Certifications/Approvals . . .





II 2 G Ex e mb [ib]ib IIC T4 Gb SIRA 12ATEX5239X II 2 D Ex tb IIIC T135°C IP66 Db

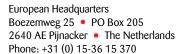




International Electrotechnical Commission IEC Certification Scheme for Explosive Atmospheres SIRA 12.0103X

Product Features...

- · Encapsulated electronics and control.
- One temperature control module for wide range of temperature control and limiter applications
- Energy saving accurate electronic temperature control action
- Data highway communication capability
- Selectable automatic or manual reset limiter action
- Control/limiter setting in degrees Centigrade or degrees Fahrenheit
- Combines power junction box and control module in one unit



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For the Thermon office nearest you visit us at . . . www.thermon.com

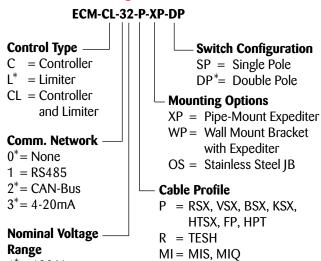


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Product Specifications

Product Reference Legend...

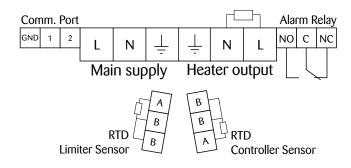


Note: * = Optional

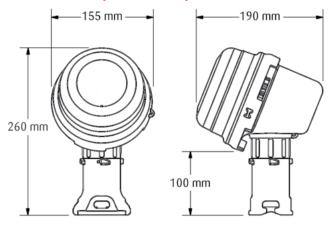
 $1^* = 120 \text{ Vac}$

2 = 240 Vac

Typical Wiring Diagram. . .

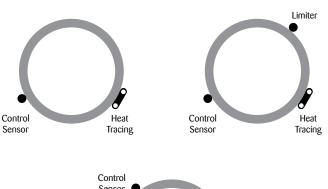


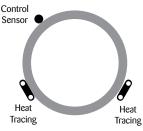
Terminator with Pipe Mounted Expediter...



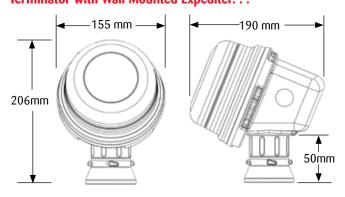
Heating Cable vs. Controller/Limiter Sensor Placement 1...

M = TEK





Terminator with Wall Mounted Expediter. . .



Notes . . .

1. When limiting the heat trace sheath temperature in a controlled design approach, it is recommended that the limiter sensor be installed on the heated surface as shown. Based on the limiter set point chosen, refer to CompuTrace for maximum sheath temperature. If locating the limiter sensor directly on the heat trace or in some other manner, additional offsets in the limiter set point are required to properly limit the maximum sheath temperature. Contact Thermon for details.

ECM-OS with Stainless Steel Junction Box. . .

