



PRODUCT SPECIFICATIONS

# TraceNet™ ECM™

ELECTRONIC CONTROL MODULE

### APPLICATION

The TraceNet 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 (XP) and wall (WP) mount version. The ECM serves 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 of temperature control and limiter, or as a temperature controller. 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, an alternate 4-20mA communication network output option is available.


The ECM is approved for use in both ordinary (non-classified) and hazardous (classified) areas.

### RATINGS

- Operating/control voltage ... 120 Vac+10%/-10% (50/60 Hz)  
230 VAC+10%/-10% (50/60 Hz)
- Operating ambient range .....-60°C to 55°C
- Minimum ambient storage range ..... -74°C
- Control switch type options.....SPST and DPST
- Switching current ratings<sup>1</sup>
  - SPST..... 30/30/20 amps (25°C, 40°C, 55°C)
  - DPST ..... 28/23/17 amps (25°C, 40°C, 55°C)
- Alarm output current rating .....2 A
- Electrical connection.....terminal blocks<sup>3</sup>
- Adjustable temp. control range.....0° to 500°C
- Measurement range .....-60° to 500°C
- Measurement accuracy (ambient)
  - ± 1°C (0°C to +55°C)
  - ± 2°C (0°C to -60°C)
- Temperature sensor(s) 100 Ohm three wire Platinum RTD
- High temp. alarm/trip .....programmable  
(auto or manual reset)
- RTD input circuitry .....intrinsically safe (Ex i)
- Life expectancy.....100,000 cycles

### CERTIFICATIONS/APPROVALS

**CE**  Certificate SIRA 12ATEX5239X  
II 2(2) G Ex eb mb [ib] IIC T4 Gb  
II 2(2) D Ex tb IIIC T135°C IP66 Db

**IEC**  Certificate IECEx SIR 12.0103X  
Ex eb mb [ib] IIC T4 Gb  
Ex tb IIIC T135°C Db

ECM has additional hazardous approvals including: CSA, TRCU, TCCE, INMETRO

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### CONSTRUCTION

- 1 Pipe-mount expediter<sup>2</sup>, glass-reinforced polymer
- 2 Three-wire RTD sensor (order separately)
- 3 Junction box, glass-reinforced polymer
- 4 Stainless steel mounting bracket

### 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

### Notes

1. When located outdoors and subject to solar gain, some current de-rating will be required. Contact Thermon for additional information.
2. The pipe mount expediter has a maximum pipe exposure temperature of 250°C.
3. The terminal blocks consist of:
  - (6) 10 mm<sup>2</sup> line/load/PE terminals
  - (3) 3 mm<sup>2</sup> comm. port terminals
  - (3) 3 mm<sup>2</sup> alarm relay terminals
  - (2 x 3) 2.5 mm<sup>2</sup> sensor terminals
 See installation instructions for maximum wire size.
4. Refer to Form TEP0010U, System Accessories - Heat Tracing Cables for additional accessories.



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## PRODUCT REFERENCE LEGEND

ECM-CL-12-P-XP-SP

### Control Type

C = Controller  
(with low temp alarm)

CL = Controller and Limiter

### Switch Configuration

SP = Single Pole  
DP = Double Pole

### Mounting Options

XP = Pipe-Mount Expediter  
WP = Wall Mount Bracket with Expediter

### Cable Profile

P = RSX, VSX, BSX, KSX, HTSX, FP, HPT  
R = TESH  
MI = MIS, MIQ

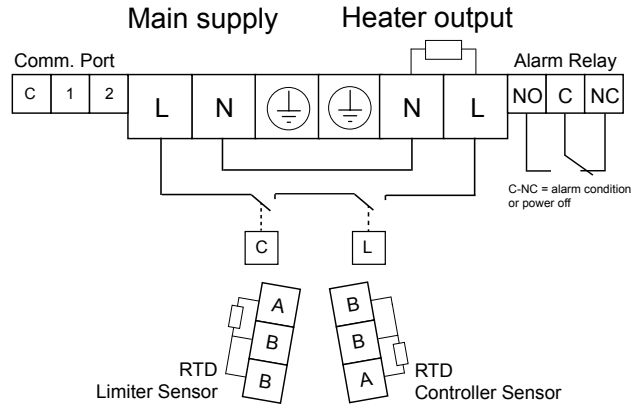
### Comm. Network

1 = RS485  
3 = 4-20mA

### Nominal Voltage Range

1 = 120 Vac  
2 = 230 Vac

## TYPICAL WIRING DIAGRAM (for controller with limiter) Single Pole



## Double Pole

