

**BTU3 Hydronic Metering Control**  
***Self-Contained Interoperable Controller Model UCP-1***

SUPERSEDES: March 9, 2011

EFFECTIVE: June 11, 2012

Job: \_\_\_\_\_ Engineer: \_\_\_\_\_  
Contractor: \_\_\_\_\_ Rep: \_\_\_\_\_  
Date: \_\_\_\_\_ Tag/Item #: \_\_\_\_\_

## **BTU3**

The BTU3 Hydronic Metering Control is a microprocessor-based controller used to monitor BTU consumption or water volume usage for up to three zones.

### **Overview**

Analog inputs are provided for the supply water temperature, return water temperature and the flow for up to three zones.

The controller is based on LonWorks<sup>®</sup> networking technology. It can be networked to a higher-level control system for monitoring and control applications.

### **Features**

- Supply water temperature measurement for up to three zones
- Return water temperature measurement for up to three zones
- Flow for up to three zones
- Calculation of momentary Energy Rate, Flow Rate for up to three zones
- Accumulation of BTU's per day and total volume for up to three zones
- Accumulation of Volume per day and total volume for up to three zones
- 31-day logs for Energy consumption and Flow for up to three zones
- Renaming of zones/consumers up to 17 characters
- Pipe sizes of 1/4", 1/2", 3/4", 1", and 1.25" (up to 105 GPM)
- Configurable for different Flow Meter sizes
- Configurable for different Water-Glycol ratios
- Configurable for different Temperature sensor types (RTD, VFTS/MTS or Precon)
- LonWorks<sup>®</sup> interface to building automation systems and host products
- Automatic configuration with a Local Control Interface (LCI) touchscreen

# Specifications

## Electrical

### Inputs

- Sensor cabling: twisted shielded pair, 18 AWG recommended—20 feet max. (6.10 meters)
- Resolution: 10 bit

### Supply Water Temperature

- 0-5VDC VFTS/VTs, RTD Sensor, Precon Type II or III 10K Thermistor

### Flow for three different zones

- 0-5VDC signal from a VFTS sensor

### Return Water Temperature for three different zones

- Precon Type II or III Thermistor, RTD, VFTS/VTs 0-5VDC

### Recommended Sensor Wire

Cable Type	Pairs	Details	Taco Catalog No.
18AWG	1	Stranded Twisted Shielded Pair, Plenum	WIR-018

### FTT-10A Network

- Speed: 78KBPS
- 42.4 Volts DC max
- Cabling: Maximum node-to-node distance: 1312 feet (400 meters)
- Maximum total distance: 1640 feet (500 meters)

Cable Type	Pairs	Details	Taco Catalog No.
Level 4 22AWG (0.65mm)	1	Unshielded, Plenum, U.L. Type CMP	WIR-022

For detailed specifications, refer to the *FTT-10A Free-Topology Transceiver User's Guide* published by Echelon Corporation ([www.echelon.com/support/documentation/manuals/transceivers](http://www.echelon.com/support/documentation/manuals/transceivers)).

## Power

### Power Requirements

- 24VAC (20VAC to 28VAC), requires an external Class 2 supply

### Power Consumption

- 7.2W with no external loads, maximum limited by the Class 2 supply rating

## Mechanical

### Housing

- Dimensions: 5.55" (141mm) high, 6.54" (166 mm) wide, 1.75" deep (44 mm)
- PPE + PS

### Weight

- Controller Weight: 0.70 pounds (0.32 kilograms)
- Shipping Weight: 1.0 pounds (0.46 kilograms)

## Electronics

- Processor: 3150 Neuron 10 MHz
- Flash: 48 Kilobytes
- SRAM: 8 Kilobytes
- Termination: 0.197" (5.0 mm) Pluggable Terminal Blocks, 14-22 AWG

## Environmental

- Temperature: 32 °F to 140 °F (0 °C to 60 °C)
- Humidity: 0 to 90%, non-condensing

## Agency Listings

- UL Listed for US and Canada, Energy Management Equipment PAZX and PAZX7.

## Agency Compliances

- FCC Part 15 Class A

# CONTROLS MADE EASY®

**Taco Electronic Solutions, Inc.**, 1160 Cranston Street, Cranston, RI 02920  
Telephone: (401) 942-8000 FAX: (401) 942-2360.

**Taco (Canada), Ltd.**, 8450 Lawson Road, Unit #3, Milton, Ontario L9T 0J8.  
Telephone: 905/564-9422. FAX: 905/564-9436.

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