CCU2 Chiller Control

Self-Contained Interoperable Controller Model UCP-1 for Software Version 2

SUPERSEDES: April 26, 2011   EFFECTIVE: August 9, 2013

Job: _____   Engineer: _____

Contractor: _____   Rep: _____

Date: _____   Tag/Item #: _____

CCU2

The iWorx® CCU2 chiller controller is a stand-alone microprocessor based controller for supervisory central chiller control applications that utilize one air-cooled chiller or a water-cooled centrifugal chiller with cooling tower.

Overview

Analog inputs are provided for chiller water supply temperature, chiller water return temperature, condenser water supply temperature, and condenser water return temperature. Digital inputs are provided for chiller pump flow proof, condenser pump flow proof, a cooling water demand proof, and a chiller general alarm.

The Chiller Control incorporates digital outputs in the form of triacs for chiller low limit status and the start and stop of the chiller and condenser pumps. In addition, three analog outputs are provided to control a modulated bypass valve, a variable speed fan, and set the adjustable setpoint of the chiller.

The controller is based on the LONWORKS® networking technology. The controller can be networked to a higher-level control system for monitoring and control applications, and provides chilled water in response to demand from other controllers.

Features

- Adjustable chiller setpoint
- Modulated cooling tower bypass valve
- Modulated cooling tower fan
- Modulated chiller temperature output
- Minimum cycle timers for chiller On and Off
- Runtime accumulation for chiller, pumps, and fan
- Lead/Lag operation of water pumps
- Maximum of 60 cooling zones
- Proportional + Integral (P+I) control of the modulated bypass valve
- Proportional + Integral (P+I) control of a variable speed fan
- OAT low limit protection
- Flow proof inputs
- Chiller enable/demand input
- Chiller alarm input
- Automatic configuration with the LCI
- Alarm/Event reporting

Specifications

Electrical Inputs

Resolution: 10 bit

Chiller Supply Temperature, Chiller Return Temperature, Condenser Supply Temperature, Condenser Return Temperature: Precon Type III 10K thermistor

Chiller Alarm, Chilled Water Demand, Chiller Flow Proof, Condenser Flow Proof: Dry Contact, Normally Open, 5 Volts DC Max

Electrical Outputs

Chiller Pumps 1 & 2, Condenser Pumps 1 & 2, Chiller Low Limit: 24 Volts AC, 1A @ 50C, 0.5A @ 60C, limited by the Class 2 supply rating

Chiller Setpoint, Cooling Tower Valve, Cooling Tower Fan: 0-10 Volts DC, 2K Ohm minimum load, 8 bit resolution

Recommended Sensor Wire

Maximum Length: 500 feet (152 meters)

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

Recommended LON Bus FTT-10A Network Wire

Speed: 78KBPS

Max Volts: 42.4 Volts DC

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

Mechanical

Dimensions: 5.55" (141mm) high, 6.54" (166 mm) wide, 1.75" deep (44 mm), ABS

Controller Weight: 0.70 pounds (0.32 kilograms)

Shipping Weight: 1.0 pounds (0.46 kilograms)

Processor: 3150 Neuron 10 MHz

Flash: 48 Kilobytes

SRAM: 8 Kilobytes

Termination: 0.197" (5.0 mm) Pluggable Terminal Blocks, 14-22 AWG

Temperature: 32 °F to 140 °F (0 °C to 60 °C)

Humidity: 0 to 90%, non-condensing

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

FCC Part 15 Class A compliant

CONTROLS MADE EASY®

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