

16430S10- BTU METER, CHILLED WATER (STAND-ALONE) TREATED CHILLED WATER WITH FMS INTERFACE

GENERAL

Energy Computer: Stand-alone Microprocessor Based System

Setup Memory: Non volatile totalized energy and setup information memory such that loss of power does not result in loss of this information. Also, system must automatically resume, without human intervention, pre-power failure operation when normal power is restored.

TEMPERATURE SENSORS

Thermowell Type
1000 OHM Wire Wound RTD
1/2 inch NPT process and conduit connection
Stainless steel 1/4 inch sheath
Provided in matched pairs
Must meet Din 43760 Class A Standard
Range: 0 - 120 degree F
Cast iron connector head 1/2" NPT (all connections)
Supply temperature min. 38 degree F, max. 80 degree F usual 55 degree F

FLOW SENSOR SYSTEM (Ultrasonic unless otherwise marked below)

- Ultrasonic (wide beam) per U.K. Standard 16430S11.
- Pitot Tube per U.K. Standard 16430S__.
- Other _____ per U.K. Standard 16430S__.

LOCAL OUTPUT INDICATION

Digital display of instantaneous energy flow (BTU)
Digital display of BTU-Field programmable divide select
Digital display of instantaneous temperatures T1 and T2 (may be selectable)

REMOTE OUTPUTS FOR EMS INTERFACE

Pulse output representing integral energy (BTU) (10 PPS Max) min. make 40 ms, min. break 25 ms, dry relay contact type.
4-20 MA representing temperature T1
(NOTE: 0-10 VDC may be acceptable with UKPPD Engineering approval)
4-20 MA representing temperature T2
(NOTE: 0-10 VDC may be acceptable with UKPPD Engineering approval)
TTL output of BTU system fault alarm
RS-232C I/O connection equipped for remote output of all data and diagnostic codes (language - Basic, protocol - ASCII).

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ENCLOSURE

All system components to be enclosed in a NEMA 4 enclosure and all displays and alarms to be visible with enclosure shut.

POWER 115 V.A.C., 60 HZ.

ENVIRONMENT Ambient Temperature: 0 - 120 degree F

LIGHTNING PROTECTION (To be provided by system installer)

All electric/electronic equipment supplied must be internally or externally lightning/transient surge voltage protected on all external power feeder and input/output connections which are subject to surge voltage (lightning) transients. Provide high speed clamping elements which meet IEEE. STD. 472 (SWC) on all digital or analog data channels.

NOTE: If this spec. applies to systems which are to be installed in underground pits, the 115 V.A.C. supply voltage and all remote input/outputs must be lightning protected.

ACCURACY

System outputs must be within 3% of actual measured quantities over the complete operating range.

Basic Accuracy - 3% actual BTU

Linearity Error - 0.25%

Repeatability Error - 0.25% Max.

DOCUMENTATION

Provide three (3) complete sets of system documentation. Documentation to include installation, calibration, operation, maintenance and repair manuals of sufficient detail to enable customer to install, calibrate, operate, maintain and repair the complete system. Documentation also to include circuit schematics, wiring interconnection diagrams and necessary mechanical drawings.

ACCEPTABLE MANUFACTURERS

System 990 by Controlotron, 155 Plant Avenue, Hauppauge, N.Y. 11788 or equal.

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