Submittal Data

TCS Basys Controls®

SZ2166

Chiller Controller

SUPERTROL™ Communicating Controls

Description

The SZ2166 is a microprocessor based chiller controller. It is designed for use on multi-stage chiller applications and includes boiler support and control.

The SZ2166 features:

- Stand-alone or network operation
- 365-day time clock with two holiday schedules, automatic leap year and daylight savings correction
- No backup battery required for control parameters, schedule or clock
- Hot water supply and return temperature inputs
- Chilled water supply and return temperature input
- Two digital outputs for boilers
- One digital output for alarm
- Mixed water temperature input
- Outdoor air temperature input
- Separate set point for thermal storage sequence
- Outdoor air reset control
- Two digital inputs for pump status
- External time clock input
- Six digital outputs for chillers, pumps and chiller stages
- Adjustable offsets and differentials on digital outputs
- Lead/Lag sequencing of up to six chillers
- Two modulating analog outputs for valves and VFDs
- Adjustable P+I+D control on modulating outputs
- LEDs for monitoring status
- Automatic rotation of pumps
- Automatic rotation of chiller and boiler stages
- Pump lube feature
- Local and remote override capability

Specifications

General

Accuracy: +/- 0.5%
Programming: EIA RS485 interface
Communications: RS485, half duplex
Memory backup: Non-volatile EEPROM, no battery required

Environmental

Operating temperature: 32 to 131°F (0 to 55°C)
Operating humidity: 0 to 100% RH, non-condensing
Storage temperature: 14 to 140°F (-10 to 60°C)

Electrical

Supply voltage: 24 VAC +/-20%
Inputs: Six 1000 Ω PtRTD, momentary override and five digital (dry contact)
Range: Chilled water supply and return: 0 to 100°F
Hot water supply and return: 40 to 240°F
Mixed water: 20 to 220°F
Outdoor air: -40 to 160°F
Outputs: Nine digital (SPST dry contact, 24 VAC @ 2A) and two 4 to 20 mA DC analog
Max. load resistance (analog output): 600 Ω
Common mode rejection: 100 db @ 60 Hz
Power consumption: 15 VA max.

Specifications subject to change without notice.

2800 LAURA LANE • MIDDLETON, WI 53562 • (800) 288-9383 • FAX (608) 836-9044 • www.tcsbasys.com

Specification Suggestions

Chiller controllers shall be microprocessor based with suitable I/O points to execute the required sequences and shall be of the low voltage type.

Chiller controllers shall have 365-day time clock with vanishing holiday programming, two setback intervals per day and automatic leap year and daylight savings adjustment. Controllers shall accept six platinum RTD inputs for chilled and hot water supply and return temperatures, mixed water temperature and outdoor air temperature. Controllers shall have two analog outputs for valves and variable speed drive. Other control options shall include fully adjustable reset control, automatic rotation of pumps and automatic rotation of chiller and boiler stages. Controllers shall have sequences for ice making and pump lubrication. Chiller controllers shall have digital inputs for flow proving and digital output for local alarm. Controller shall have adjustable offsets and differentials on digital outputs and P+I+D control algorithm on modulating outputs. Controller must support non-volatile memory, so that in the event of power loss, all programmed operating parameters shall be unaffected without the use of battery backup. All control functions shall continue in the event of a communications failure.

Communications protocol shall be provided in accordance with EIA RS485 standards. All firmware communications protocol and command codes shall be published, open and non-proprietary. Chiller control modules shall be model SZ2166 as manufactured by TCS/Basys Controls.

Ordering Information

Part No.	**Description**
SZ2166	Chiller controller with boiler support
	SZ2166 Accessories
TQ Series	Mounting accessories
TS Series	Platinum RTD temperature sensors
PS Series	Current switches
PT Series	Control transformers
QD1010	RS485 to RS232 communications converter (used for programming)
REVPRO	Revelation Professional software (used for programming)

Dimensions

Note: inches [mm]

SZ2166