

Geeking Out In The Cellar

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The Why

- Sadly fermentation control is an often overlooked aspect in Homebrewers' Setup
- High Temperatures
 - Causes Off-Flavors from Esters and Fusel alcohols that the yeast create.
 - Yeast can't finish due to dieing off from Heat.
- Cold Temperatures
 - Yeast slow to start from being too cool.
- Inconsistency between batches.

The Low Tech Way

- Free Range
- Get out of the Closet
- Water/T-Shirt Bath
- Blanket Wrap



In the Middle

- Ranco Controller
 - Single Stage - \$100
 - Two Stage - \$140
- Johnson Controller - \$90
- Love TS Controller - \$100
 - setup required

Geeking Out

- Controlling the Cellar with One Controller
 - Heating and Cooling
 - Keezer / Lagering
 - Glycol System
- Email Notifications
- Logging

Controlling the Cellar with One Controller

Heating and Cooling

- Multiple Fermenting Vessels
- Set the temperature for a fermenting vessel.
 - Maintain Setpoint within Hysteresis
- Multiple Zones for each Vessel
 - Heating - Heating Pad
 - Cooling
 - Refrigerator
 - Freezer

Controlling the Cellar with One Controller

Keezer / Lagering

- Control the correct temperature for serving your homebrew
- Lagering in the Keezer
 - Add a heating pad to add heat if needed.

Controlling the Cellar with One Controller

Glycol System

- Cooling
 - Control your cooling system
 - Control the pumps
 - Control the valves to the fermenting vessel
- Heating
 - Add a second Glycol system with a heating element
 - Add additional valves to control the flow

Notifications

Alerts

- Controller
 - View the alerts when you get home
- Email
 - Receive notification of alerts on your phone

Logging

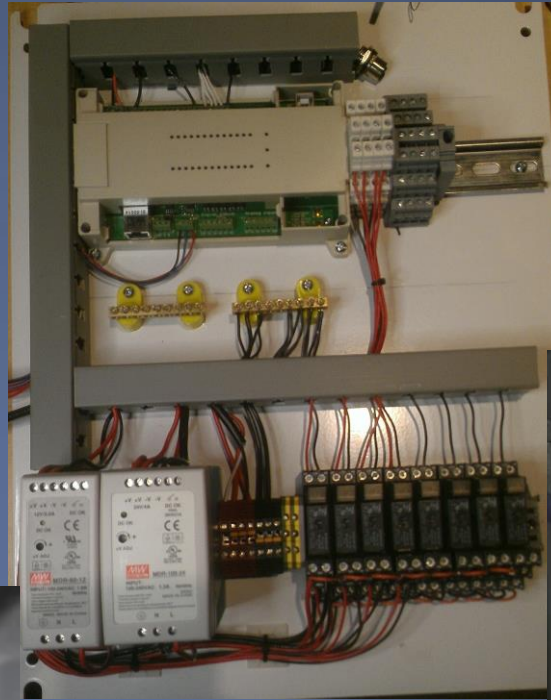
- Recording automatic
- View the Trend

Controllers

- **BCS - BrewersHardware.com**
 - Native Browser Support
 - Wide Range of Temperature Sensors
 - Ladder Logic - Low Level Control

- **FermTroller - OSCSYS.com**
 - Up to 32 zones
 - Open Source

- **Estimated startup Cost: \$250-\$300**
 - Each additional zone: ~\$30



BCS Control System from Embedded Control Concepts - Mozilla Firefox

File Edit View History Bookmarks ScrapBook Tools Help

http://192.168.0.191/

Embedded Control Concepts BCS-462

Main Control | Data Log | Edit Processes | Temp Setpoint Adjust | Ladder Logic | Thermo Test | Ethernet Settings | System Settings | ● BCS Connected

All Stop

Run/Stop Processes

Process 0

Process 1

Process 2

Process 3

Process 4

Process 5


Process 6

Process 7

Manual Mode


Refresh: 1 sec

Temp Probe 0




Temp0

Temp Probe 1




Temp1

Temp Probe 2




Temp2

Temp Probe 3




Temp3

Temp Probe 4




Temp4

Temp Probe 5




Temp5

Temp Probe 6



Temp6

Temp Probe 7




Temp7

Select Process: Process 0: Process 0

Current State Properties

Outputs Asserted in this State	Control Type	Temp Probe Association	Temperature Setpoint °F
None	N/A	N/A	N/A

Current State
Exit Condition
Next State



State 0

Timers

Timer 0 00:00:00

Timer 1 00:00:00

Timer 2 00:00:00

Timer 3 00:00:00

Web User Inputs

Win0

Win1

Win2

Win3

Questions???