



DC-1 Controller Logic

The DC-1 controller supplied with all US Cellars Wine Cellar Cooling equipment is programmed to operate with a 5 °F differential in air temperature. Pre-programmed system controls for run time of the equipment help to balance the humidity of the wine cellar.

If the factory controller is replaced, the replacement should have a differential that can be adjusted from 1 °F to 10 °F.

If the alternate controller does not have this ability, US Cellars cannot assure proper operation of the wine cellar refrigeration system.

***Upon start-up all systems have an automatic 10 minute delay to operation**

**** If defrost cycle is triggered it is an automatic 30 minute delay to operation**

Field Wiring

L1 - 115V Line Voltage

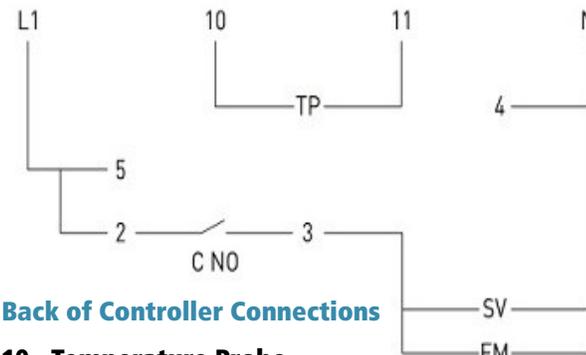
N - Neutral

SV - Solenoid Valve

FM - Fan Motor

TP - Temperature Probe

Fan Coil Wiring



Back of Controller Connections

10 - Temperature Probe

11 - Temperature Probe

4 - Neutral

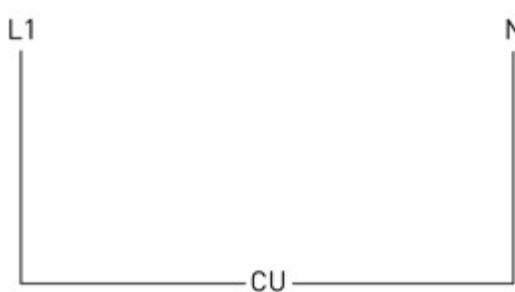
5 - 115V Line Voltage

2 - Jumper from 5

3 - Switch Leg to Fan Coil

C NO - Internal normally open contact

Condensing Unit Wiring



Parameter Name	Parameter Setting	Parameter Description
SCL	F	Temperature scale is in degrees F
SPL	40F	Lowest allowable set-point
SPH	70F	Highest allowable set-point
SP	55F	The control set-point (turn off)
C-H	REF	Controller set to operate a refrigeration cycle
HYS	5	The control differential (cut in set-point of 60F, will maintain a 57F target)
CRT	10	Minimum compressor rest time after cycling off
CT1	15	Compressor "ON" time when the temperature sensor fails (in minutes)
CT2	15	Compressor "Off" time when the temperature sensor fails (in minutes)
CSD	0	A compressor stop delay after the door has been opened. (not applicable, set to 0)
DFR	1	Defrost per day
DLI	60	Defrost termination temperature
DTO	30	Defrost duration in minutes
DTY	ELE	Defrost Type, ELE = Electric Defrost (this my assumption, "GAS" = Hot Gas defrost, and this will force the compressor on)
DDY	10	This features enables the controller to display "REC" for "x" number of minutes after the defrost has expired and the refrigeration has resumed. (I suggest 15 minutes) "DEF" will be displayed during the defrost cycle.
ATM	REL	Alarm function is active and the high & low alarm set-points are independent temperature values.
ALR	-10	Low alarm set-point (I would suggest -25F)
AHR	10	High alarm set-point (I would suggest -5F)
ATD	120	Alarm delay in minutes (I would suggest 30 minutes)
ADO	0	Alarm delay for a open door (not applicable if a door switch is not used)
ACC	0	This parameter will trigger an alarm after a defined number of weeks has expired for the compressor operation. For example, the ACC parameter is set to "1", then every 168 hour of compressor operation will trigger this maintance alarm. This a good feature for cases that require condenser coil cleaning. Set this feature to "0" to disable it.
SB	YES	When this parameter is set to "YES", the controller operation can be put in stand by mode by holding in the key on the far right of the keypad. In standby mode, all relays cycle off. This works well for maintenance work, but can pose problems if it is mis-used. Setting this parameter to "NO" will disable the feature.
DS	NO	This feature enables the door switch input. The "NO" setting disables this feature.
OAU	NON	This parameter defines the function of the "AUX" relay (the second relay on the controller). "DEF" defines the relay as you defrost relay.
INP	SN4	This parameter defines the type of temperature sensor used. "SN4" is the sensor type of the standard 10K NTC sensor. This will always be your choice.
OS1	0	The offset for sensor one ("T1"). Should not require adjustment.
T2	NO	This parameter enables the "T2" defrost termination sensor.
OS2	0	The offset for sensor one ("T2"). Should not require adjustment.
TLD	5	Your LAE controller is setup to log the historical high & low temperature extremes of your control temperature sensor. This delay parameter (in minutes) requires your high or low temperature reading to last for 5 minutes or longer before it is logged. You can view the "THI" (high temp) and "THO" (low temp) by pressing the "I" button on the controller's keypad. The "I" button is the "info" button. It is the key located to the far left of the controller's keypad.
SIM	0	The "SIM" function slows down the the rate of change in the temperature displayed on the controller's display. A value of "0" does not alter the temperature display, but any number 1 to 100 will slow down and even out the the temperature displayed. The higher the number, the slower the change. This does not slow down the controllers actions, but simply evens out the abrupt temperature spikes that might occur. It is visual trick!
ADR	1	All factory set controllers should have an address of "1" for programming purposes. These controllers can be networked together in the field to create an energy management system. In those instances, the address can be from 1 to 255.

**ITEMS IN RED DO NOT CHANGE