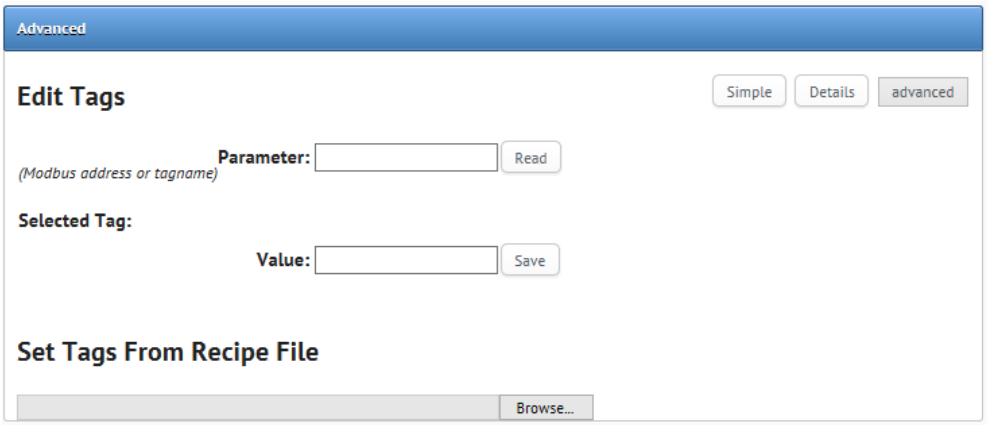
MyChiller Lite Advanced

By clicking on the “Advanced” button, you will navigate to a page that allows access to all of the programmable operating parameters within the TCC system.



To read an existing parameter value, type in the parameter address and click “Read.” To enter a new value, enter number in Value box and click Save.

For a complete upload of all tags, Click the Browse button, find the appropriate .CSV file and click save.

Parameter Address

The parameter address is configured as followed
4 “card number” “three digit parameter number”

The card number is addressed 0, 1, 2, and 3.

The three digit parameter number can be found on the TCC Parameter Definition chart. This chart includes a description of operation, recommended settings, and the default setting.

Example:
To change the Condenser VFD P value:
40003 for card 1, 41003 for card 2, 42003 for card 3, and 43003 for card 4.

TCC Parameter Definition

0=Card1 1=Card2 2= Card3 3=Card4	Description	Operation	Recommended Settings	Default
4X000	Card Reset	Setting it to 1 will cause the card to reset.	0	0
4X001	Baud Rate	This is the baud rate for both com 1 and com 2 ports. Set to 1 for 9600 and 2 for 19.2 kb.	1	1
4X002	Filter	This is a digital filter for all the analog inputs. One would be the least filtering and ten would be the max filtering.		
4X003	Condenser VFD Proportional gain 1	This value controls the response of the Condenser Fan VFD. The proportional gain is based off of change. In this case it would be change between the Discharge SP and the actual discharge pressure. Raising the value of P results in a greater reaction to discharge pressure changes.	5 to 20	20
4X004	Condenser VFD Integral gain 1	This value controls the response of the Condenser Fan VFD. The integral gain is what will cause the output to change when the discharge pressure is not changing and is steady state. Increasing this value to much will cause the system to become unstable.	5	5
4X005	Condenser VFD Derivative gain 1	This value controls the response of the Condenser Fan VFD. The derivative is constantly analyzing the rate of change of the error, makes a predication about what the future error will be and makes adjustment to the output in an attempt to reduce the rate of change in the error.	0	0
4X006	Condenser VFD Update time 1	This value controls the response of the Condenser VFD. The update time is in milliseconds and will determine how often the PID loop math is calculated and a correction made.		100
4X007	Slide Valve Proportion gain	This value controls the response of the slide valve on a screw compressor for controlling the pressure. The proportional gain is based off of change. In this case it would be change between the Floating Suc SP and the actual Suction pressure. Raising the value of P results in a greater reaction to suction pressure changes.	5 to 20	40
4X008	Slide Valve Integral gain	This value controls the response of the slide valve on a screw compressor. The integral gain is what will cause the output to change when the Suction pressure is not changing and is steady state. Increasing this value to much will cause the system to become unstable.	5	8
4X009	Slide Valve Derivative gain	This value controls the response of the slide valve on a screw compressor. The derivative is constantly analyzing the rate of change of the error, makes a predication about what the future error will be and makes adjustment to the output in an attempt to reduce the rate of change in the error. For most cases the derivative is disabled by setting it to zero.	0	0
4X010	Slide Valve Update time	This value controls the response of the valve on a screw compressor. The update time is in milliseconds and will determine how often the PID loop math is calculated and a correction made.		100
4X011	R-Demand Proportion gain	This value controls the response of the Rdemand signal. This PID loop would only be used when running temperature control directly. The proportional gain is based off of change. In this case it would be change between the Temperature SP and the actual process temperature. Raising the value of P results in a greater reaction to temperature changes.	5-20	20 or 100
4X012	R-Demand Integral gain	This value controls the response of the Rdemand signal. This PID loop would only be used when running temperature control directly. The integral gain is what will cause the output to change when the suction pressure is not changing and is steady state. Increasing this value to much will cause the system to become unstable.	5	6
4X013	R-Demand Derivative gain	This value controls the response of the Rdemand signal. This PID loop would only be used when running temperature control directly. The derivative is constantly analyzing the rate of change of the error, makes a predication about what the future error will be and makes adjustment to the output in an attempt to reduce the rate of change in the error. For most cases the derivative is disabled by setting it to zero.	0	0
4X014	R-Demand Update time	This value controls the response of the Rdemand signal. This PID loop would only be used when running temperature control directly. The update time is in milliseconds and will determine how often the PID loop math is calculated and a correction made.		5
4X015	Communications Alarm Timer	This timer monitors the communications on the slave units. If the slave unit does not receive communications from the master this timer will time out and the secondary mode will show Comm A. A setting of zero will disable the alarm.	30-45	30

TCC Parameter Definition

0=Card1 1=Card2 2= Card3 3=Card4	Description	Operation	Recommended Settings	Default
4X016	Remote Control Switch	This switch must be in Auto or equal to 3 for the PD-OFF-RUN switch on the cover to work. Remote cover switch can be over ridded.	3	3
		0 = OFF 1 = Remote PD 2 = Remote RUN 3 = Auto		
4X017	Liquid Line Solenoid Off	The LLS operates off the Rdemand signal. This is the percentage that when the Rdemand signal drops below the LLS will de-energize. Note - for most profiles this is automatically calculated and this setting is not used.		1
4X018	Liquid Line Solenoid On	The LLS operates off the Rdemand signal. This is the percentage that when the Rdemand signal raises above the LLS will energize. Note - for most profiles this is automatically calculated and this setting is not used.		50
4X019	Unloader 1 Off	The cylinder unloaders operates off the Rdemand signal. This is the percentage that when the Rdemand signal drops below the unloader will energize. Unloaders load the cylinders when de-energized. Unloader 1 is for cylinder 1.		20
4X020	Unloader 1 On	The cylinder unloaders operates off the Rdemand signal. This is the percentage that when the Rdemand signal raises above, the unloader will de-energize. Unloaders load the cylinders when de-energized. Unloader 1 is for cylinder 1.		40
4X021	Unloader 2 Off	The cylinder unloaders operates off the Rdemand signal. This is the percentage that when the Rdemand signal drops below the unloader will energize. Unloaders load the cylinders when de-energized. Unloader 2 is for cylinder 2.		40
4X022	Unloader 2 On	The cylinder unloaders operates off the Rdemand signal. This is the percentage that when the Rdemand signal raises above, the unloader will de-energize. Unloaders load the cylinders when de-energized. Unloader 2 is for cylinder 2.		80
4X024	High Discharge Pressure Unload	This is a decimal value and is used to set the desired high pressure at which the system would unload. When the ambient air temperature exceeds the rating of the condenser, the condenser no longer has the ability to reject the full load heat. This can produce a nuisance high head pressure alarm. The HHPU feature will automatically unload the compressor and prevent this alarm. The unloading can occur either with unloaders or backing off the VFD on a compressor. The HHPU setting should be set below the soft high head alarm. Example - if set for 300 psi, unloader # 2 would unload when the discharge exceeded 300 psi. It would reset when the pressure dropped below 295.		5
4X025	Unloader 1 Low Suction Turn off	When the suction pressure rises above this setting the unloader will operate normally.		10
4X026	Unloader 1 Low Suction Turn on	When the suction pressure drops below this setting the unloader will operate in the unloaded position.		20
4X027	Unloader 2 Low Suction Turn off	When the suction pressure rises above this setting the unloader will operate normally.		10
4X028	Unloader 2 Low Suction Turn on	When the suction pressure drops below this setting the unloader will operate in the unloaded position.		20
4X031	Compressor On	This is the compressor suction setting that will cause the compressor to turn on. If the suction pressure raises above this setting the mode will change to REFIG and the compressor will start.	30-60	30
4X032	Compressor Turn Off	This is the compressor suction setting that will cause the compressor to turn off. If the suction pressure drops below this setting the mode will change from REFIG to Short cycle and then to Standby. This is considered the pump down setting.	5-20	10
4X033	Valve PID Scale	This parameter is an engineering unit and should not be changed in the field. It is used to scale the PID output for the EEV's.		10
4X034	Condenser PID Scale	This parameter is an engineering unit and should not be changed in the field. It is used to scale the PID output for the condenser fan VFD control.		10
4X035	Valve 1 Manual	When running EEV 1 in manual this is the percentage setting the valve will manually go to.		50

TCC Parameter Definition

0=Card1 1=Card2 2= Card3 3=Card4	Description	Operation	Recommended Settings	Default
4X036	Valve 2 Manual	When running EEV 2 in manual this is the percentage setting the valve will manually go to.		50
4X037	Suction Super Heat Hi Alarm	This parameter is used to set the desired high alarm for the compressor suction super heat. There is an associated timer that must be activated (#43). This alarm will trip the compressor off line when active.		
4X038	Suction Super Heat Lo Alarm	This parameter is used to set the desired low alarm for the compressor suction super heat. There is an associated timer that must be activated (#44). This alarm will trip the compressor off line when active.		
4X039	Suction Low Pressure Alarm	It is used to set the desired low pressure alarm for the compressor suction pressure. There is an associated timer that must be activated (#46). This alarm will trip the compressor off line when active.		25
4X041	Pump Down Alarm	If the compressor run time exceeds this timer when the LLS is off, the system will shutdown on a Pump Down failure. This feature can be disabled by setting the timer to zero.		
4X042	Suction Super Heat Hi Timer	This is the alarm timer for High Super Heat. The timer is in minutes and is only active during the time when the super heat exceeds the alarm point. Setting this timer to 0 will disable the alarm.		15
4X043	Suction Super Heat Lo Timer	This is the alarm timer for Low Super Heat. The timer is in minutes and is only active during the time when the super heat is less than the alarm point. Setting this timer to 0 will disable the alarm.		5
4X044	Discharge High Pressure Timer	This is the alarm timer for High Discharge Pressure. The timer is in seconds and is only active during the time when the discharge pressure exceeds the alarm point. Setting this timer to 0 will disable the alarm.		15
4X045	Suction Low Pressure Timer	This is the alarm timer for Low Suction Pressure. The timer is in seconds and is only active during the time when the suction pressure is below the alarm point. Setting this timer to 0 will disable the alarm.		30
4X046	Alarm Reset Timer	This time is used on some alarm parameters that automatically reset. This is the amount of time after the alarm clears that the system will reset.		30
4X051	Discharge Pressure Sensor Timer	This is the alarm timer for Discharge Pressure Sensor failure. The timer is in seconds and is only active during the time when the discharge pressure sensor is out of limits. The sensor operates within the .5vdc to 4.5vdc limits. Setting this timer to 0 will disable the alarm.		30
4X042	Suction Pressure Sensor Timer	This is the alarm timer for Suction Pressure Sensor failure. The timer is in seconds and is only active during the time when the suction pressure sensor is out of limits. The sensor operates within the .5vdc to 4.5vdc limits. Setting this timer to 0 will disable the alarm.		30
4X053	Temperature Sensor Timer	This is the alarm timer for the controlling Temperature Sensor failure. The timer is in seconds and is only active during the time when the controlling temperature sensor is out of limits. The limits of the temperature sensor are above 140 F and below -35 F. Setting this timer to 0 will disable the alarm.		30
4X054	External Alarm Timer	This is the alarm timer for External Alarms. The external alarms are a series of contacts consisting of high pressure switch, oil switch and phase monitor. The timer is in seconds and is only active during the time when the one of the external devices is tripped and the system is in Refrigeration. Setting this timer to 0 will disable the alarm.		30
4X056	Pump Failure Timer	This is the alarm timer is only used when one of the inputs is defined as Pump Proving. The timer is in seconds and is only active when the pump is being called to run and the Pump Proving contract is not made. Once this timer times out the system would shut off. Setting this timer to 0 will disable the alarm.		30

TCC Parameter Definition

0=Card1 1=Card2 2= Card3 3=Card4	Description	Operation	Recommended Settings	Default
4X060	Condenser Fan Profile	This parameter is used to set the desired operation of the condenser fans.	1 or 3	1
		1: Fixed Head Pressure. The Discharge Pressure SP and the Condenser Fan Differential to cycle the condenser fans off and on.		
		2: Balance Head Pressure. This will float the head pressure depending on the ambient air conditions. The lowest pressure that the system will float to is the System Drop plus the suction pressure. The Condenser Fan Differential is used to stage the condenser fans.		
		3: Fix Head VFD. The analog output will vary the VFD signal to control the discharge pressure to Discharge Pressure SP.		
		4: Balanced Head VFD. Same as profile 3 except the Discharge Pressure SP will be floating. The lowest pressure the system will float to is the System Drop plus the suction pressure.		
4X061	Compressor Profile	This parameter is used to set the desired operation of the compressor.		0
		0: Recip compressor. This profile can have up to four compressors. It will automatically determine the staging and sequencing.		
		1: VFD Recip compressor. This profile would be used with one VFD recip compressor and other stages being provided by recip compressors. The VFD recip would ramp up and down to control loading.		
		2: Bitzer Screw Compressor. This profile is for a Bitzer Screw Compressor.		
4X063	System Drop	The calculation is for total system pressure drop. A typical value would be 70 psi. The Balanced Head Pressure condenser profile uses this value for controlling the head pressure. The controlling pressure is determined by the suction pressure plus the System Drop.	40-80	70
4X064	Input Profile	This parameter is used to set the desired input to the controller.	1	1
		0: MA Signal. A 0-20ma signal is used to generate the Rdemand signal.		
		1: Setpoint. Temperature Setpoint is used to generate the Rdemand signal. A temperature sensor is used for the process temperature and the Rdemand signal will vary using a PID loop to control the temperature.		
4X065	Compressor Rotation Time	When the timer expires the compressors will rotate lead. Time only accumulates when the compressor is running. If set to zero no rotation will happen.	12-48	24
4X066	Number of Compressors	Enter the number of compressors that will be used for staging.		
4X067	Number of Unloaders per Compressor	Enter the number of unloaders per compressor.		1
4X068	Gas Type	This parameter is used to set the type of gas being used in the system. This is used to calculate the superheats and alarms.		5
		0: R-22		
		1: R-410		
		2: R-507		
		3: R-134A		
		4: R-12		
		5: R404A		
		6: R-407C		
4X069	Suction Transducer Type	Select the type of suction transducer 100 psi or 500 psi.	0	0
		0: 100 psi		
		1: 500 psi		
4X070	PID Diff	This offsets the start of the PID from the Setpoint. If the PID Diff is set to zero then the PID loop is active all the time. This value is in 10ths, thus a value of 10 would offset the PID start by 1 degree. If the Setpoint was 30 degrees, the PID loop would not start calculating Rdemand until the temperature was 31 degrees.		
4X074	VFD Condenser Fan Min	This is the lowest setting that the condenser fan is allowed to run at. A typical setting would be 0%.	0-20	0
4X075	VFD Condenser Fan Max	Max setting for the condenser fan in percentage.	100%	100

TCC Parameter Definition

0=Card1 1=Card2 2= Card3 3=Card4	Description	Operation	Recommended Settings	Default
4X076	EEV (A) Proportion Gain	This value controls the Proportional response for valve A. The proportional gain is based off of change. In this case it would be change between the Superheat SP and the actual evaporator suction superheat. Raising the value of P results in a greater reaction to superheat change.		
4X077	EEV (A) Integral Gain	This value controls the Integral response for valve A. The integral gain is what will cause the output to change when the superheat is not changing and is steady state. Increasing this value too much will cause the system to become unstable.		5
4X078	EEV (A) Derivative Gain	This value controls the Derivative response for valve A. The derivative is constantly analyzing the rate of change of the error, makes a prediction about what the future error will be and makes adjustment to the output in an attempt to reduce the rate of change in the error. For most cases the derivative is disabled by setting it to zero.		0
4X079	EEV (A) Update Time	This value controls the response for valve A. The update time is in tenths of a second and will determine how often the PID loop math is calculated and a correction made.		
4X080	EEV (B) Proportion Gain	This value controls the Proportional response for valve B. The proportional gain is based off of change. In this case it would be change between the Superheat SP and the actual evaporator suction superheat. Raising the value of P results in a greater reaction to superheat change.		
4X081	EEV (B) Integral Gain	This value controls the Integral response for valve B. The integral gain is what will cause the output to change when the superheat is not changing and is steady state. Increasing this value too much will cause the system to become unstable.		5
4X082	EEV (B) Derivative Gain	This value controls the Derivative response for valve B. The derivative is constantly analyzing the rate of change of the error, makes a prediction about what the future error will be and makes adjustment to the output in an attempt to reduce the rate of change in the error. For most cases the derivative is disabled by setting it to zero.		
4X083	EEV (B) Update Time	This value controls the response for valve B. The update time is in tenths of a second and will determine how often the PID loop math is calculated and a correction made.		
4X084	Compressor VFD Min	This is the lowest setting that the compressor is allowed to run at. A typical setting would be 50%. This setting is in percentage 0-100.	20-50	50
4X085	Compressor VFD Max	Max setting for the compressor in percentage. A typical setting would be 100%.	100	100
4X086	Valve A Settling Time	The settling time is in seconds. The valve will remain in the Initial Position for this amount of time. Once the time is up, the valve will go to the normal PID operation.	30-45	30
4X087	Valve B Settling Time	The settling time is in seconds. The valve will remain in the Initial Position for this amount of time. Once the time is up, the valve will go to the normal PID operation.	30-45	30
4X088	EEV (A) Initial Position	When the LLS initially opens, the associated valve will go to this position for the settling time. This value should be large enough to allow the suction pressure to raise and the compressor to start and continue to run. If this percentage is too high, it may cause the superheat to drop.	40-60	40
4X089	EEV (B) Initial Position	When the LLS initially opens, the associated valve will go to this position for the settling time. This value should be large enough to allow the suction pressure to raise and the compressor to start and continue to run. If this percentage is too high, it may cause the superheat to drop.	40-60	40
4X090	EEV (A) Superheat SP	This is the valve A superheat setpoint. The PID will adjust the EEV a to try and maintain the Evap superheat setpoint.	15-25	20
4X091	EEV (B) Superheat SP	This is the valve B superheat setpoint. The PID will adjust the EEV a to try and maintain the Evap superheat setpoint.	15-25	20
4X092	PID Mode A	This parameter allows the valve to be changed from Auto to Manual.	0	0
		0: Auto		
		1: Manual		

TCC Parameter Definition

0=Card1 1=Card2 2= Card3 3=Card4	Description	Operation	Recommended Settings	Default
4X093	PID Mode B	This parameter allows the valve to be changed from Auto to Manual.	0	0
		0: Auto		
		1: Manual		
4X094	EEV (A) Fail Safe	If valve A goes into an alarm situation the valve will go to this manual position. The setting is in percent.	20-40	20
4X095	EEV (B) Fail Safe	If valve B goes into an alarm situation the valve will go to this manual position. The setting is in percent.	20-40	20
4X096	EEV (A) Sensor Fail Timer	A loss of a temperature sensor or pressure sensor will activate this timer. Once timed out it will alarm and force the valve into a fail safe position. Setting the timer to 0 will disable this alarm.		
4X097	EEV (B) Sensor Fail Timer	A loss of a temperature sensor or pressure sensor will activate this timer. Once timed out it will alarm and force the valve into a fail safe position. Setting the timer to 0 will disable this alarm.		
4X299	Temperature Setpoint	This parameter is used to set the desired water temperature. The inlet temperature is used to compare to this value and generate a Rdemand signal.	25-40	28
4X300	High Head Pressure Unload	Use this parameter to set the desired high pressure at which the system would unload. When the ambient air temperature exceeds the rating of the condenser, the condenser no longer has the ability to reject the full load heat. This can produce a nuisance high head pressure alarm. The HHPU feature will automatically unload the compressor and prevent this alarm. This applies only to recip compressors.		
4X305	Short Cycle	This timer become active once the compressor shuts off. It will prevent the compressor from starting until the timer times out.		120
4X303	High Discharge Temp Alarm	This is used to set the desired high temperature alarm for the compressor discharge pressure. There is an associated timer that must be activated. This alarm will trip the compressor off line when active.		
4X307	Condenser Fan Differential	Used to set the desired differential setting for cycling the condenser fans. A setting of 10 psi would cycle fans on every 10 psi above the setpoint.	10-40	20
4X308	Discharge Set Point	Used to set the desired discharge pressure.		
4X309	Valve A Total Steps	Set for the number of steps for the valve being used.		
4X310	Valve B Total Steps	Set for the number of steps for the valve being used.		