

SSE Replacement Board

Setup Instructions

PLEASE READ THIS IMPORTANT INFORMATION BEFORE CHANGING THE BOARD

Replacement boards must have parameters set to the specific requirement of the unit into which the board will be installed. The best method is to first create a **backup** from the existing board to a thumb drive. As long as the board is energized with a functional display you can create a backup. You can then **restore** the backup file to the replacement board.

As an alternative you can install the replacement board into the unit then program the parameters required for your specific application. If the unit is controlled using a standard thermostat, meaning it is not connected to a network, the number of parameters requiring your attention should be less than 15 and require less than 5 minutes to complete. If you have a VAV unit or specialized accessory functions such as Hot Gas Reheat , CO2 sensors, Power Exhaust or if the unit is a heat pump you must set the parameters tied to those functions.

The instructions that follow provide details how to navigate the through the board's function and parameter list using the joy stick and Enter/Cancel buttons. Any parameter on the following list with the letters **RB** showing in the far left column must be checked and set on a replacement board. Again, depending on the configuration of your specific unit you may need to set other parameters as well.

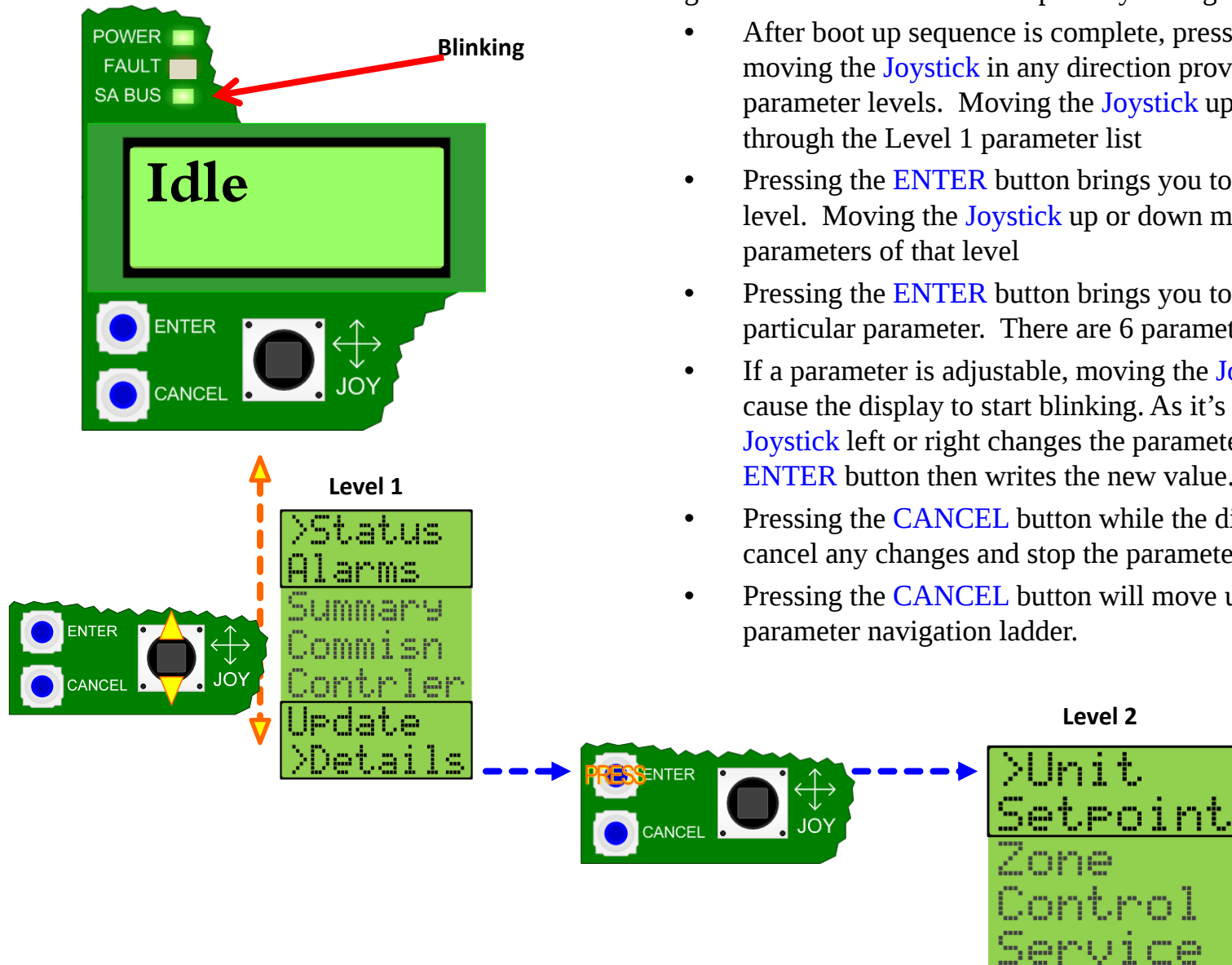
If you have additional questions please contact your local
Virginia Air Technical Service Manager for assistance.

SE Control

Quick Start Instructions

NOTE: The **ENTER** button, **CANCEL** button and **Joystick** have no effect throughout the boot-up sequence. During boot up the display will count down on the top line and will display Starting Up on the bottom line. The **green** Power LED is ON, the **red** Fault LED is blinking and the green SA Bus LED will blink partway through the sequence.

- After boot up sequence is complete, pressing the **ENTER** button or moving the **Joystick** in any direction provides access to control parameter levels. Moving the **Joystick** up or down moves you through the Level 1 parameter list
- Pressing the **ENTER** button brings you to the next lower parameter level. Moving the **Joystick** up or down moves between individual parameters of that level
- Pressing the **ENTER** button brings you to the next level or to a particular parameter. There are 6 parameter levels.
- If a parameter is adjustable, moving the **Joystick** left or right will cause the display to start blinking. As it's blinking, moving the **Joystick** left or right changes the parameter value. Pressing the **ENTER** button then writes the new value.
- Pressing the **CANCEL** button while the display is blinking will cancel any changes and stop the parameter from blinking.
- Pressing the **CANCEL** button will move up one level on the parameter navigation ladder.



	SSE Point	SSE & Map Gateway Path	BACnet Point	Setting value
Replacement Board parameters which must be verified or checked			SABL = Set at Board Level	VABL = View at Board Level RB = Replacement Board
RB	OccMode	Commission>HVACZone>OccMode	29518	Set to External if using occ terminal for Econ min position
RB	Cooling Enabled	Commission>Clg>Clg-En	29575	"Yes" or "No"
RB	Heating Enabled	Commission>Htg>HtgEn	29707	"YES" or "NO"
RB	Economizer Enabled	Commission>Econ>Econ-En	29747	"YES" or "NO"
RB	TstatOnly	Details>Service>Inputs>Thermostat>Tstat-Only	29514	"Yes" or "No"
RB	# Cooling Stages	Details>Service>Factory>Standard>#ClgStgs	29576	1 to 4
RB	# Heating Stages	Details>Service>Factory>Standard>#HtgStgs	29731	1 to 3
RB	Fan "ON" Delay Heat	Details>Control>IndoorFan>Setup>FanOnDlyHeat	29560	0 to 30 second timer (must be 0 for Elec Heat)
RB	OAT Cooling Lockout Enable	Details>Control>Clg>Setup>ClgOATCutout-En	29581	"YES" or "NO"
RB	OAT Cooling Lockout Setpoint	Details>Control>Clg>Setup>ClgOATCutout	29582	0 to 100 degrees
RB	Supply Air Cool Limit Enable	Details>Control>Clg>Setup>SATCoolLimit-En	29590	"YES" or "NO"
RB	Supply Air Cool Limit Set Point	Details>Control>Clg>Setup>SATCoolLimit-Sp	29591	40 to 65 degrees
RB	Heating OAT Cutout Setpoint	Details>Control>Htg>Setup>HtgOATCutout-Sp	29711	0 to 100 degrees
RB	Supply Air Heating Limit Enabled	Details>Control>Htg>Setup>SATHtgLimit-En	29709	"YES" or "NO"
RB	Supply Air Heating Limit Set point	Details>Control>Htg>Setup>SATHtgLimit-Sp	29710	100 degree to 180 degrees
RB	Economizer Minimum Position	Details>Control>Econ>Setup>Econ-MinPos	29759	% Open Set point

SYSTEM SETUP				
	Address	Commission>Network>Address	SABL	4 to 127
	NetOcc	Details>Service>Inputs>NetworkInputs>NetOcc	29520	Occupied/ Unoccupied
	Occupancy Binary Input	Details>Service>Inputs>BinaryInputs>Occ	29516	Occupied/ Unoccupied
	Wired Field Bus	Controller>Network>FCBusMode>Wired Field Bus	SABL	*Modbus Field Bus
	SZVAVEn	Details>Service>Factory>Misc>SZVAVEn	29908	OFF/ ON
	Alarms	Alarms		See alarm tab
	Device ID	Controller>Network>DeviceID	SABL	defaulted to 1
	Baud Rate	Controller>Network>OprBaudRate	SABL	Auto or 1200-76800
	Unit Name	Details>Unit>Name	SABL	
	SSE Board Firmware Version	Update>ViewVersion	VABL	Current Version 3.0.0.1072
	Relearn	Controller>SysCntlrs>Misc>Relearn	SABL	"TRUE" or "FALSE"
	Operational Occupancy	Details>Zone>Indoor>OprOcc	29517	Occupied/ Unoccupied
	Reset Lockout	Details>Unit>ResetLO	29826	ON/OFF
	Self Test	Self Test>Start	SABL	*Start
	Cooling Adaptive Tuning Enabled	Details>Control>Clg>Setup>ClgAdapTunEn	29882	"Yes" or "No"
	Heating Adaptive Tuning Enabled	Details>Control>Htg>Setup>HtgAdapTunEn	29881	"Yes" or "No"
	Time	Update>Time	SABL	24 hours Military Format
	Unit Status	Status>Unit-S	*29803	
	Off During Unoccupied Mode	Commission>HVACzone>OffDurUnocc	29914	"Yes" or "No"
	Equipment Type	Details>Service>Factory>Misc>RooftopEquipment>RTU	SABL	*RTU
	Bacnet Encoding Type	Controller>Network>EncodingType	*32578	3.0.0.1116 Rev or higher

SSE Point	SSE & Map Gateway Path	BACnet Point	Setting value
Temporary Occupancy Timeout	Details>Zone>Indoor>TempOccTimeout	29521	30 to 120 min. time period
Use Occupance Schedule	Details>Zone>Indoor>UseOccSched	92687	"Yes" or "No"
PID Tuning Reset	PIDtunRst (Only Accessible Through BAS)	29919	False or True
Space Temperature Alarm Setpoint Offset	Details>Zone>Indoor>STAlarmOffset	29524	0 to 25 degrees F
Space Temperature Alarm Time Delay	Details>Zone>Indoor>STAlarmDelay	29525	0 to 120 minutes

FAN SETUP/STATUS

Fan Control	Summary>Fan>FanCtl-Type	29555	Single Speed 100% fan operation
APS Setup	Details>Service>Factory>Standard>APS Setup	29556	None or Constant
APS Status	Details>Control>IndoorFan>Status>APS	29557	ON = APS closed
Net Override Fan Request	Details>Service>Inputs>NetworkInputs>NetFanReq	29536	OFF / ON
Fan "OFF" Delay Cool	Details>Control>IndoorFan>Setup>FanOffDlyCool	29559	0 to 255 second timer
Fan "OFF" Delay Heat	Details>Control>IndoorFan>Setup>FanOffDlyHeat	29561	0 to 255 second timer
Fan "OFF" Start Heat	Details>Control>IndoorFan>Setup>FanoffStartHeat	29569	"YES" or "NO"
Fan "ON" Delay Cool	Details>Control>IndoorFan>Setup>FanOnDlyCool	29558	0 to 30 second timer
Fan "ON" Occupied	Details>Control>IndoorFan>Setup>FanOnOcc	29568	"YES" or "NO"
Fan Overload	Details>Control>IndoorFan>Setup>FanOvrload	29553	
Fan Status	Status>Fan-S	*29550	

COOLING SETUP/STATUS

Staged Cooling Command	Details>Control>Clg>Status>StgClgCmd	29922	0% to 100%
Number of Refrigeration Systems	Details>Service>Factory>standard>#refrigsys	29890	1 to 4 Circuits
Cooling Status	Status>Clg-S	*29577	Displays Cooling Status
Low Ambient Enabled	Details>Control>Clg>Setup>LowAmb-En	29928	"YES" or "NO"
Lead Lag Enabled	Details>Control>Clg>Setup>LeadLag-En	29579	"YES" or "NO"
Constant Volume Occupied Cooling Setp	Details>Setpoints>ClgOcc-Sp	29608	range 45 to 98 degrees
Constant Volume Unoccupied Cooling Se	Details>Setpoints>ClgUnocc-Sp	29609	range 46 to 99 degress
Compressor 1 Command	Details>Control>Clg>Stage 1>C1-Cl	29611	
Compressor 1 Status	Details>Control>Clg>Stage1>C1-S	*29615	
Compressor 1 Enabled	Details>Control>Clg>Stage1>C1-En	29619	
Compressor 1 Accumulated Run Time	Details>Control>Clg>Stage1>C1RunTim	29627	
Compressor 2 Command	Details>Control>Clg>Stage2>C2-Cl	29612	
Compressor 2 Status	Details>Control>Clg>Stage2>C2-S	*29616	
Compressor 2 enabled	Details>Control>Clg>Stage2>C2-En	29620	
Compressor 2 Accumulated Run time	Details>Control>Clg>Stage2>C2RunTim	29628	
Compressor 3 Command	Details>Control>Clg>Stage3>C3-Cl	29613	
Compressor 3 Status	Details>Control>Clg>Stage3>C3-S	*29617	
Compressor 3 Enabled	Details>Control>Clg>Stage3>C3-En	29621	
Compressor 3 Accumulated Run Time	Details>Control>Clg>Stage3>C3RunTim	29629	
Compressor 4 Command	Details>Control>Clg>Stage4>C4-Cl	29614	

SSE Point	SSE & Map Gateway Path	BACnet Point	Setting value
Compressor 4 Status	Details>Control>Clg>Stage4>C4-S	*29618	
Compressor 4 Enabled	Details>Control>Clg>Stage4>C4-En	29622	
Compressor 4 Accumulated Run Time	Details>Control>Clg>Stage4>C4RunTim	29630	

HEATING SETUP/STATUS

Heating Status	Status>Htg-S	*29708	
Staged Heating Command	Details>Control>Htg>Status>StgHtgCmd	29923	0% to 100%
Constant Volume Occupied Heating Setp	Details>Setpoints>CVHtgOcc-Sp	29728	Range 46 to 99 degrees
Constant Volume Unoccupied Heating Se	Details>Setpoints>CVHtgUnocc-Sp	29729	Range 45 to 98 degrees
Heating Stage 1 Command	Details>Control>Htg>Stage1>H1	29732	
Heating Stage 1 Status	Details>Cotrol>Htg>Stage1>H1-S	*29735	
Heating Stage 2 Command	Details>Control>Htg>Stage2>H2	29733	
Heating Stage 2 Status	Details>Cotrol>Htg>Stage2>H2-S	*29736	
Heating Stage 3 Command	Details>Control>Htg>Stage3>H3	29734	
Heating Stage 3 Status	Details>Cotrol>Htg>Stage3>H3-S	*29737	
Hot Water Heat Valve % Output (4 stage	Details>Control>Htg>Status>HWV	29741	0 to 100%
Hot Water Valve Rev Acting (4 stage Exp	Details>Control>Htg>Setup>HydReverse	29742	"YES" or "NO"
Hot Water Htg Stage 1 SAT Sp (4 stage E	Details>Control>Htg>Setup>HydH1SA-Sp	29743	80 to 180 degrees
Hot Water Htg Stage 2 SAT Sp (4 stage E	Details>Control>Htg>Setup>HydH2SA-Sp	29744	80 to 180 degrees
Hot Water Heat SAT Tempering Enabled	Details>Control>Htg>SATTempHydHt-En	29745	"Yes" or "No"
Hot Water Heat SAT Tempering Set Poin	Commission>Htg>SATTempHydHt-Sp	29746	
Hot Water Freeze Stat (4 stage Exp. Boa	Details>Service>Inputs>BinaryInputs>Limit>FSHW	29712	Normal or Alarm
Heating Control Type	Details>Control>Htg>Status>Htg-Type	SABL	Staged or Proportional

ECONOMIZER SETUP/STATUS

Economizer Status	Status>Econ-S	*29750	
Economizer Firware	Controller>SysCntrls>Econ>EconMainVer	N/A	VABL or Map Gateway
Economizer Damper Position	Details>Service>Inputs>Sensors>EconDampPos	29748	% open
Economizer OAT Set point	Details>Control>Econ>Setup>EconOAT-SpEn	29753	40 to 80 degrees
Economizer Free Cooling Available	Summary>Econ>Econ-Free	29749	"YES" or "NO"
Economizer Mechanical Setup	Details>Control>Econ>Setup>EconMechStp	29912	Option B
All Compressor OFF-Economizer	Details>Control>Clg>Setup>AllCompOff-Econ	29584	"YES" or "NO"
Econ OA Enthalpy Setpoint	Details>Control>Econ>Setup>EconOAEth-Sp	29754	10 to 50 BTU/Lb
Free Cooling Selection	Details>Control>Econ>Setup>FreeClg-Sel	29752	* Auto
VAV Clg SA Upper Stpt	Details>Setpoints>SATUp-Sp	29604	60 degree (Use for Econ. Mech Option B)
VAV Clg SA Lower Stpt	Details>Setpoints>SATLo-Sp	29605	55 degree (Use for Econ. Mech Option B)
Economizer Loading Enabled	Details>Control>Clg>Setup>EconLoad-En	29583	"YES" or "NO"
Economzer Fault Detection Enable	Commission>Econ>EconFltDetectEn	29915	Disable/Enable

POWER EXHAUST SETUP/STATUS

SSE Point	SSE & Map Gateway Path	BACnet Point	Settting value
Power Exhaust Fan Type	Details>Service>Factory>Econ>ExFType	29774	*None
Power Exhaust Fan Command	Details>Control>PowerEx>Status>	29775	
Power Exhaust Fan Status	Details>Control>PowerEx>Status>ExFan	*29777	*Off-Idle
Power Exhaust Modulating Damper Out	Summary>PowerEx>EAD-O	29782	
Building Pressure Set Point	Summary>PowerEx>Bldg-Sp	29780	
Econ Damper Position Power Exhaust "C	Summary>PowerEx>EconDmpPosFanOff	29786	
Econ Damper Position Power Exhaust "C	Summary>PowerEx>EconDmpPosFanOn	29785	
Power Exhaust Damper Position "OFF"	Commission>PoweEx>ExDmpPosFanOff	29784	
Power Exhaust Damper Position "On"	Commission>PoweEx>ExDmpPosFanOn	29783	
Power Exhaust VFD Output Status	Summary>PowerEx>ExFanVFD	29776	

CO2 DEMAND VENTILATION SETUP/STATUS

(CO2) Demand Ventilation Mode	Commission>Dvent>Dvent-Mode	29765	*Disabled
(CO2) Demand Ventilation Mode IAQ Se	Commission>Dvent>DventIAQ-Sp	29767	0 to 5000 ppm
(CO2) Demand Ventilation Max Econ Da	Commission>Dvent>DventMaxEconPos	29766	range 0% to 100% open
(CO2) OAQ Range	Commission>Dvent>OAQRange	29548	0 ppm to 5000 ppm
(CO2) IAQ Range	Commission>Dvent>IAQRange	29529	0 ppm to 5000 ppm
(CO2) Demand Ventilation Differential S	Commission>Dvent>DventDiff-Sp	29768	0 ppm to 5000 ppm

SENSOR INPUTS & READINGS

Supply Air Temperature	Details>Service>Inputs>Sensors>SAT	29564	
Return Air Temperature	Details>Service>Inputs>Sensors>RAT	29764	
Operational Outdoor Air Temperature	Details>Zone>Outdoor>OprOAT	29541	
Constant Volume Operating Heating Set	Details>Setpoints>CVOPrHtg-Sp	29730	
Constant Volume Operating Cooling Set	Details>Setpoints>OprCVClg-Sp	29610	
Operational Space Temperature	Details>Zone>Indoor>OprST	29522	
Operational Space Sensor Offset	Details>Zone>Indoor>OprSSO	29537	
Space Temperature Source	Details>Zone>Indoor>STsrc	29523	*Return Air Temp
Space Sensor Offset Range	Details>Zone>Indoor>SSORange	N/A	0 to 5 degrees F setpoint
Space sensor Offset Source	Details>zone>Indoor>SSOSrc	29538	
Space Humidity RAH input	Details>Control>Econ>Status>RAH	29828	
Outdoor Air Humidity Input	Details>Service>Inputs>Sensor>OAH	N/A	
Outdoor Air Enthalpy	Details>Service>Inputs>Sensor>OA-Enth	29545	
Return Air Enthalpy	Details>Control>Econ>Status>RA-Enth	29763	
Operational Space Humidity	Details>Zone>Indoor>OprSH	29531	
Operational Outdoor Air Humidity	Details>Control>Econ>Status>OprOAH	29544	
Outdoor Air Enthalpy	Details>Service>Inputs>Sensor>OAH-Enth	29545	
Building Pressure	Summary>PowerEx>BldgPres	29781	(-).25 to .25"wc
(CO2) IAQ Input	Details>Service>Inputs>Sensor>IAQ	N/A	
(CO2) OAQ Input	Details>Service>Inputs>Sensor>OAQ	N/A	

SSE Point	SSE & Map Gateway Path	BACnet Point	Settting value
Operational IAQ	Summary>Dvent>OprIAQ	29527	
IAQ source	Details>Zone>Indoor>IAQsrc	29528	
Operational OAQ	Summary>Dvent>OprOAQ	29547	
OAQ source	Deetails>Zone>Outdoor>OAQsrc	29548	
HOT GAS REHEAT			
Hot Gas Reheat Enabled for Operation	Details>Service>Factory>Standard>HGR-En	29789	"YES" or "NO"
Hot Gas Reheat Alternate Operation Ena	Details>Control>HGR>HGRAlt-En	29793	"YES" or "NO"
Hot Gas Reheat Gas Reheat Humidity Se	Details>Control>HGR>HGRHum-SP	29792	0% to 100%
Hot Gas Reheat Alternate Operation Wr	Details>Control>HGR>HGRAltWrite	29794	"YES" or "NO"
Hot Gas Reheat Enabled for Unoccupied	Details>Control>HGR>HGRUnocc-En	29904	"YES" or "NO"
Hot Gas Reheat Unoccupied Humidity Se	Details>Control>HGR>HGRUnoccHum-Sp	29903	0% to 100%
Hot Gas Reheat Status	Details>Control>HGR>HGR-S	*29791	
HEAT PUMP (Note: # of Heating and Cooling Stages will have to be adjusted appropriately for Heat Pump Operation)			
Heat Pump number of Stages	Details>Service>Factory>Standard>#HtPumpStgs	29898	1 to 2 stages
Defrost Curve Set	Commission>Defrost>DefrostCurveSel	899 (Defrost Sta	Curve Selection 1 through 6
Reversing Valve	Summary>HeatPump>RevVlv	29900	Output Status
Auxillary Heat	Summary>HeatPump>AuxHtg	29901	Output Status
Heat Pump Mode	Summary>HeatPump>Mode	29902	Operating Status