WINE GUARDIAN®

Classic **Sentinel** **Defender**

Wine Cellar Cooling Systems
Through-the-Wall
Wine Cellar Cooling Systems
Installation, Operation and Maintenance Guide

120Volt / 60Hz Models WG TTW 01, 02, 04
240Volt / 50Hz Models WG TTW 01, 02, 04

Manufactured by:

AIR INNOVATIONS Syracuse, NY
wineguardian.com airinnovations.com

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Directory of Terms

Ambient Air – The surrounding area outside the cellar such as a room, basement, garage or outdoors.

CE – Certificate of European conformity

CFM – Cubic feet per minute. A unit of measurement for the amount of air handled by the fan.

Condensate / Condensation – The water formed out of the air when it is cooled below a certain temperature (called the dew point), often referred to as sweating on pipes and cold surfaces. This water collects at the bottom of the evaporator or cooling coil and drains out of the unit through the drain line.

Condenser (Heat Rejection) Section / Coil – The condenser section uses the compressor, condenser coil, and fan to transfer heat from the refrigerant to the ambient air *outside* the wine cellar. The word condenser refers to the condensation of the refrigerant from a gas to a liquid.

CSA – Canadian Standard Association

ETL – Electric Testing Laboratory

Evaporator (Cooling) Section / Coil – The evaporator section uses the cooling coil and the fan to transfer heat from the air *inside* the wine cellar to the refrigerant, cooling the air and condensing moisture out of the air. The word evaporator refers to the evaporation of the refrigerant from a liquid to a gas in the coil. The evaporator section is connected to or inside the wine cellar.

Exhaust Air – The air leaving the evaporator or condenser section of the Wine Guardian unit.

Flexible Duct – Round ducts with steel-reinforced plastic liners, a layer of insulation, and an outer plastic layer used to convey the air from the unit to the cellar or adjacent space.

Grille or Diffuser – Inlet or outlet plates to direct the airflow and protect the inside of the unit.

Heat Gain / Loss – The amount of cooling or heating (expressed in watts) transferred between the wine cellar and the ambient air. The cooling system must offset this load.

Inlet Air – The air entering the evaporator and condenser sections of the cooling unit.

NEC – National Electrical Code

Recovery – The amount of cooling the unit does to return the cellar to its set point temperature after some new load is introduced, such as people or new cases of warm wine entering the cellar.

Return Air - The air leaving the cellar and returning to the inlet of the evaporator coil.

Set Point – The desired temperature or humidity set on the thermostat or humidistat.

SP – Static pressure. Unit of measurement (inches of water column) for the pressure of the air handled by the fan.

Supply Air - The air entering the cellar from the discharge of the evaporator coil.

Receiving, Inspecting and Unpacking

NOTE: Wine Guardian systems are factory assembled and tested prior to shipment.

Wine Guardian systems are shipped individually in corrugated boxes specially designed to protect the equipment during shipment.

- ✓ Before opening the container, inspect the packing crates or boxes for obvious signs of damage or mishandling.
- ✓ Write any discrepancy or visual damage on the bill of lading before signing.
- ✓ Inspect all equipment for any sign of damage caused during transit.
- ✓ Report all visual or concealed damage to the carrier and file a claim immediately.

IMPORTANT
If this procedure is not followed, the shipping company may reject the claim and the consignee may suffer the loss. Do not return the shipment to the factory.

WARNING

*** DO NOT LIFT THE UNIT UP FROM ITS PLASTIC FRONT PIECES TO AVOID DAMAGING THEM**

****THE UNIT SHOULD BE LIFTED FROM UNDERNEATH ITS BASE AT BOTH ENDS OF THE SYSTEM.**

Review the Packing Slip to Verify:

- ✓ Model number
- ✓ System accessories

If any items listed on the packing slip do not match your order information, contact the place of purchase immediately.

Check unit for:

- ✓ An electrical power cord (factory installed on condenser side)
- ✓ The Easy Mount™ Through-the-Wall mounting sleeve for Sentinel and Defender only.
- ✓ Accessories such as condenser oval air duct collar or duct collar kit.

General Description

The Wine Guardian Through-the-Wall cooling system is a professional-grade, self-contained climate control system designed specifically for the storage of wine at cellar temperatures. It is designed for easy installation and operation. Wine Guardian uses digital electronic controls and environmentally friendly, low Global Warming Potential (GWP), non-flammable R513a refrigerant. The entire system is run-tested at the factory and shipped as a single package. All components are of a high quality standard commercial grade. The entire system is approved by ETL according to UL 60335-2-40, CSA, and IEC safety standards. All wiring complies with NEC. All Wine Guardian equipment is CE certified. Each system is factory installed with a sealed, UL-approved power cord and plug. Power cord and plug are mounted on the evaporator side for Defender series units and on the condenser side for Classic and Sentinel series units. Wine Guardian products are assembled in the USA.

The Wine Guardian Through-the-Wall system is completely self-contained and includes an integral air-cooled condenser. The system is functionally divided into two sections: the evaporator (cooling section), and the condenser (heat rejection section). Each section contains a coil to absorb or reject heat and a fan to move the air through the coil.

As air passes through the evaporator coil, heat is absorbed by the coil, cooling the air in the wine cellar. When the coil temperature is lower than the wine cellar dew point temperature, water condenses and collects in the drain pan. The condensate flows to the condensing side where it is either removed from the unit using a drain line (Classic series) or internally evaporates using an integral condensate re-evaporator coil (Sentinel & Defender series). Air then enters the fan where it is pressured and discharged out of the system. The thermostat, located in the controller on the face of the unit, turns the cooling on or off as needed to maintain its set point.

The compressor and condenser section are activated whenever the system is cooling. The condenser fan draws air from the ambient space. Air flows through the condenser coil where heat is rejected. The air is finally discharged out of the system by the condenser fan and can be ducted. Classic and Sentinel series Through-The-Wall series units are not exterior-rated and must be mounted though an interior wall. Defender series Through-The-Wall units are rated for outdoor use and can be mounted through an exterior wall.

⚠CAUTION⚠

THE AIR EXHAUST FROM THE CONDENSER FAN IS WARM AND CAN BE 20ºF ABOVE THE ENTERING AIR TEMPERATURE.

Overview of the Through-the-Wall Unit

Chassis - The chassis is constructed of aluminum with a powder coated finish for corrosion protection and an attractive, maintenance-free appearance. Areas in contact with cold temperatures are lined with insulation to prevent condensation.

Compressors - Self-lubricating, permanently sealed, hermetic reciprocating type compressors with internal overload protection and capacitor start. Wine Guardian compressors have a minimum one-year manufacturer's warranty and an optional five-year warranty. They are mounted on rubber-in-shear isolators to reduce noise and vibration.

Condensing Section - Ambient air is circulated through the condenser section by a direct drive, electrically commutated (EC) motor. This section also contains the compressor and the electrical controls.

Evaporator Section - Wine cellar air is circulated through the evaporator section by a direct drive EC motor. The large evaporator coil face area eliminates condensate carry-over, reduces air pressure drop, and optimizes heat transfer. A drain pan is located directly below the coil to capture condensate and is fabricated from thermoplastic with a flammability rating of UL94-5VA.

Electrical Controls - All solid state electronic controls are connected internally and/or externally through communication wire connection. There is no need to open the chassis to access the factory-mounted and wired control. All internal wiring is in accordance with the National Electrical Code. Wires are numbered and color coded to match the wiring diagrams.

Factory Tested - All Wine Guardian units are factory run-tested and checked for operational performance.

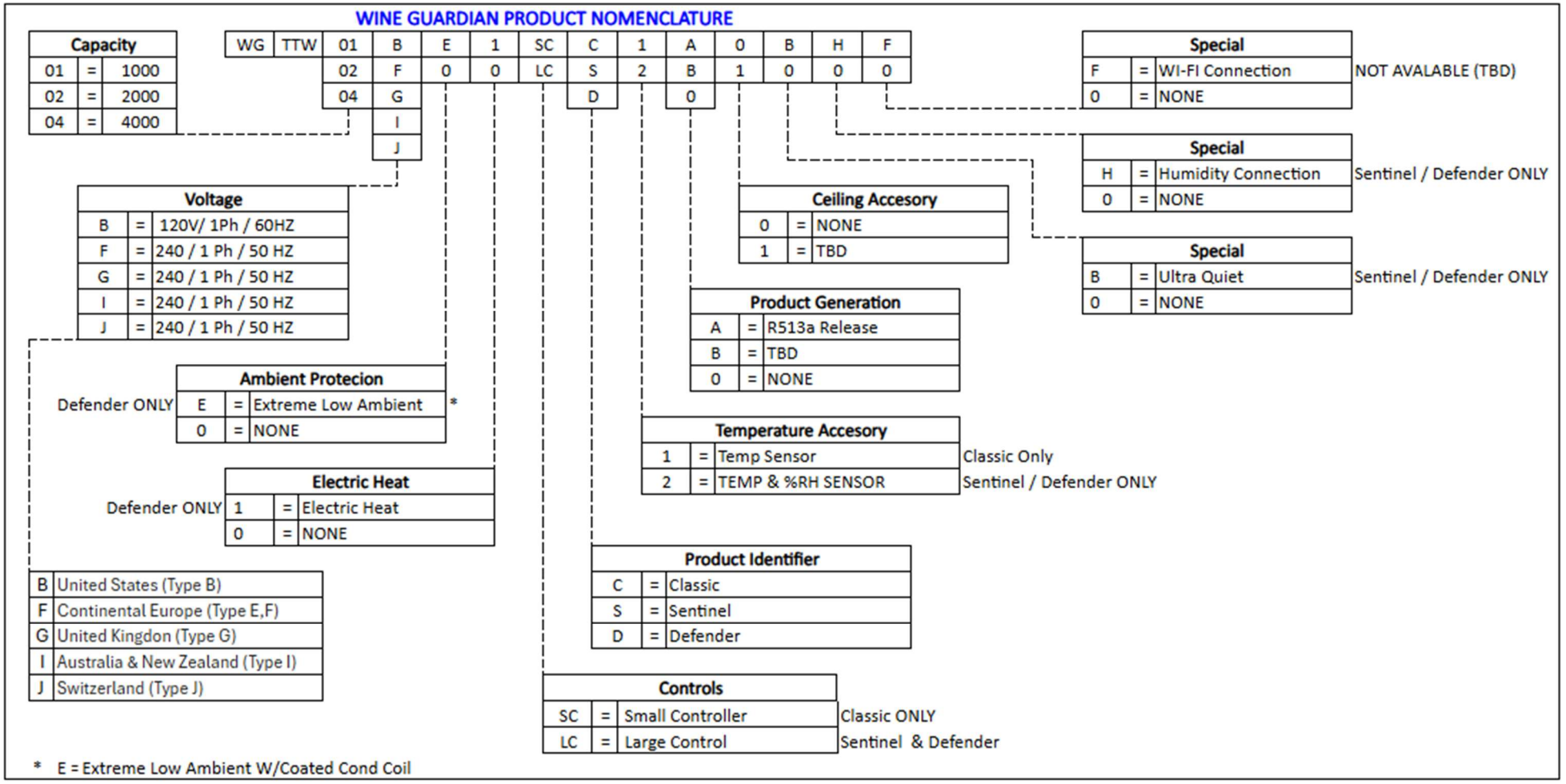
Internal Drain - Condensate from the evaporator coil is directed to the condensate removal system at the condenser end of the unit. This allows the drain pan to drain freely. No external drain is required on Sentinel or Defender series units. Classic series systems will need an external drain system.

Refrigerant Circuit - The factory-charged circuit includes a thermostatic expansion valve and an automatic reset high pressure switch.

Supply/return grilles – Supply and return grilles are made of rugged ABS plastic and factory-mounted to seal to the chassis. Air is introduced through the sides and bottom and discharged through the front perforated section.

IMPORTANT
Design and specifications are subject to change without notice

Part Number Nomenclature



Trim Package Summary

ALL UNITS:

- R513a non-flammable low GWP refrigerant
- Capacity Options:
  - 01: ~1000 BTU/hr (0.3 kWh)
  - 02: ~2000 BTU/hr (0.6 kWh)
  - 04: ~3500 BTU/hr (1.0 kWh)
- Power Options:
  - 120Volt / 60Hz / 1Phase,
  - 240Volt / 50Hz / 1Phase,
- Power Cord Options:
  - United States (Type B)
  - Continental Europe (Type E,F)
  - United Kingdon (Type G)
  - Australia & New Zealand (Type I)
  - Switzerland (Type J)

CLASSIC SERIES:

- Temperature Sensor
- Classic Evaporator Grille
- Classic Louvered Condenser Grille
- Condensate Drain Tube

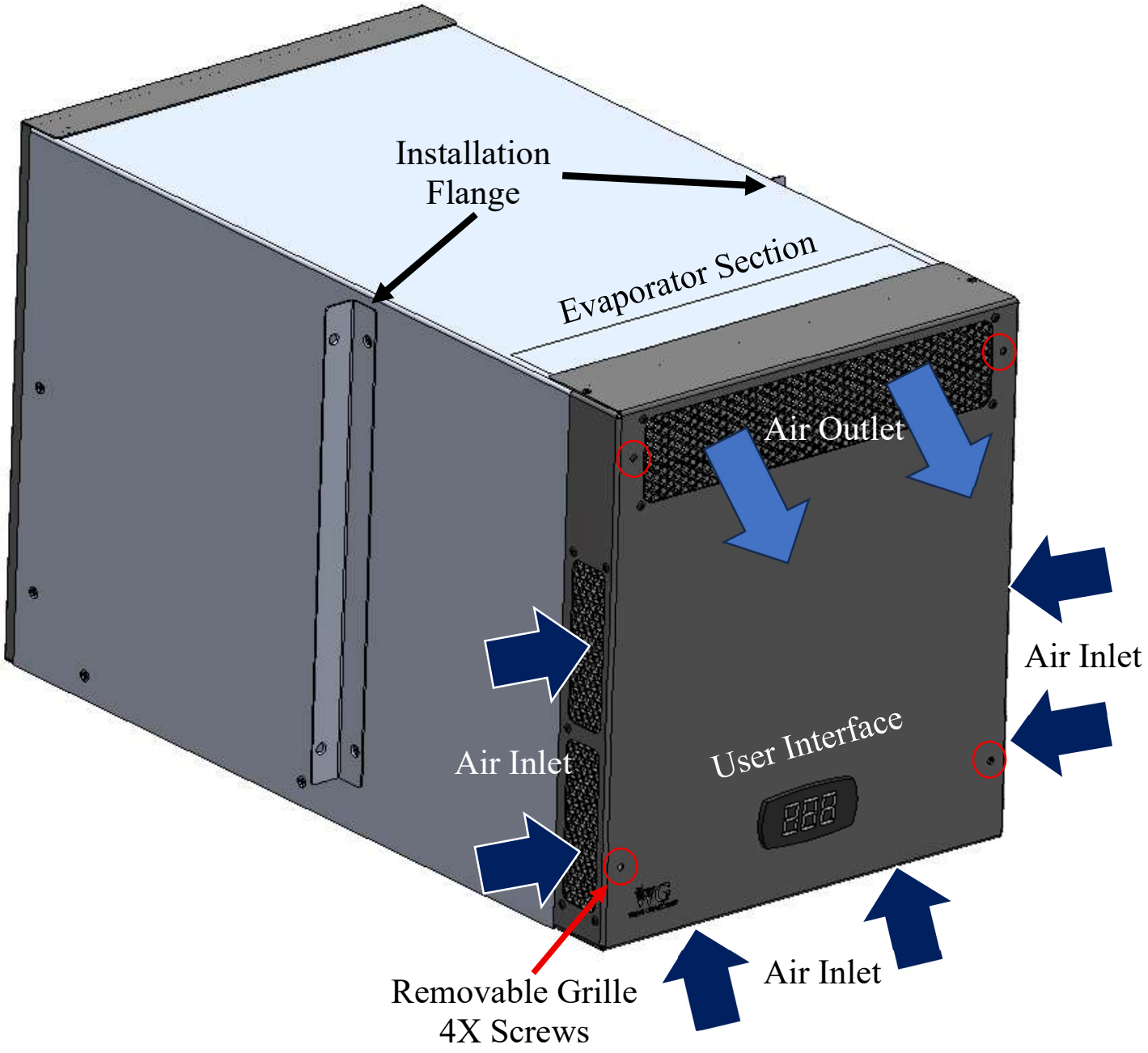
SENTINEL SERIES:

- Temperature Sensor / Relative Humidity Sensor
- Sentinel Evaporator Grille
- Sentinel Condenser Grille
- Condensate Drain Tube
- Humidifier Connection
- Condensate Re-evaporation Loop
- Internal Sound Insulation

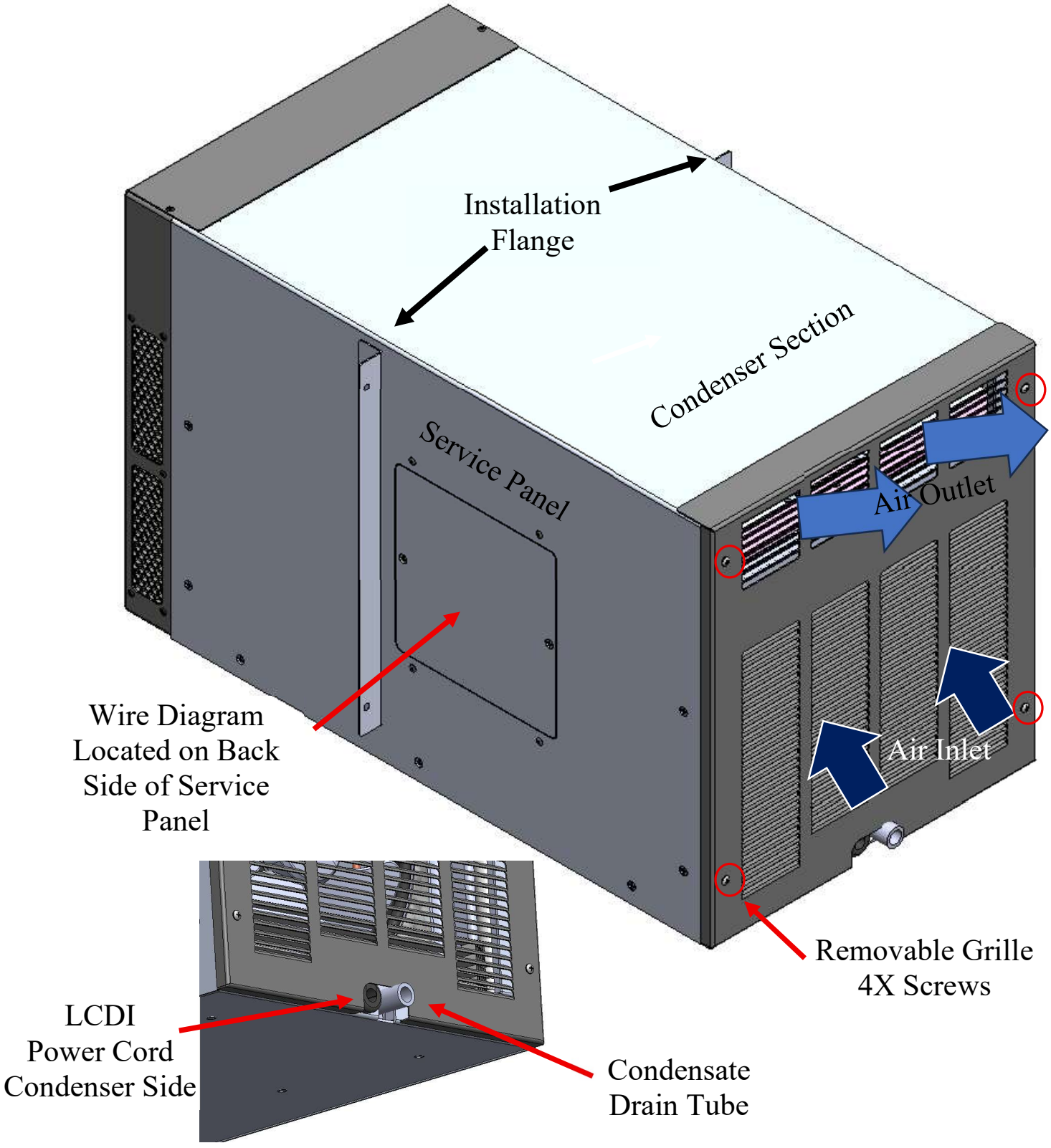
DEFENDER SERIES:

- Temperature Sensor / Relative Humidity Sensor
- Defender Evaporator Sound Attenuation Grille
- Defender Condenser Sound Attenuation Grille
- Condensate Drain Tube
- Humidifier Connection
- Condensate Re-evaporation loop
- Internal Sound Insulation
- Low Ambient Protection
- Electric Heat

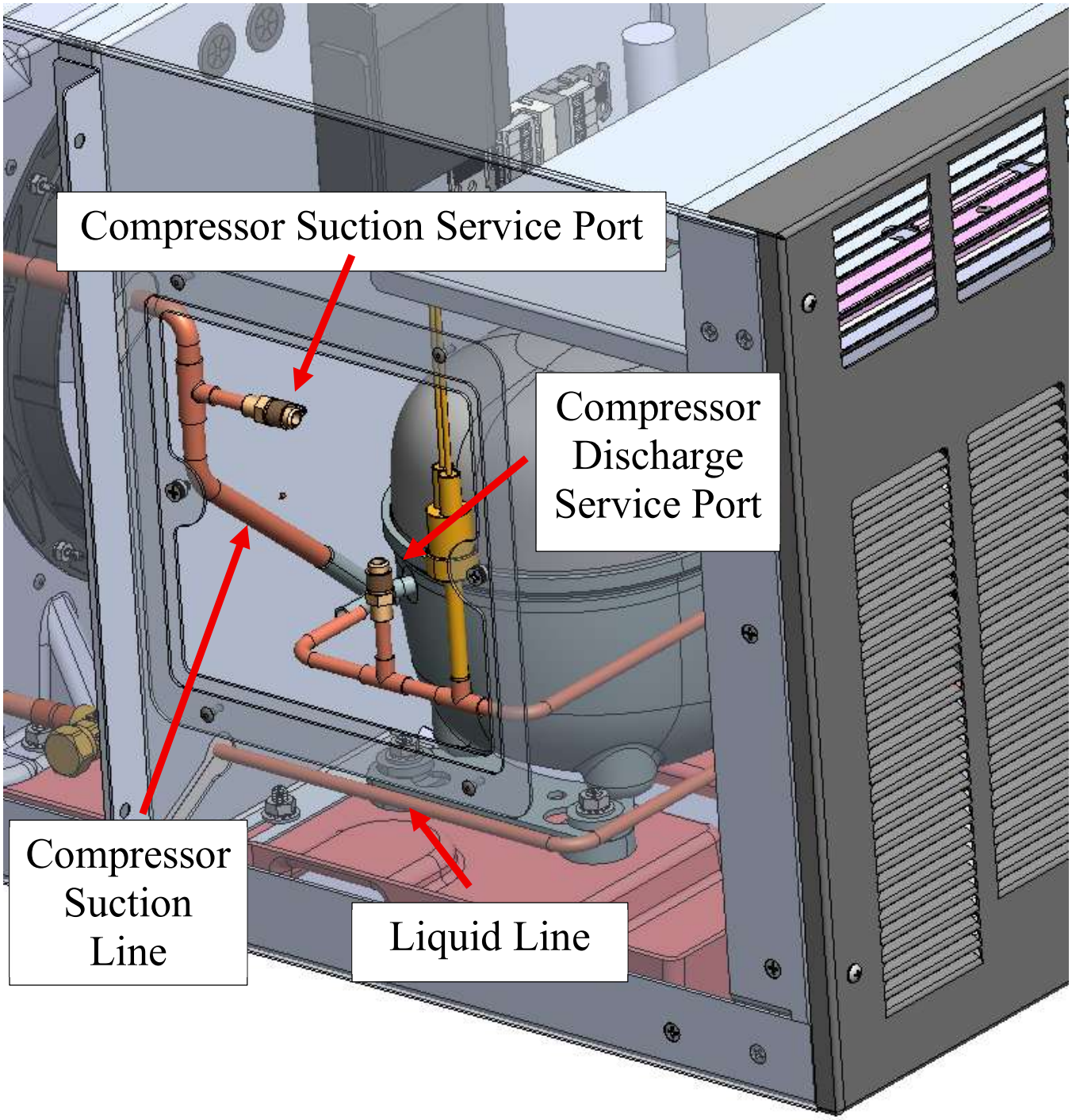
Classic Evaporator Overview



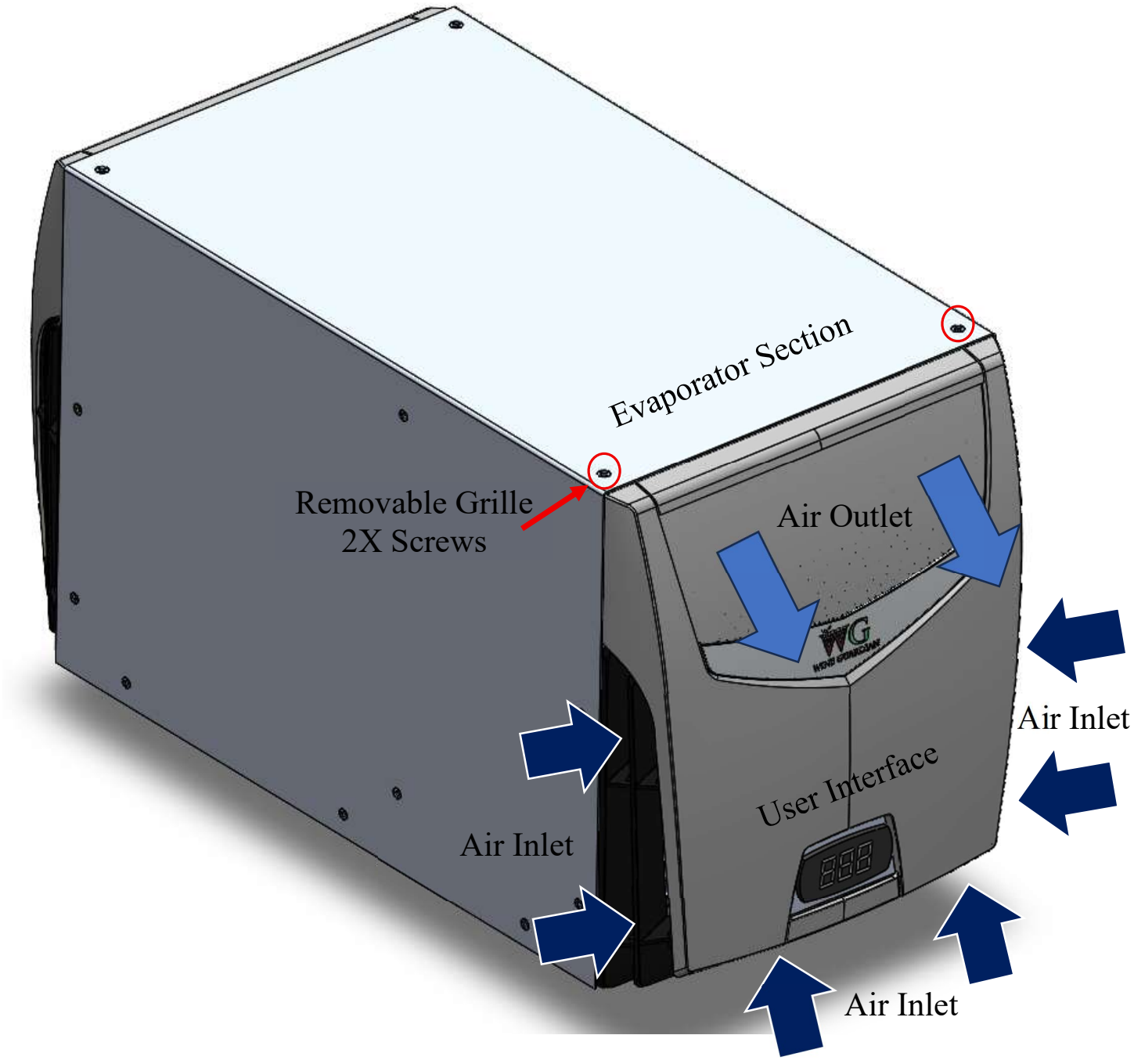
Classic Condenser Overview



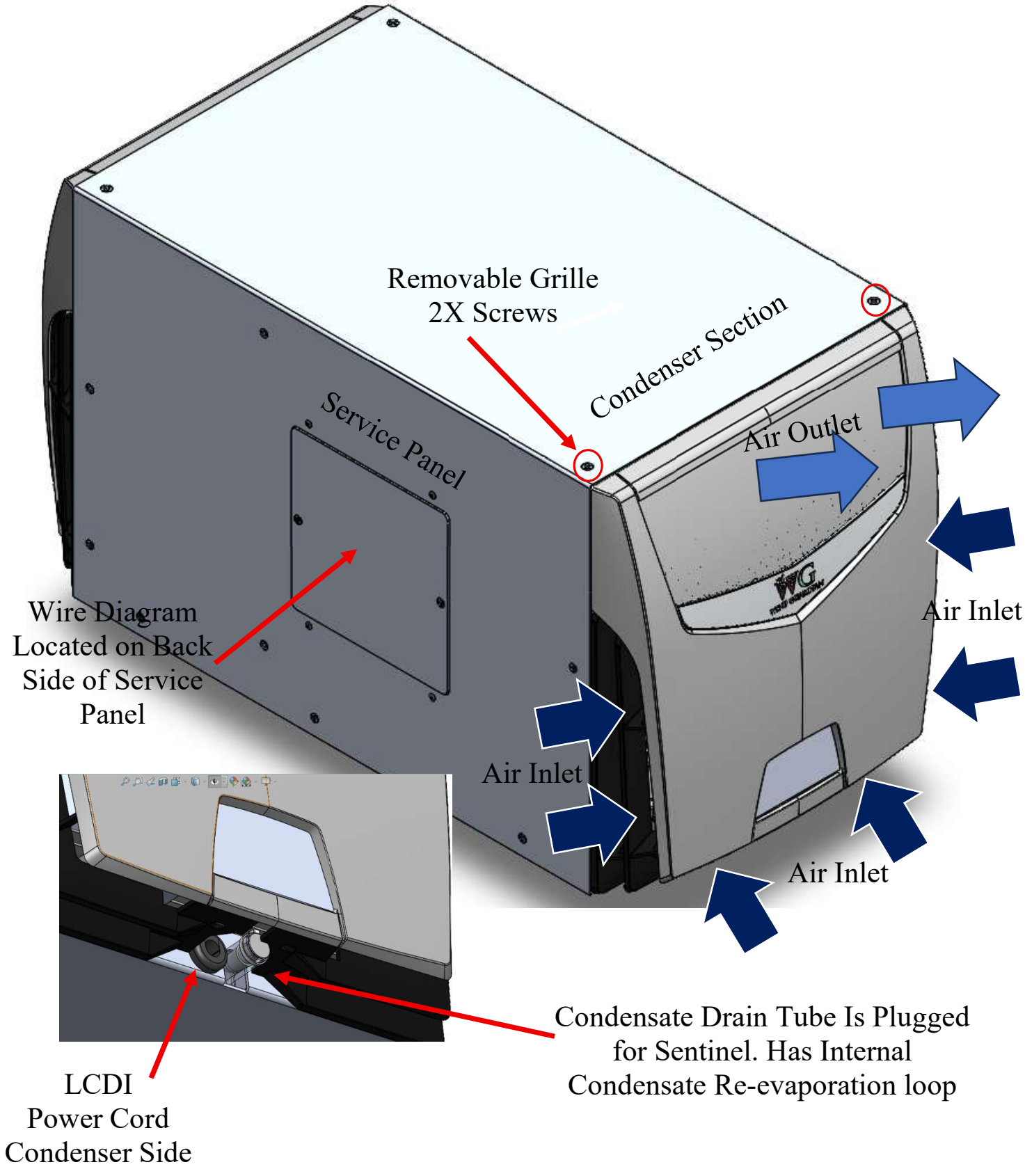
Classic Service Panel Overview



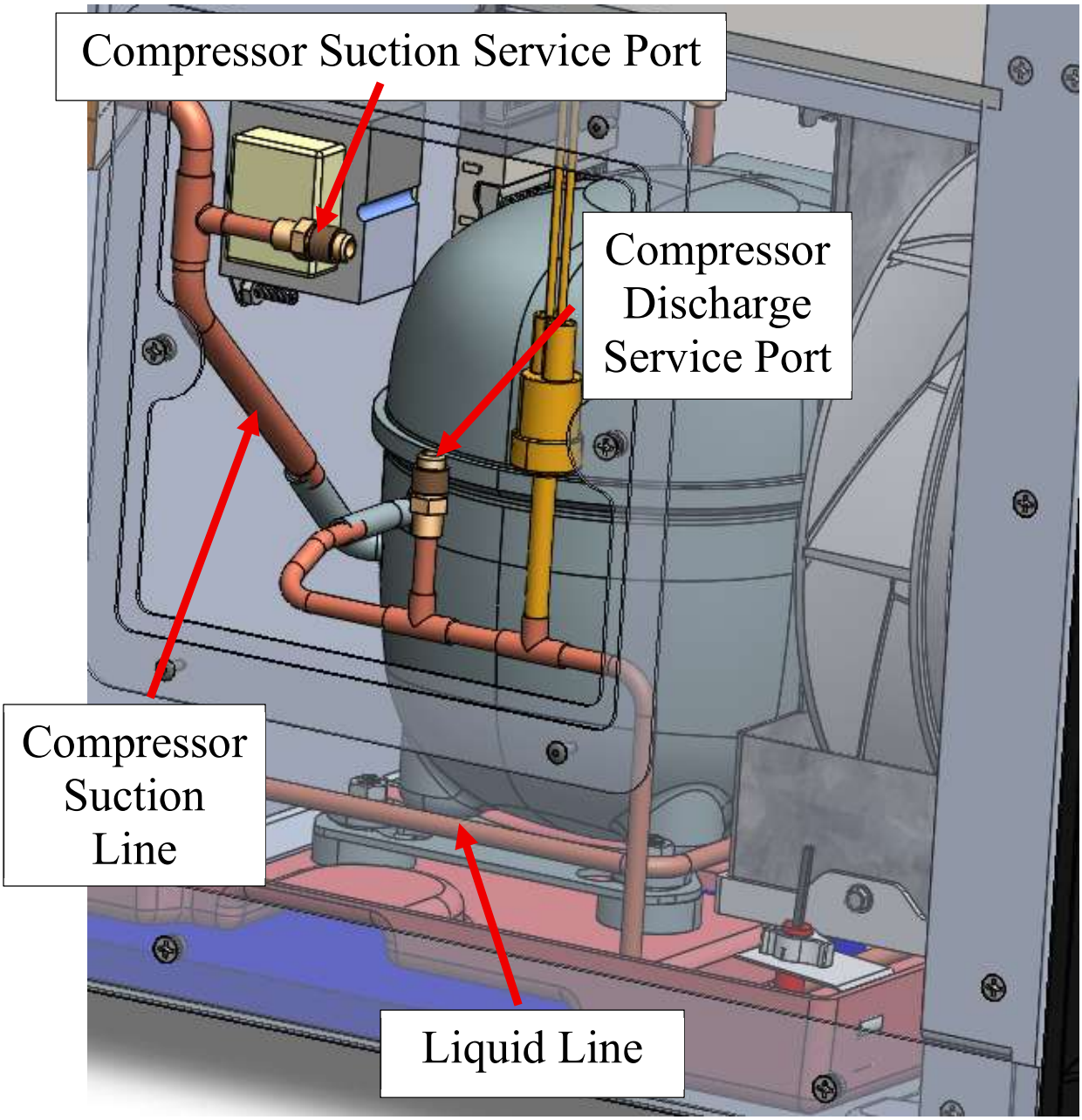
Sentinel Evaporator Overview



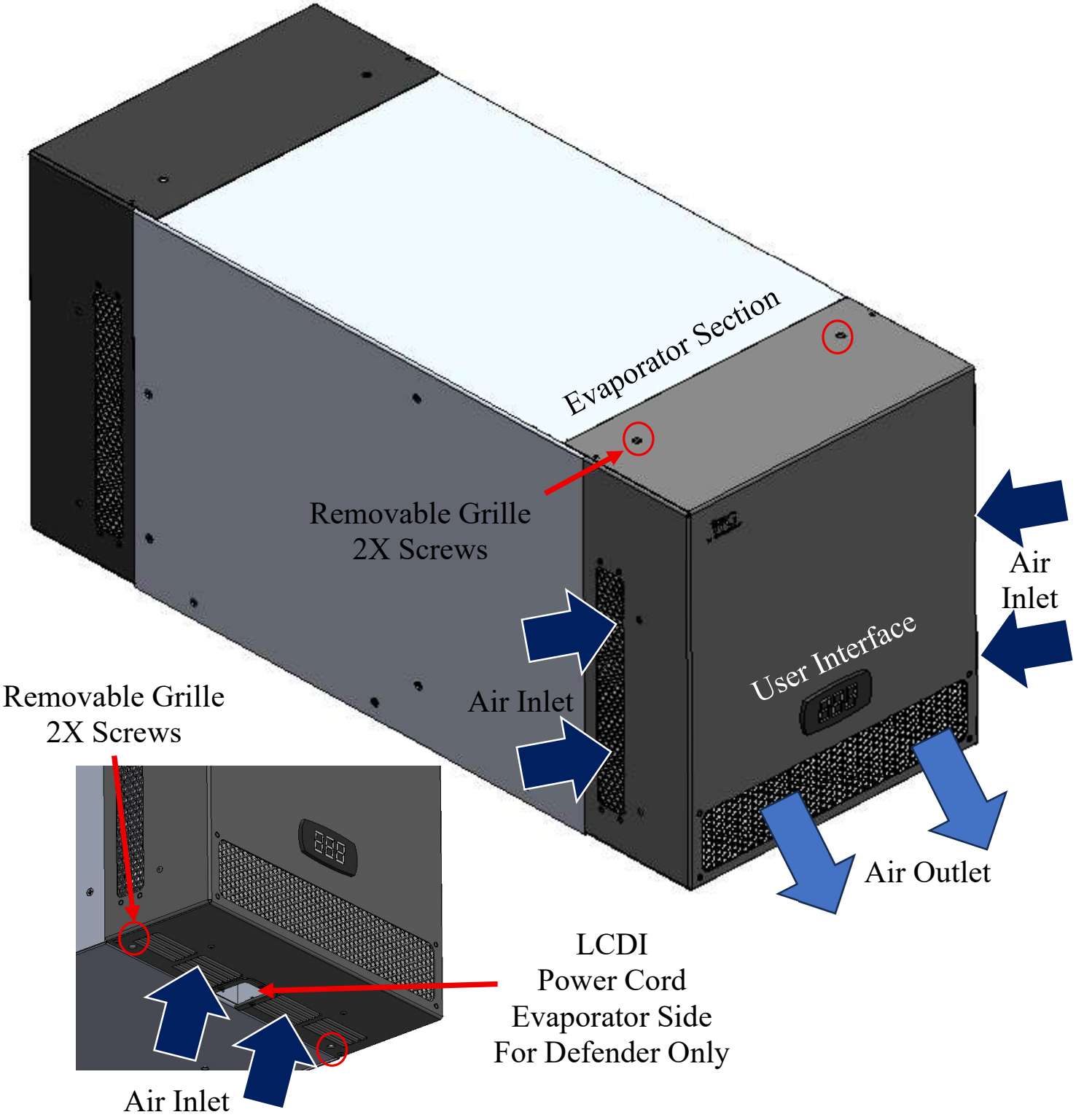
Sentinel Condenser Overview



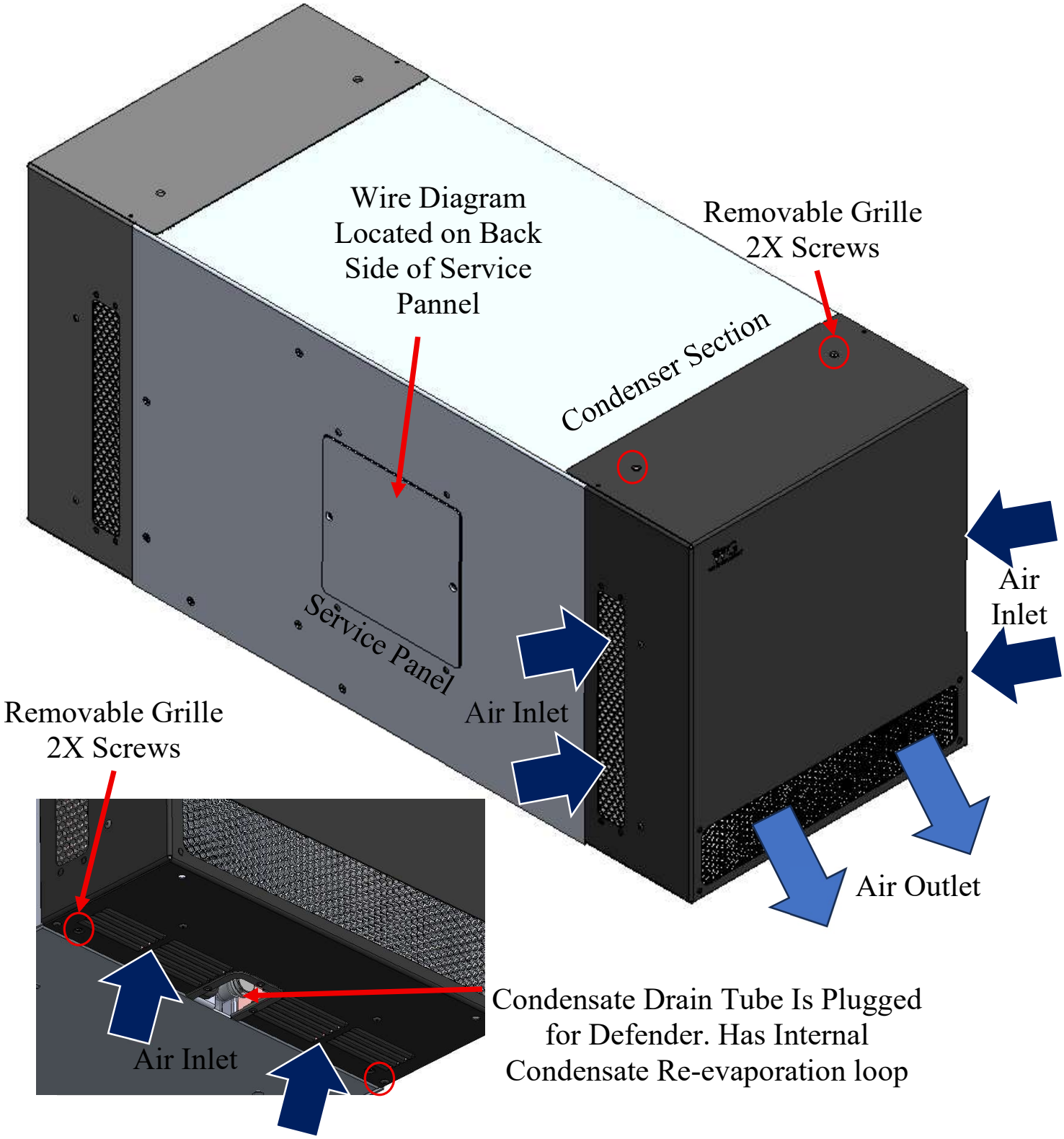
Sentinel Service Panel Overview



Defender Evaporator Overview

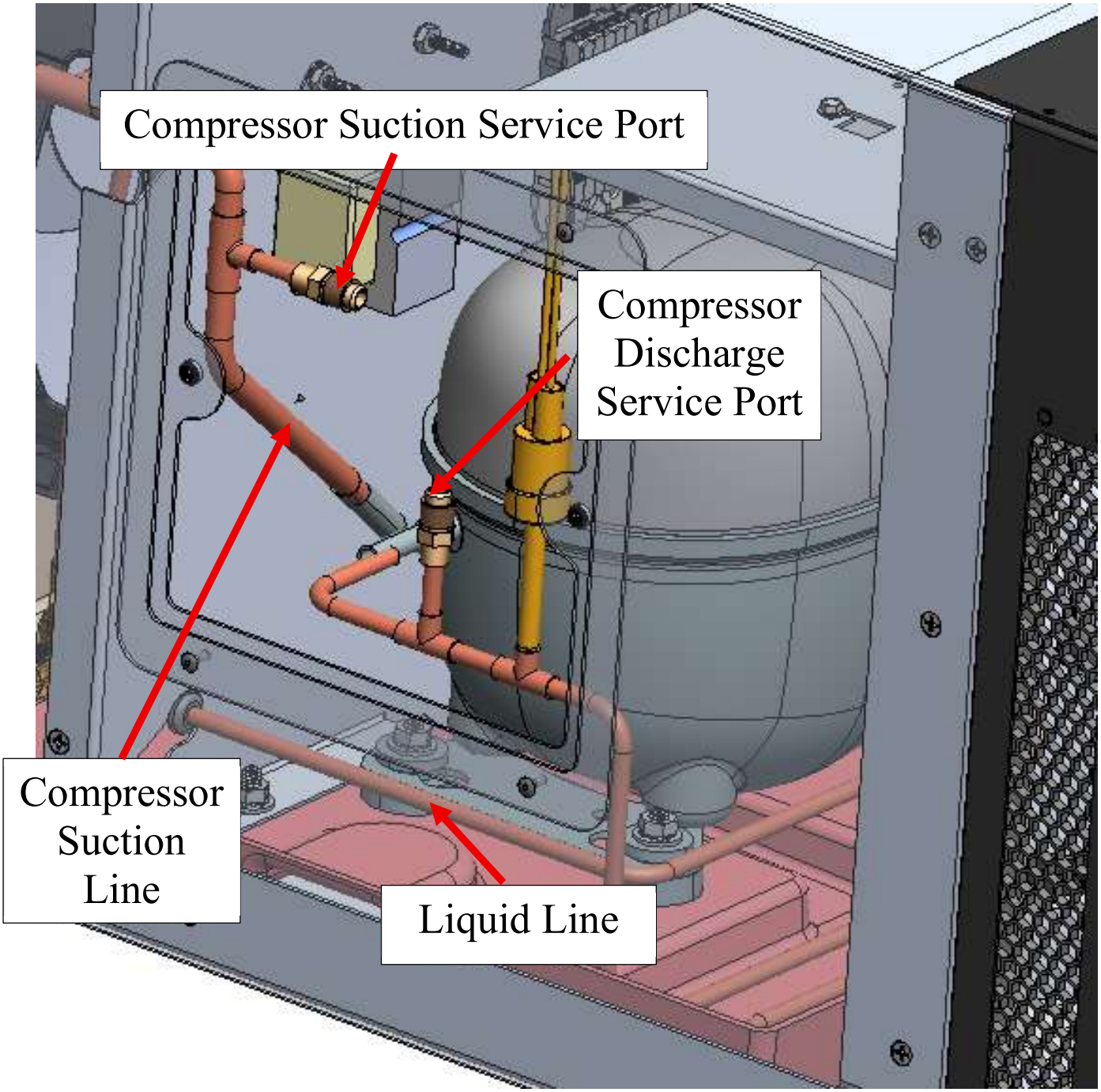


Defender Condenser Overview

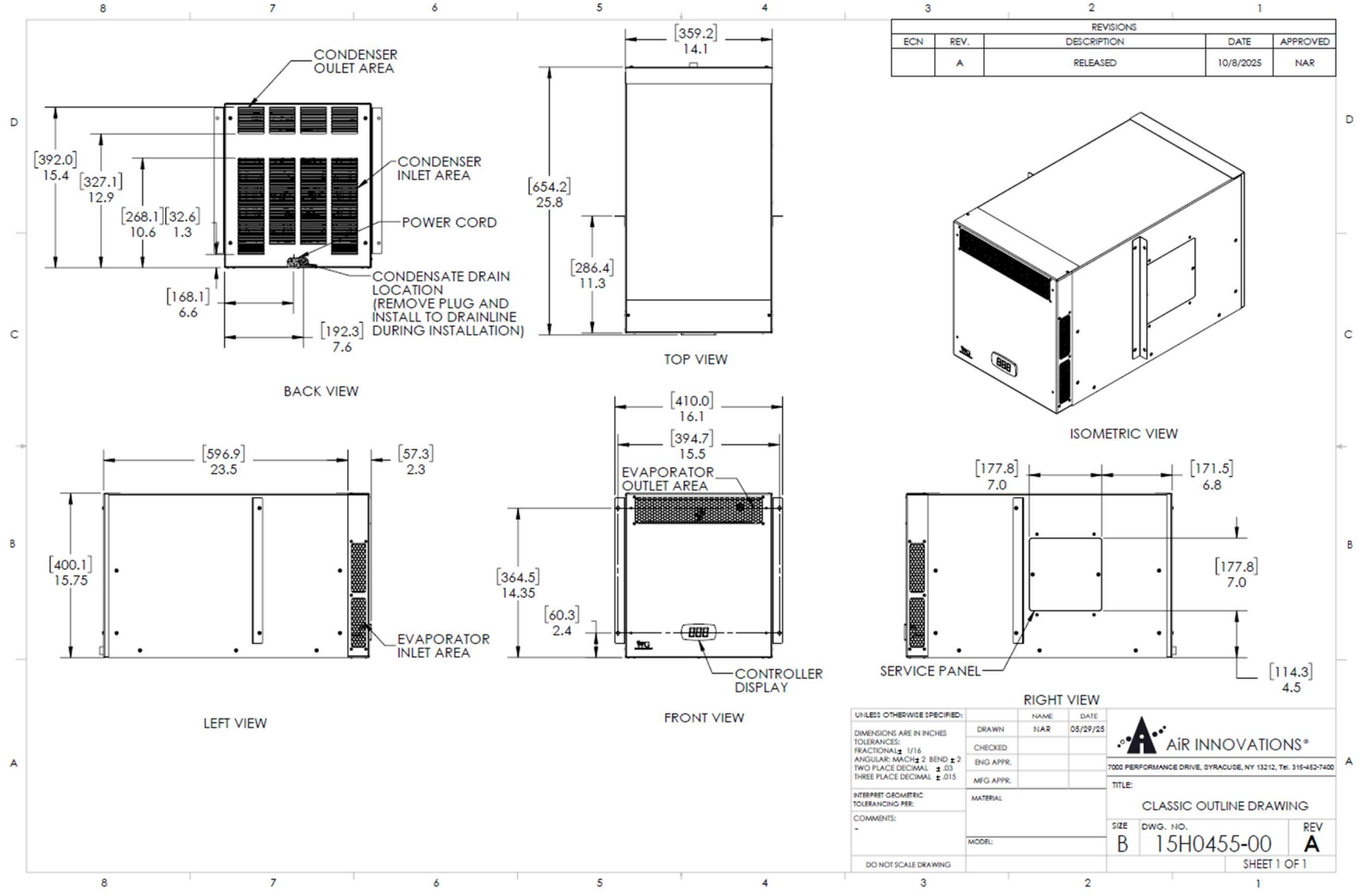


Condensate Drain Tube Is Plugged for Defender. Has Internal Condensate Re-evaporation loop

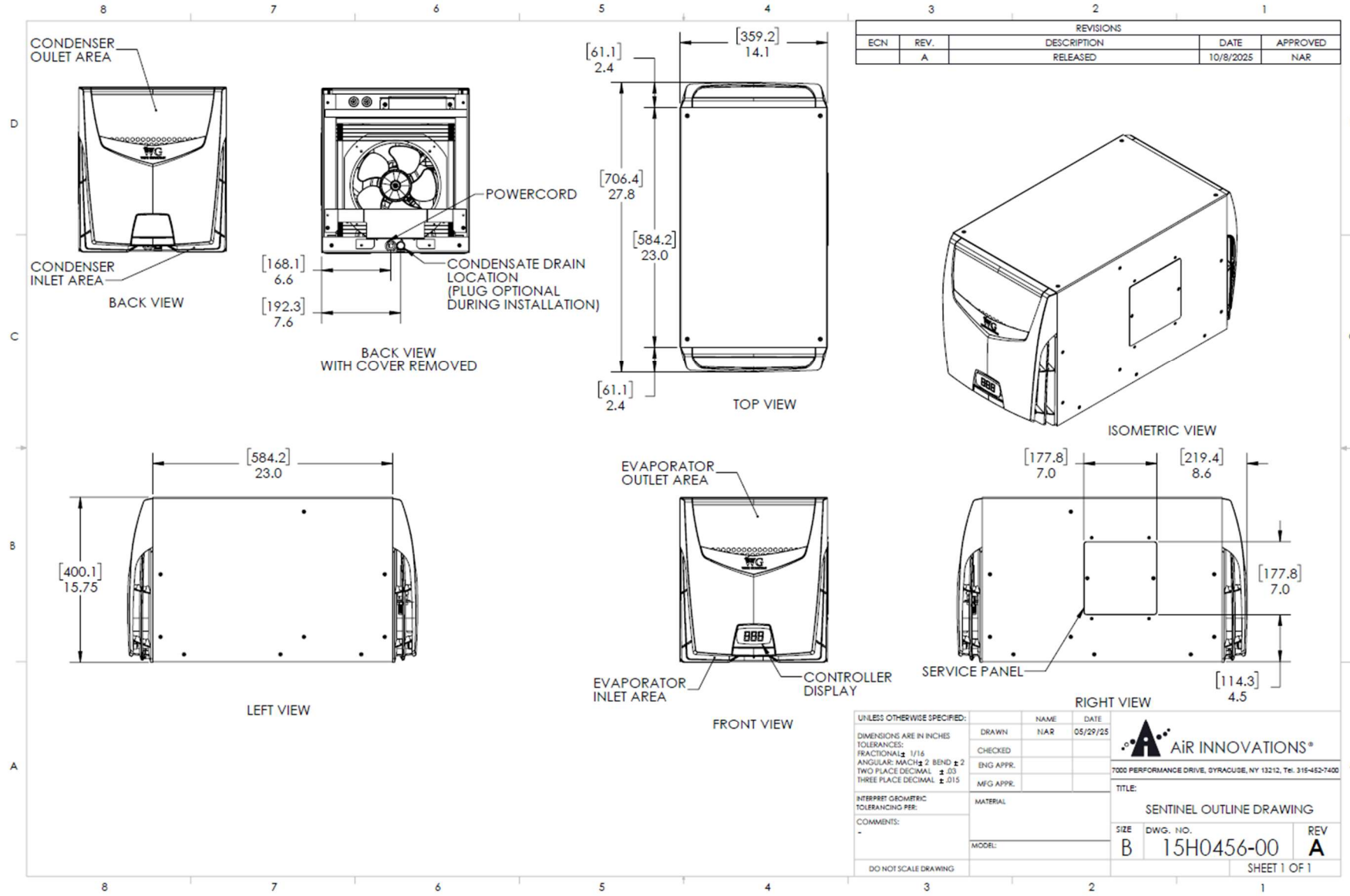
Defender Service Pannel Overview



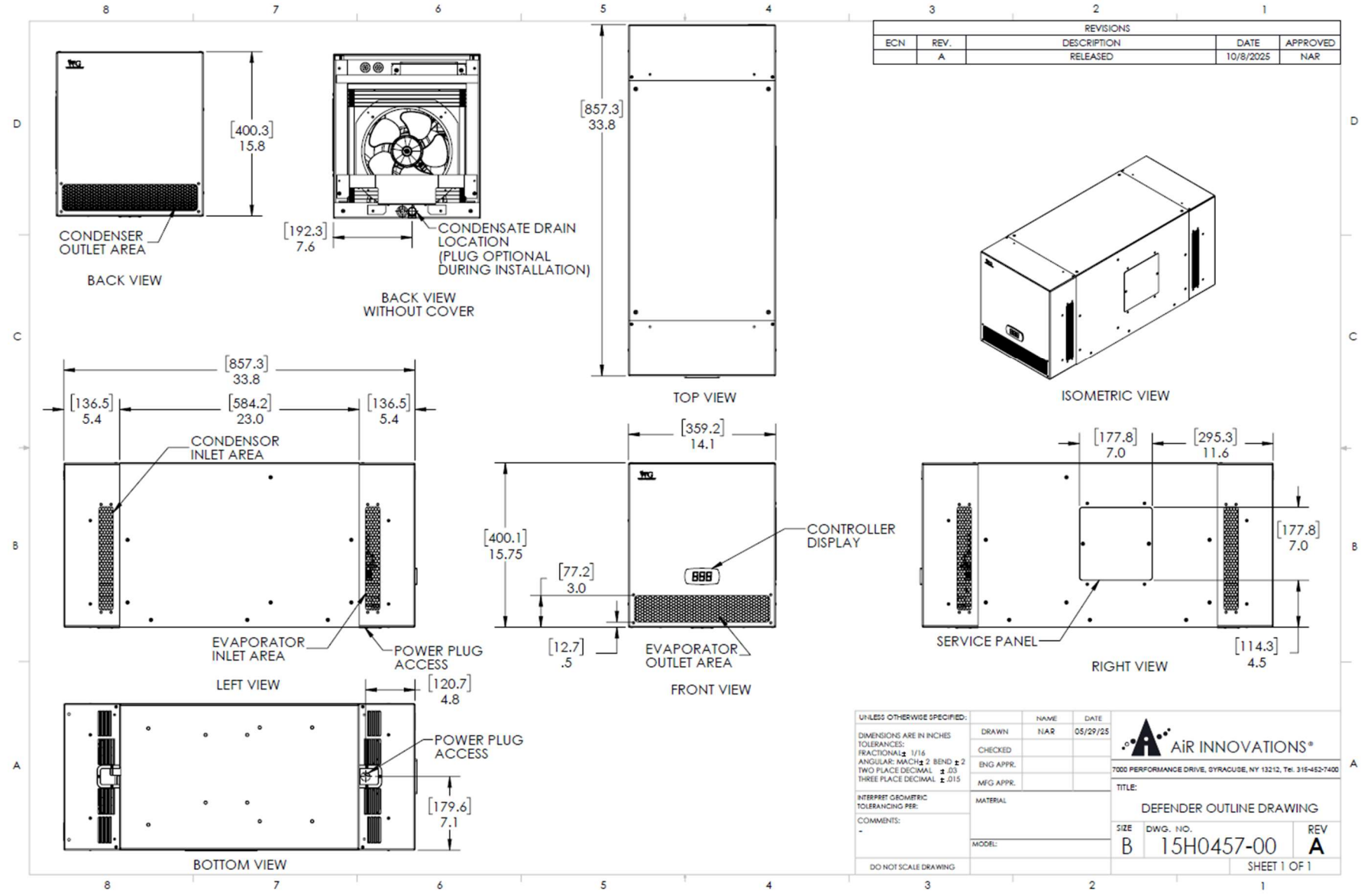
Classic Drawing



Sentinel Drawing



Defender Drawing



Performance / Specifications

120Volt/60Hz Performance Data

Through-the-Wall Systems (120V/60Hz)

Performance						Model Numbers								
						WGTTW01			WGTTW02			WGTTW04		
Evaporator Inlet Air			Condenser Inlet Air			Capacity		EFF	Capacity		EFF	Capacity		EFF
Dry Bulb	Wet Bulb	%RH	Dry Bulb	Wet Bulb	%RH	Total	Sensible	EER	Total	Sensible	EER	Total	Sensible	EER
ºF	ºF	%	ºF	ºF	%	Btu/hr	Btu/hr		Btu/hr	Btu/hr		Btu/hr	Btu/hr	
55	47	55	125	93	31	830	500	2.27	1370	1340	2.50	2350	2350	2.78
			110	82	31	880	720	3.25	1430	1480	3.53	2830	2780	3.46
			90	72	42	1070	950	4.56	2040	1760	4.93	3400	3200	4.37
			75	62	48	1440	1070	5.53	2650	1850	5.96	3760	3390	5.04
			50	44	62	1650	1180	7.24	2600	2210	7.77	4270	3510	6.22

Refrigeration System Performance						Model Numbers											
						WGTTW01				WGTTW02				WGTTW04			
Evaporator Inlet Air			Condenser Inlet Air			Disc	Suct	Suct	Liq	Disc	Suct	Suct	Liq	Disc	Suct	Suct	Liq
Dry Bulb	Wet Bulb	%RH	Dry Bulb	Wet Bulb	%RH	Pres	Pres	SH	SC	Pres	Pres	SH	SC	Pres	Pres	SH	SC
ºF	ºF	%	ºF	ºF	%	psig	psig	ºF	ºF	psig	psig	ºF	ºF	psig	psig	ºF	ºF
55	47	55	125	93	31	270	45	24	21	285	41	27	26	275	39	16	16
			110	82	31	225	41	20	20	230	38	23	25	220	36	16	16
			90	72	42	160	37	17	14	175	36	19	22	180	34	15	14
			75	62	48	125	37	14	14	135	34	17	20	130	32	12	12
			50	44	62	85	33	12	12	80	32	12	12	80	30	10	10

Evaporator Air Flow Performance	Model Numbers														
	WGTTW01					WGTTW02					WGTTW04				
	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power
	CFM	RPM	"H2O	Amps	Watts	CFM	RPM	"H2O	Amps	Watts	CFM	RPM	"H2O	Amps	Watts
Classic	110	1400	0	0.15	10.3	170	2107	0	0.4	24	250	2180	0	0.9	62
Sentinel	101	1400	0	0.13	8.8	170	2257	0	0.5	32	250	2164	0	0.9	64
Defender	99	1400	0	0.15	10.6	170	2356	0	0.6	37	250	2467	0	1.2	88

Condenser Air Flow Performance	Model Numbers														
	WGTTW01					WGTTW02					WGTTW04				
	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power
	CFM	RPM	"H2O	Amps	Watts	CFM	RPM	"H2O	Amps	Watts	CFM	RPM	"H2O	Amps	Watts
Classic	100	1800	0	0.24	17.1	170	2844	0	0.8	58	250	2630	0	1.5	112
Sentinel	117	1800	0	0.22	15.7	170	2538	0	0.7	45	250	2336	0	1.1	79
Defender	104	1800	0	0.23	16.6	170	2780	0	0.8	56	250	2600	0	1.5	111

Electrical Requirements	Model Numbers																	
	WGTTW01						WGTTW02						WGTTW04					
	Volts	Phase	Freq	Power	FLA	MCA	Volts	Phase	Freq	Power	FLA	MCA	Volts	Phase	Freq	Power	FLA	MCA
			Hz	Watts	Amps	Amps			Hz	Watts	Amps	Amps			Hz	Watts	Amps	Amps
Classic	120	1	60	260	5.1	6.2	120	1	60	424	6.5	7.6	120	1	60	770	12	14
Sentinel	120	1	60	260	5.1	6.2	120	1	60	424	6.5	7.6	120	1	60	770	12	14
Defender	120	1	60	260	5.1	6.2	120	1	60	424	6.5	7.6	120	1	60	770	12	14

Chassis	Model Numbers																	
	WGTTW01						WGTTW02						WGTTW04					
	Dimensions			Weight	Condensate		Dimensions			Weight	Condensate		Dimensions			Weight	Condensate	
	Length	Width	Height				Length	Width	Height				Length	Width	Height			
	inch	inch	inch	lbs			inch	inch	inch	lbs			inch	inch	inch	lbs		
Classic	25.8	14.1	15.75	58	Drain		25.8	14.1	15.75	64	Drain		25.8	14.1	15.75	71	Drain	
Sentinel	27.6	14.1	15.75	58	Re-Evap		27.6	14.1	15.75	64	Re-Evap		27.6	14.1	15.75	71	Re-Evap	
Defender	33.8	14.1	15.75	65	Re-Evap		33.8	14.1	15.75	71	Re-Evap		33.8	14.1	15.75	78	Re-Evap	

120Volt/60Hz Fan Performance Data

Through-the-Wall Systems

Evaporator Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	"H2O	CFM	Amps	Watts	dBA @ 6"
Classic	01	120	1	60	1400	0	110	0.15	10.3	51.9
Sentinel					1400	0	101	0.13	8.80	49.5
Defender					1400	0	99	0.15	10.6	47.9

Condenser Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	"H2O	CFM	Amps	Watts	dBA @ 6"
Classic	01	120	1	60	1800	0	100	0.24	17.1	55.7
Sentinel					1800	0	117	0.22	15.7	53
Defender					1800	0	104	0.23	16.6	49.6

Evaporator Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	"H2O	CFM	Amps	Watts	dBA @ 6"
Classic	02	120	1	60	2107	0	170	0.4	24	58
Sentinel					2257	0	170	0.5	32	56.7
Defender					2356	0	170	0.6	37	54

Condenser Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	"H2O	CFM	Amps	Watts	dBA @ 6"
Classic	02	120	1	60	2844	0	170	0.8	58	63.2
Sentinel					2538	0	170	0.7	45	56.5
Defender					2780	0	170	0.8	56	53.2

Evaporator Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	"H2O	CFM	Amps	Watts	dBA @ 6"
Classic	04	120	1	60	2180	0	250	0.9	62	59.3
Sentinel					2164	0	250	0.9	64	57.9
Defender					2467	0	250	1.2	88	56.9

Condenser Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	"H2O	CFM	Amps	Watts	dBA @ 6"
Classic	04	120	1	60	2630	0	250	1.5	112	60.2
Sentinel					2336	0	250	1.1	79	59.8
Defender					2600	0	250	1.5	111	57.7

Classic Evaporator	Sentinel Evaporator	Defender Evaporator
		
Classic Condenser	**Sentinel Condenser**	**Defender Condenser**
		

240Volt/50Hz Performance Data

Through-the-Wall Systems (240V/50Hz)

Performance						Model Numbers								
						WGTTW01			WGTTW02			WGTTW04		
Evaporator Inlet Air			Condenser Inlet Air			Capacity		EFF	Capacity		EFF	Capacity		EFF
Dry Bulb	Wet Bulb	%RH	Dry Bulb	Wet Bulb	%RH	Total	Sensible	EER	Total	Sensible	EER	Total	Sensible	EER
ºC	ºC	ºC	ºC	ºC	%	Watts	Watts		Watts	Watts		Watts	Watts	
12.8	8.3	55	51.5	33.9	31	243	146	2.27	401	392	2.50	688	688	2.78
			43.3	27.8	31	258	211	3.25	419	433	3.53	829	814	3.46
			32.3	22.2	42	313	278	4.56	597	515	4.93	996	937	4.37
			24.1	16.7	48	422	313	5.53	776	542	5.96	1101	993	5.04
			9.8	6.7	62	483	346	7.24	761	647	7.77	1250	1028	6.22

Refrigeration System Performance						Model Numbers											
						WGTTW01				WGTTW02				WGTTW04			
Evaporator Inlet Air			Condenser Inlet Air			Disc	Suct	Suct	Liq	Disc	Suct	Suct	Liq	Disc	Suct	Suct	Liq
Dry Bulb	Wet Bulb	%RH	Dry Bulb	Wet Bulb	%RH	Press	Press	SH	SC	Press	Press	SH	SC	Press	Press	SH	SC
ºC	ºC	%	ºC	ºC	%	KPa	KPa	ºC	ºC	KPa	KPa	ºC	ºC	KPa	KPa	ºC	ºC
12.8	8.3	55	51.5	33.9	31	1862	310	13.3	11.7	1965	283	15.0	14.4	1896	269	8.9	8.9
			43.3	27.8	31	1551	283	11.1	11.1	1586	262	12.8	13.9	1517	248	8.9	8.9
			32.3	22.2	42	1103	255	9.4	7.8	1207	248	10.6	12.2	1241	234	8.3	7.8
			24.1	16.7	48	862	255	7.8	7.8	931	234	9.4	11.1	896	221	6.7	6.7
			9.8	6.7	62	586	228	6.7	6.7	552	221	6.7	6.7	552	207	5.6	5.6

Evaporator Air Flow Performance	Model Numbers														
	WGTTW01					WGTTW02					WGTTW04				
	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power
	m³/hr	RPM	Pa	Amps	Watts	m³/hr	RPM	Pa	Amps	Watts	m³/hr	RPM	Pa	Amps	Watts
Classic	187	1400	0	0.1	11	289	2213	0	0.3	25	425	2282	0	0.5	60
Sentinel	187	1400	0	0.1	11	289	2271	0	0.3	30	425	2291	0	0.6	70
Defender	168	1400	0	0.1	12	289	2471	0	0.4	41	425	2585	0	0.8	105

Condenser Air Flow Performance	Model Numbers														
	WGTTW01					WGTTW02					WGTTW04				
	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power	Air Flow	Speed	Static	Current	Power
	m³/hr	RPM	Pa	Amps	Watts	m³/hr	RPM	Pa	Amps	Watts	m³/hr	RPM	Pa	Amps	Watts
Classic	172	1800	0	0.2	18	289	2743	0	0.7	80	425	2678	0	0.7	125
Sentinel	200	1800	0	0.2	16	289	2409	0	0.6	61	425	2437	0	0.9	84
Defender	178	1800	0	0.2	17	289	2880	0	0.5	57	425	2656	0	0.9	100

Electrical Requirements	Model Numbers																	
	WGTTW01						WGTTW02						WGTTW04					
	Volts	Phase	Freq	Power	FLA	MCA	Volts	Phase	Freq	Power	FLA	MCA	Volts	Phase	Freq	Power	FLA	MCA
			Hz	Watts	Amps	Amps			Hz	Watts	Amps	Amps			Hz	Watts	Amps	Amps
Classic	240	1	50	260	2.9	3.4	240	1	50	424	4.1	4.8	240	1	50	770	5.5	6.3
Sentinel	240	1	50	260	2.9	3.4	240	1	50	424	4.1	4.8	240	1	50	770	5.5	6.3
Defender	240	1	50	260	2.9	3.4	240	1	50	424	4.1	4.8	240	1	50	770	5.5	6.3

Chassis	Model Numbers															
	WGTTW01					WGTTW02					WGTTW04					
	Dimensions			Weight	Condensate	Dimensions			Weight	Condensate	Dimensions			Weight	Condensate
	Length	Width	Height			Length	Width	Height			Length	Width	Height		
	m	m	m	kg		m	m	m	kg		m	m	m	kg	
Classic	0.66	0.36	0.40	26.3	Drain	0.66	0.36	0.40	29.0	Drain	0.66	0.36	0.40	32.2	Drain
Sentinel	0.70	0.36	0.40	26.3	Re-Evap	0.70	0.36	0.40	29.0	Re-Evap	0.70	0.36	0.40	32.2	Re-Evap
Defender	0.86	0.36	0.40	29.5	Re-Evap	0.86	0.36	0.40	32.2	Re-Evap	0.86	0.36	0.40	35.4	Re-Evap

240Volt/50Hz Fan Performance Data

Through-the-Wall Systems

Evaporator Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	Pa	m³/hr	Amps	Watts	dBA
Classic	01	240	1	50	1400	0	187	0.12	11.1	51
Sentinel					1400	0	187	0.12	11.2	49.5
Defender					1400	0	168	0.12	11.6	47.9

Condenser Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	Pa	m³/hr	Amps	Watts	dBA
Classic	01	240	1	50	1800	0	172	0.17	18	64
Sentinel					1800	0	200	0.16	16	53
Defender					1800	0	178	0.17	17	49.6

Evaporator Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	Pa	m³/hr	Amps	Watts	dBA
Classic	02	240	1	50	2213	0	289	0.3	25	65
Sentinel					2271	0	289	0.3	30	62.2
Defender					2471	0	289	0.4	41	57.1

Condenser Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	Pa	m³/hr	Amps	Watts	dBA
Classic	02	240	1	50	2743	0	289	0.7	80	54
Sentinel					2409	0	289	0.6	61	59.8
Defender					2880	0	289	0.5	57	56.4

Evaporator Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	Pa	m³/hr	Amps	Watts	dBA
Classic	04	240	1	50	2282	0	425	0.5	60	61
Sentinel					2291	0	425	0.6	70	63.5
Defender					2585	0	425	0.8	105	63.2

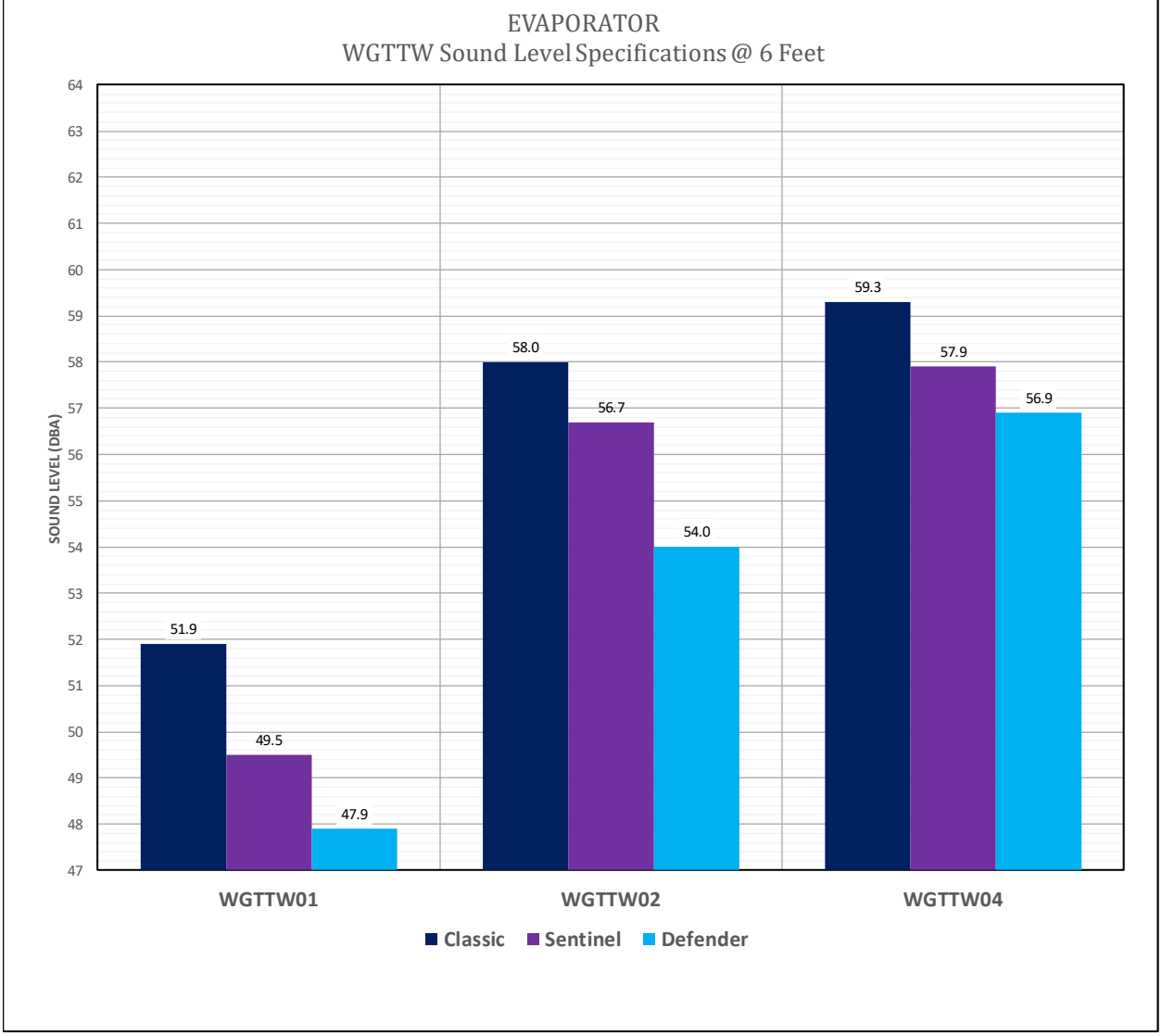
Condenser Air Flow Performance	Capacity	Volts	Phase	Freq	Fan Speed	Static	Air Flow	Current	Power	Sound Level
				Hz	RPM	Pa	m³/hr	Amps	Watts	dBA
Classic	04	240	1	50	2678	0	425	0.7	125	62.4
Sentinel					2437	0	425	0.9	84	60.9
Defender					2656	0	425	0.9	100	57.5

Classic Evaporator	Sentinel Evaporator	Defender Evaporator
		
Classic Condenser	**Sentinel Condenser**	**Defender Condenser**
		

Sound Performance 120Volt/60Hz–240Volt/50Hz

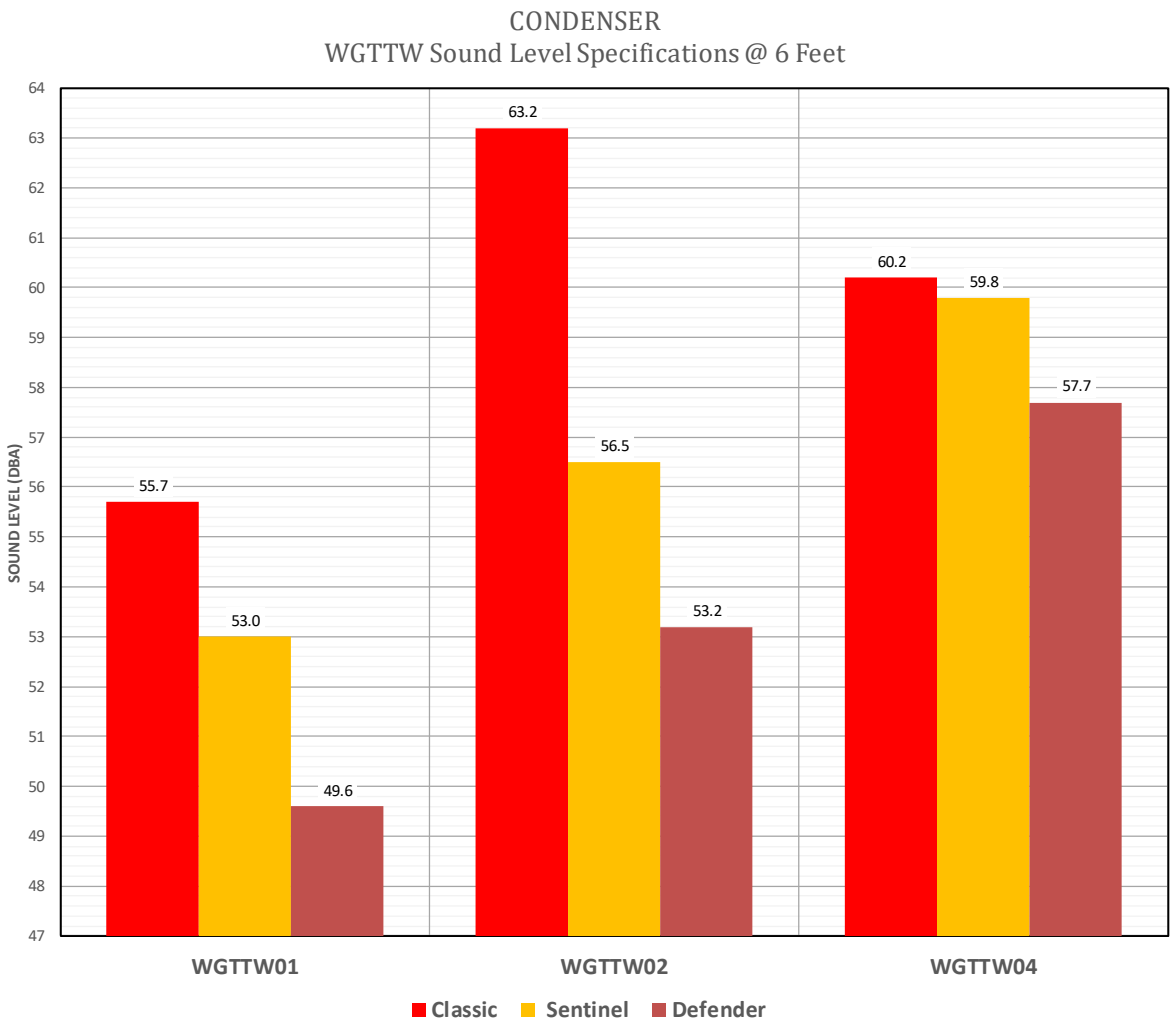
Evaporator:

Evaporator	WGTTW01		WGTTW02		WGTTW04	
	3' dBA	6' dBA	3' dBA	6' dBA	3' dBA	6' dBA
Classic	53.0	51.9	57.9	58.0	60.2	59.3
Sentinel	51.8	49.5	58.4	56.7	59.3	57.9
Defender	49.4	47.9	55.4	54.0	57.3	56.9



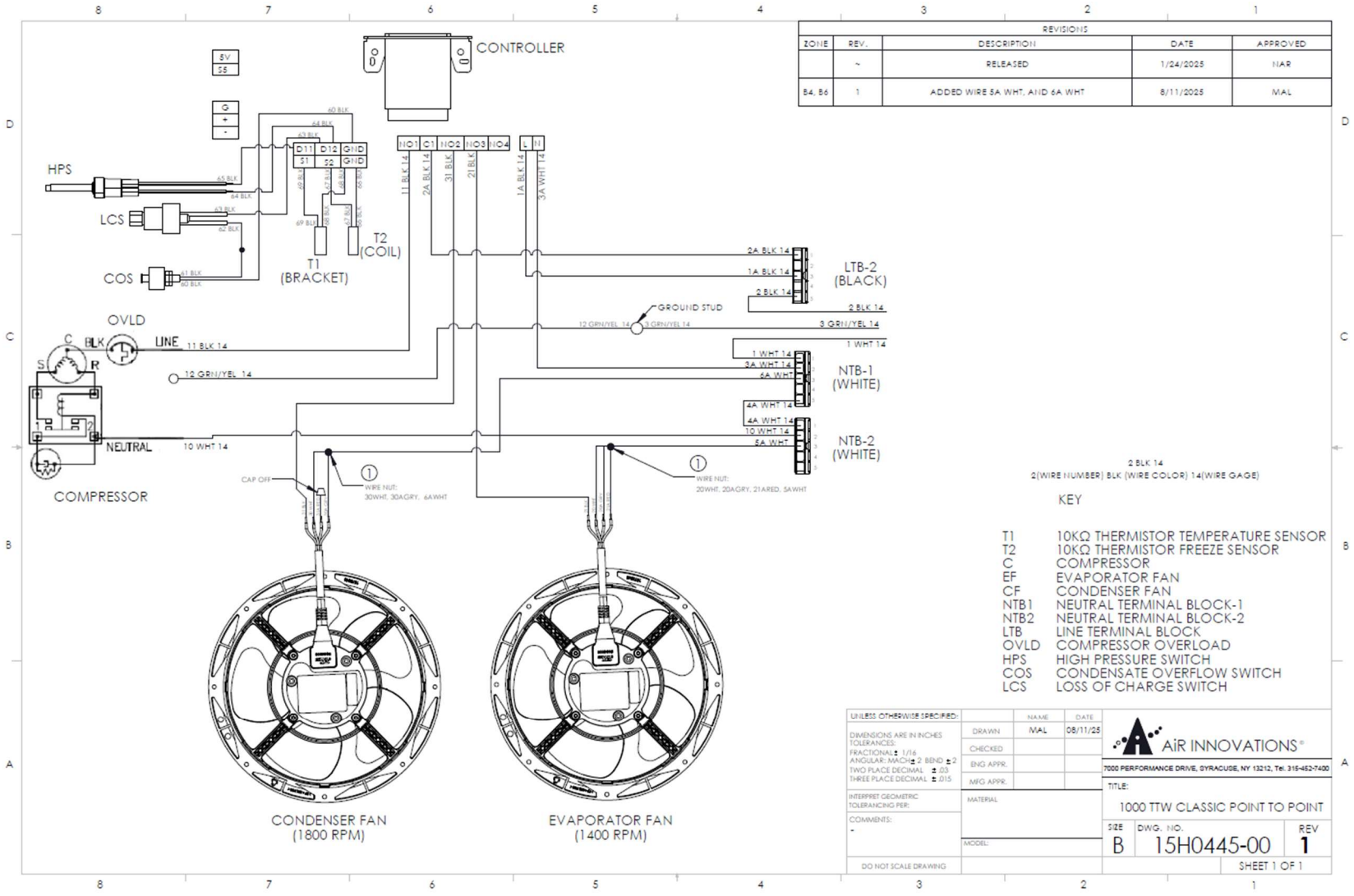
Condenser:

Condenser	WGTTW01		WGTTW02		WGTTW04	
	3' dBA	6' dBA	3' dBA	6' dBA	3' dBA	6' dBA
Classic	58.6	55.7	67.1	63.2	63.0	60.2
Sentinel	56.2	53.0	59.3	56.5	62.8	59.8
Defender	53.3	49.6	57.0	53.2	61.6	57.7



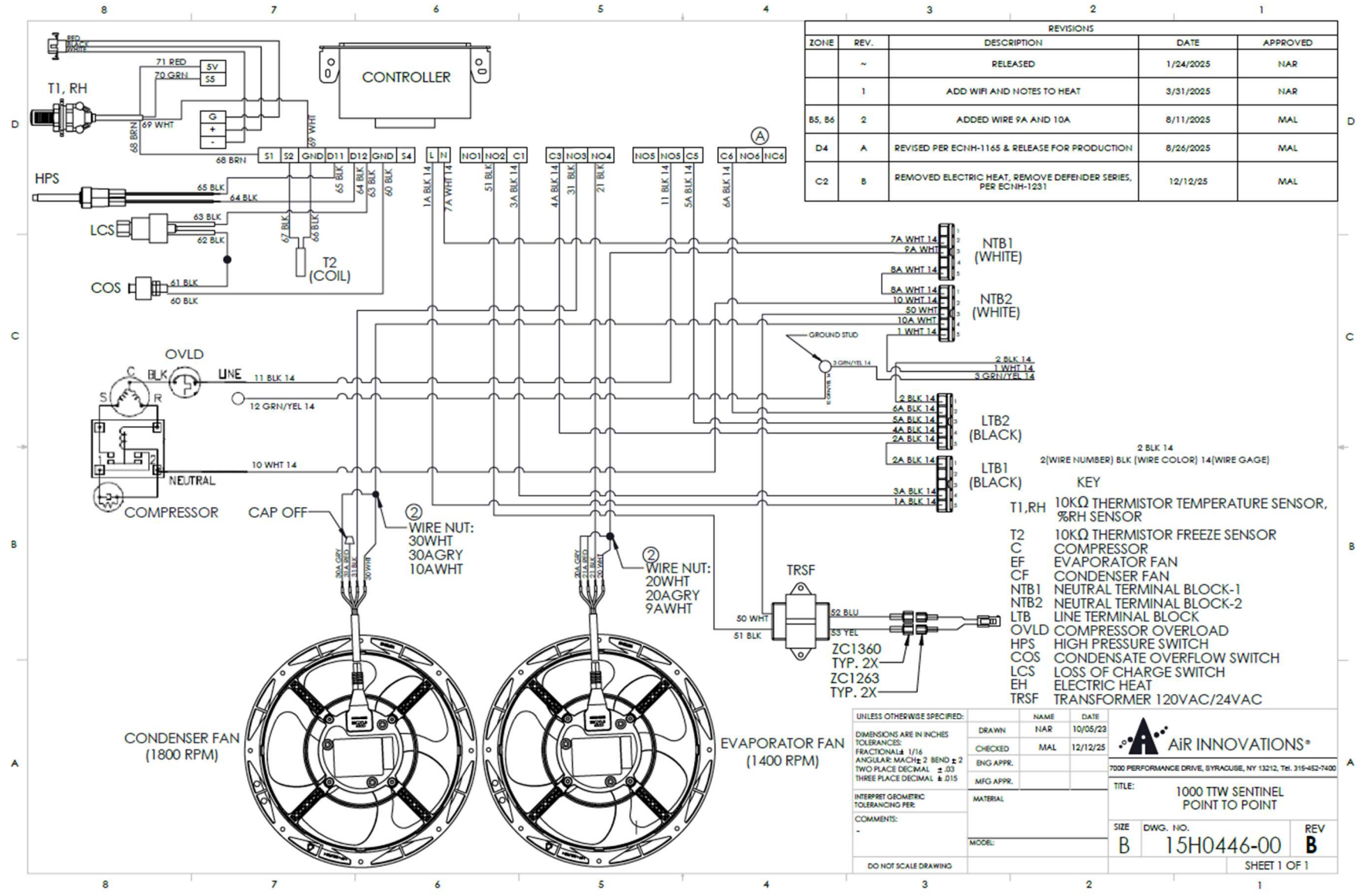
Schematics

WG Classic 01

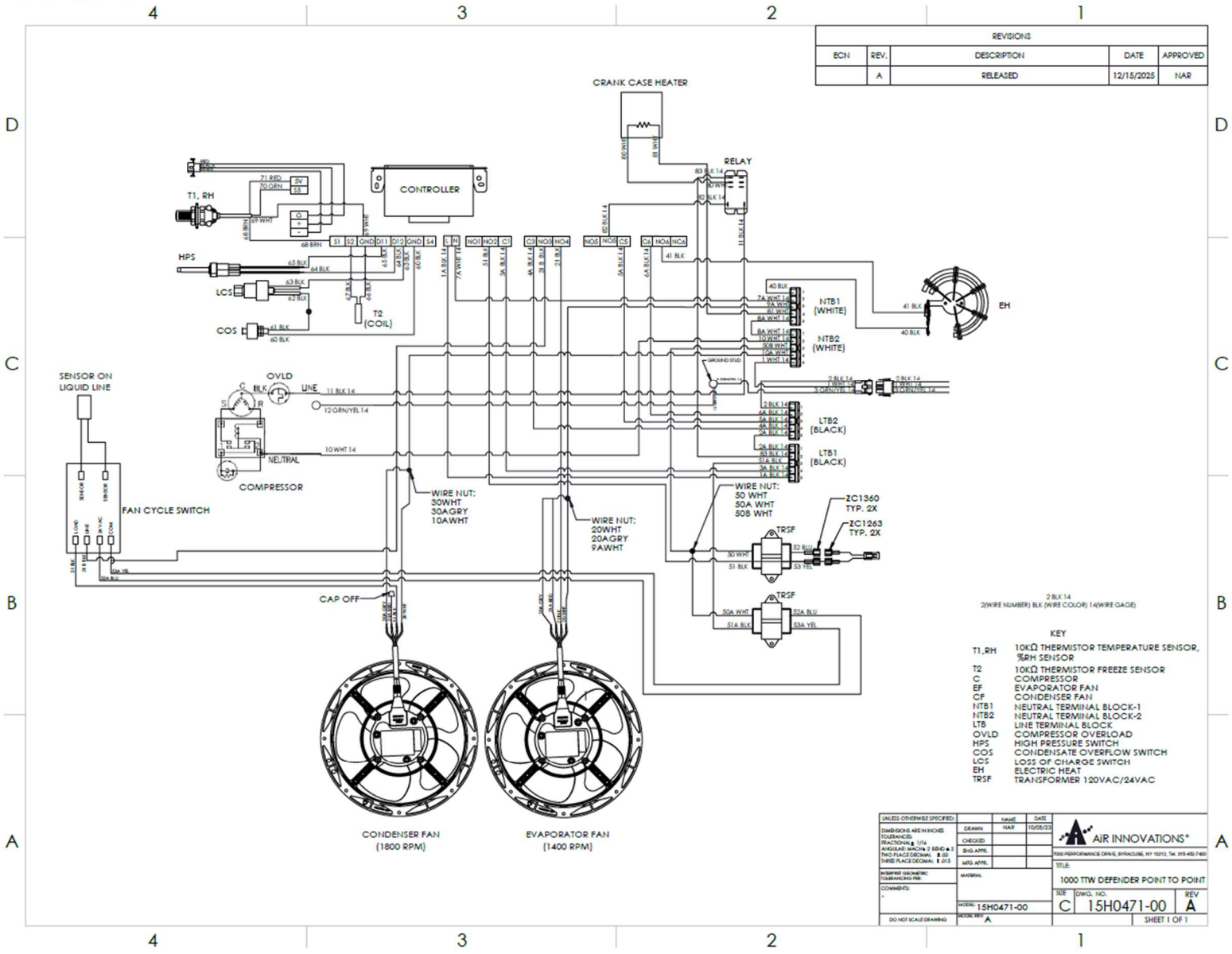


REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	~	RELEASED	1/24/2025	NAR
B4, B6	1	ADDED WIRE 5A WHT, AND 6A WHT	8/11/2025	MAL

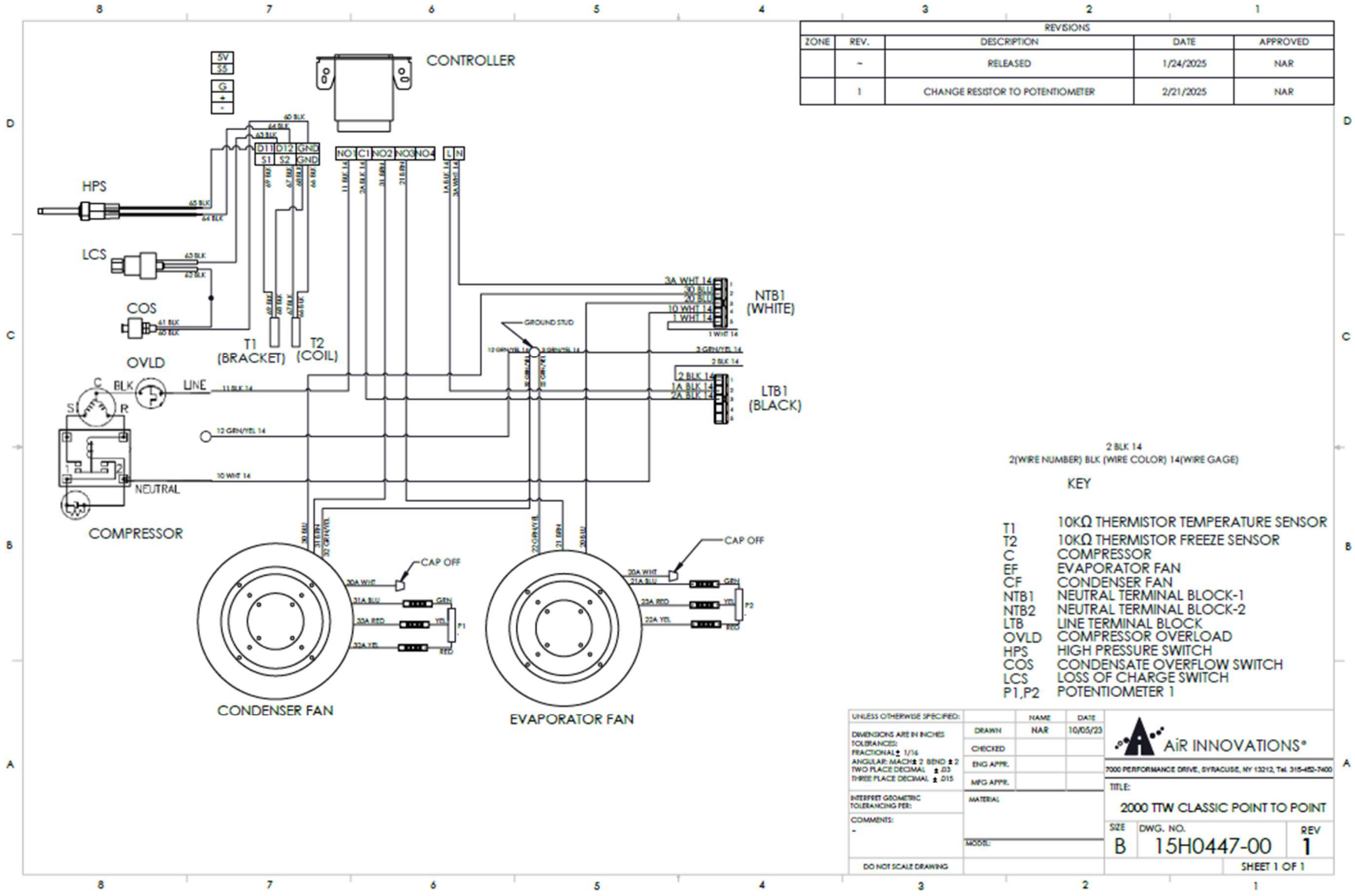
WG Sentinel 01



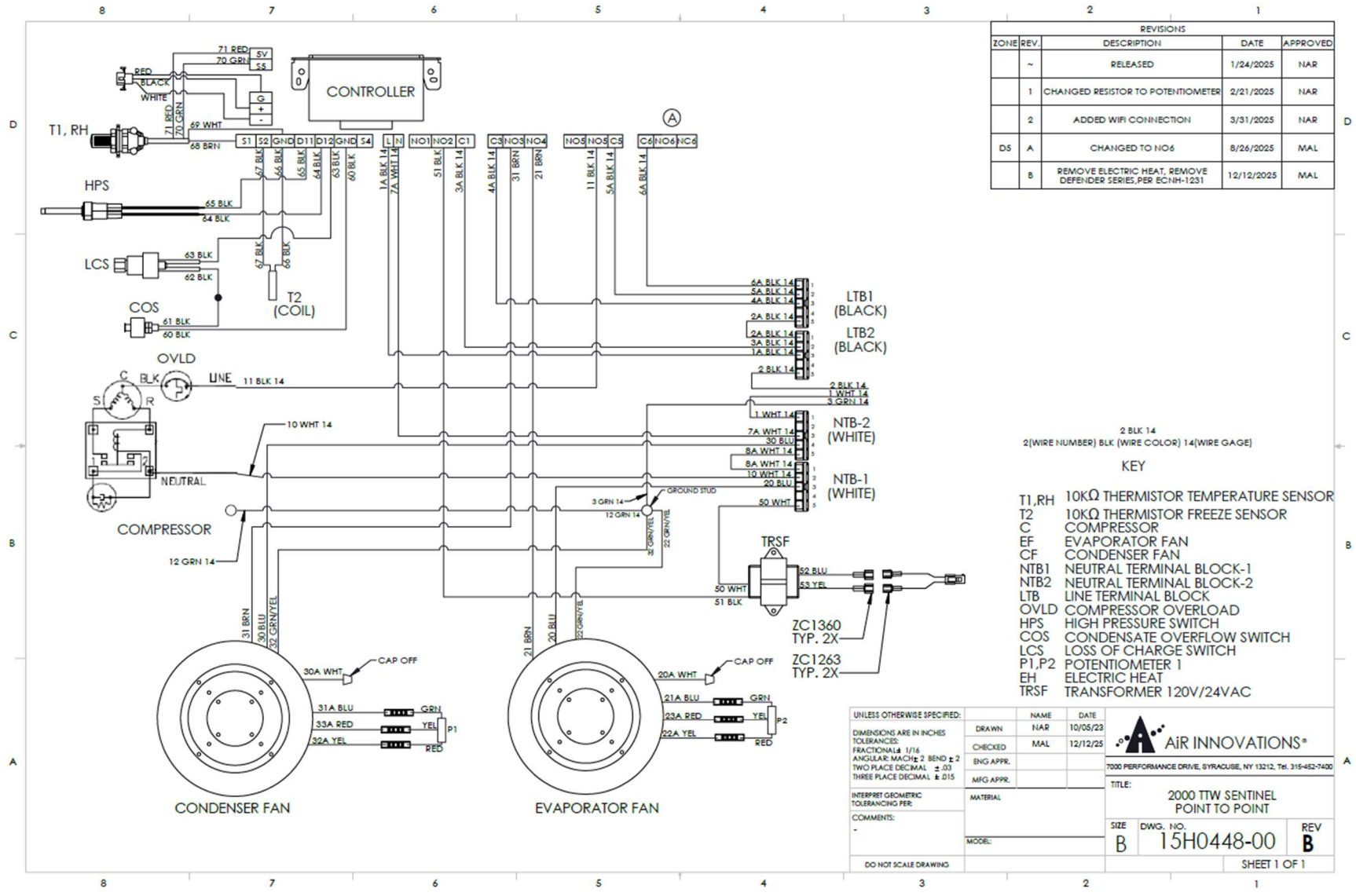
WG Defender 01



WG Classic 02

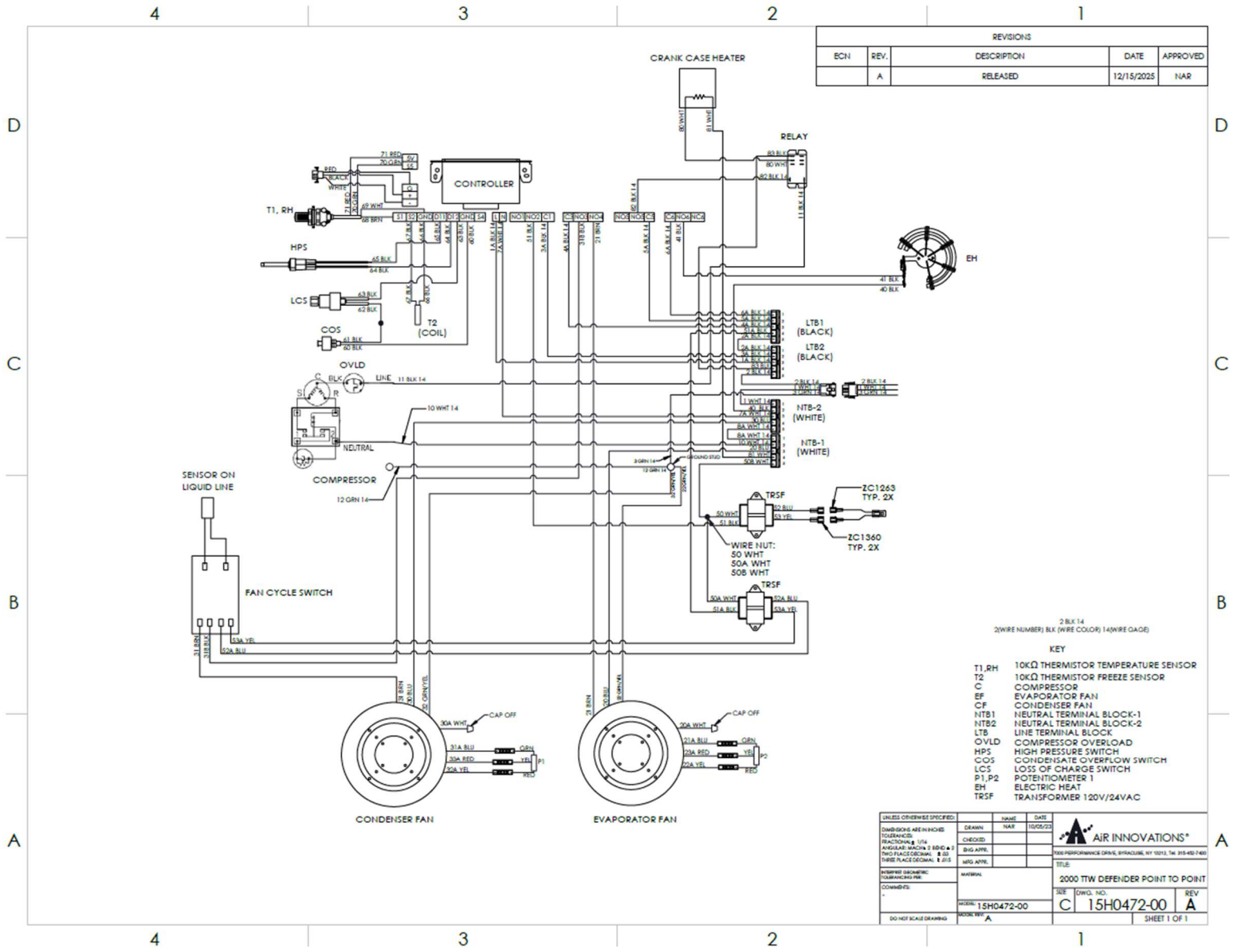


WG Sentinel 02

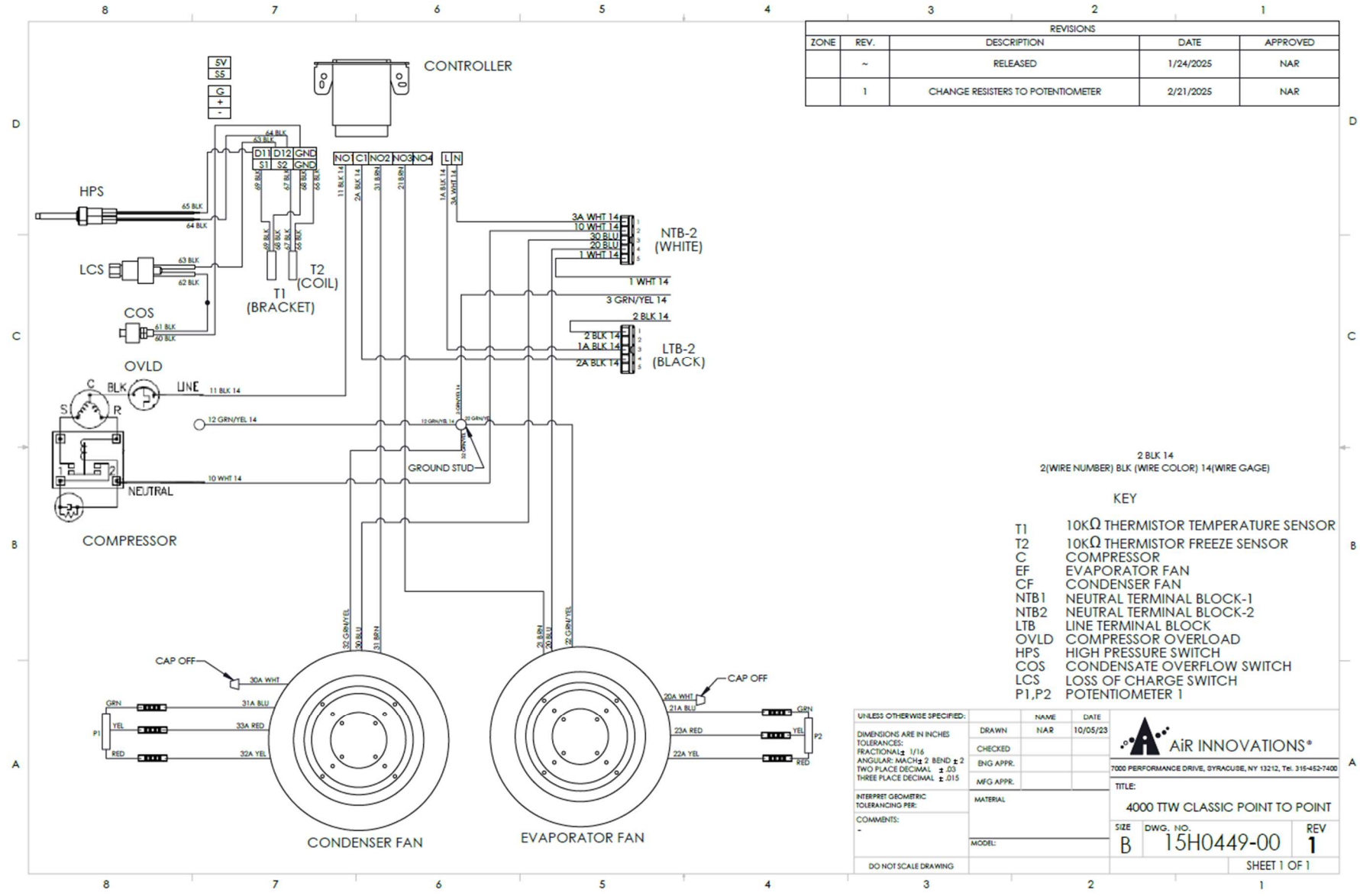


S

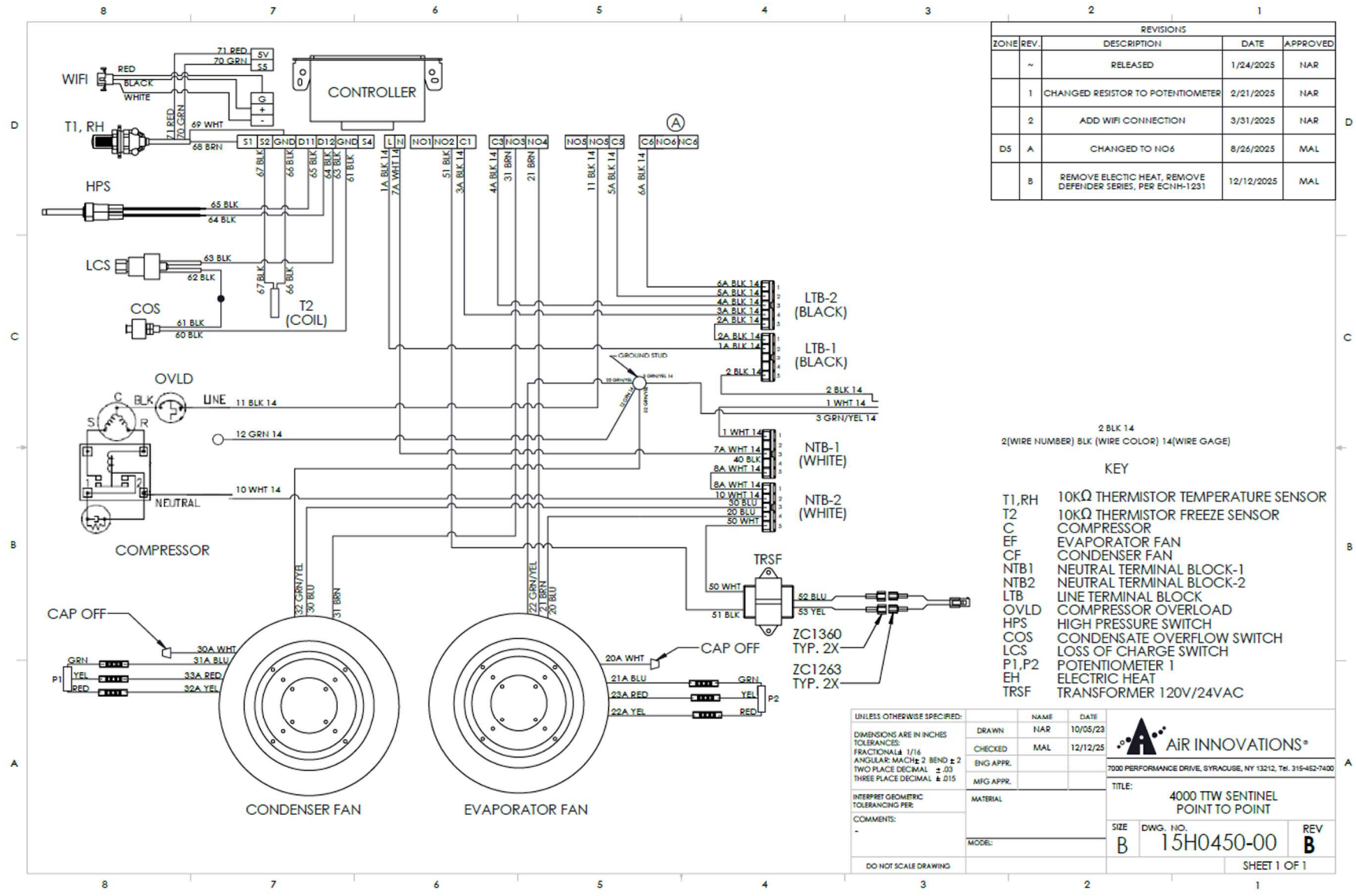
WG Defender 02



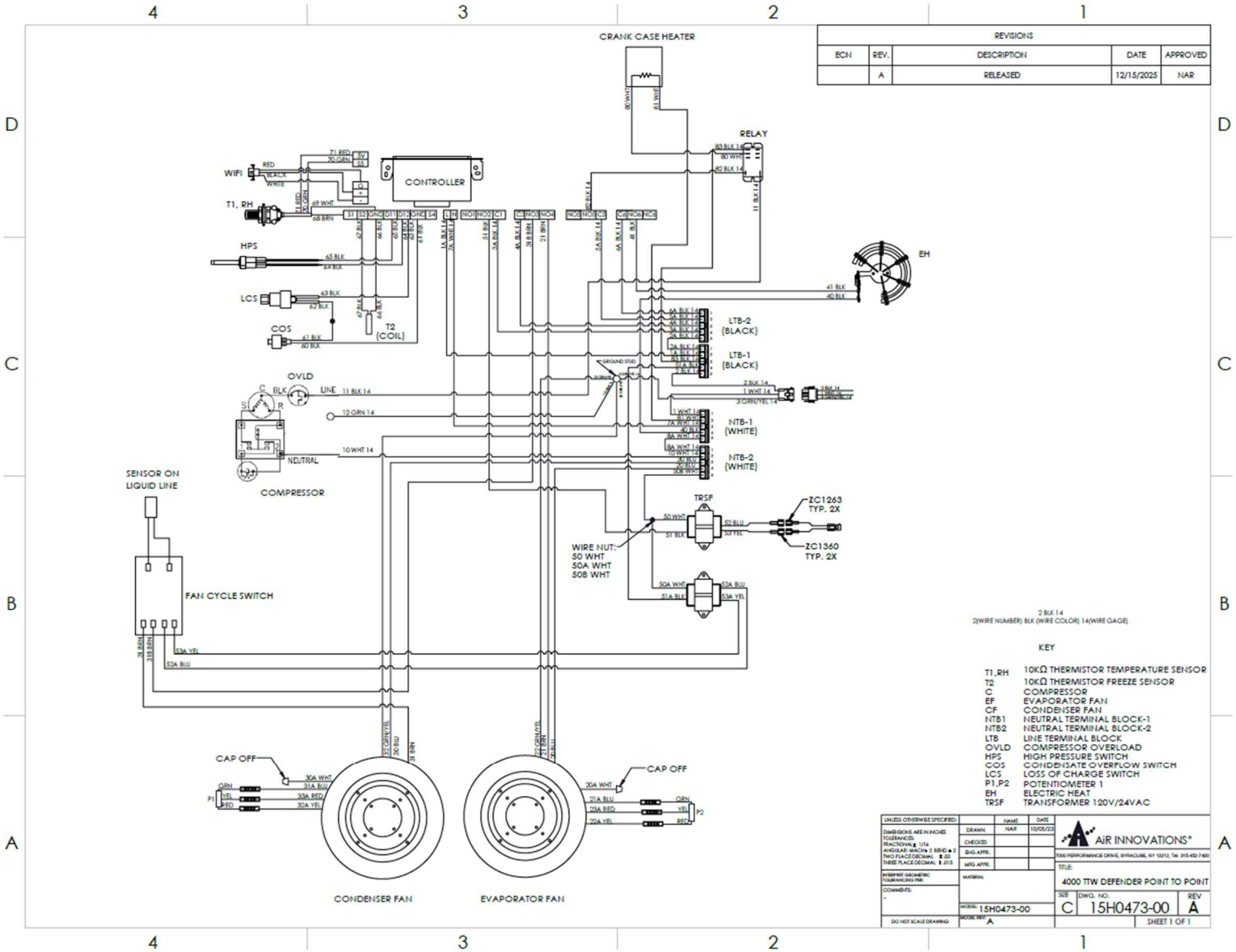
WG Classic 04



WG Sentinel 04



WG Defender 04



Wine Guardian Controls Overview

Wine Guardian's digital electronic control system offers a versatile solution for controlling and monitoring your wine cellar temperature and humidity. This system consists of a main control board, local user interface, temperature sensor, and humidity sensor (Sentinel and Defender series only). The system requires the use of the main control board and the user interface to function. Users have the following options to control the Wine Guardian unit. 1) local user interface, 2) Bluetooth, 3) Near Field Communication (NFC). Wireless communication via Bluetooth and NFC interacts with mobile devices using the Applica or Controlla apps by Carel.

The Wine Guardian's digital electronic controls are designed to control the operation of the compressor, condenser fan, evaporator fan, and optional external wall-mounted humidifier. There are three safety devices to protect the unit from high pressure, loss-of-charge, and condensate overflow. Each device will enable an alarm, giving the user the ability to quickly troubleshoot issues. The controls employ user-friendly, menu-driven programming features that can easily be accessed with the local user interface or one of the wireless communication methods (Bluetooth or NFC).

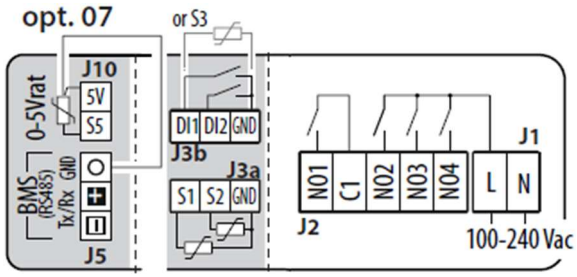
The user interface can only be used to set the frequent (User) and (Service) parameters and display the value of the probes connected to the controller. These include temperature set point and humidity set point. Using the Applica app allows the user to adjust all parameters, including temperature set point, humidity set point, and °F or °C. High pressure, loss-of-charge, defrost, and condensate overflow alarms can be accessed and cleared through the local user interface, Applica, or Controlla. The unit has an anti-short cycle delay to protect the compressor from short cycling and potentially failing.

To access the service parameters, a service password is required. Please contact Wine Guardian support to access the service password.

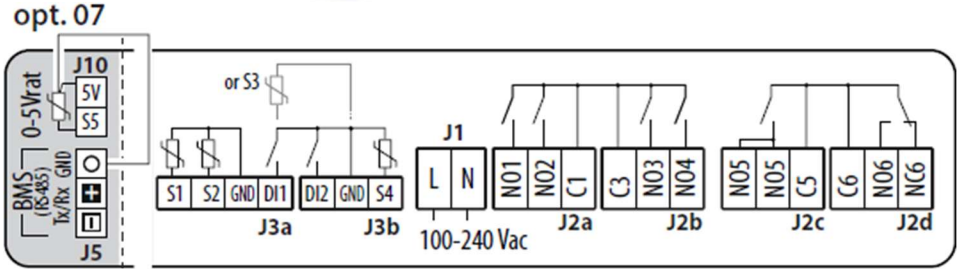
Wine Guardian Controls

Local user interface used on all Through-the-Wall units.

Small controller used on Classic series Through-the-Wall units.



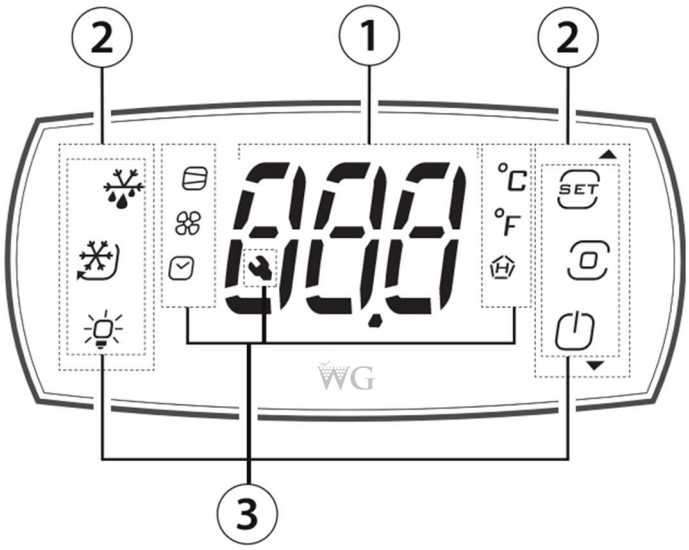
Large controller used on Sentinel and Defender series Through-the-Wall units.



Local User Interface

The user interface can only be used to set the frequent (User) and (Service) parameters. The user password is 0. Contact the manufacturer for the service password.

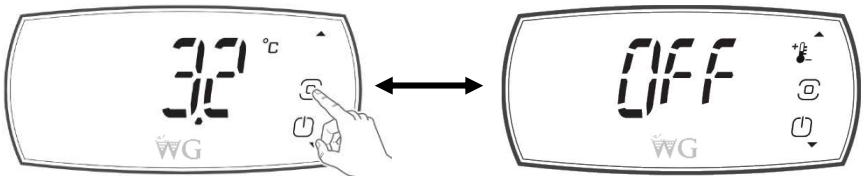
1 Display
2 Icons / Buttons
3 Icons



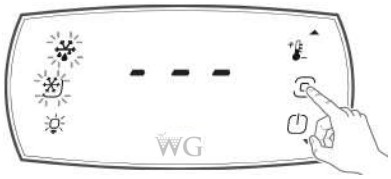
Icon/button	Description	On	Flashing
	Set point/Up arrow	• Increase value • Scroll menu • Direct access to change set point	-
	Program	Pressed briefly: • enter menu branch • save value and return to the parameter code Pressed and held (3 s): • enter programming mode • return to the previous level	-
	On-Off/ Down arrow	• Unit ON • Decrease value • Scroll menu • Switch unit on/off	-
	Defrost	Active/stop	Awaiting/start
	Continuous cycle	Active/stop	Awaiting/start
	Lights	Active/stop	Activation
	HACCP	• HACCP alarms present • Direct access to HACCP menu	-
	Alarm log	• Logged alarms present • Direct access to the alarm log menu	-
	Auxiliary output	Active	-
	Compressor	Active	Awaiting
	Evaporator fan	Active	-
	Clock	Scheduler active	-
°C	°C	Unit of measure °C	-
°F	°F	Unit of measure °F	-
	Service Maintenance	Active alarms	-

Local User Interface Function Control

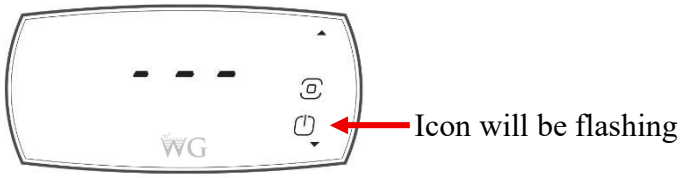
The TTW unit will arrive in the off state. It will flash between ambient temperature and OFF (shown below).



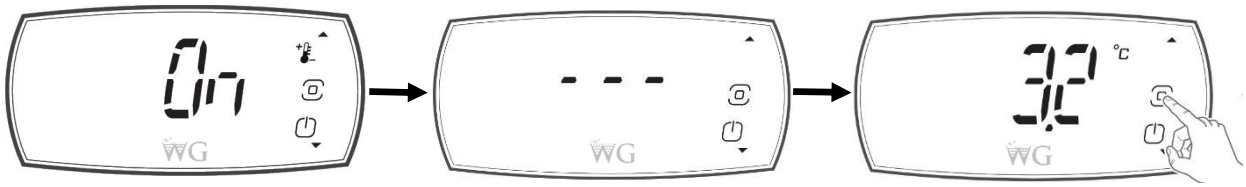
To turn the unit on, press and hold Program for 3 seconds until all three dashes appear and blink once, then release.



Press the DOWN arrow once, then release.

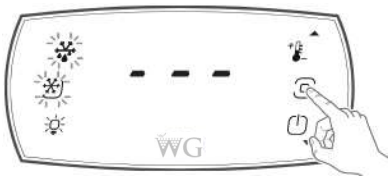


On will display briefly on the user interface, then three dashes. The unit will then return to displaying room temperature. The unit will turn on within three minutes due to the short cycling timer. Follow the same procedure to turn the unit off.



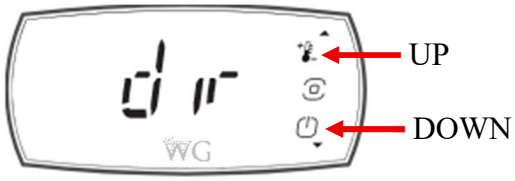
To access parameters from the user interface, follow instructions below.

Press and hold Program for 3 seconds until all three dashes appear and blink once, then release.



Press Program once, then release.

This accesses the following menu starting with dir.
To select other menu options, scroll up or down.



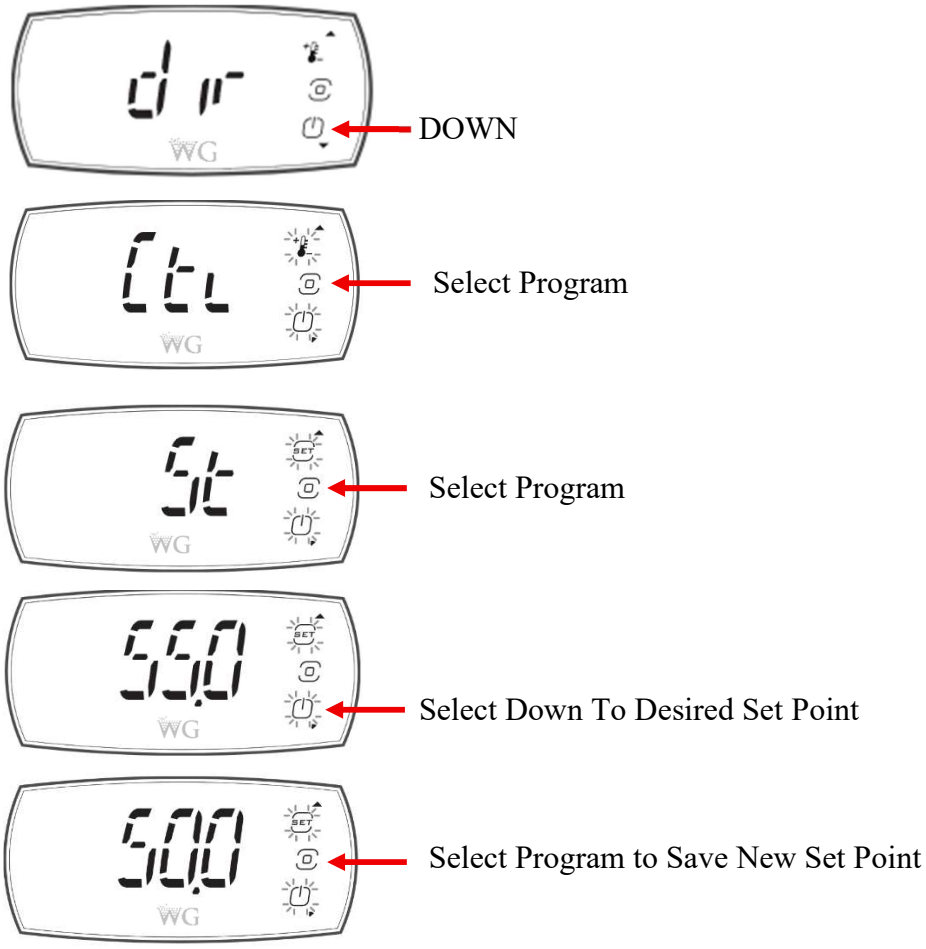
Critical Control Functions

Temperature, Humidity, Unit of Measure, and Reset alarms.

↓ **CtL** (Control)		
⇒ **St**	(temperature set point)	Change to desired set point
⇒ **Sth**	(humidity set point)	Change to desired set point
↓ **Pro** (Display Probes)		
⇒ **/5**	(unit of measure, ºC, or ºF)	Change between ºC and ºF
↓ **ALn** (Alarms)		
⇒ **rSA**	(reset alarms)	Change to 1 to reset alarms

Example: Changing temperature set point

Follow instructions to access menu options. When dir appears, select down until the desired function is shown on the display. **Ctl, Pro, or Aln**



Note: temperature set point can only be changed to between 42ºF (6ºC) and 75ºF (24ºC).

Local User Interface “User” Function List

↓ **dir** (Direct Functions)
- ⇒ **Fr** (Firmware version)
- ⇒ **Eco** (ECO operation, ON/OFF)
- ⇒ **SHu** (humidity probe)
- ⇒ **SrG** (control probe)
- ⇒ **SՈ** (control probe)
- ⇒ **Auc** (activate auxiliary output)
- ⇒ **Sd** (defrost probe)
- ⇒ **Sth** (set humidity set point)
- ⇒ **SAh** (display alarm log)
- ⇒ **ESC**

↓ **CtL** (Control)
- ⇒ **St** (temperature set point)
- ⇒ **Sth** (humidity set point)
- ⇒ **HU** (set humidity level)
- ⇒ **ESC**

↓ **Pro** (Display Probes)
- ⇒ **/5** (unit of measure, ºC, or ºF)
- ⇒ **ESC**

↓ **HcP** (HACCP, Hazard Analysis Critical Control Point)
- ⇒ **HAn** (number of type HA alarms)
- ⇒ **HFn** (number of type HF alarms)
- ⇒ **rHP** (reset HACCP event log)
- ⇒ **ESC**

↓ **CnF** (Configuration)
- ⇒ **Hb** (enable buzzer)
- ⇒ **ESC**

↓ **ALՈ** (Alrams)
- ⇒ **AH** (relative high temperature alarm threshold)
- ⇒ **AL** (relative low temperature alarm threshold)
- ⇒ **Ad** (delay time for high and low temp. alarm AH, AL)
- ⇒ **Add** (High temp. alarm bypass time for open door)
- ⇒ **rSA** (reset alarms)
- ⇒ **ESC**

↓ **PSd** (Service Parameter Password) enter service password to access service parameters
- ⇒ 0

↓ ESC

Local User Interface “Service” Function List

To access service parameters shown in **bold,** service password must be entered into PSd. Contact Wine Guardian for service password.

↓ **dir** (Direct Functions)
- ⇒ **Fr** (Firmware version)
- ⇒ **Eco** (ECO operation, ON/OFF)
- ⇒ **SHu** (humidity probe)
- ⇒ **SrG** (control probe)
- ⇒ **Sﬂ** (control probe)
- ⇒ **Auc** (activate auxiliary output)
- ⇒ **Sd** (defrost probe)
- ⇒ **Sth** (set humidity set point)
- ⇒ **SAh** (display alarm log)
- ⇒ **btE** **(enable bluetooth)**
- ⇒ **ESC**

↓ **CtL** (Control)
- ⇒ **St** (temperature set point)
- ⇒ **rd** **(temperature control differential)**
- ⇒ **Sth** (humidity set point)
- ⇒ **rdh** **(humidity control differential)**
- ⇒ **HU** (set humidity level)
- ⇒ **rﬂ** **(dead band)**
- ⇒ **rSC** **(display on user interface)**
- ⇒ **ESC**

↓ **Pro** (Display Probes)
- ⇒ **/5** **(unit of measure, ºC, or ºF)**
- ⇒ **/6** **(display decimal point)**
- ⇒ **/t1** **(display on user terminal)**
- ⇒ **ESC**

↓ **dEF**
- ⇒ **dI** **(Maximum interval between consecutive defrosts)**
- ⇒ **dP1** **(maximum defrost duration)**
- ⇒ **dt1** **(End defrost temperature)**
- ⇒ **dP2** **(Max auxiliary evaporator defrost duration)**
- ⇒ **dt2** **(Auxiliary evaporator end defrost temperature)**
- ⇒ **d6** **(Display on terminals during defrosts)**
- ⇒ **d8** **(Bypass high temperature alarm time after defrost)**

↓ **HcP** (HACCP, Hazard Analysis Critical Control Point)
- ⇒ **HAn** (number of type HA alarms)
- ⇒ **HFn** (number of type HF alarms)
- ⇒ **rHP** (reset HACCP event log)
- ⇒ **ESC**

↓ **CnF** (Configuration)
- ⇒ **Hb** (enable buzzer)
- ⇒ **H0** **(serial address)**
- ⇒ **H10** **(BMS serial port band rate)**
- ⇒ **H11** **(BMS serial port configuration)**
- ⇒ **ESC**

↓ **ALΩ** (Alrams)
- ⇒ **AH** (relative high temperature alarm threshold)
- ⇒ **AL** (relative low temperature alarm threshold)
- ⇒ **Ad** (delay time for high and low temp. alarm AH, AL)
- ⇒ **Add** (High temp. alarm bypass time for open door)
- ⇒ **rSA** (reset alarms)
- ⇒ **rAL** **(reset alarm log)**
- ⇒ **ESC**

↓ **PSd** (Service Parameter Password) enter service password to access service parameters
- ⇒ 0

↓ **ESC**

Controlla App Instructions

- Download the CAREL Controlla app from the Apple App Store or Google Play Store.

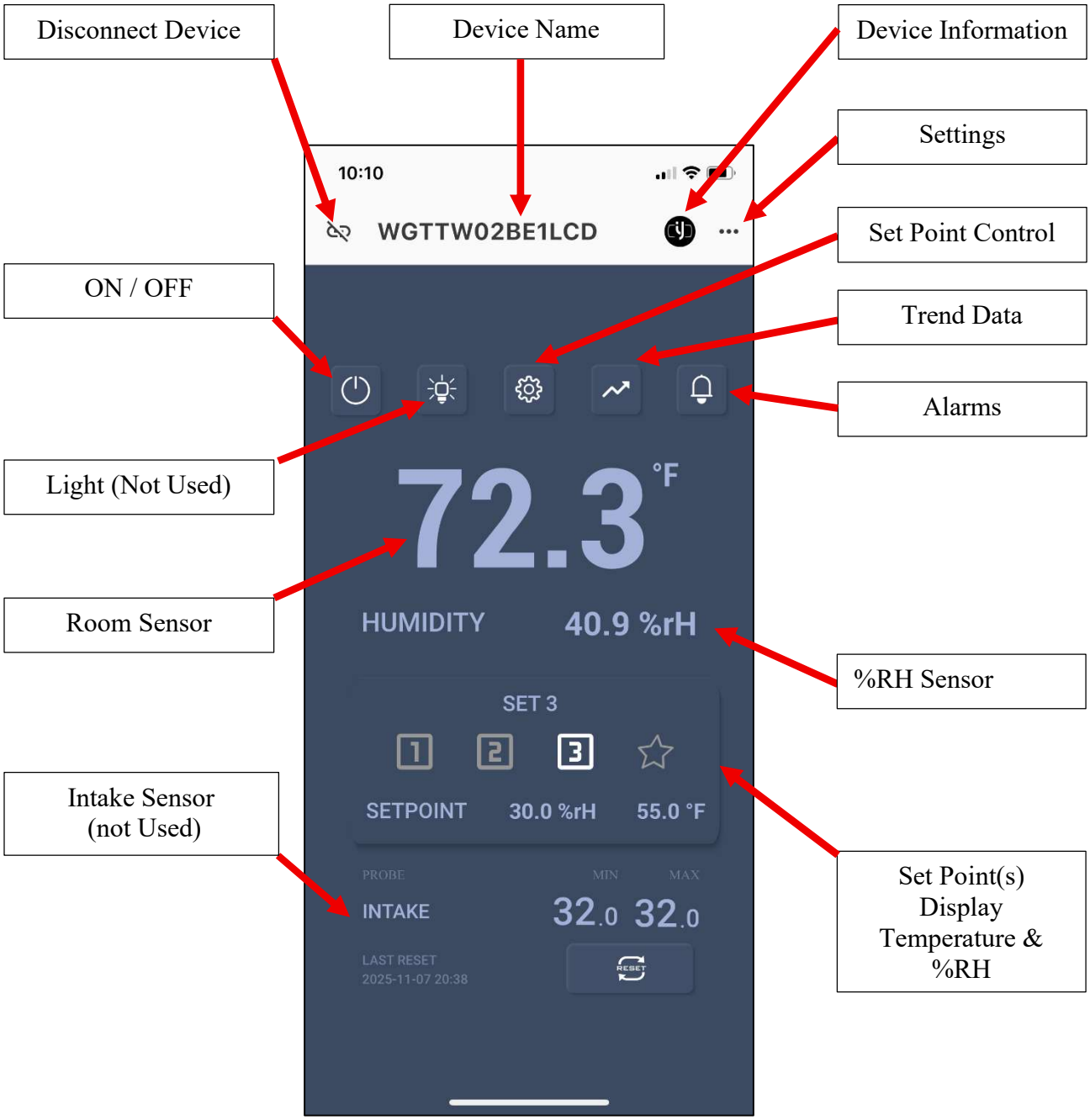
Controlla

- On the mobile device, enable Bluetooth and/or NFC communication and mobile data.
- Open Controlla.
- During Bluetooth connection, the user interface is disabled and shows the message "bLE."

User Control

Select Search device

Select device

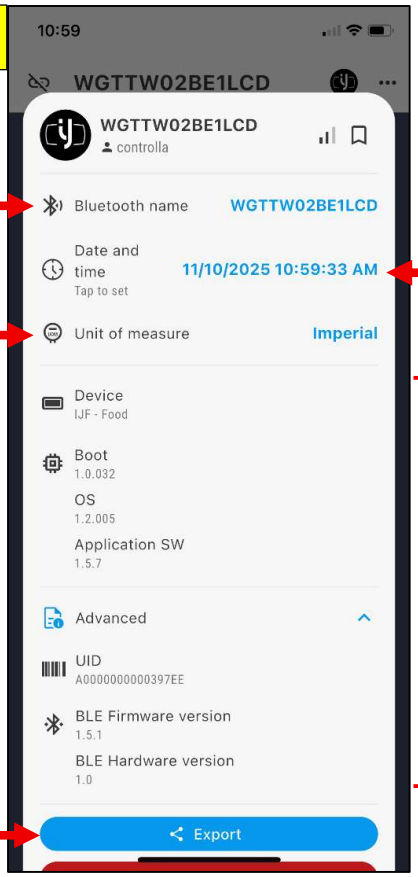

Disconnect Device
Device Name
Device Information
Settings
Set Point Control
Trend Data
Alarms
ON / OFF
Light (Not Used)
Room Sensor
%RH Sensor
Intake Sensor
(not Used)
Set Point(s)
Display
Temperature &
%RH
10:10
WGTTW02BE1LCD
72.3 °F
HUMIDITY
40.9 %rH
SET 3
SETPOINT
30.0 %rH
55.0 °F
PROBE
MIN
MAX
INTAKE
32.0
32.0
LAST RESET
2025-11-07 20:38
RESET

Device Information

Bluetooth name can be changed

Unit of measure (ºC or ºF) can only be changed using Applica

Export:
This feature will export device information, parameters, and log data, which can be sent through e-mail in pdf and xlsx format

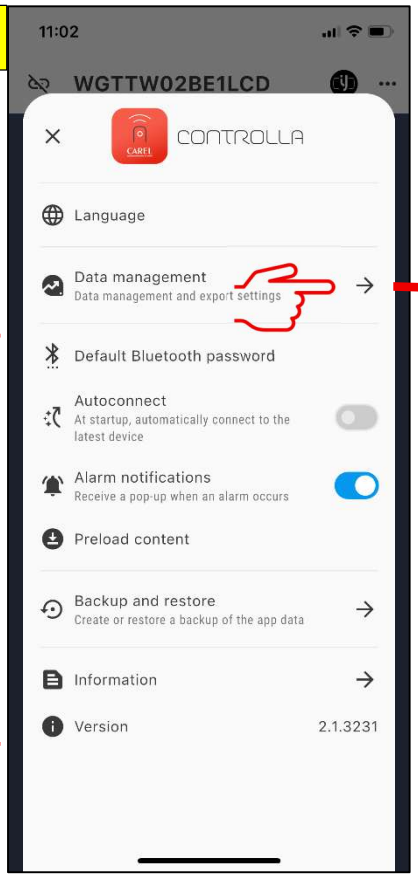


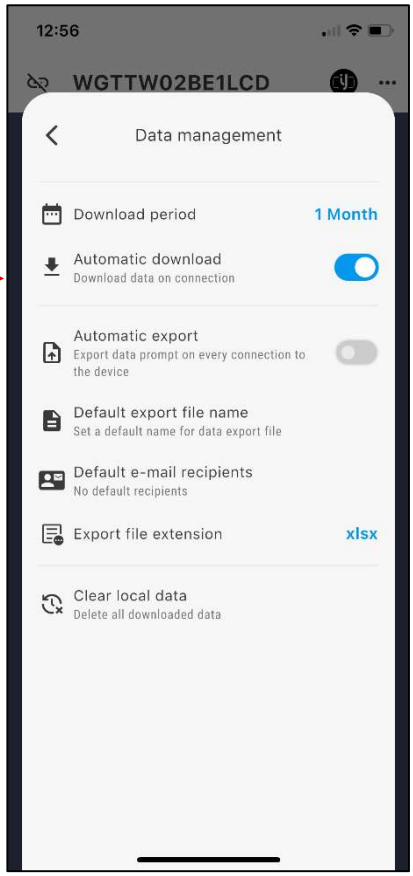
Time and date can be set to user's mobile device

Device Information

Settings

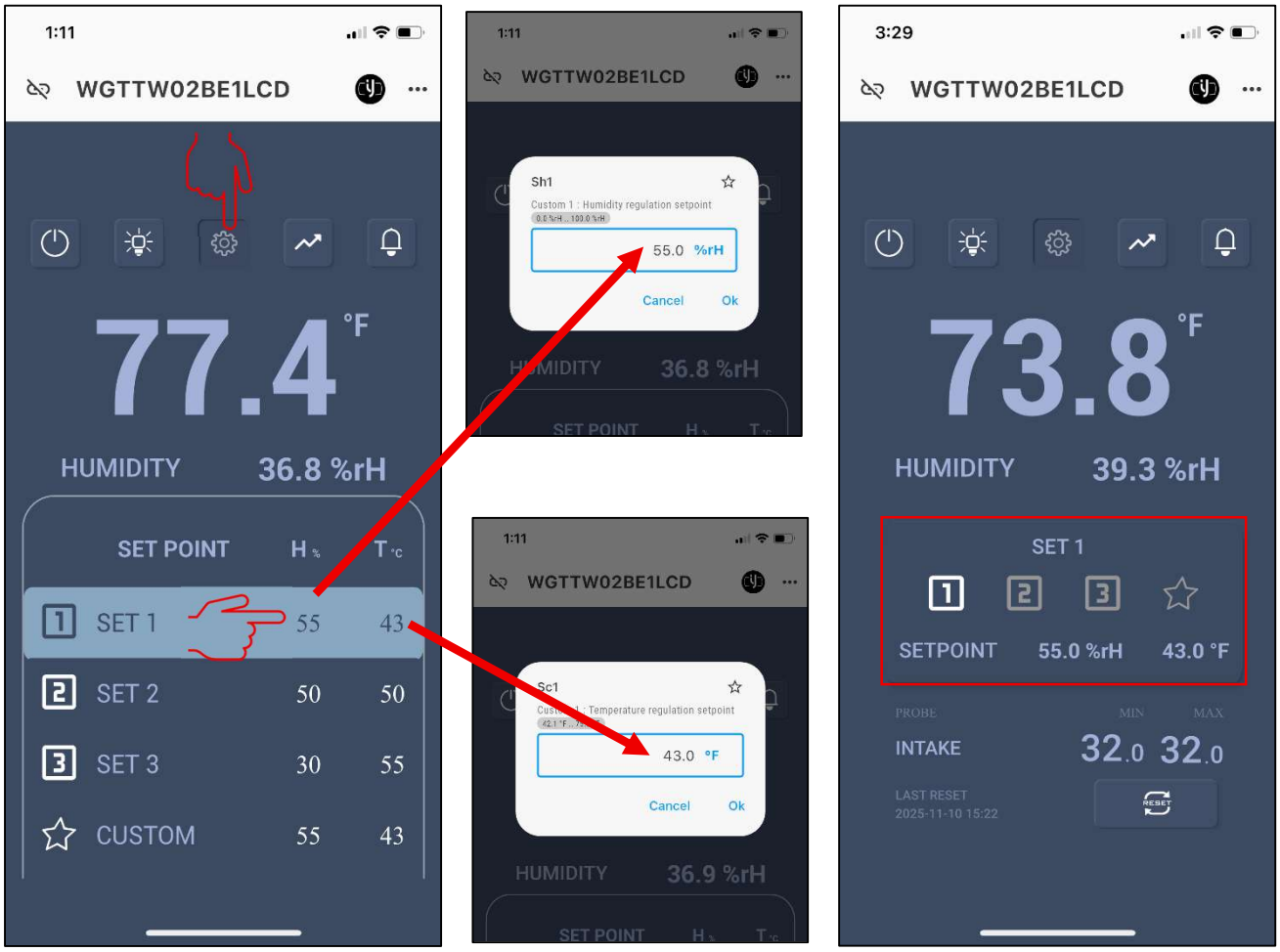
Bluetooth password, auto-connect, and alarm notifications can be changed





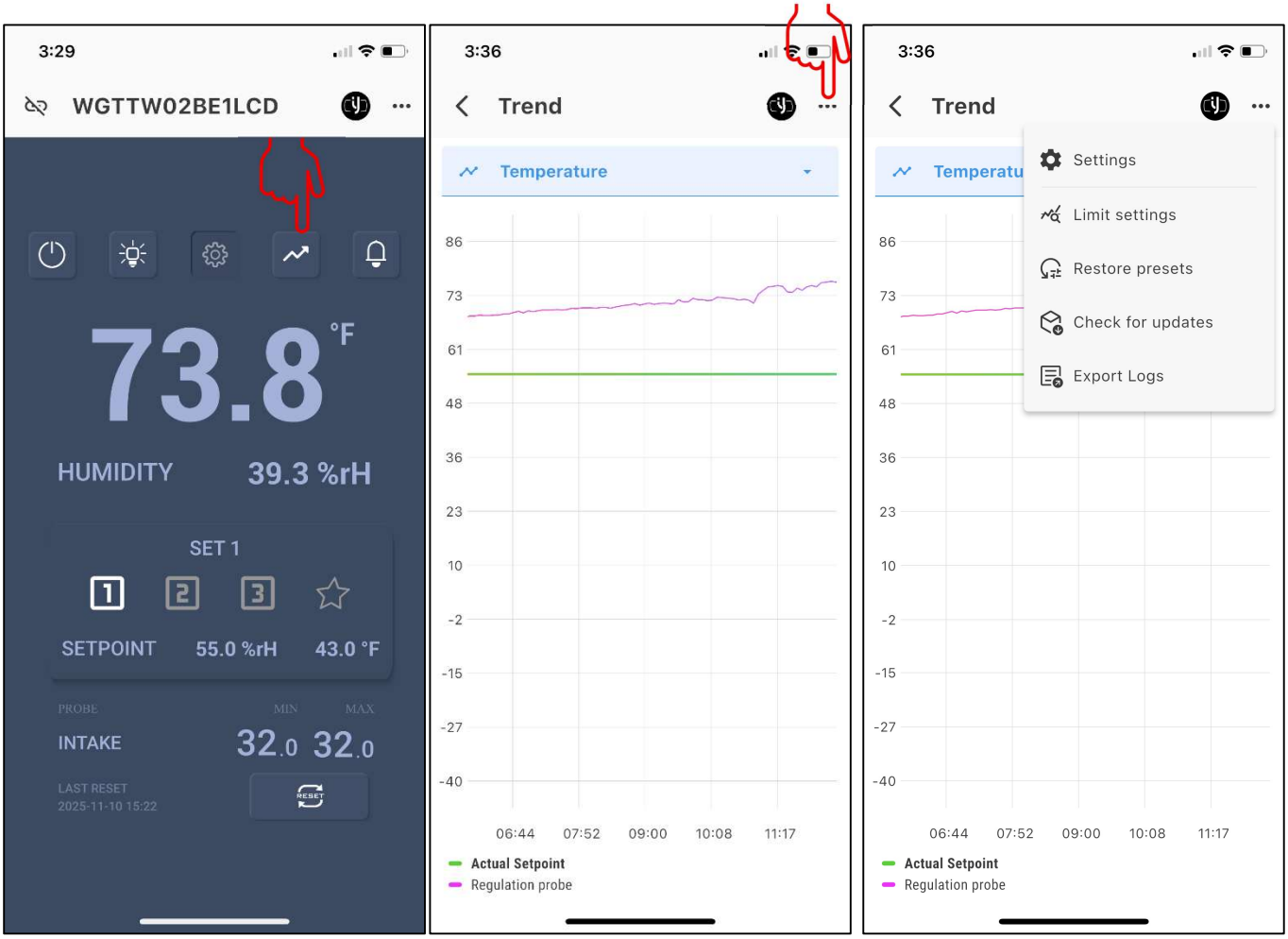
In Controlla, you can configure four set point options:

- Select set point control icon .
- Select the set point you want to change by pressing the value.
- Change the set point and press Ok.
- Repeat for SET 2, SET 3, and Custom.
- When set points are entered, select one of the four set point configurations.
- To exit screen, select set point control icon .
- Set point selected will be highlighted (see SETPOINT 1 below).



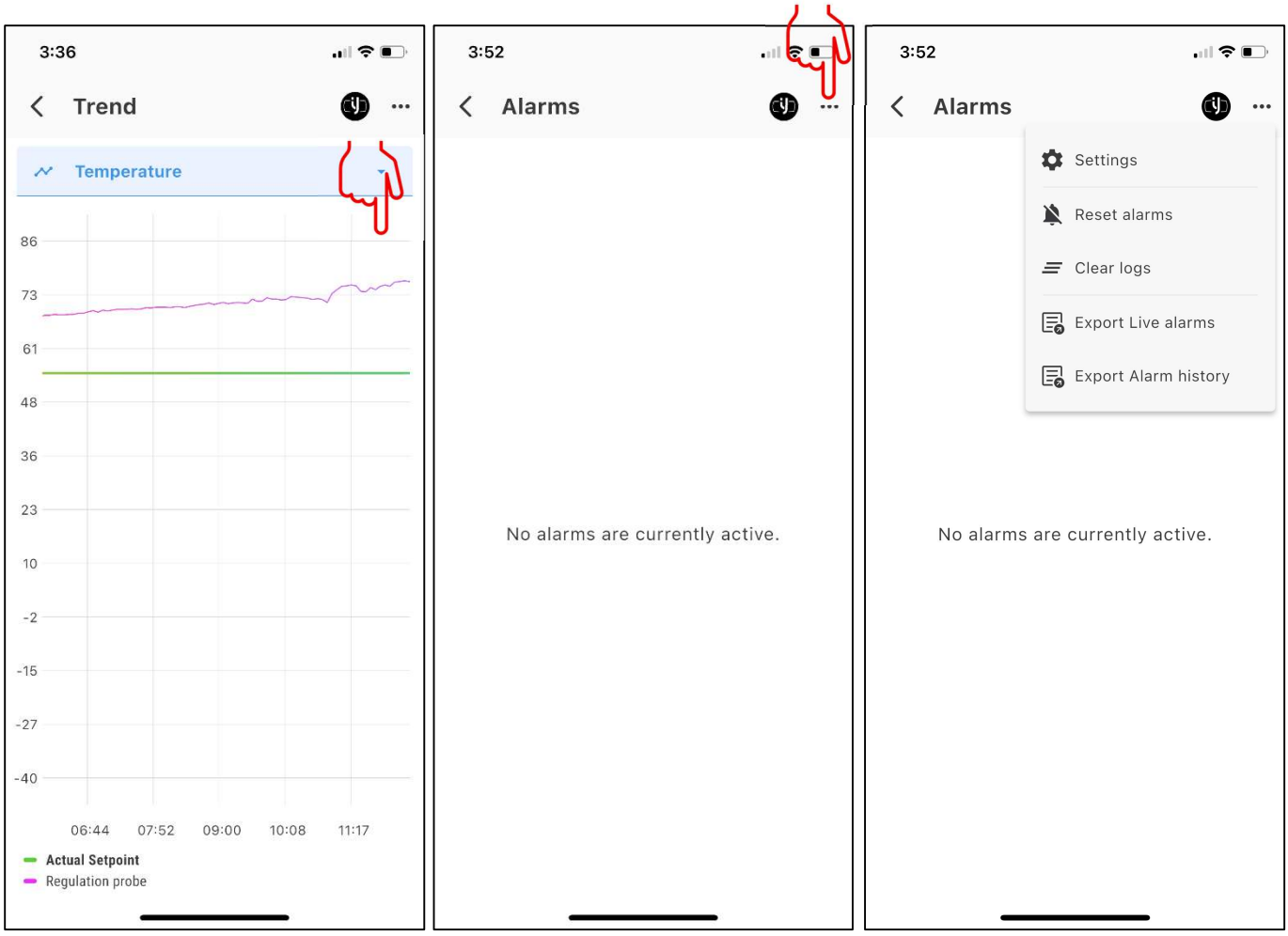
In Controlla, you can compare the measured temperature to the set point temperature:

- Select Trend icon .
- Using two fingers, you can zoom in/out to view specific time scale data.
- Select the settings icon ••• to access the menu below.
    - Limit setting can change the scale on the y-axis.
    - Export Logs allows you to send data through e-mail.



In Controlla, you can access active or live alarms and alarm history

- Select Alarms icon .
    - If no active Alarms are present, you will see the middle screen below.
- Select the settings icon ••• to access the menu below to the right.
- Some alarms need to be reset. Reset Alarms will clear these alarms, allowing the unit to turn on once the Alarm has been resolved.
- Clear logs will clear non-active alarms.
- Export Live Alarms, and Export Alarm History allows you to send alarms files for analysis.



Applica App Instructions

- Download the CAREL Applica app from the Apple App Store or Google Play Store.

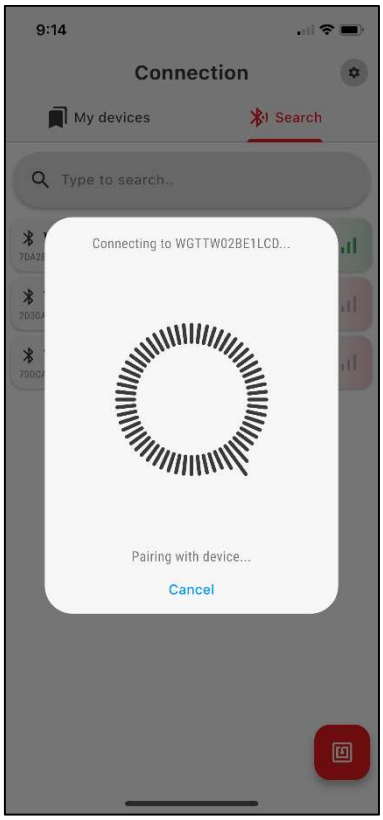
Applica

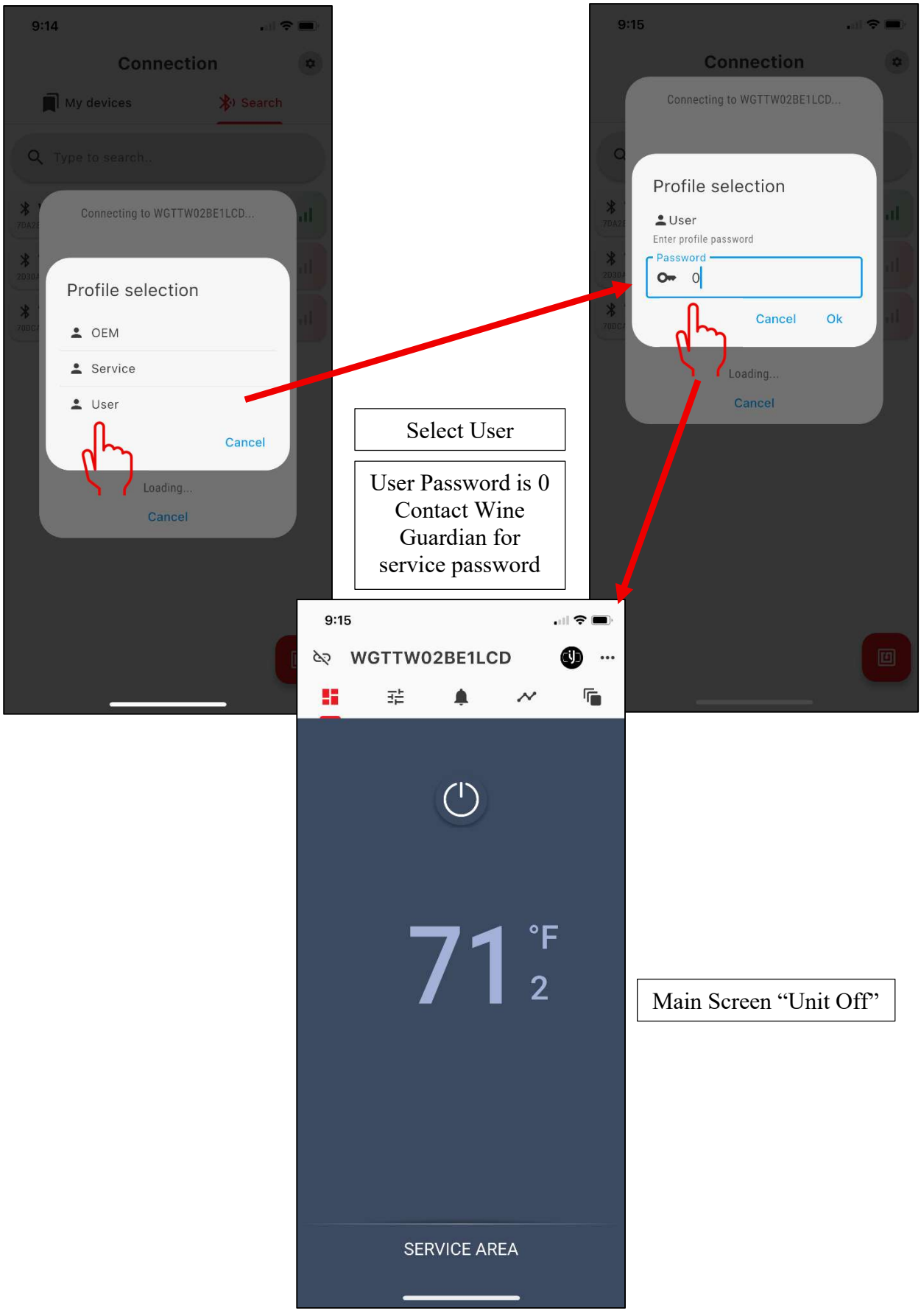
- On the mobile device, enable Bluetooth and/or NFC communication and mobile data.
- Open Applica.
- During Bluetooth connection, the user interface is disabled and shows the message "bLE."

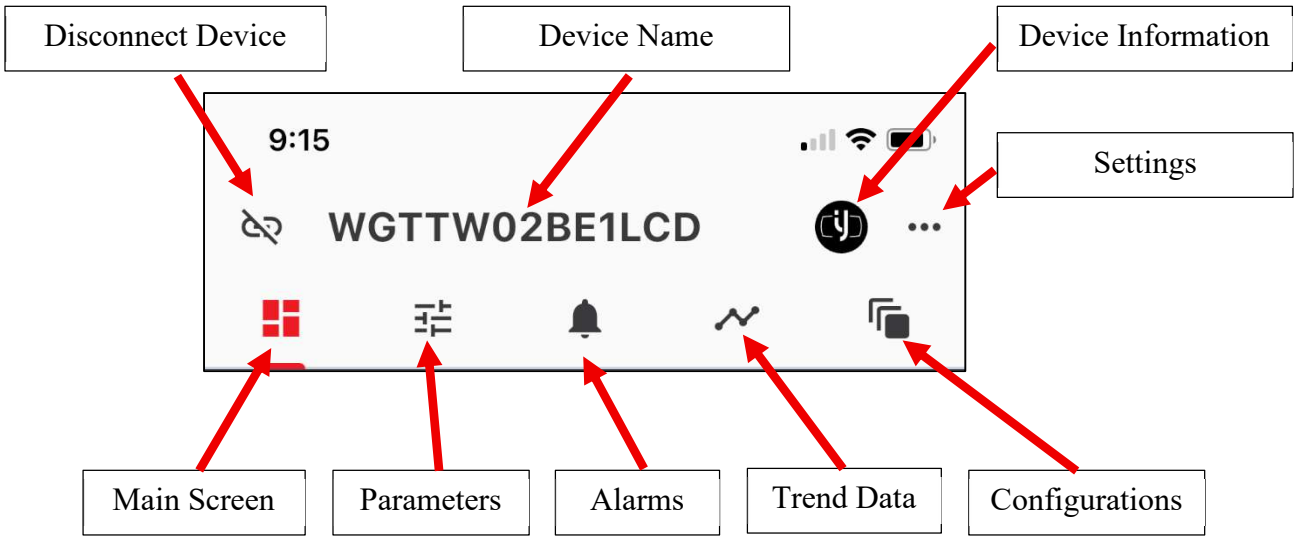
Paring with device may take 30-60 seconds

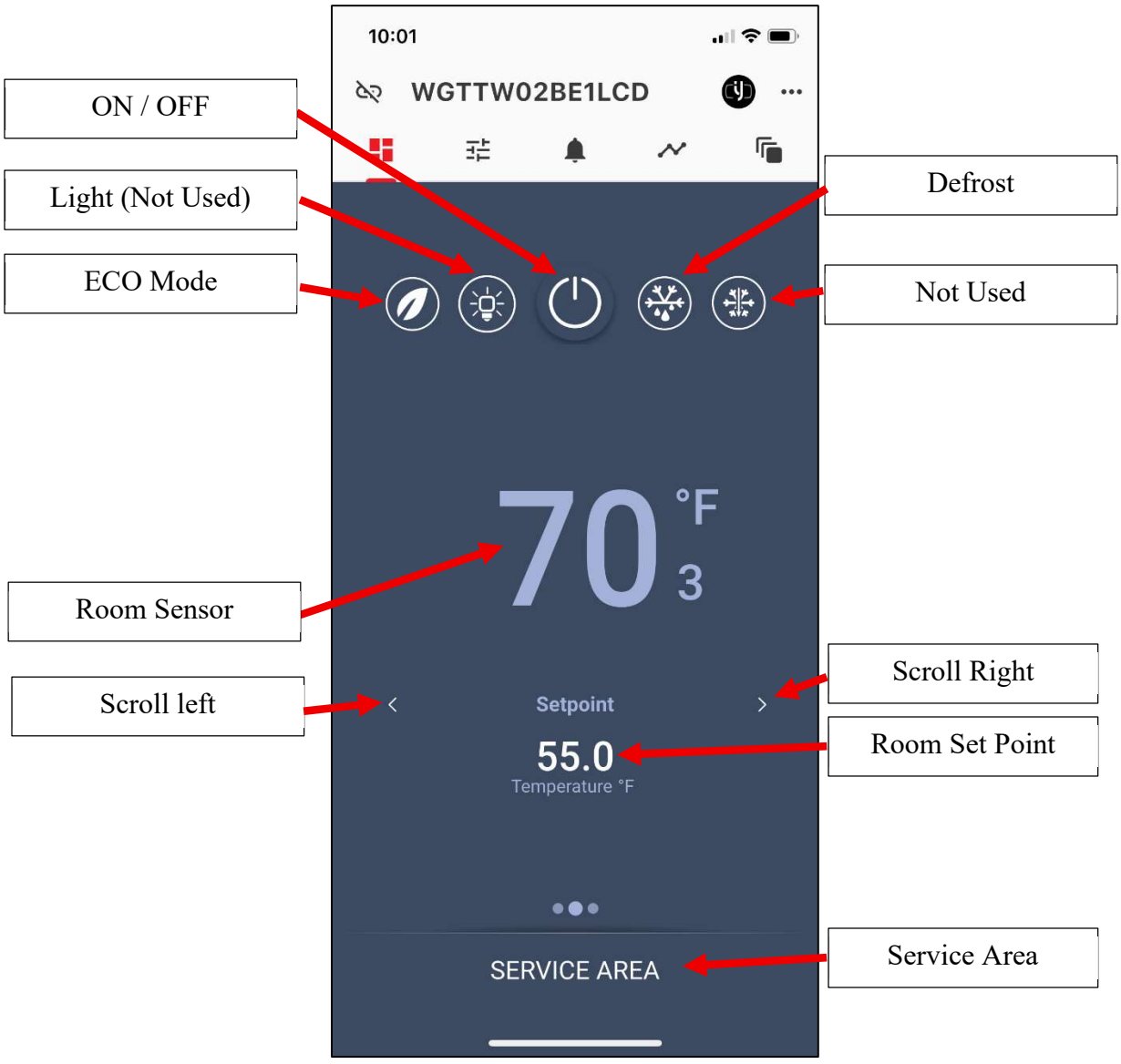
Select Search device

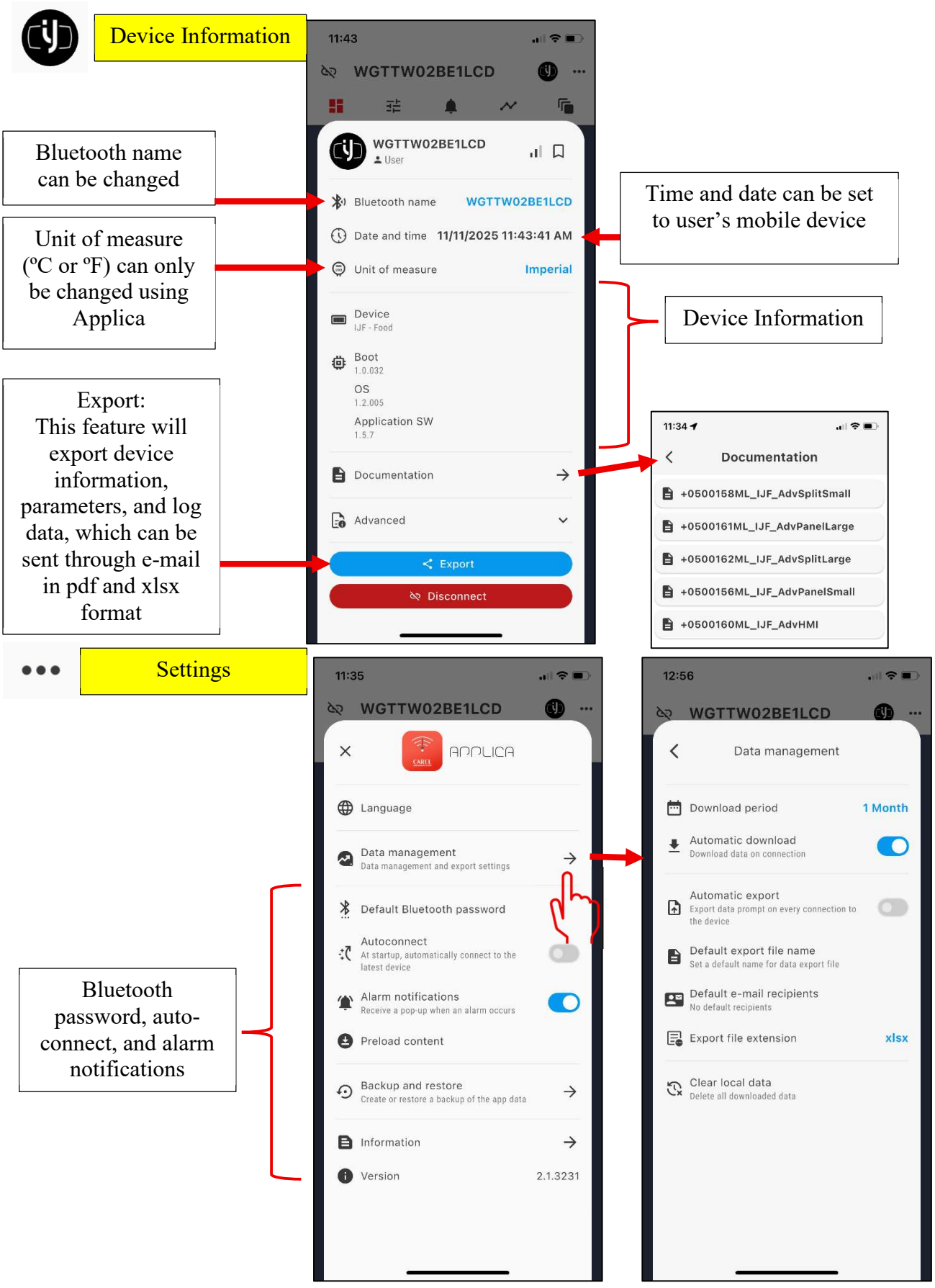
Select device

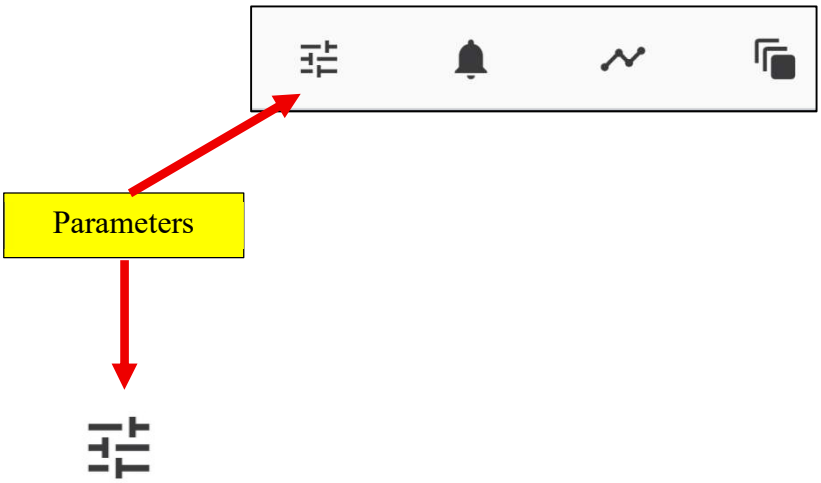


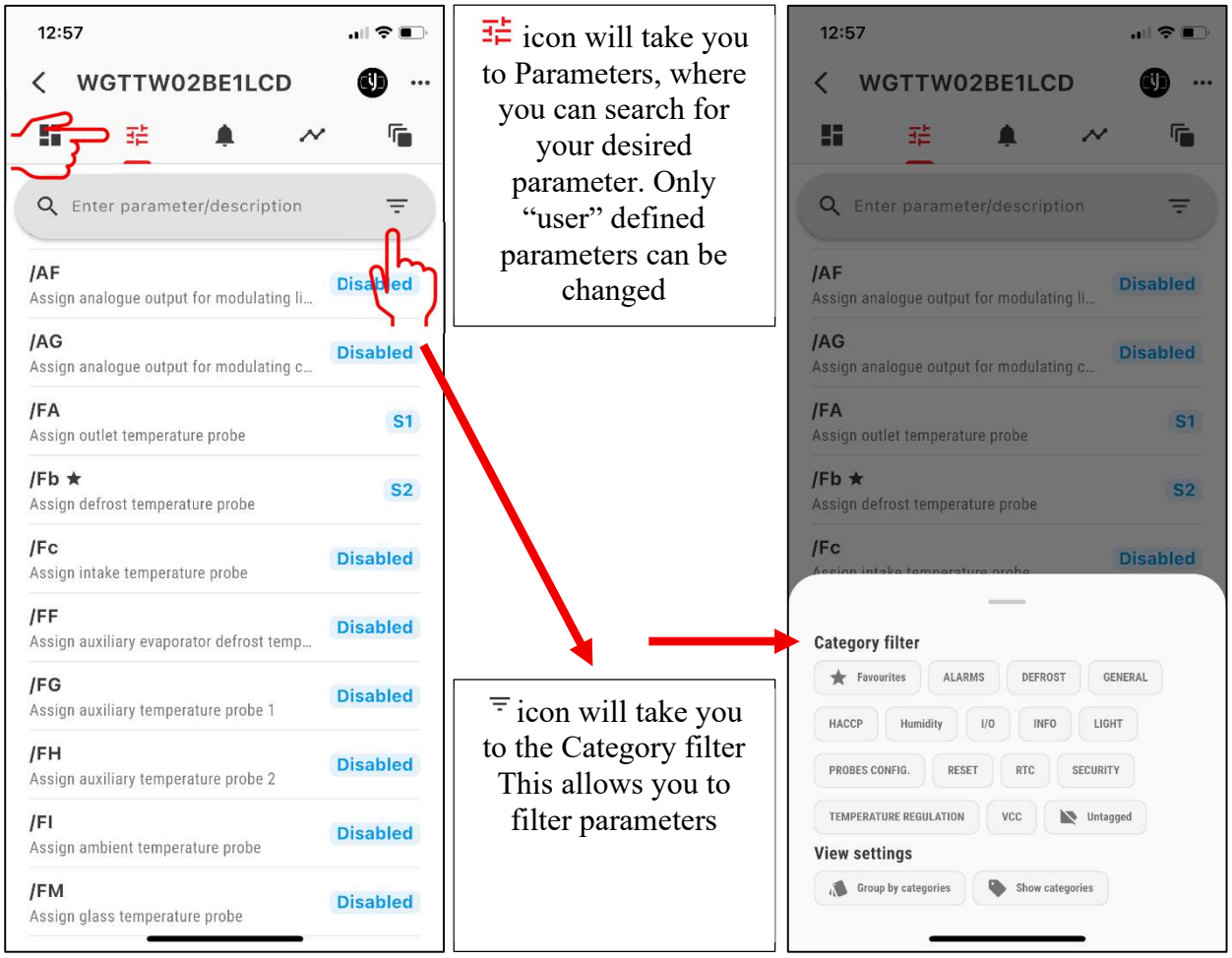

9:14
Connection
My devices
Search
Type to search...
Connecting to WGTTW02BE1LCD...
Profile selection
OEM
Service
User
Cancel
Loading...
Cancel
9:15
Connection
Connecting to WGTTW02BE1LCD...
Profile selection
User
Enter profile password
Password
0
Cancel
Ok
Loading...
Cancel
Select User
User Password is 0 Contact Wine Guardian for service password
9:15
WGTTW02BE1LCD
71 °F
2
SERVICE AREA
Main Screen “Unit Off”

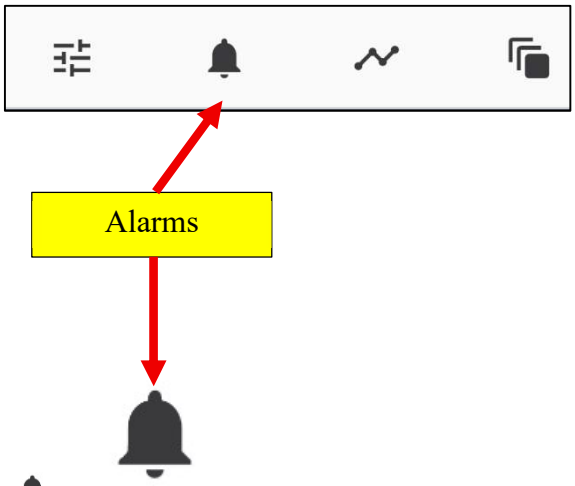

Disconnect Device
Device Name
Device Information
Settings
9:15
WGTTW02BE1LCD
Main Screen
Parameters
Alarms
Trend Data
Configurations


ON / OFF
Light (Not Used)
ECO Mode
Defrost
Not Used
10:01
WGTTW02BE1LCD
70 °F
3
Room Sensor
Scroll left
Scroll Right
Setpoint
55.0
Temperature °F
Room Set Point
SERVICE AREA
Service Area

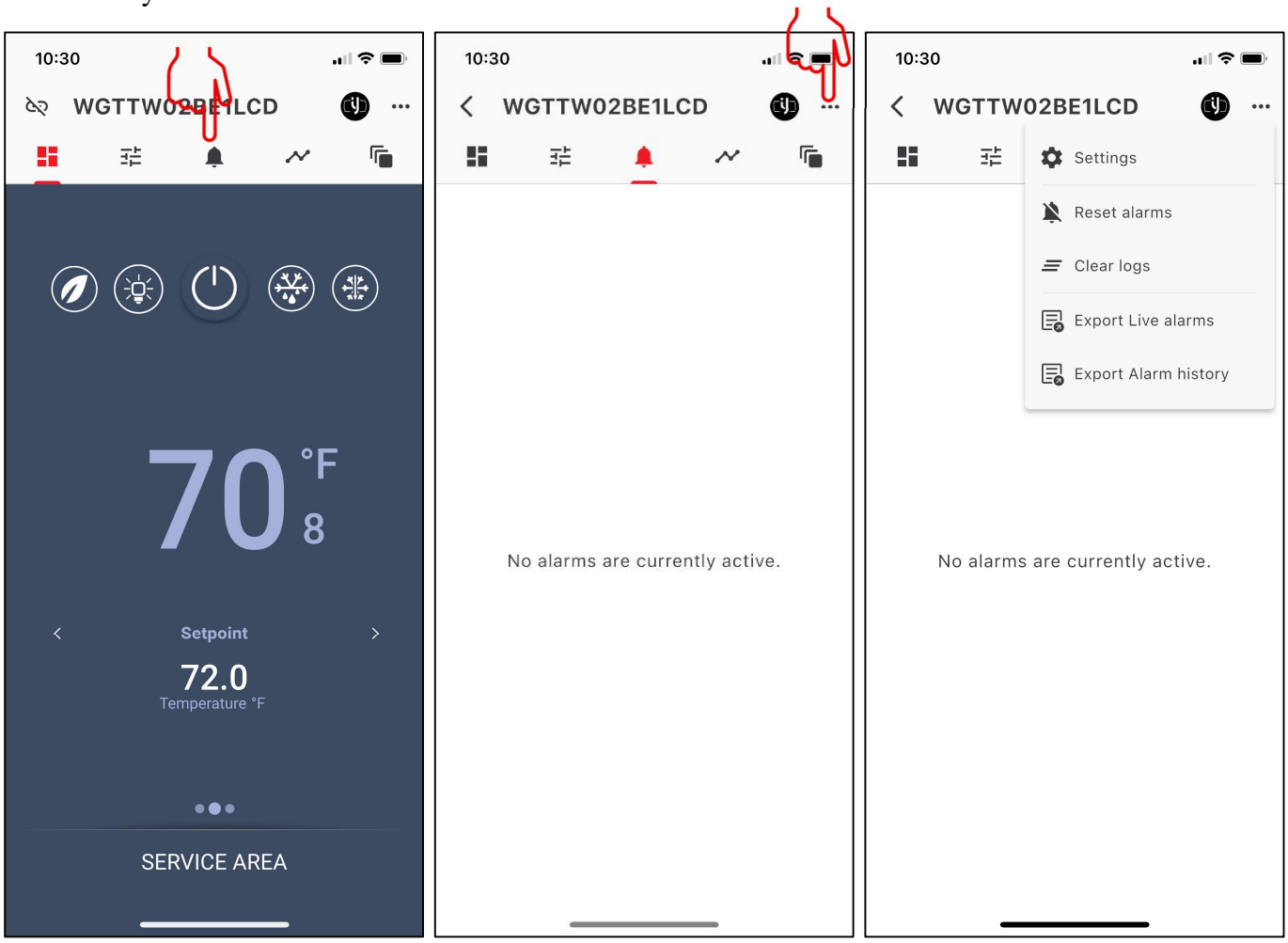

Device Information
Bluetooth name can be changed
Unit of measure (ºC or ºF) can only be changed using Applica
Export: This feature will export device information, parameters, and log data, which can be sent through e-mail in pdf and xlsx format
Time and date can be set to user's mobile device
Device Information
Settings
Bluetooth password, auto-connect, and alarm notifications
WGTTW02BE1LCD
Bluetooth name
Date and time
11/11/2025 11:43:41 AM
Unit of measure
Imperial
Device
Boot
OS
Application SW
Documentation
Advanced
Export
Disconnect
+0500158ML_IJF_AdvSplitSmall
+0500161ML_IJF_AdvPanelLarge
+0500162ML_IJF_AdvSplitLarge
+0500156ML_IJF_AdvPanelSmall
+0500160ML_IJF_AdvHMI
Language
Data management
Data management and export settings
Default Bluetooth password
Autoconnect
Alarm notifications
Preload content
Backup and restore
Information
Version
2.1.3231
Download period
1 Month
Automatic download
Automatic export
Default export file name
Default e-mail recipients
Export file extension
xlsx
Clear local data

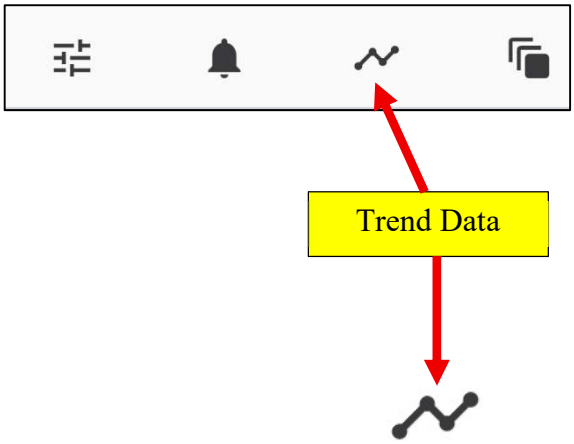

Parameters


12:57
WGTTW02BE1LCD
Enter parameter/description
/AF
Assign analogue output for modulating li...
Disabled
/AG
Assign analogue output for modulating c...
Disabled
/FA
Assign outlet temperature probe
S1
/Fb ★
Assign defrost temperature probe
S2
/Fc
Assign intake temperature probe
Disabled
/FF
Assign auxiliary evaporator defrost temp...
Disabled
/FG
Assign auxiliary temperature probe 1
Disabled
/FH
Assign auxiliary temperature probe 2
Disabled
/FI
Assign ambient temperature probe
Disabled
/FM
Assign glass temperature probe
Disabled
icon will take you to Parameters, where you can search for your desired parameter. Only "user" defined parameters can be changed
icon will take you to the Category filter This allows you to filter parameters
12:57
WGTTW02BE1LCD
Enter parameter/description
/AF
Assign analogue output for modulating li...
Disabled
/AG
Assign analogue output for modulating c...
Disabled
/FA
Assign outlet temperature probe
S1
/Fb ★
Assign defrost temperature probe
S2
/Fc
Disabled
Category filter
Favourites
ALARMS
DEFROST
GENERAL
HACCP
Humidity
I/O
INFO
LIGHT
PROBES CONFIG.
RESET
RTC
SECURITY
TEMPERATURE REGULATION
VCC
Untagged
View settings
Group by categories
Show categories



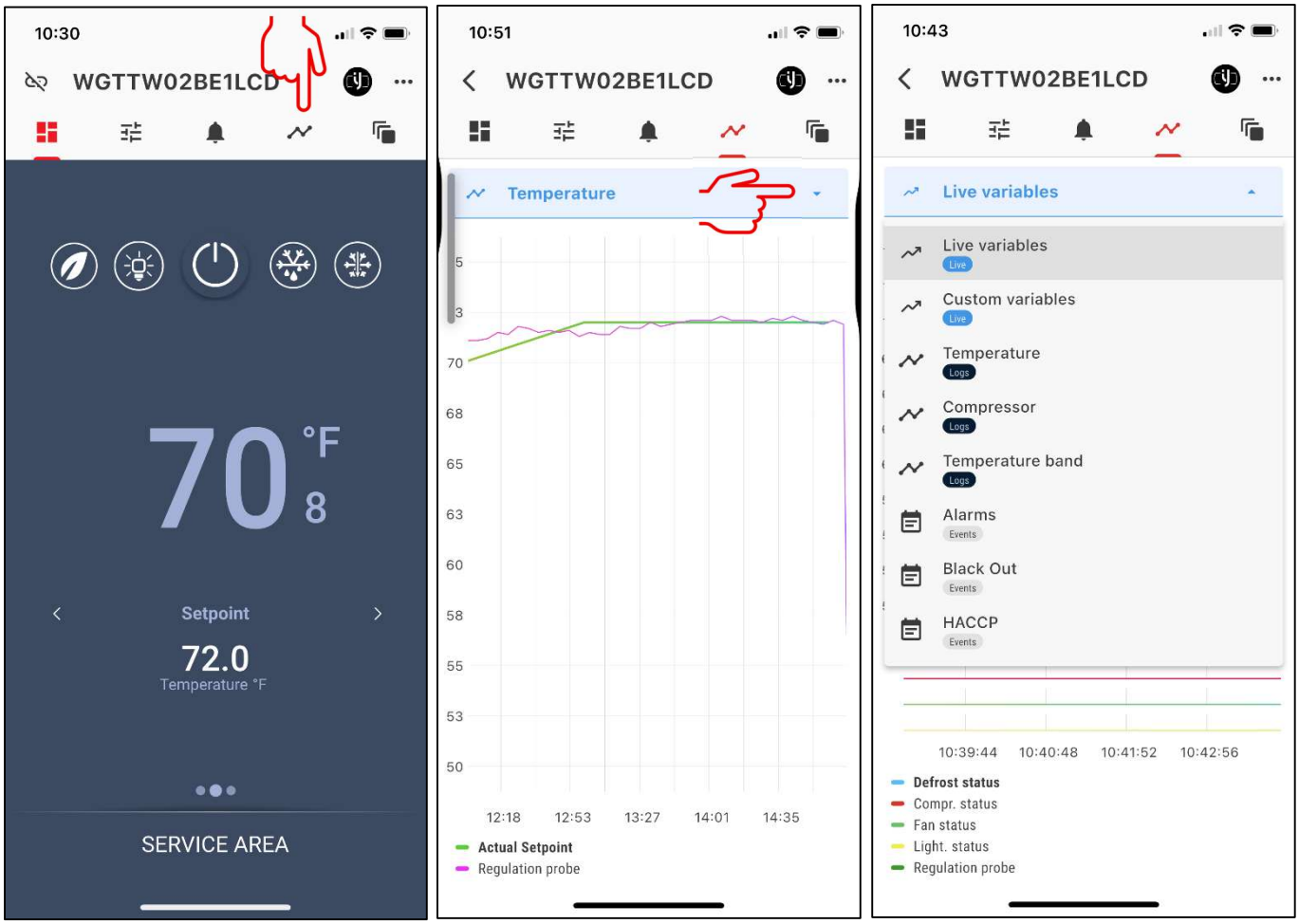
- Select Alarms icon
  - If no active Alarms are present, you will see the middle screen below.
- Select the settings icon ••• to access the menu below.
- Some alarms need to be reset. Reset Alarms will clear these alarms, allowing the unit to turn on once the Alarm has been resolved.
- Clear logs will clear non-active alarms.
- Export Live Alarms, and Export Alarm History allows you to send alarms files for analysis.





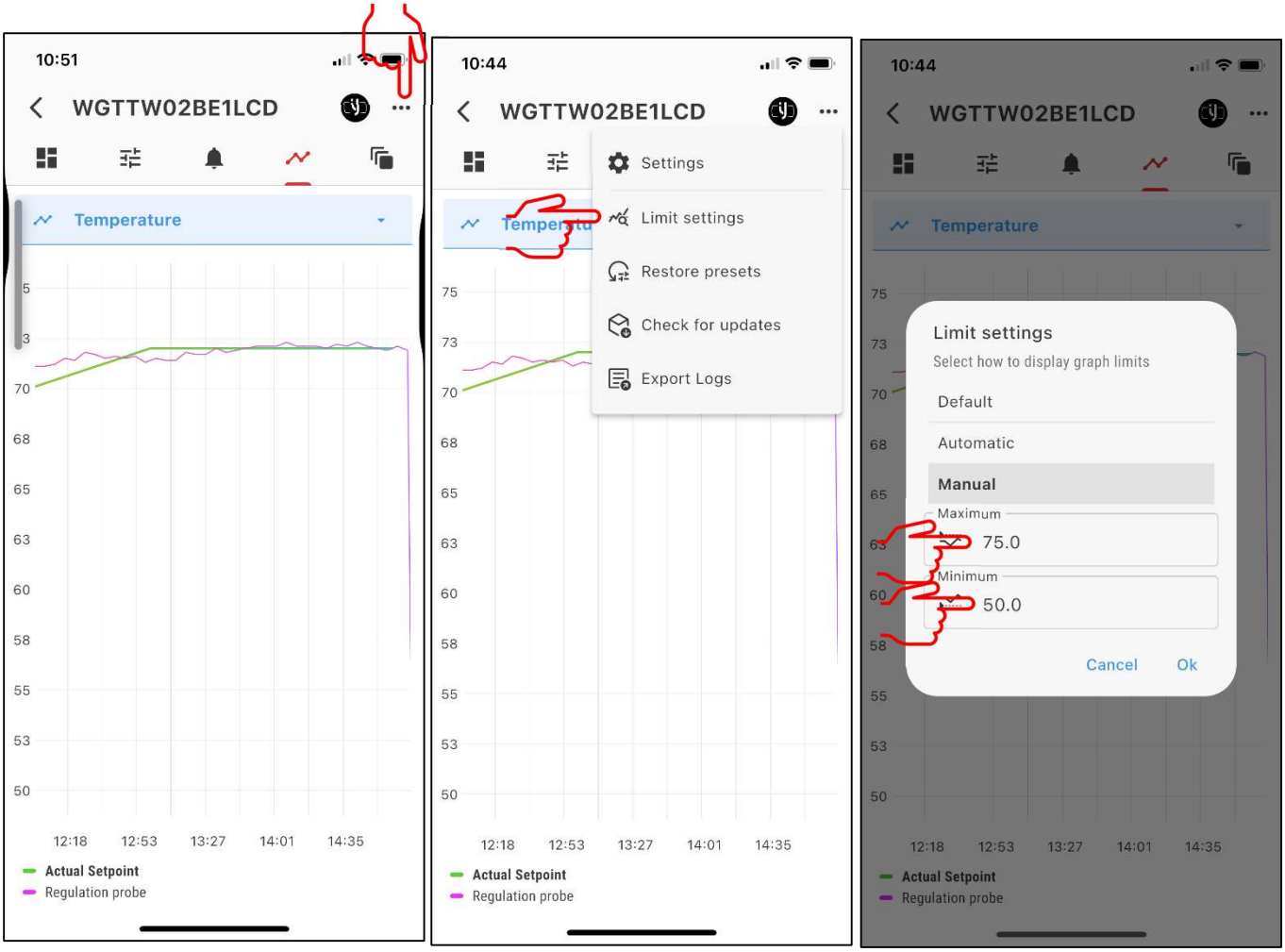
In Applica, you can compare the measured temperature to the set point temperature.

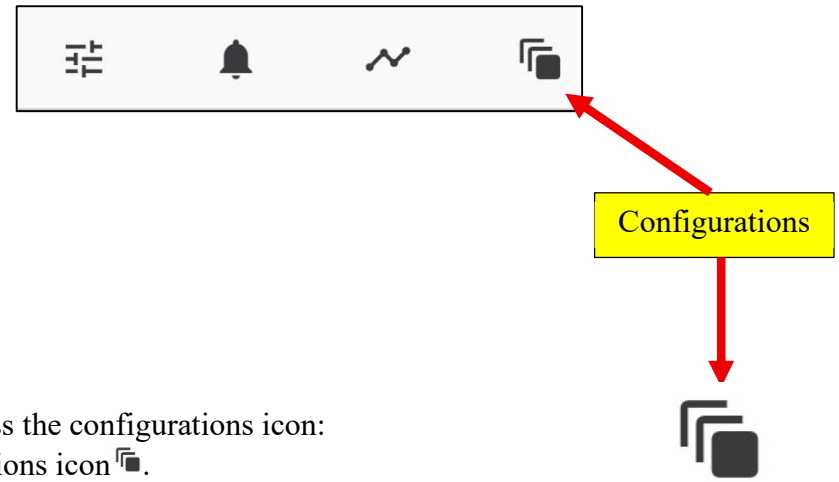
- Select Trend icon .
- Temperature trend will plot Actual Setpoint and Regulation probe temperature (the room temperature reading).
- Using two fingers, you can zoom in/out to view specific time scale data (x-axis).
- Select the pulldown arrow (middle display) to access the trend(s) shown below on the right.



.

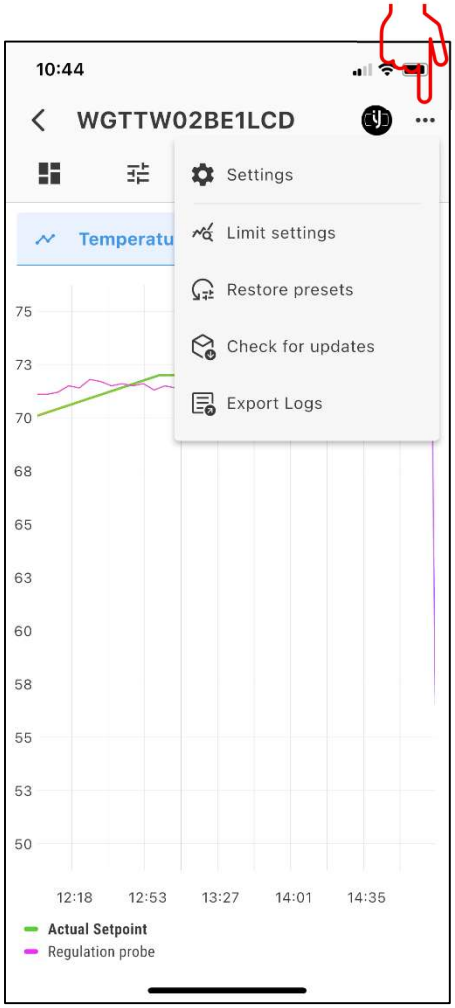
- Select the settings icon ••• to access the menu show below in the middle.
  - Select limit setting to can change the scale on the y-axis shown in the display below on the right.
- Export logs allow you to send data through e-mail.

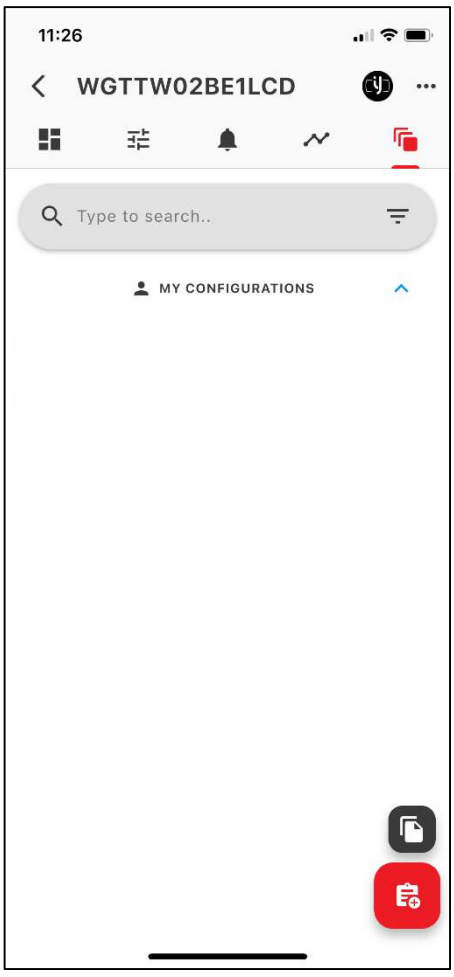




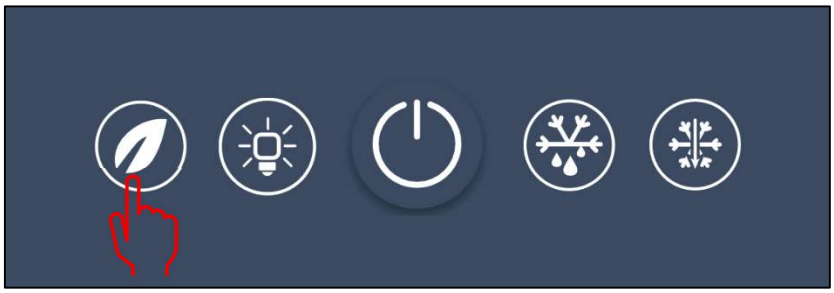
In Applica you can access the configurations icon:

- Select configurations icon .
- Configurations are preset by Wine Guardian manufacturing. Configurations are a set of predefined parameters set to allow the unit to operate correctly. Contact Wine Guardian if parameters need to be changed.





ECO Mode



Pressing ECO Mode will highlight icon

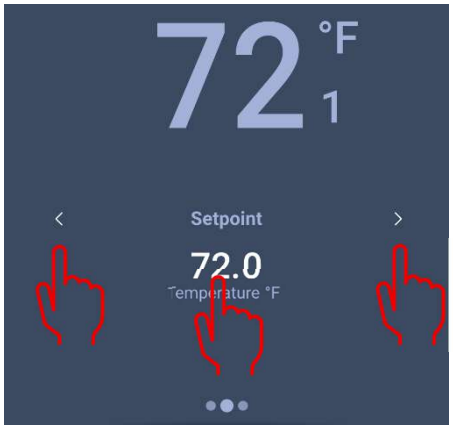
ECO Mode is used to reduce the number of compressor starts/stops to reduce energy consumption. This is accomplished by adding 4ºF to the set point.
For example: when ECO Mode is initiated, the set point will read 55°F, but the actual set point will be 59°F.

Defrost

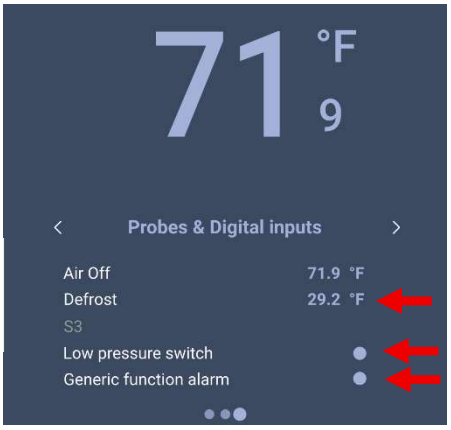
The defrost function will protect the evaporator coil from freezing. When the defrost sensor reaches 27ºF (-3ºC), the compressor and condenser will remain on for one minute then turn off. The evaporator fan will remain on until the defrost sensor reaches 35ºF (2ºC), then the fan will turn off. After 35ºF (2ºC) is reached and the 3 minute compressor time delay expires, the unit will resume operation. This event can cycle indefinitely.

The Defrost Icon will be highlighted white when unit is in defrost mode

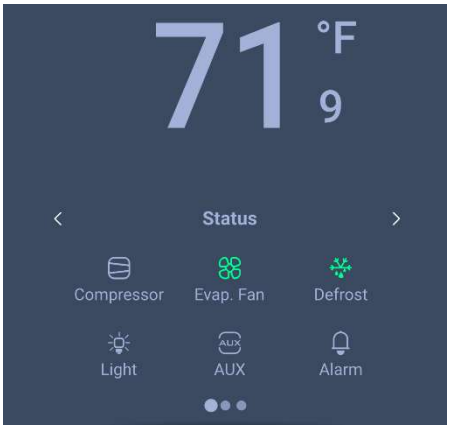
Scroll left or right to access Setpoint, Probes & Digital Inputs, and Status screens



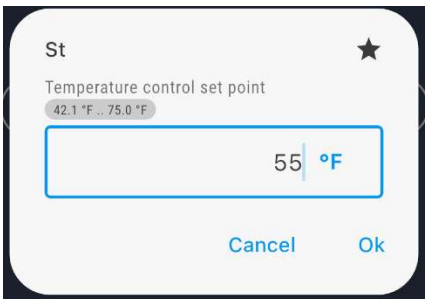
Temperature set point can be changed on this screen by pressing Setpoint and selecting a new value between 42ºF (6ºC) and 75ºF (24ºC)



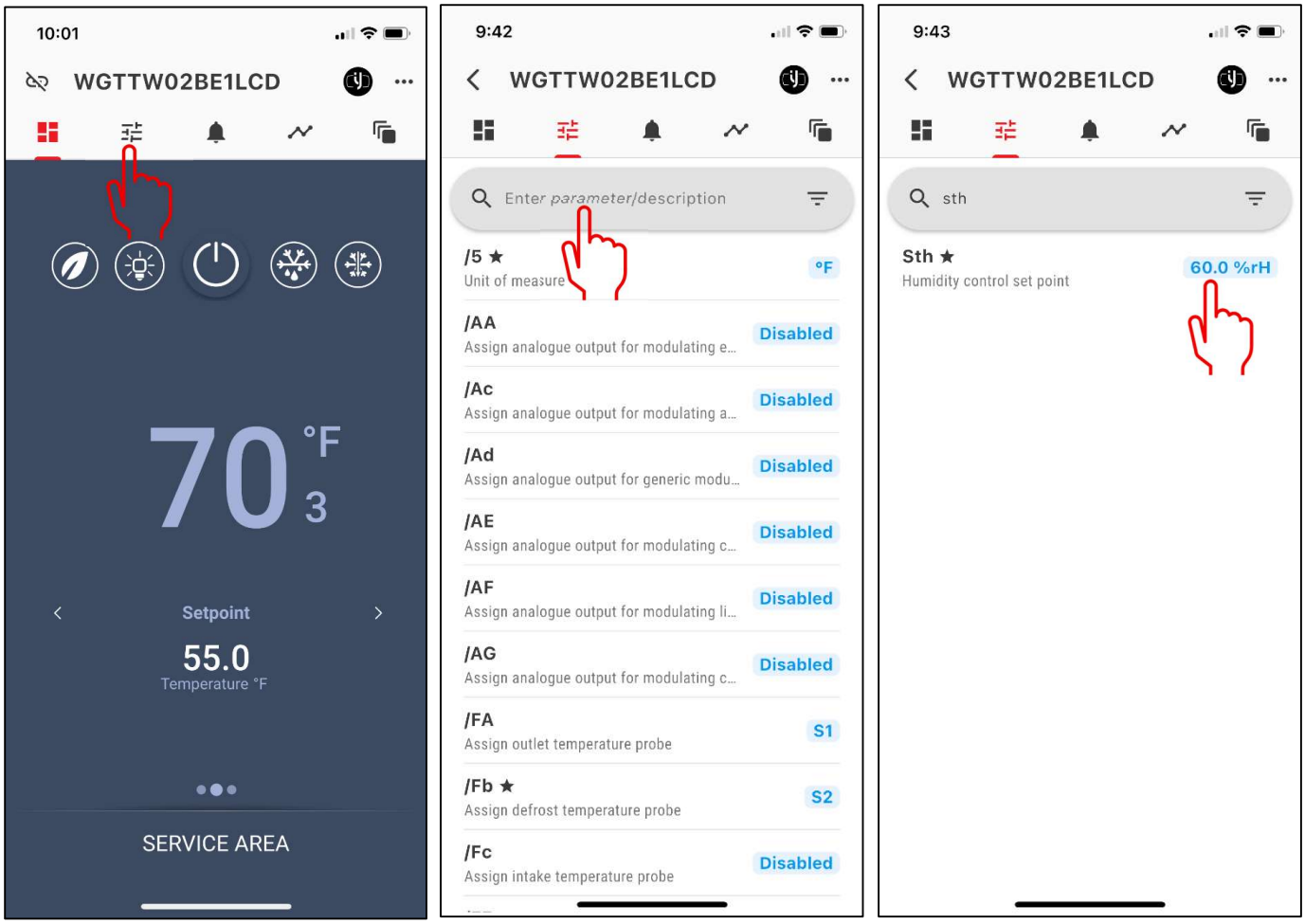
Defrost sensor reading Low pressure switch and Generic function alarm indicators

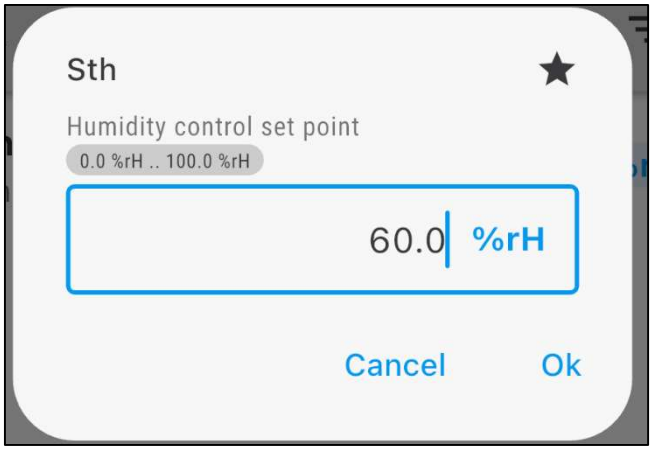


Compressor, Evap. fan, Defrost, Light (not used), AUX, and Alarm indicators - will be green if active

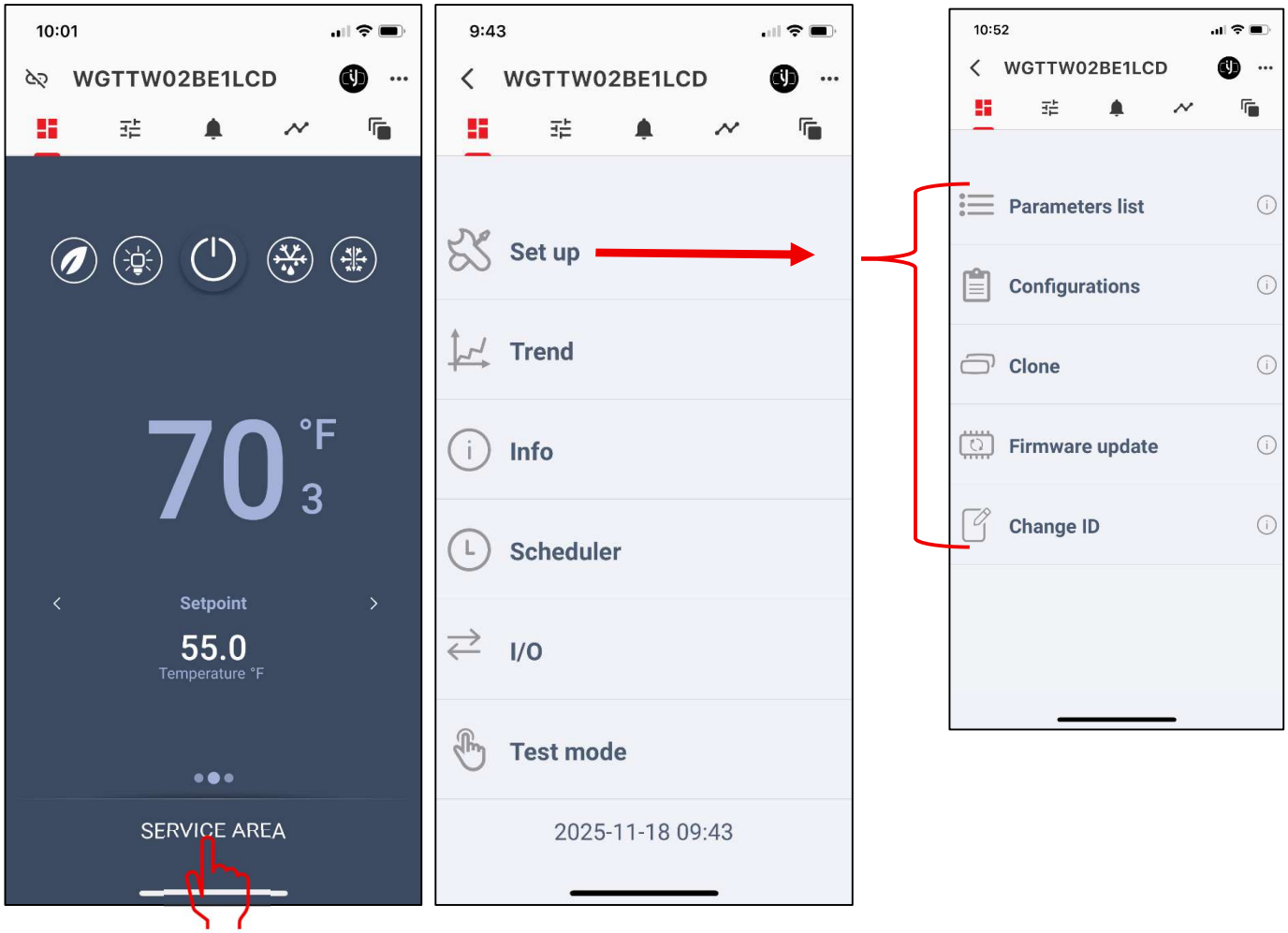


The default humidity set point value is 30% RH. To change this set point, select the parameters icon ⚙. This will take you to the parameters list. Type in "Sth"—this is the Humidity control set point. Any value can be entered between 0 and 100%. Select Ok. The humidity value can be monitored in the I/O section under INPUTS. This will be covered in the next section. Note: when humidity is active, the evaporator fan will be on.

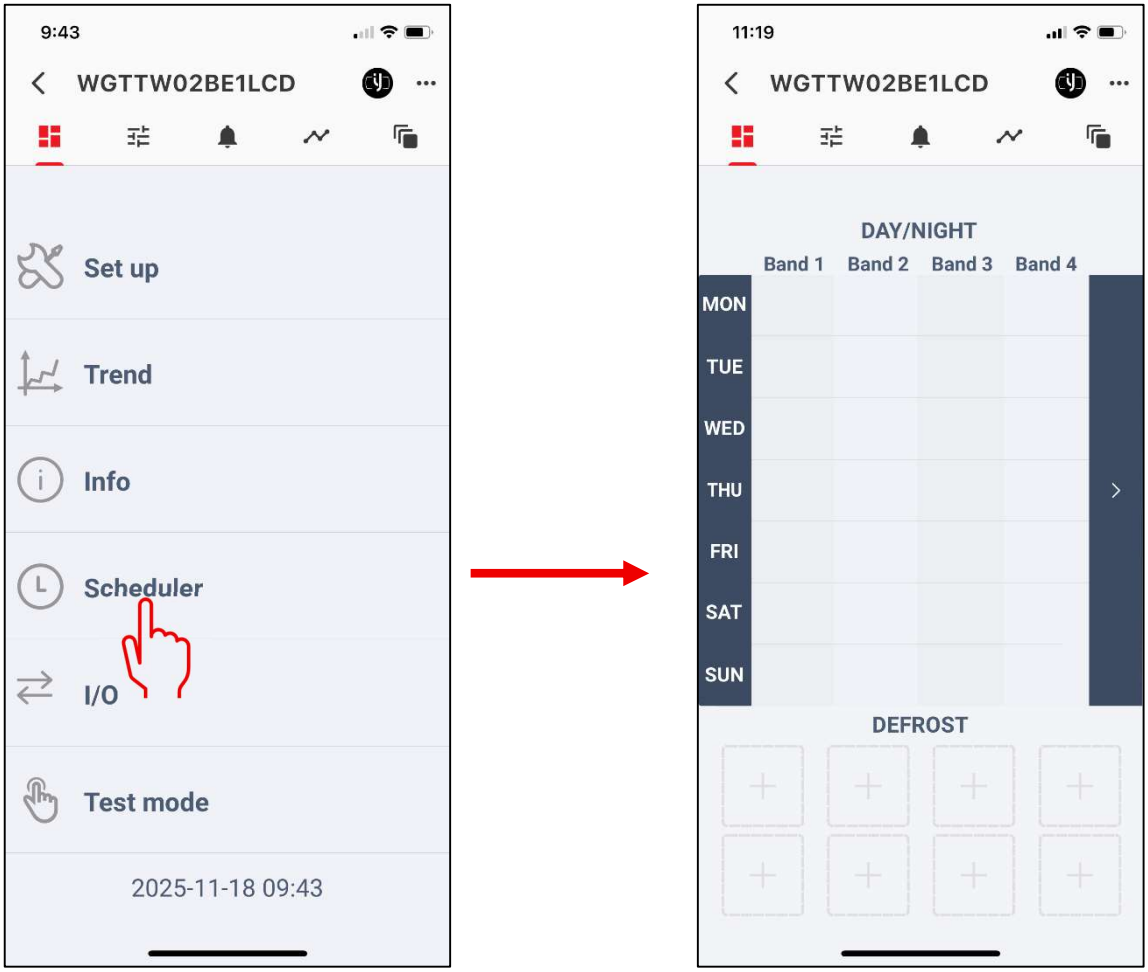




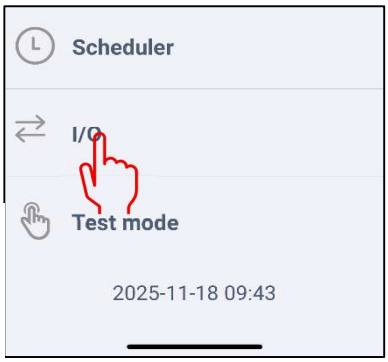
Selecting SERVICE AREA will take you to the middle screen below. Set up will take you to the screen on the right, which allows you to access the Parameters list, Configurations, Clone, Firmware update, and Change ID. Set up, Trend, and Info have been previously covered in this manual.



In SERVICE AREA, select Scheduler. This will allow you to create Day/Night schedules and a defrost schedule.

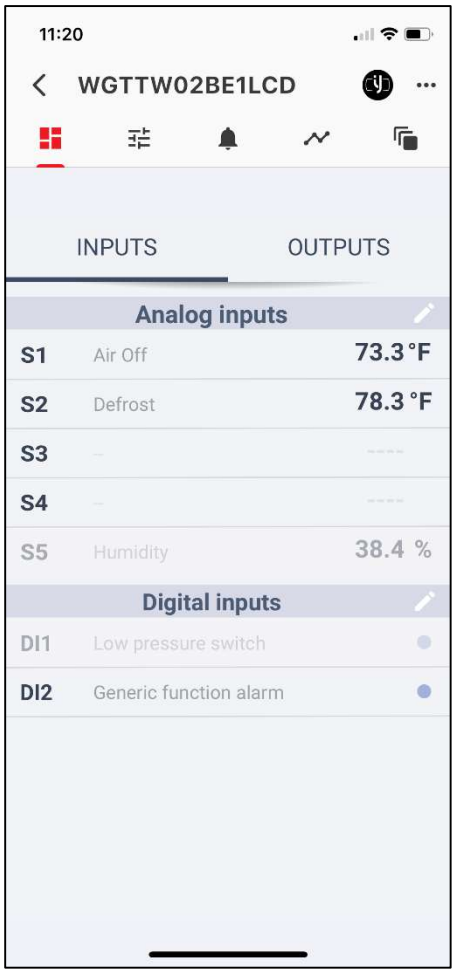


In SERVICE AREA, select I/O. This will allow you to view Analog inputs, Digital inputs, Analog outputs, and Digital outputs.



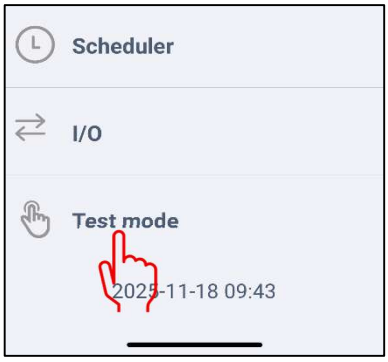
INPUTS: monitor the air temperature sensor, defrost temperature sensor, humidity sensor, and two alarms labeled DI1, and DI2. When active, these alarms will be green.

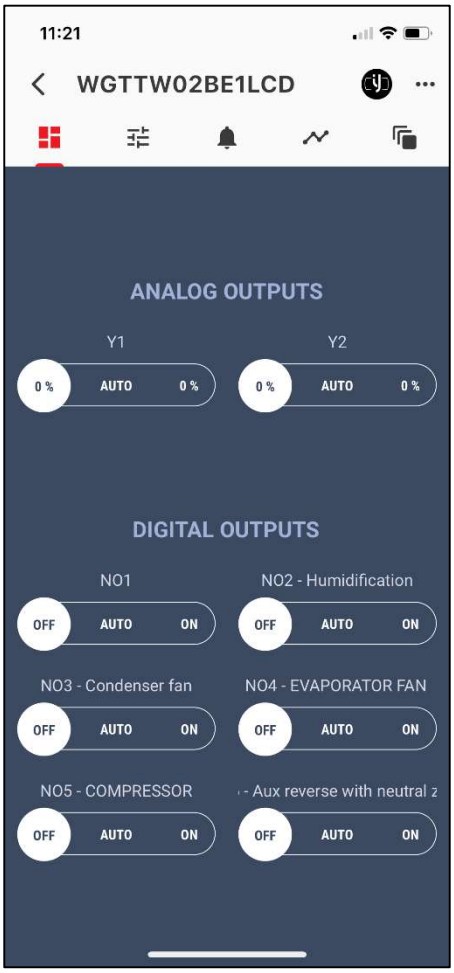
OUTPUTS: shows which major component is active. When active, these outputs will appear green. Note: the NO6 output is for electric heat used on Defender series units only.



In SERVICE AREA, select Test Mode. This will allow you to view Analog outputs and Digital outputs. Users can not make changes in test mode. To use this feature, you will need the service password. Contact Wine Guardian for further assistance with this feature.

Note for service access only:
There is a time delay in test mode. This is set for 10 minutes. This can be changed with parameter Mt. While in test mode, Alarm Man will display in alarms. This indicates Manual mode is active.





Parameter Table

User Parameter Table

These parameters can be accessed by the end user with password 0.

Code	Description	Def.	Min	Max	UOM	User	User term.	CLASSIC	SENTINEL	DEFENDER
St	Temperature control set point	50/ 122	r1	r2	°C/°F	U	YES	55	55	55
Sth	Humidity control set point	90	0	100	%RH	U	YES	30	30	30

Service Parameter Table

These parameters can be accessed by the end user with a service password. Contact Wine Guardian for service password.

Code	Description	Def.	Min	Max	UOM	User	User term.	CLASSIC	SENTINEL	DEFENDER
/5	Unit of measure: 0 = °C; 1 = °F.	0	0	1	-	S	YES	1 = °F	1 = °F	1 = °F
/cA	Outlet temperature probe (Sm) calibration	0	-20/ -36	20/ 36	Δ °C/°F	S	NO	0	0	0
/cb	Defrost temperature probe (Sd) calibration	0	-20/ -36	20/ 36	Δ °C/°F	S	NO	0	0	0
/Fb	Assign defrost temperature probe (Sd) - see /FA	0	0	7	-	S	NO	S2	S2	S2
/FP	Assign humidity probe (fi xed on S5)	5	5	5	-	S	NO	Disabled	S5	S5
DIA	Assign immediate external alarm digital input:	0	0	4	-	S	NO	1 = ID1	1 = ID1	1 = ID1
DIS	Assign generic function alarm digital input logic - see DIA	0	0	4	-	S	NO	2 = ID2	2 = ID2	2 = ID2
DIt	Assign low pressure switch digital input - see DIA	0	0	4	-	S	NO	1 = ID1	1 = ID1	1 = ID1
DOC	Assign AUX auxiliary digital output - see DOA	0 (small) / 1 (large)	0	6	-	S	NO	4 = N04	2 = N02	2 = N02
DOG	Assign defrost digital output - see DOA	2 (small) / 6 (large)	0	6	-	S	NO	Disabled	Disabled	Disabled
DOS	Assign generic On/Of function digital output - see DOA	0	0	6	-	S	NO	0	6=N06	6=N06
DOt	Assign condenser fan digital output - see DOA	0	0	6	-	S	NO	2 = N02	3 = N03	3 = N03
DOu	Assign humidification digital output - see DOA	0	0	6	-	S	NO	4 = N04	2 = N02	2 = N02
DOv	Assign reverse digital output with dead band control - see DOA	0	0	6	-	S	NO	0	6=N06	6=N06
dP1	Maximum defrost duration	45	1	240	min	S	YES	240	240	240
dt1	End defrost temperature (read by Sd)	4/39.2	50/ -58	50/122	°C/°F	S	YES	35	35	35
F3	Evaporator fans during defrosts: 0 = on; 1 = off .	1	0	1	-	S	NO	0	0	0
PDS	Service password	22	0	999	-	S	NO			
rd	Temperature control differential	2/ 3.6	0.1/ 0.2	99.9/179.2	Δ °C/°F	S	YES	3.6	2	2
rn	Dead band	4/ 7.2	0	60/ 108	Δ °C/°F	S	NO	7.2	0	0
rr	Reverse output differential	2/ 3.6	0	20/ 36	Δ °C/°F	S	NO	3.6	3	3
St	Temperature control set point	50/ 122	r1	r2	°C/°F	U	YES	55	55	55
Sth	Humidity control set point	90	0	100	%RH	U	YES	30	30	30
TdL	Differential to enable humidity control	0	0	20/ 36	Δ °C/°F	S	NO	5	5	5

Manufacturer Parameter Table

These parameters can be accessed by the end user with an OEM password. Contact Wine Guardian for OEM password.

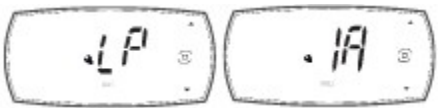
Code	Description	Def.	Min	Max	UOM	User	User term.	CLASSIC	SENTINEL	DEFENDER
/5	Unit of measure: 0 = °C; 1 = °F.	0	0	1	-	S	YES	1 = °F	1 = °F	1 = °F
/cA	Outlet temperature probe (Sm) calibration	0	-20/ -36	20/ 36	Δ °C/°F	S	NO	0	0	0
/cb	Defrost temperature probe (Sd) calibration	0	-20/ -36	20/ 36	Δ °C/°F	S	NO	0	0	0
/Fb	Assign defrost temperature probe (Sd) - see /FA	0	0	7	-	S	NO	S2	S2	S2
/FP	Assign humidity probe (fi xed on S5)	5	5	5	-	S	NO	Disabled	S5	S5
d10	Compressor on time for defrost running time mode	0	0	240	min	M	NO	1	1	1
d11	Defrost temperature threshold in running time mode	-50/-58	-50/-58	50/ 122	°C/°F	M	NO	27	27	27
dd	Dripping time after defrosting	2	0	15	min	M	NO	0	0	0
DIA	Assign immediate external alarm digital input:	0	0	4	-	S	NO	1 = ID1	1 = ID1	1 = ID1
DIS	Assign generic function alarm digital input logic - see DIA	0	0	4	-	S	NO	2 = ID2	2 = ID2	2 = ID2
DIt	Assign low pressure switch digital input - see DIA	0	0	4	-	S	NO	1 = ID1	1 = ID1	1 = ID1
DOC	Assign AUX auxiliary digital output - see DOA	0 (small) / 1 (large)	0	6	-	S	NO	4 = N04	2 = N02	2 = N02
DOG	Assign defrost digital output - see DOA	2 (small) / 6 (large)	0	6	-	S	NO	Disabled	Disabled	Disabled
DOS	Assign generic On/Of function digital output - see DOA	0	0	6	-	S	NO	0	6=N06	6=N06
DOt	Assign condenser fan digital output - see DOA	0	0	6	-	S	NO	2 = N02	3 = N03	3 = N03
DOu	Assign humidification digital output - see DOA	0	0	6	-	S	NO	4 = N04	2 = N02	2 = N02
DOv	Assign reverse digital output with dead band control - see DOA	0	0	6	-	S	NO	0	6=N06	6=N06
dP1	Maximum defrost duration	45	1	240	min	S	YES	240	240	240
dt1	End defrost temperature (read by Sd)	4/39.2	50/ -58	50/122	°C/°F	S	YES	35	35	35
F3	Evaporator fans during defrosts: 0 = on; 1 = off .	1	0	1	-	S	NO	0	0	0
Fd	Post-dripping time after defrost	2	0	15	min	M	NO	0	0	0
GFS_T	Generic On/Of function, type: 0 = direct; 1 = reverse.	0	0	1	-	M	NO	0	1=REVERSE	1=REVERSE
PDM	Manufacturer password (OEM)	44	0	999	-	M	NO			
PDS	Service password	22	0	999	-	S	NO			
r1	Minimum set point	-50/ -58	-99/ -146.2	r2	°C/°F	M	NO	42	42	42
r2	Maximum set point	50/ 122	r1	200/ 392	°C/°F	M	NO	75	75	75
rd	Temperature control differential	2/ 3.6	0.1/ 0.2	99.9/179.2	Δ °C/°F	S	YES	3.6	2	2
rn	Dead band	4/ 7.2	0	60/ 108	Δ °C/°F	S	NO	7.2	0	0
rr	Reverse output differential	2/ 3.6	0	20/ 36	Δ °C/°F	S	NO	3.6	5	5
St	Temperature control set point	50/ 122	r1	r2	°C/°F	U	YES	55	55	55
Sth	Humidity control set point	90	0	100	%RH	U	YES	30	30	30
TdL	Differential to enable humidity control	0	0	20/ 36	Δ °C/°F	S	NO	5	5	5
THL	Maximum temperature to enable humidity control	0	-60/ -76	60/ 140	°C/°F	M	NO	75	75	75
TLL	Minimum temperature to enable humidity control	0	-60/ -76	60/ 140	°C/°F	M	NO	35	35	35

Alarms

Alarm Name	Function	Specifications	Description	Alarm Display	Alarm Description
High Pressure Switch	Normally Closed	Opens at 300psig Closes at 200psig Auto reset device	High pressure switch will open at 300psig. This will stop the compressor, condenser fan, and evaporator fan. Alarms IA and LP will be active until the pressure falls below 200psig, closing the switch and clearing the alarms. The unit will turn on after a 3-minute time delay expires. If the LP alarm is activated four times in less than 1 hour, an LP alarm will be active. This alarm will not reset automatically. The unit will need to have the alarms reset in setting icon ··· to start.	IA	Immediate alarm from external contact
				LP	Low pressure
Condensate Overflow	Normally Closed	Auto reset device	When condensate fills the drain pan, the float switch opens. This will activate alarms IA, LP, and GHI. This will turn off the compressor, condenser fan, and evaporator fan. GHI alarm indicates condensate overflow and/or loss-of-charge alarm. When condensate drains, the float switch closes all alarms reset. Compressor will turn on after a 3-minute time delay expires. If the LP alarm is activated four times in less than 1 hour, an LP alarm will be active. This alarm will not reset automatically. The unit will need to have the alarms reset in setting icon ··· to start.	IA	Immediate alarm from external contact
				LP	Low pressure
				GHI	Generic Alarm high threshold
Loss-of-Charge Switch	Normally Closed	Opens at 10psig Closes at 25psig Auto reset device	When suction pressure is <10psig, loss-of-charge switch opens. This will activate alarms IA, LP, and GHI. This will turn off the compressor, condenser fan, and evaporator fan. GHI alarm indicates condensate overflow and/or loss of charge alarm. When the pressure is >25psig, the switch closes and all alarms reset. Compressor will turn on after a 3-minute time delay expires. If the LP alarm is activated four times in less than 1 hour, an LP alarm will be active. This alarm will not reset automatically. The unit will need to have the alarms reset in setting icon ··· to start.	IA	Immediate alarm from external contact
				LP	Low pressure
				GHI	Generic Alarm high threshold
Temperature Sensor	NTC Thermistor	10K @25ºC beta 3435	Air temperature sensor	rE, E1	Control Probe 1 faulty or disconnected
Defrost Sensor	NTC Thermistor	10K @25ºC beta 3435	Air temperature sensor	E2	Probe 2 faulty or disconnected
Humidity Sensor	Relative Humidity	0-5Vrat	0-100% Relative Humidity Sensor	E5	Probe S1H faulty or disconnected

User Interface Alarms

- High Pressure Switch will display the following alarms.



If the High Pressure Switch is activated four times in less than one hour, the following alarm will be displayed.

This requires a manual reset. Reset using Alarms, reset alarms, change value to 1.

↓ **ALn** (Alarms)

⇒ **rSA** (reset alarms) Change to 1 to reset alarms

- Condensate Overflow and Loss-of-Charge Switch will display the following alarms.

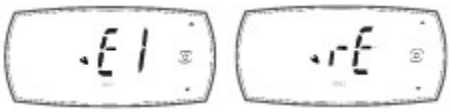
If the Condensate Overflow and/or Loss-of-Charge Switch is activated four times in less than one hour, the following alarm will be displayed.

This requires a manual reset. Reset using Alarms, reset alarms, change value to 1.

↓ **ALn** (Alarms)

⇒ **rSA** (reset alarms) Change to 1 to reset alarms

- Temperature Sensor will display the following alarms when the control probe is faulty or disconnected.



Correct the issue to reset the alarm.

- Defrost Sensor will display the following alarms when the defrost probe is faulty or disconnected.

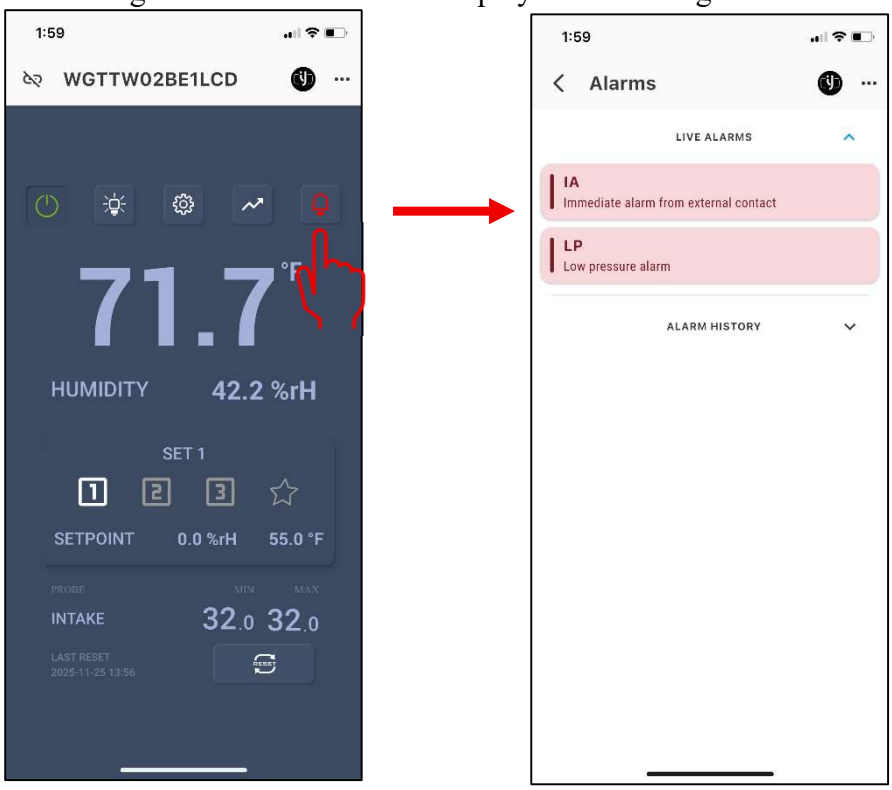
Correct the issue to reset the alarm.

- Humidity Sensor will display the following alarms when the humidity sensor is faulty or disconnected.

Correct the issue to reset the alarm.

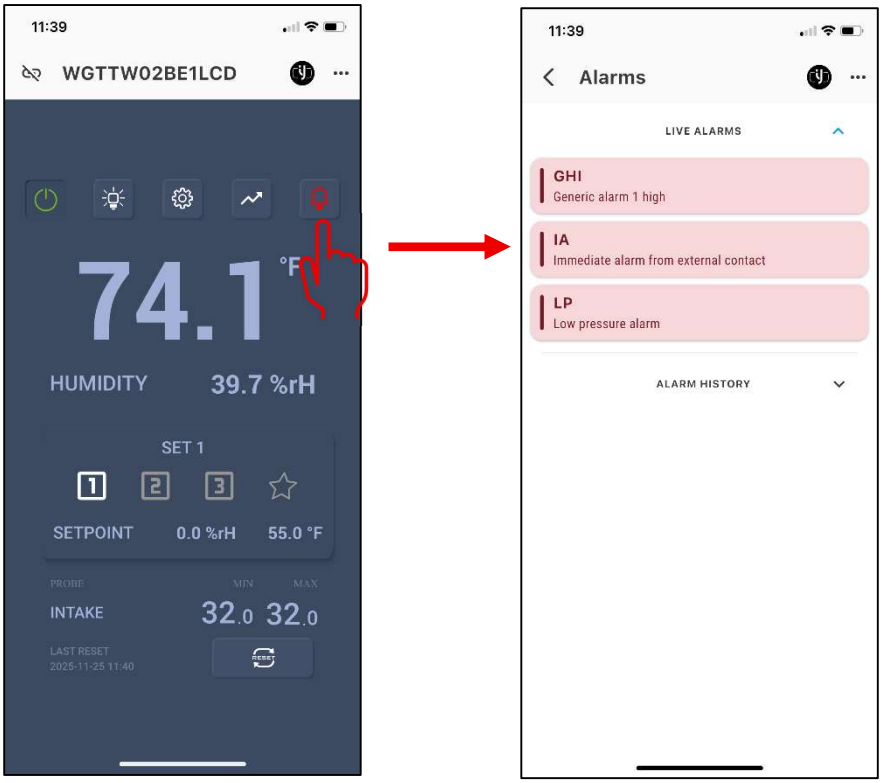
Controlla Alarms

- High Pressure Switch will display the following alarms.

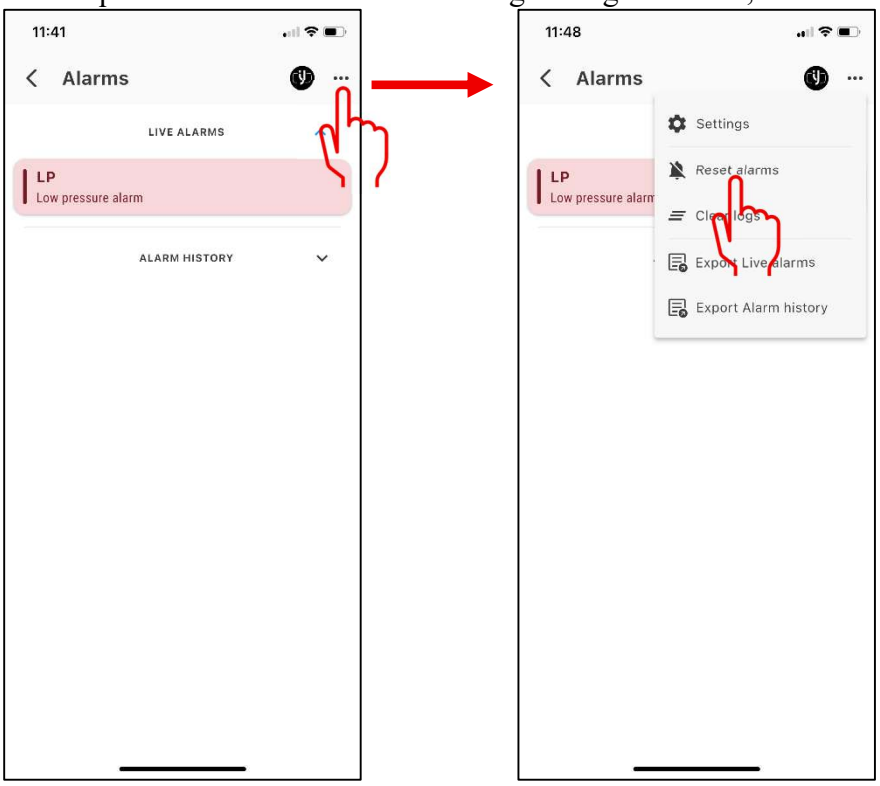


If the high pressure switch is activated four times in less than one hour, the following alarm will be displayed. This requires a manual reset. Reset using settings icon ••• , Reset alarms.

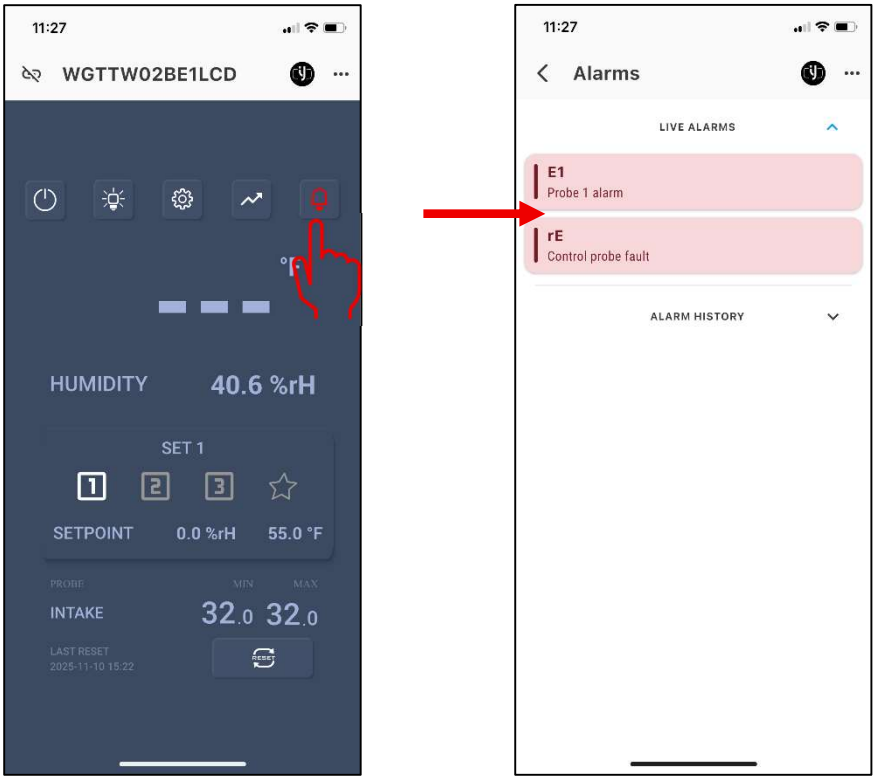
- Condensate Overflow and Loss-of-Charge Switch will display the following alarms. These are automatic reset devices.



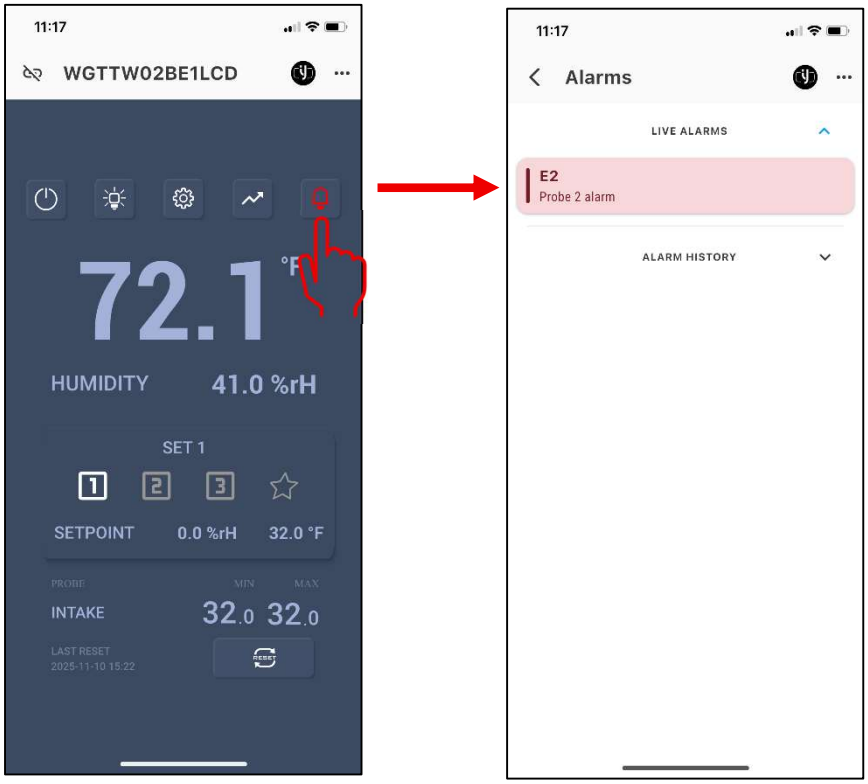
If the Condensate Overflow and/or Loss-of-Charge Switch is activated four times in less than one hour, the follow alarm will be displayed.
This requires a manual reset. Reset using settings icon ••• , Reset alarms.



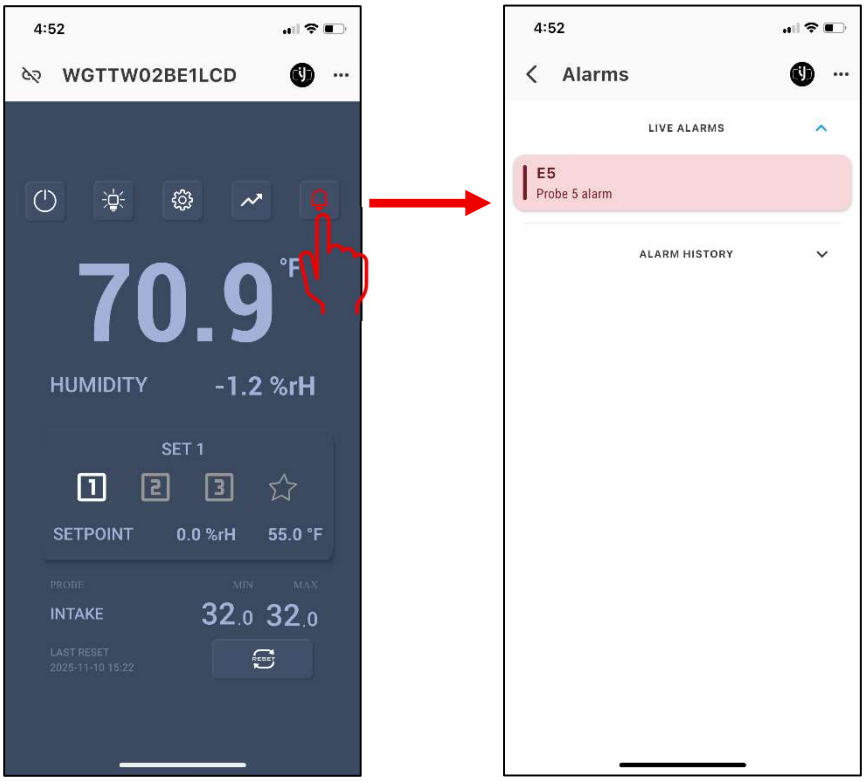
- Temperature Sensor will display the following alarms when the control probe is faulty or disconnected. Correct the issue to reset the alarm.



- Defrost Sensor will display the following alarms when the defrost probe is faulty or disconnected. Correct the issue to reset the alarm.

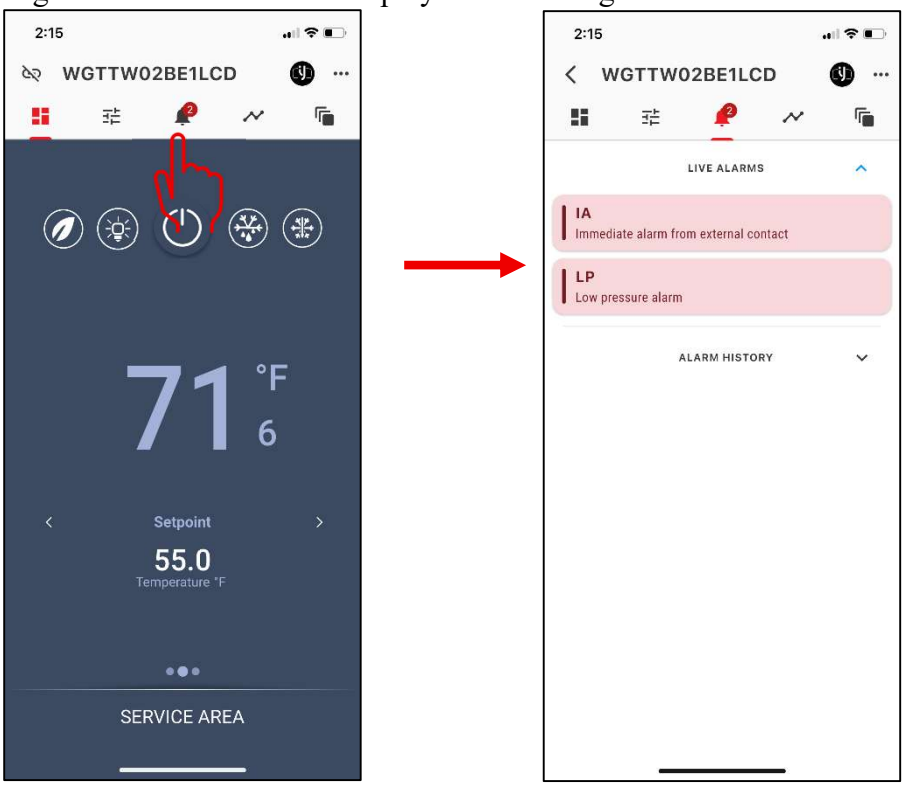


- Humidity Sensor will display the following alarms when the humidity sensor is faulty or disconnected. Correct the issue to reset the alarm.

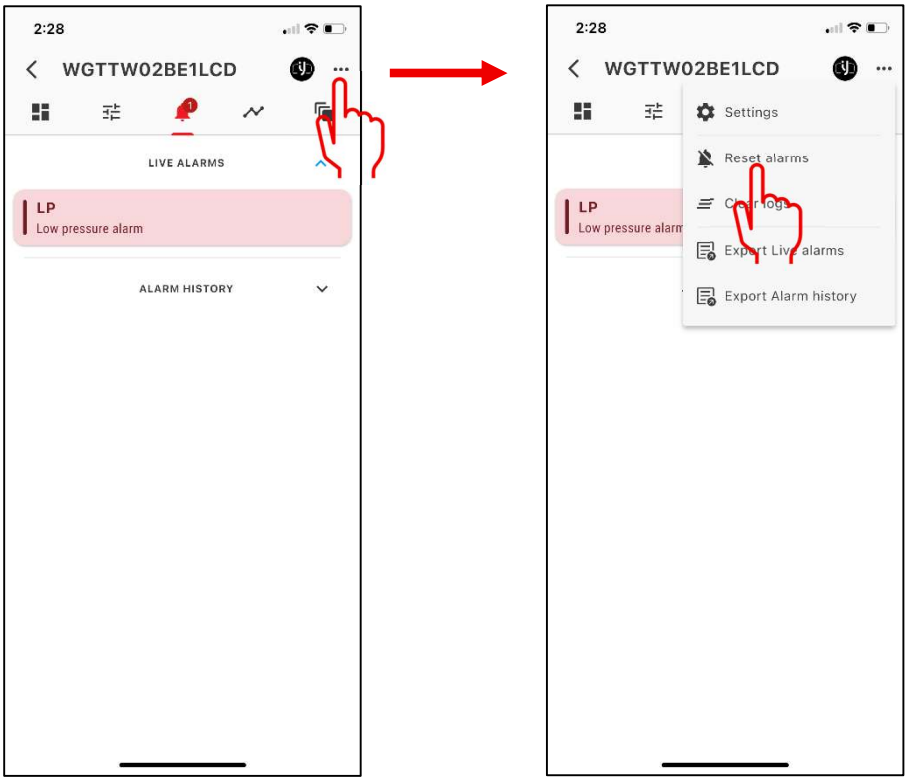

4:52
WGTTW02BE1LCD
70.9 °F
HUMIDITY
-1.2 %rH
SET 1
1
2
3
SETPOINT
0.0 %rH
55.0 °F
PROBE
MIN
MAX
INTAKE
32.0
32.0
LAST RESET
2025-11-10 15:22
RESET
4:52
Alarms
LIVE ALARMS
E5
Probe 5 alarm
ALARM HISTORY

Applica Alarms

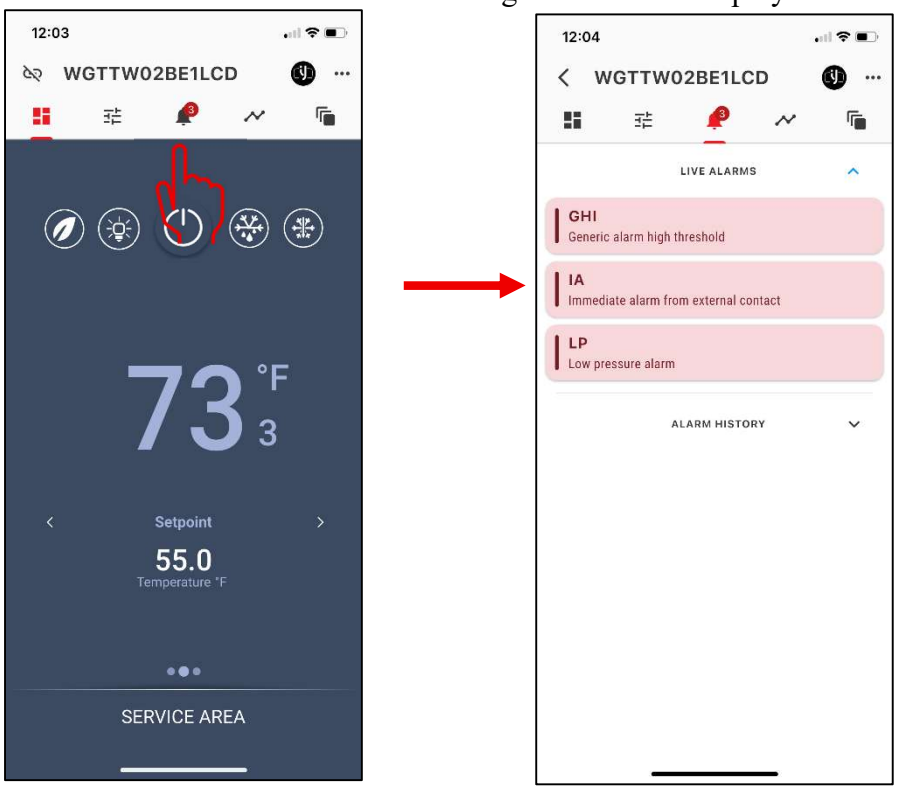
- High Pressure Switch will display the following alarms.



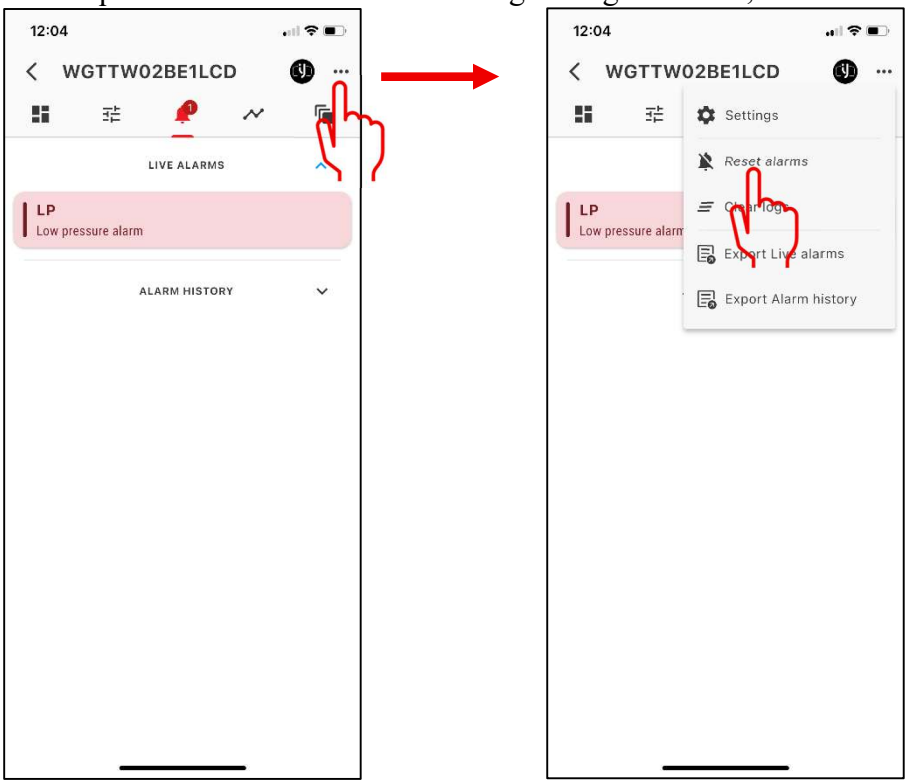
If the High Pressure switch is activated four times in less than one hour, the following alarm will be displayed. This requires a manual reset. Reset using settings icon ••• , Reset alarms.



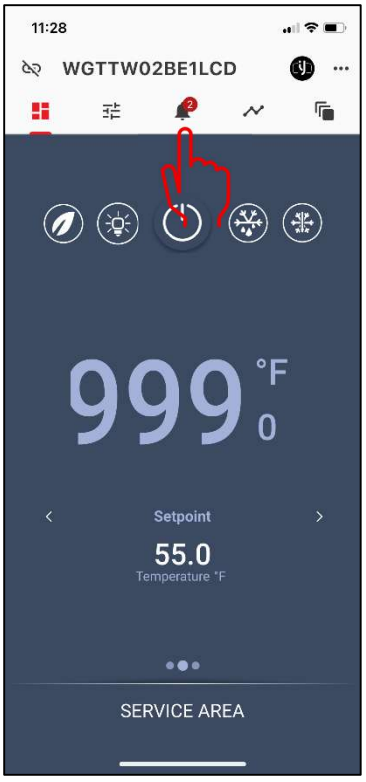
- Condensate Overflow and Loss-of-Charge Switch will display the following alarms.

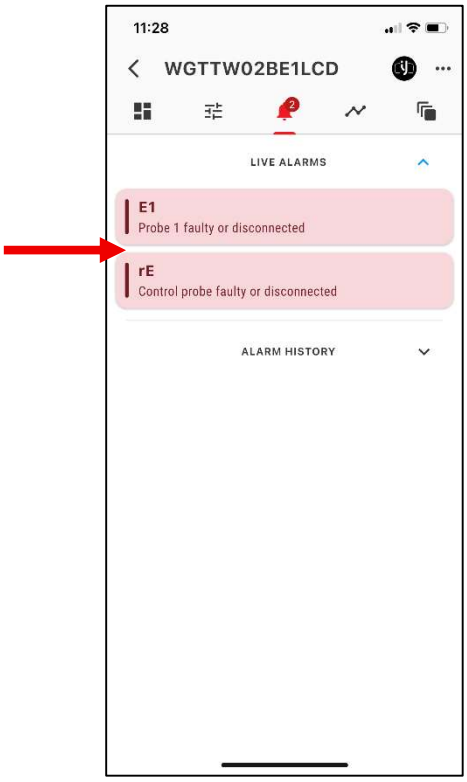


If the Condensate Overflow and/or Loss-of-Charge Switch is activated four times in less than one hour, the following alarm will be displayed.
This requires a manual reset. Reset using settings icon ••• , Reset alarms.

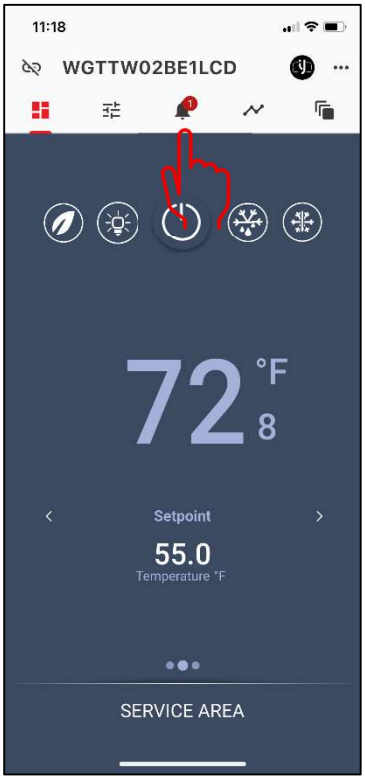


- Temperature Sensor will display the following alarms when the control probe is faulty or disconnected. Correct the issue to reset the alarm.

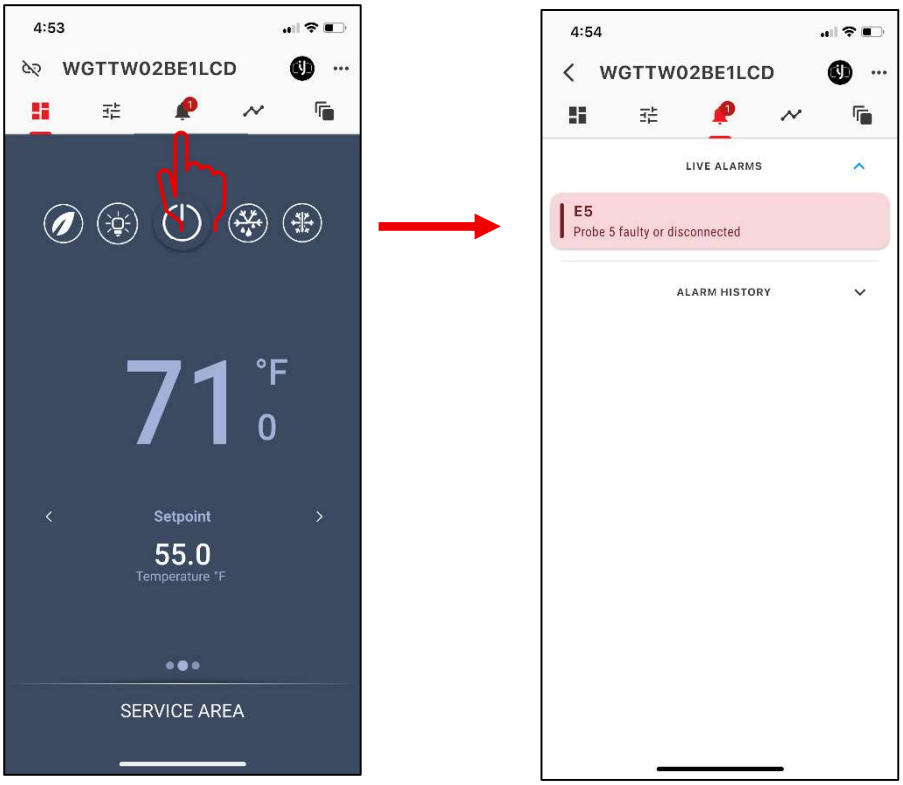




- Defrost Sensor will display the following alarms when the defrost probe is faulty or disconnected. Correct the issue to reset the alarm.



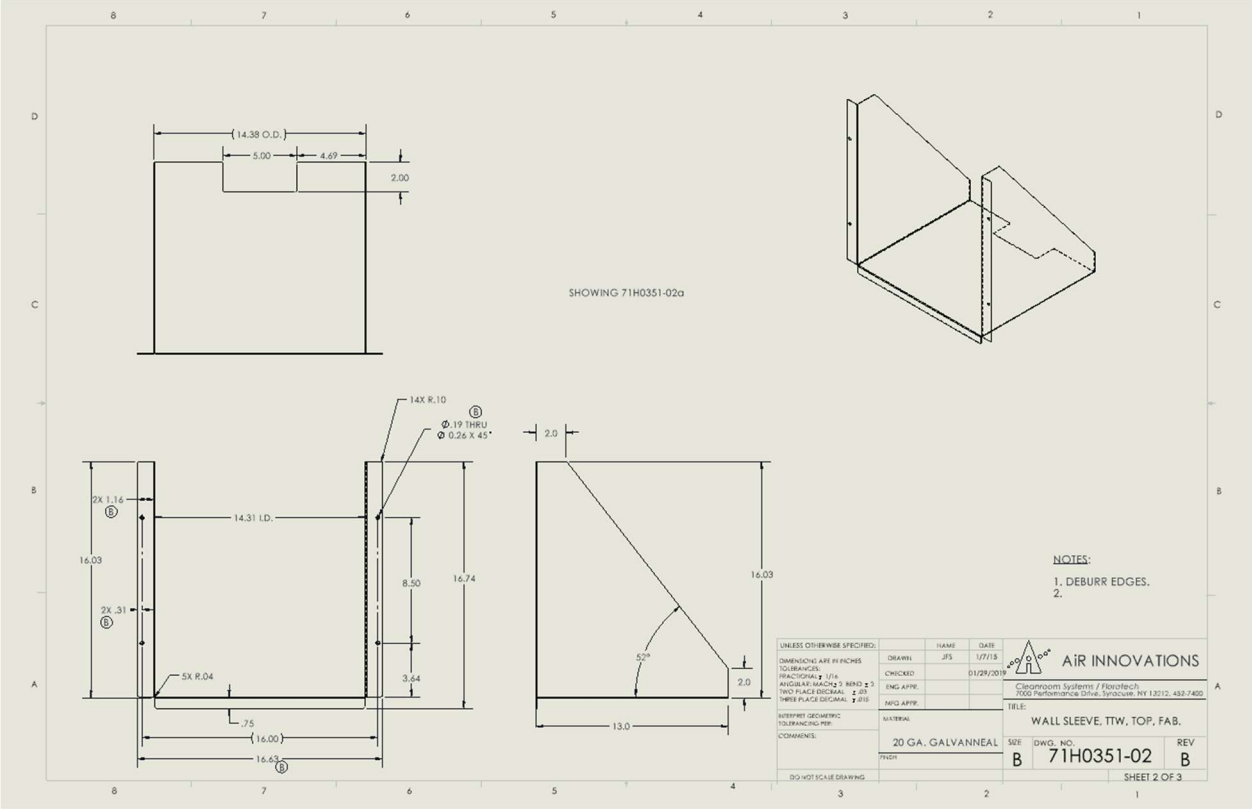
- Humidity Sensor will display the following alarms when the humidity sensor is faulty or disconnected. Correct the issue to reset the alarm.


4:53
WGTTW02BE1LCD
71 °F
0
Setpoint
55.0
Temperature °F
SERVICE AREA
4:54
WGTTW02BE1LCD
LIVE ALARMS
E5
Probe 5 faulty or disconnected
ALARM HISTORY

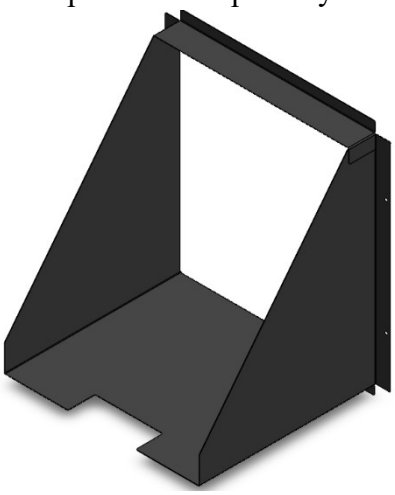
Accessories and Optional Equipment

Installation Sleeve

Each Sentinel and Defender series Through-the-Wall system includes an EasyMount™ installation sleeve for mounting the unit. The sleeve is used to support the weight of the unit and facilitate easy installation. The maximum dimensions of the wall opening should be 14½" wide by 16¼" high (36.83cm wide by 41.28cm high).

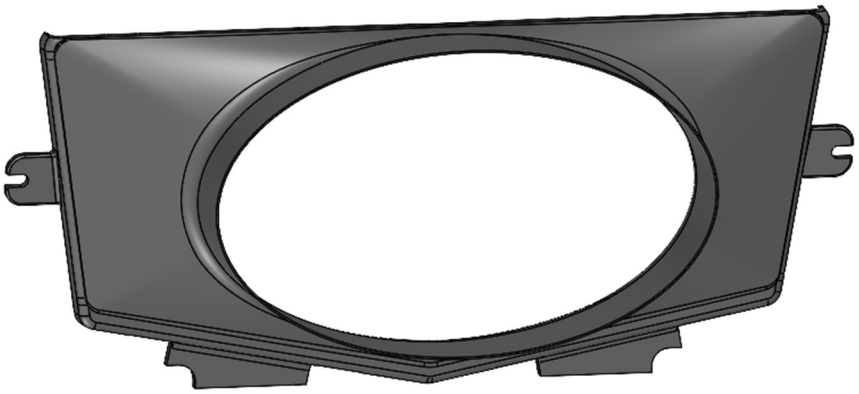


For proper operation of the system, the installation sleeve must be mounted level within the wall cutout and securely fastened to the wall studs on either side of the sleeve (as shown in the installation section). Classic series units are supplied with installation flanges, but require additional support underneath the unit connected to the wall studs. Installation sleeves can be used with Classic series units, but must be purchased separately.

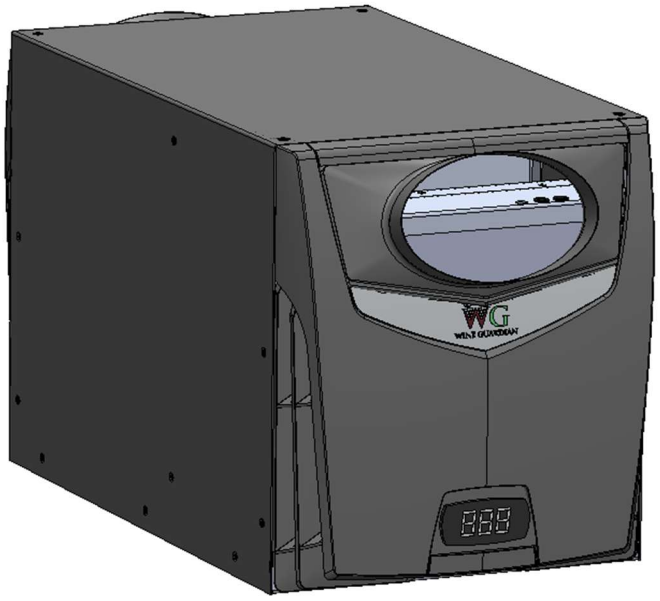


Oval Duct Collar Adapter

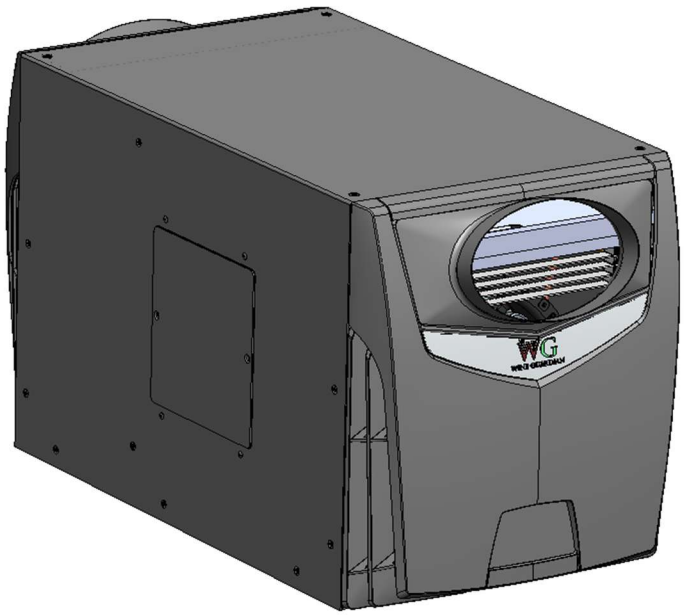
An optional duct collar kit is available for ease in directing evaporator or condenser air away from the Through-the-Wall unit. The kit includes one (1) duct collar, 15-feet (4.5 meters) of 6-inches (15.24cm) round flexible ductwork, and two (2) tie wraps for connecting the ductwork to the duct collar. The kit does not include connections at the tie-in point to the remote location or outdoors. The oval duct collar can only be used with the Sentinel series grilles. You can use up to 15 feet (4.5 meters) of ducting if ducting is straight. If bends are required, see our online duct calculator for assistance.



6” Oval Duct Collar can be field-installed by removing the perforated plate and replacing it with the oval duct collar.



Evaporator 6” Oval Duct Collar



Condenser 6” Oval Duct Collar

Sound Attenuation Grill Evaporator

Sound attenuation grilles are standard with Defender series units for evaporator and condenser grilles. Classic and Sentinel series units do not come standard with sound attenuation grills, but they can be purchased as an accessory. See Sound Performance 120Volt/60Hz-240Volt/50Hz on page 26 data for detailed sound specifications. These grilles can be field-installed on Classic and Sentinel series units if excess noise is an issue.

Evaporator Sound Attenuation Grill

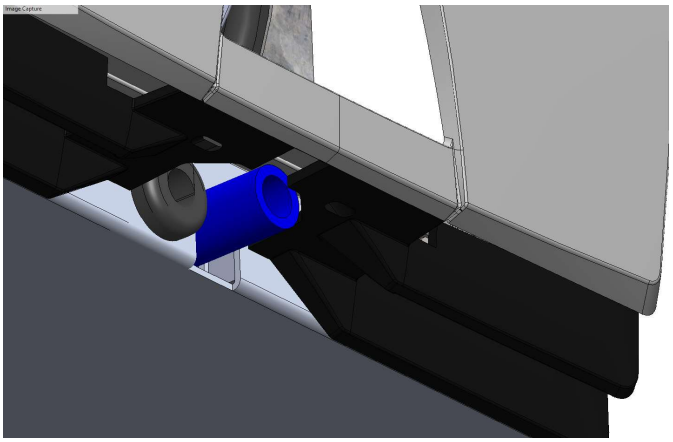
Condenser Sound Attenuation Grill

Field Drain Connection

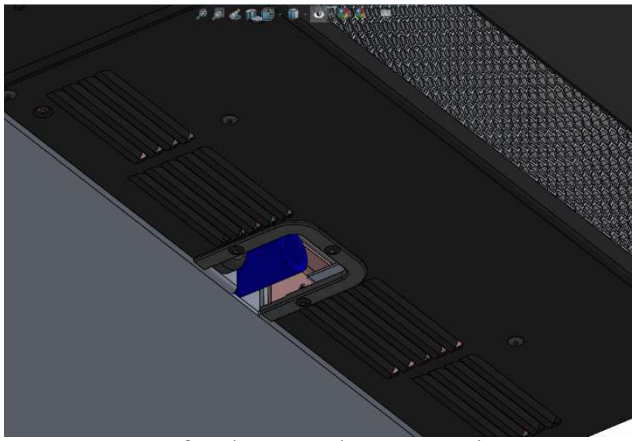
A field drain kit is supplied with Classic series units. For Sentinel and Defender series units, a field drain kit can be purchased as an accessory if needed. The field drain kit consists of 6 feet (1.8 meters) of clear ½" PVC tubing and a barbed fitting. To install, first remove the plug in the tube highlighted below in blue, then install the barbed fitting followed by the clear tube.

Clear Tube

Barbed Fitting



Sentinel Condensate Tube



Defender Condensate Tube

The drain line must extend from the system to an external drain or condensate pump.

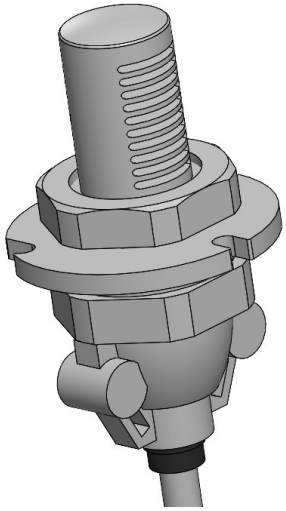
Features

Temperature Control

The field-configured temperature control allows a Through-the-Wall unit to control to an extended temperature range from 42°F to 75°F (5.6°C to 23.9°C). TTW systems are perfect for small- to mid-sized wine rooms in which consumption-temperature cooling is preferred. It also allows the user to rotate wine stock and change the set point from season to season, making it ideal for restaurants, wine bars, clubs, and frequently-accessed home wine rooms.

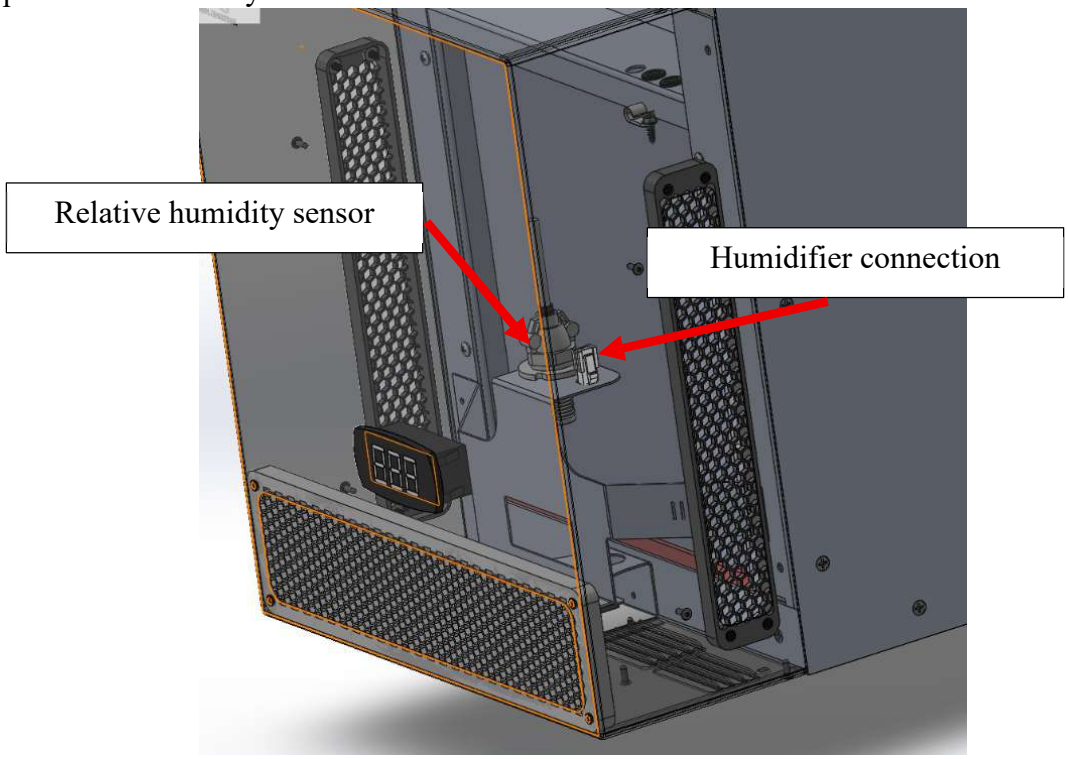
Temperature/Humidity Sensor

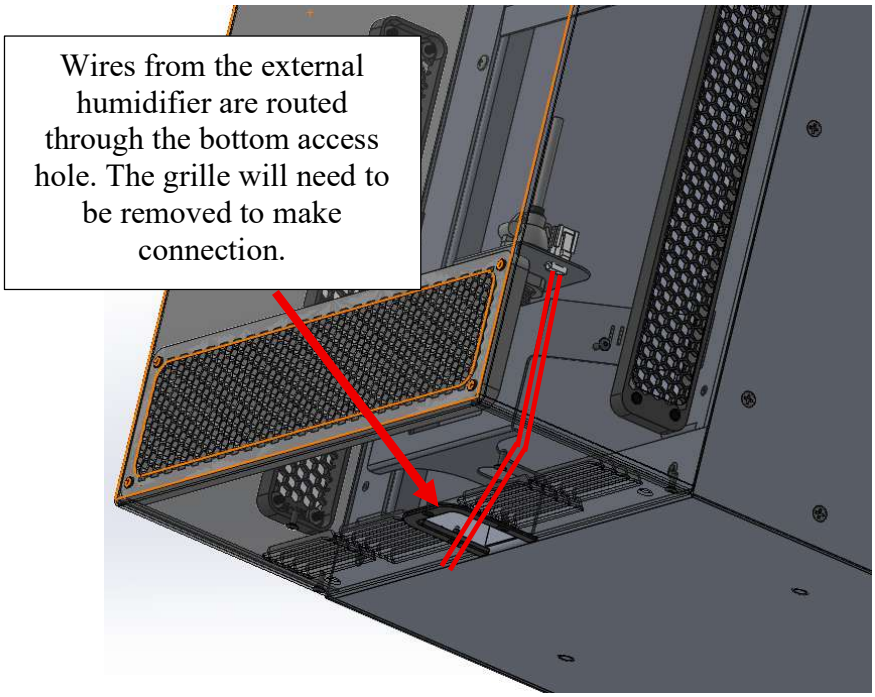
Designed to work with the TTWs integral local interface, the temperature/humidity sensor provides a means of sensing air conditions within the wine cellar. The combined temperature and humidity sensor is standard with the Sentinel and Defender configurations. The Classic series has a temperature sensor but does not have a humidity sensor. Sensors are located behind the evaporator grill.



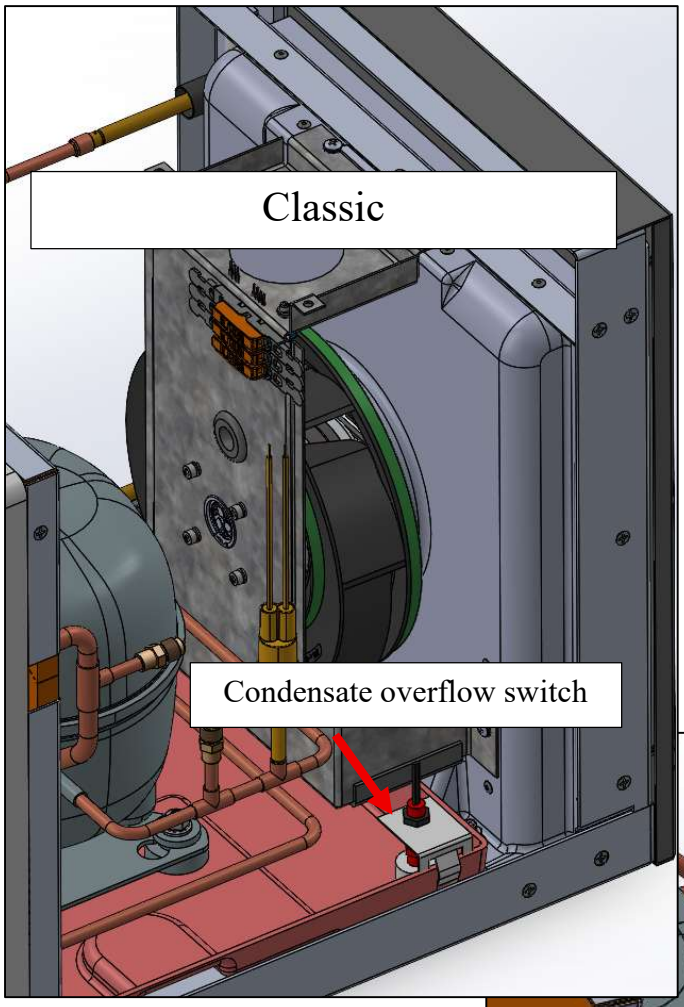
Humidifier Connection

Sentinel and Defender units come with a connection point for an optional free-standing Wine Guardian humidifier, while the Classic series does not. Wine Guardian humidifiers come fully assembled and tested for field installation. Connecting a humidifier allows the TTW system to control temperature and humidity concurrently using the integral thermostat/humidistat. The default humidity set point is 30% RH. To change the humidity set point, search parameter Sth in Applica. When the humidity is 5% above set point, the controller sends a 24VAC signal to the humidifier to turn it on. When humidity reaches the set point, the controller will turn the humidifier and evaporator fan off. The humidity output will only operate within a temperature range of 35ºF (2ºC) to 75ºF (24ºC) in the wine cellar. Note: when the compressor is off and there is a call for humidity, the evaporator fan will stay on.

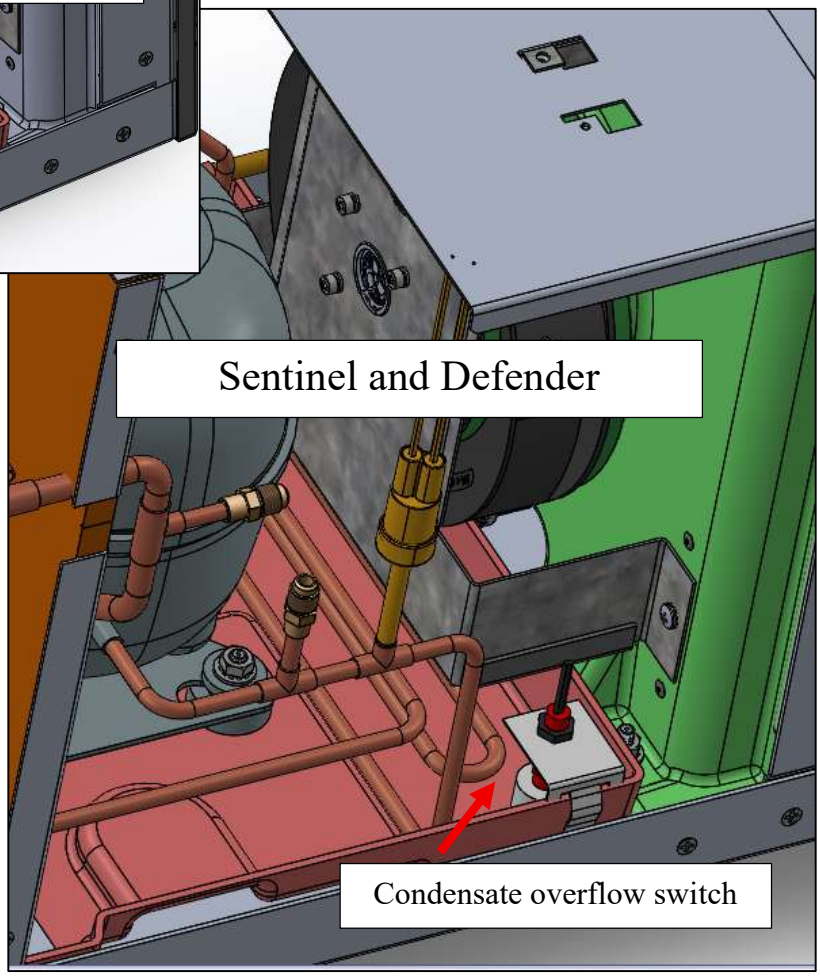




Condensate Removal System

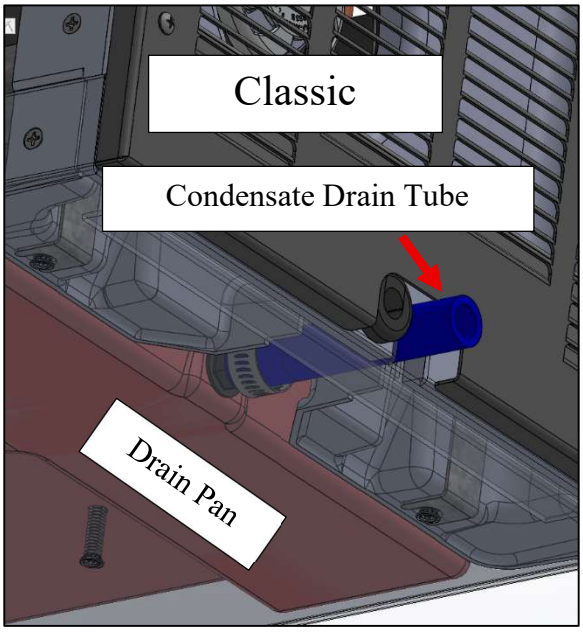


If the condensate drain tube becomes blocked, the condensate overflow switch will turn the unit off to prevent leakage and water damage.



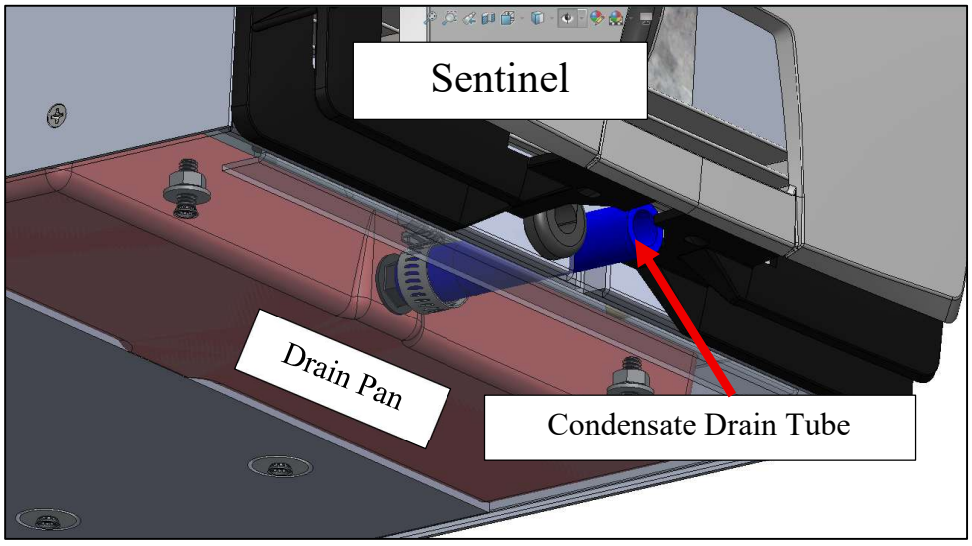
Classic series units are supplied with the field drain connection shown in the accessories section. This comes with 6 feet (1.8 meters) of clear ½" PVC tubing and a barbed fitting.

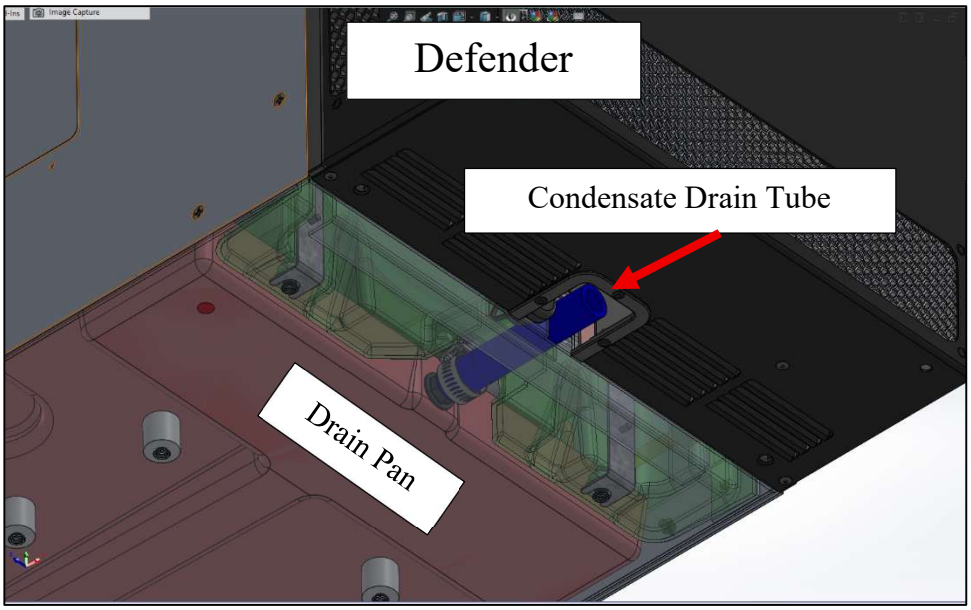
The drain line must extend from the system to an external drain or condensate pump.



Sentinel and Defender series units are supplied with a plug in the drain tube. If external drainage is required, the field drain connection can be purchased as an accessory. This comes with 6 feet (1.8 meters) of clear ½" PVC tubing and a barbed fitting.

The drain line must extend from the system to an external drain or condensate pump.

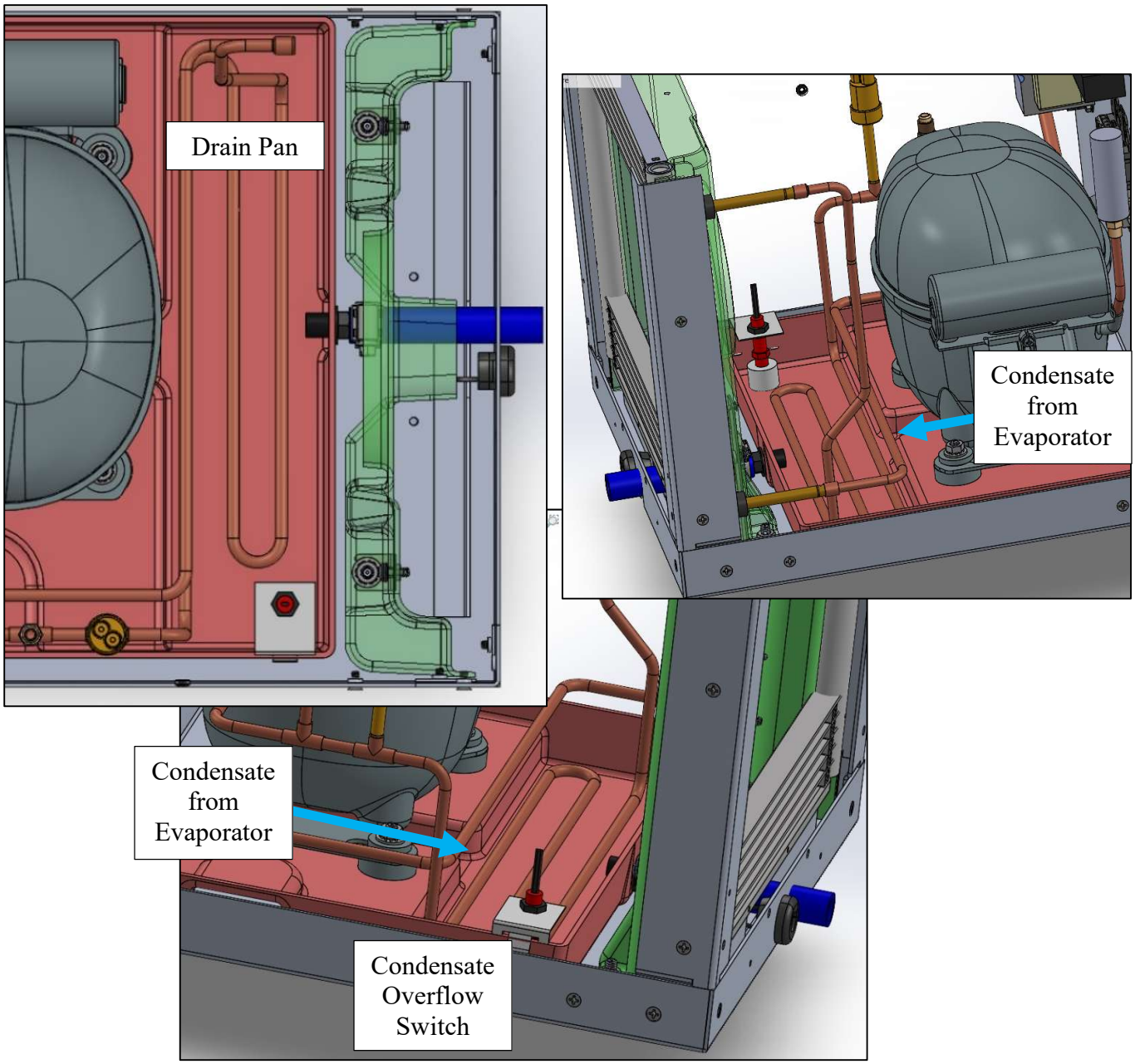




Condensate Re-Evaporation Loop

All Through-the-Wall units are internally pitched to allow condensate to flow from the evaporator side to the condenser side through a channel. On Sentinel and Defender series units, the condensate tube is plugged. This allows condensate to accumulate in the condenser drain pan. The discharge line is routed in the condenser drain pan to heat the condensate, aiding in the re-evaporation process. Air flow from the condenser fan also helps evaporate the condensate.

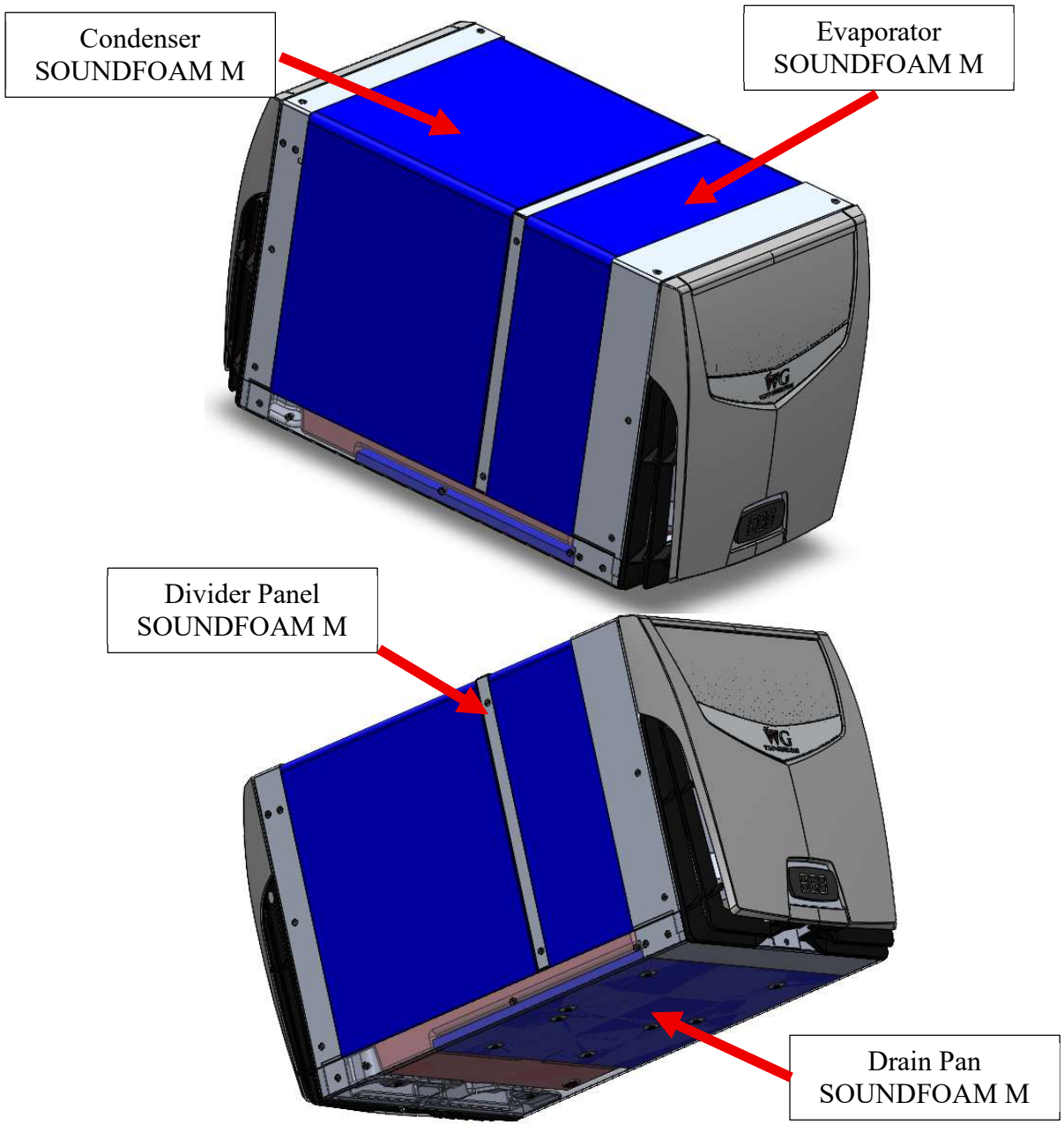
In high humidity applications or when a humidifier is present, it is recommended to install an external drain system. You will be able to identify if your application needs an external drain system if you are experiencing the condensate overflow alarm. If this occurs, remove the plug from the condensate tube (shown below in blue) and install an external drain system. The drain line must extend from the system to an external drain or condensate pump.



Sound Insulation

Classic series units use Aeroflex EPDM insulation, which is not rated for sound reduction. Insulation is located on the evaporator side of the unit and under the drain pan to prevent condensation from forming on the exterior of the unit in high humidity environments.

Sentinel and Defender series units use SOUNDFOAM M insulation. This is an acoustic quality, open cell, flexible foam designed specifically to provide maximum sound absorption. Insulation is located on the evaporator side of the unit and under the drain pan to prevent condensation from forming on the exterior of the unit in high humidity environments. It is also located in the condenser section to reduce compressor and fan noise. These units also come standard with fan noise suppression insulation above the condenser fan.

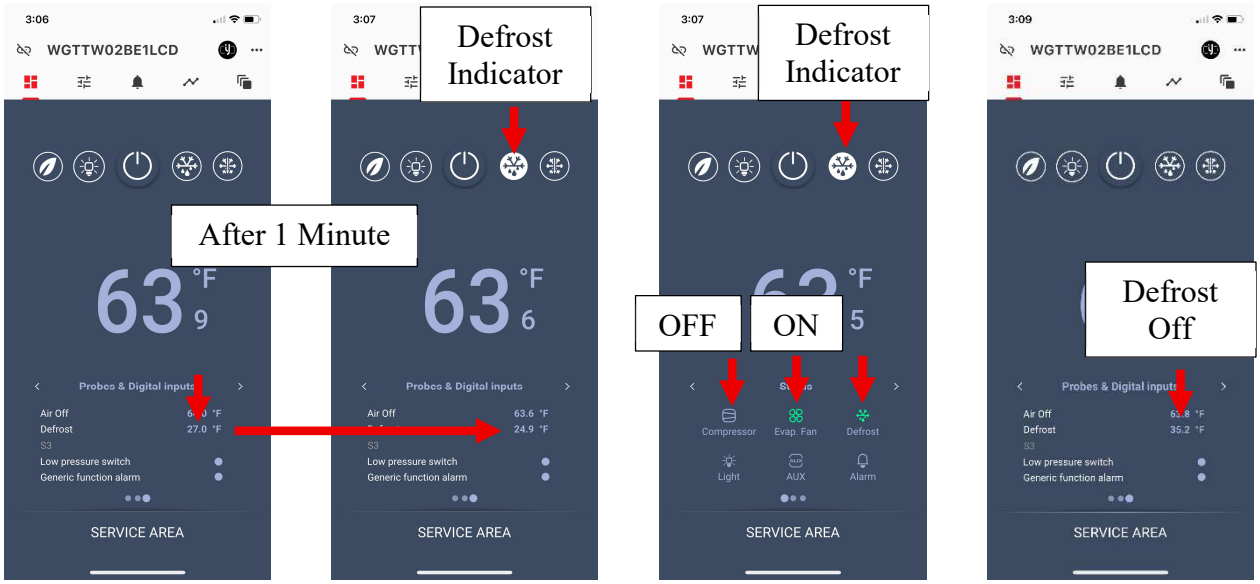


Freeze Protection/Defrost

The defrost function will protect the evaporator coil from freezing. When the sensor reaches 27ºF (-3ºC), the compressor and condenser will remain on for one minute then turn off. The evaporator will remain on in defrost mode until 35ºF (2ºC) is reached, then it will turn off. After 35ºF (2ºC) is reached and the 3-minute compressor time delay expires, the unit will come out of defrost and turn on. This event can cycle indefinitely.

The User Interface and Controlla app will not have any indicators telling you the unit is in defrost mode. The screen will appear normal.

Applica will have indicators and defrost temperature readings.

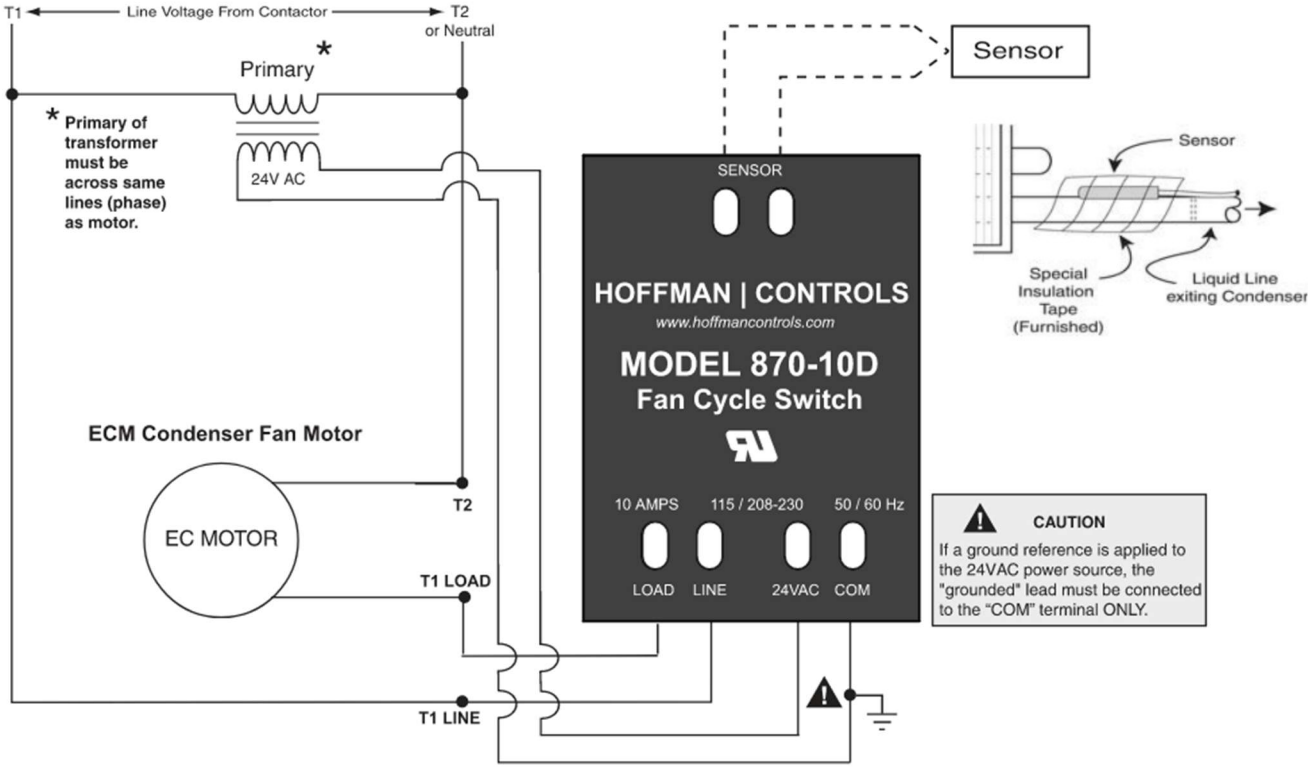


Low-Ambient Protection

Low ambient protection comes standard on Defender series units only. This feature is utilized for outdoor mounted units where the condenser experiences cold ambient temperatures down to 0ºF (-18ºC). The low ambient protection consists of a crank case heater designed to be enabled when the compressor is in the off state and disabled when the compressor in in the on state. The crank case heater is located on the bottom of the compressor to boil off any liquid refrigerant that may migrate to the compressor during the off state. The crank case heater is controlled through a power relay.

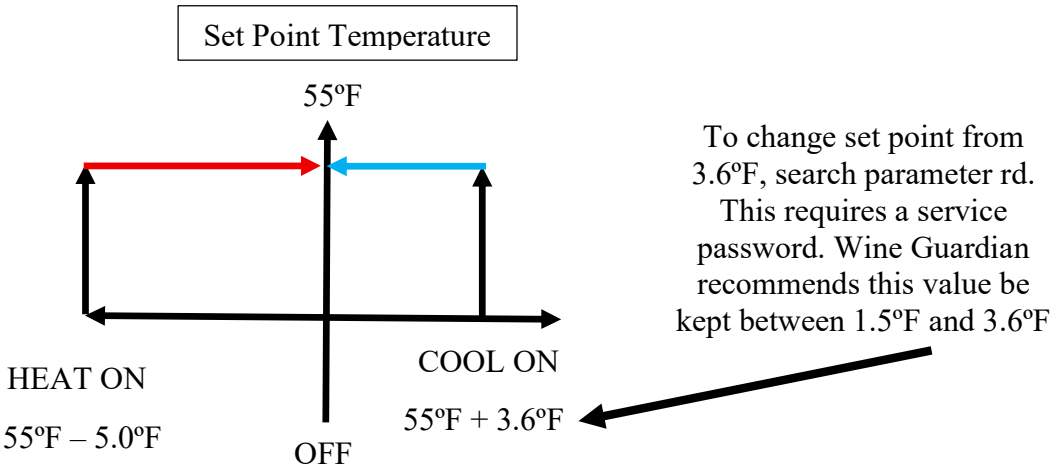
The low ambient protection uses a fan cycling switch wired to the condenser fan motor. This device requires a 24VAC power supply and comes with a liquid line temperature sensor. The controller will monitor the liquid line temperature and cycle the condenser fan on/off based in the below specifications

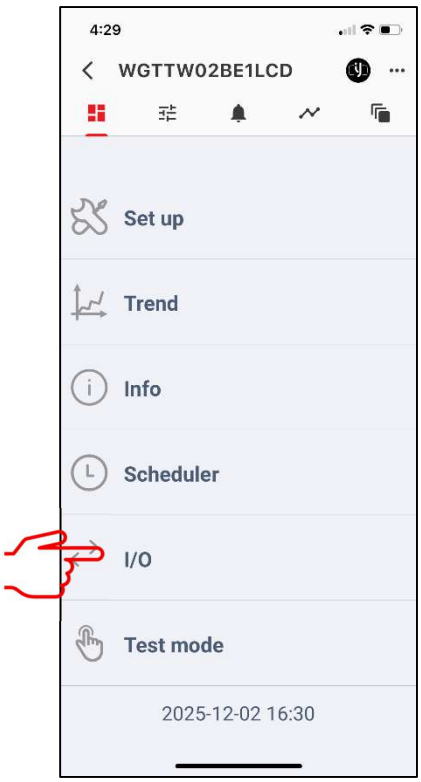
- Below 60ºF (16ºC) the motor will be off.
- Above 78ºF (26ºC) the motor will run at full speed.
- Between 60ºF (16ºC) and 78ºF (26ºC) the motor:
    - The motor will be off when the liquid line temperature is rising from 60ºF (16ºC) to 78ºF (26ºC).
    - The motor will be running at full speed when the liquid line is falling from 78ºF (26ºC) to 60ºF (16ºC).

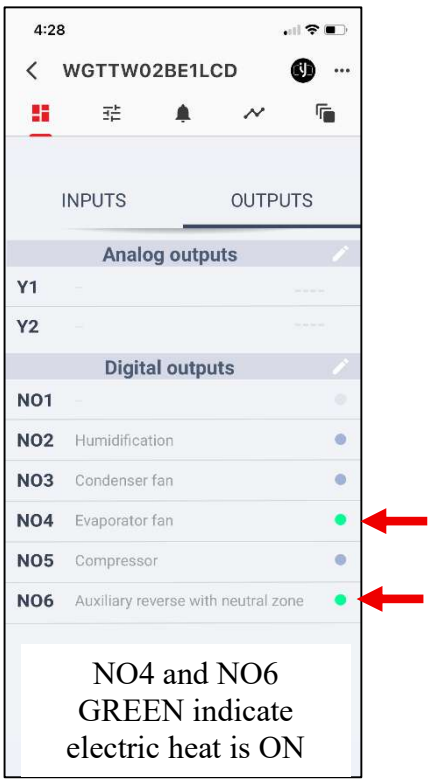


Electric Heat

Electric heat is only available for Defender series units. The heater is 300 Watts in the TTW01, 500 Watts in the TTW02, and 1000 Watts in the TTW04. Each heater has auto-reset high limit safety device designed to protect against overheating. This device will turn the electric heat off at 149ºF (65ºC). The heater will turn back on when the thermostat reaches 104ºF (40ºC). The electric heater also has a fuse with a cutout at 199ºF (93ºC). If this fuse trips the electric heater needs to be replaced. The Through-the-Wall system will either cool or heat the air, but it is not designed to do both at the same time.







Safety

The following is suggested before installing or maintaining Through-the-Wall systes:

1) Read these instructions
2) Keep these instructions
3) Heed all warnings
4) Follow all instructions

Safety Message Conventions

Safety messages contained in this manual, DANGER, WARNING, and CAUTION are bold and highlighted in red for quick identification.

Danger

A **DANGER** message indicates an imminently hazardous situation which, if not avoided, results in death or serious injury. Messages identified by the word **DANGER** are used sparingly and only for those situations presenting the most serious hazards.

HIGH VOLTAGE - RISK OF SERIOUS INJURY OR DEATH
High voltages are present in the cabinets
TURN OFF ALL POWER BEFORE OPENING PANELS
USE THE LOCKOUT/TAGOUT PROCEDURE

Warning

A **WARNING** message indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Following is a typical example of a **WARNING** message as it could appear in the manual:

RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT Modification to the equipment may cause injury.

Caution

A **CAUTION** message indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

Following is a typical example of a **CAUTION** message as it could appear in the manual:

RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT
Improper installation may result in the equipment malfunctioning and a safety hazard. Read all of the installation instructions before installing the Wine Guardian.

Safety Considerations

The equipment covered by this manual is designed for safe and reliable operation when installed and operated within its designed specifications. To avoid personal injury or damage to equipment or property when installing or operating this equipment, it is essential that qualified, experienced personnel perform these functions using good judgment and safe practices. See the following cautionary statements.

Installation and maintenance of this equipment is to be performed only by qualified personnel who are familiar with local codes and regulations, and are experienced with this type of equipment.

Safety Hazards

Exposure to safety hazards is limited to maintenance personnel working in and around the system. When performing maintenance, always use the Lockout/Tagout procedure, which is described in this chapter. Observe the maintenance safety guidelines in the Wine Guardian manual.

IMPORTANT
The equipment described in this manual uses electricity. When using this equipment, be sure to follow the safety procedures outlined in the Wine Guardian manual.

Electrical Hazards

Working on the equipment may involve exposure to dangerously high voltage. Make sure you are aware of the level of electrical hazard when working on the system. Observe all electrical warning labels on the system.

Electrical Shock Hazards

All power must be disconnected prior to installing and servicing this equipment. More than one source of power may be present. Disconnect all power sources to avoid electrocution or shock injuries.

Hot Parts Hazards

Electric resistance heating elements (if equipped) must be disconnected prior to servicing. Electric heaters may start automatically, disconnect all power and control circuits prior to servicing the system to avoid burns.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. The instructions for appliances having a part of class III construction supplied from a detachable power supply part shall state that the appliance is only to be used with the power supply unit provided with the appliance.

Moving Parts Hazards

The Motor and Blower must be disconnected prior to opening access panels. The motor can start automatically. Disconnect all power and control circuits prior to servicing to avoid serious injuries or possible dismemberment.

Fans are free-wheeling after the power is disconnected. Allow the fans to stop completely before servicing the system to avoid cuts or dismemberment.

Rotating Fan Blades are present in the Wine Guardian system. Sticking a hand into an exposed fan while under power could result in serious injury. Be sure to use the Lockout/Tagout procedure when working in this area or remove the power cord.

Equipment Safety Interlocks

There are no electrical safety lockouts installed within the system. The power cord attached to the control box must be disconnected from the power sources prior to working on any part of the electrical system.

On / Off Switch

To shut down all high volt power internally, the power cord must be removed from power outlet.

Energy Type	Voltage
Hazard	Electrocution, electrical burns and shock
60Hz Magnitude	120 Vac, 1 phase, 60 cycles
50Hz Magnitude	240 Vac, 1 phase, 50 cycles
Control Method	Disconnect power cord

DANGER

- **Never** reach into the system while the fan is running.
- **Avoid** risk of fire or electric shock. **Do not** expose the system to **rain** or **moisture** (Classic and Sentinel series only).

WARNING

- All supports for the system **must** be capable of safely supporting the equipment's weight and any additional live or dead loads encountered.
- All supports for the system **must** be designed to meet applicable local codes and ordinances.
- **Do not** remove access panels until fan impellers have completely stopped. Pressure developed by moving impellers can cause excessive force against the access panels.
- Fan impellers continue to turn (free-wheel) after the power is shut off.

CAUTION

- **Do not** block any supply or return air opening. Install in accordance with the instructions in the Wine Guardian manual.
- **Protect the power cord** from being walked on or pinched, particularly at the outlet plug, convenience receptacles, and the point where it exits the system.
- **Only** use attachments/accessories specified by the manufacturer.
- **Always** operate this equipment from a 120Vac, 1 phase **60Hz power sources only**. **For 50Hz equipment 240Vac, 1 phase 50Hz power sources only.**
- **Always ground the outlet** to provide adequate protections against voltage surges and built-up static charges (see Section 810 of the National Electric Code).
- **Refer all servicing to qualified service personnel.** Servicing is required when the system has been damaged in any way, such as:

  ✓ Power supply cord or plug is damaged

  ✓ Liquid has been spilled or objects have fallen into the system

  ✓ The system has been exposed to rain or moisture
  (Classic and Sentinel series only)

  ✓ The system does not operate normally

  ✓ The system has been dropped

Installation

CAUTION
SHARP EDGES
RISK OF SERIOUS INJURY

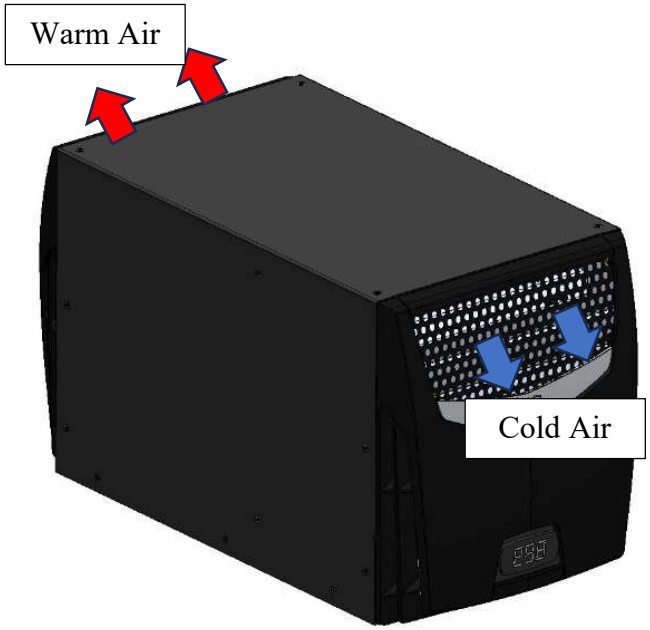
Sharp edges are present inside the Wine Guardian system.

Pre-installation Test

Test the system before installing it to check for non-visible shipping damage.

To test the system:

- ✓ Set the system on the floor or a sturdy level surface
- ✓ Plug in the system
- ✓ Turn the unit on using the user interface, Controlla, or Applica app
- ✓ **The built in timer prevents short cycling and keeps the system from turning on right away.** The system comes on and runs as long as the temperature of the space is above the thermostat set point. After several minutes, cold air comes out of the system from the evaporator section side and hot air comes from the condenser section. Listen for any unusual noise or vibration.



WARNING

RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT

Modification to the equipment may cause injury or damage to the equipment

DANGER

- ✓ **This equipment is heavy. Place the unit on the floor or on a level and stable surface that can support the full weight of the unit.**
- ✓ **Do not modify the equipment, it may cause damage to the equipment and voids the warranty.**
- ✓ **Do not mount through an exterior wall (Classic and Sentinel series only - Defender series units can be mounted through an exterior wall)**
- ✓ **Never place anything on top of the unit.**
- ✓ **Never block or cover any of the openings or outlets to the unit.**
- ✓ **Never allow anything to rest on or roll over the power cord.**
- ✓ **Never place the unit where the power cord is subject to wear or abuse.**
- ✓ **Do not use extension cords.**
- ✓ **Never overload wall outlets.**
- ✓ **Do not remove or open any cover unless the unit is turned off and the power cord is plugged in.**
- ✓ **Use only dedicated power outlet boxes of the correct capacity and configuration for the unit model.**

CAUTION

RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT

Improper installation may result in the equipment malfunctioning and a safety hazard. Read all of the installation instructions before installing the Wine Guardian unit

Planning the Installation

Tools required

Drill/Phillips head | Level | Stud finder | Tape measure | Square | Drywall screws

Urethane caulk | Hand saw | Drywall saw | Heavy duty Snap knife

- ✓ Where to locate the unit: *It can be mounted flush with the racking or flush with the wall on the wine cellar side.* Classic and Sentinel series Through-the-Wall units are not exterior rated and must be mounted though an interior wall.
- ✓ How to mount the unit: *A mounting EasyMount kit is supplied. Classic series units do not come with the EasyMount Kit, but can be purchased separately. Classic units come with mounting flanges and can be mounted without the EasyMount installation sleeve.*
- ✓ Locate an electrical power outlet within 5’ of the unit. For Classic and Sentinel series units, the power outlet should be located outside the wine cellar. For Defender series units, the power outlet should be located inside the wine cellar.**Do not use an extension cord!**
- ✓ The factory-supplied power cord is located on the condenser side of the unit for Classic and Sentinel series units. For Defender units, it is located on the evaporator side.
- ✓ Can the condenser heat exhaust be ducted away? *An optional duct collar kit and ducting is available.*
- ✓ How to install the drain line*: run to an open floor drain or condensate pump.*
- ✓ What parts are included for the installation? *The installation sleeve, gasket, and sealant fasteners are shipped with the unit.*

Performing a Pre-installation Check

- ✓ Check for the properly sized breaker as dictated by the system rating plate data.
- ✓ Is the cellar built with adequate insulation and vapor barriers?

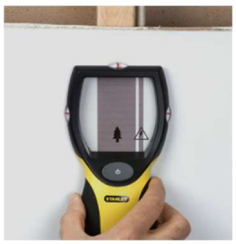
Mounting the System

Wine Guardian Through-the-Wall systems are typically installed at the user's eye level for ease of operation. The Through-the-Wall system discharges warm air from its condenser end, which should be considered when determining the location for the system. Locating the system adjacent to a mechanical room or in close proximity to an exterior wall may be required if ducting the warm condenser air is being considered. **Classic and Sentinel series Through-the-Wall units are not exterior rated and MUST NOT BE MOUNTED THROUGH AN EXTERIOR WALL.**

Mounting the System - CLASSIC, SENTINEL, & DEFENDER

Follow the steps below for installation of the Wine Guardian Through-the-Wall unit. Classic Sentinel, and Defender units can be mounted with the EasyMount sleeve.

Step 1



Find wall stud locations. If both sides of the wall have drywall already installed, it is important to locate the wall studs in the area chosen to mount the Through-the-Wall system. The use of a high-quality stud finder is recommended for locating the center and edges of the wall studs on the wine cellar wall. Once located, the stud edges should be clearly marked prior to following Step 2 below.

Step 2

Prepare wall penetration for installation sleeve. Mark the penetration dimensions on the wall (both sides) at the desired mounting. Keep in mind, the ideal height should be at eye level to the user. The unit controls should be reachable upon installation completion. The wall penetration should be no more than 14-1/2" wide by 16-1/4" high (36.83cm wide by 41.27cm high) stud-to-stud (modifying stud locations is not required).

⚠ CAUTION ⚠

RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT

Ensure that the area chosen does not have electrical or plumbing interference within the wall or along the outside of the wall. Failure to do so could cause property damage or personal injury. If the wall does include electrical wiring or plumbing, DO NOT CONTINUE. Contact a qualified electrician or plumber to relocate these services or choose an alternate location for mounting the WG system.

Step 3

Slide the installation sleeve through the wall penetration so that the flanged area of the sleeve sits flush with the surface of the wall. Ensure the EasyMount sleeve is level and plumb prior to fastening to the existing studs. The EasyMount sleeve is fastened through the four (4) holes located on either side (shown to the left).

IMPORTANT

The Installation Sleeve must be installed level within the wall opening to provide proper operation of the Wine Guardian system. Failure to do so may result in improper drainage, excessive wear, vibration, and noise.

RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT

Flange side of the sleeve must be mounted on side of wall you intend to have the WG flush mounted.

Step 4

Insert screws into upper pre-drilled holes on both sides of sleeve. Continue to lower set of holes. Ensure screws are flush with wall sleeve. Do not over-tighten.

Step 5

Slide the Wine Guardian Through-the-Wall system through the EasyMount sleeve to the desired depth. Please note the Through-the-Wall system must be slid so that the power cord side is last, not first, to enter the sleeve. Do not slide the system past the desired flush mounting point.

Step 6

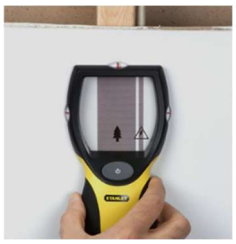
Seal joint between installation sleeve and Through-the-Wall system on the flange side of system with a latex caulk to ensure a tight seal and prevent the system from horizontal movement. After caulking, add the kit-supplied self-adhesive insulate strips tight to the chassis and cover the wall sleeve flanges to prevent possible sweating.

Mounting the System – CLASSIC SERIES ONLY

Classic series Through-the-Wall units are not exterior rated and MUST NOT BE MOUNTED THROUGH AN EXTERIOR WALL.

Follow the steps below for installation of the Wine Guardian Through-the-Wall unit.

Step 1



Find wall stud locations. If both sides of the wall have drywall already installed, it is important to locate the wall studs in the area chosen to mount the Through-the-Wall system. The use of a high-quality stud finder is recommended for locating the center and edges of the wall studs on the wine cellar wall. Once located, the stud edges should be clearly marked prior to following Step 2 below.

Step 2

Preparing wall penetration for installation sleeve. Mark the penetration dimensions on the wall (both sides) at the desired mounting. Keep in mind, the ideal height should be at eye level to the user. The unit controls should be reachable upon installation completion. The wall penetration should be no more than 14-1/2" wide by 16-1/4" high (36.83cm wide by 41.27cm high) stud-to-stud (modifying stud locations is not required).

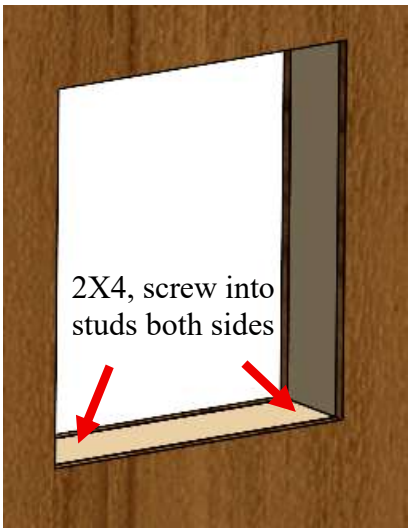
⚠ CAUTION ⚠

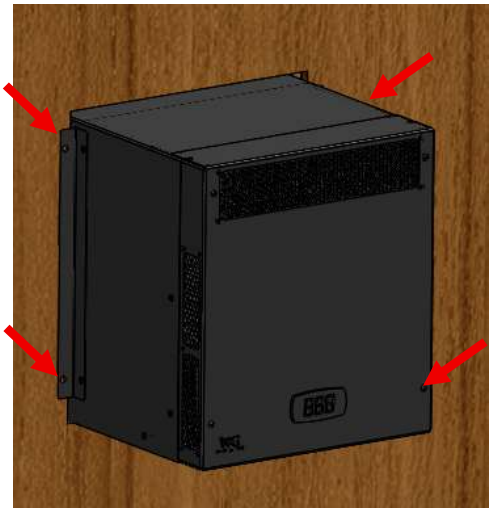
RISK OF PERSONAL INJURY OR DAMAGE TO EQUIPMENT

Ensure that the area chosen does not have electrical or plumbing interference within the wall or along the outside of the wall. Failure to do so could cause property damage or personal injury. If the wall does include electrical wiring or plumbing, DO NOT CONTINUE. Contact a qualified electrician or plumber to relocate these services or choose an alternate location for mounting the WG system.

Step 3

Install a 2"x4" into bottom of the hole opening to support the unit. Slide the unit into the hole and fasten flanges to the existing studs.





Defender units get a bracket screwed into the top side of the system for security reasons to prevent unit from sliding out.

Attache the bracket where needed based on installation depth. It does NOT come pre-assembled to the unit. Use provided #8 x 1/2” self-drilling screws.

Wiring the System for Power

WARNING

ELECTRICAL SHOCK HAZARD

The electrical outlet and wiring installation must meet the national and local building codes.

DO:

- Match the electrical outlet to the plug provided on the Through-the-Wall system.
- Provide dedicated circuit and wiring for the system.
- Match the wiring and breaker size to the rated load as shown on the serial plate and in this guide. See sample serial plate illustration below.

DO NOT:

- DO NOT MODIFY THE PLUGS IN ANY WAY!
- Do not use extension cords.

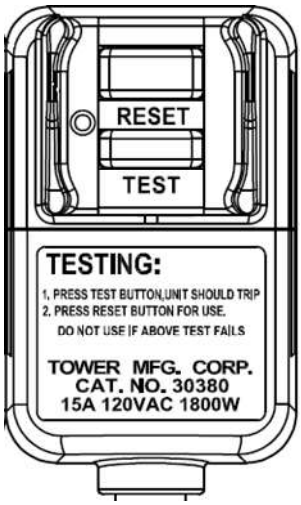
IMPORTANT

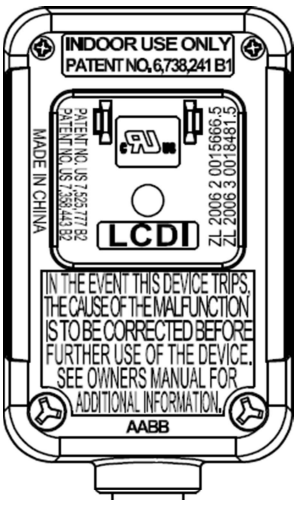
The electrical power supply must be 120-volt AC 1 phase 60 cycle (240-volt AC 1 phase 50 cycle), depending on the model of the system, and cannot vary more than +/- 4% or damage may occur to the unit.

Electrical Plug Configuration 120Volt / 60Hz Models Only

All power cords are factory installed. To comply with the UL 60334-2-40 this system contains a factory supplied LCDI (leakage current detection interrupter) power cord, which specifies that single phase portable air conditioning units contain a protection device to reduce the risk of an arc fault occurring in the power cord. These provide a reliable way to prevent the risk of fire due to a damaged power cord. They feature electronic detection to automatically cut off power to the unit when a current leakage condition is detected in the systems power cord.

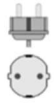
If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent. Please contact the manufacturer for instructions.





Electrical Plug Configuration 240V / 50Hz Models Only

This is the configuration of the factory supplied plug for European applications. Alterations to this plug for alternative power sources would require factory approval.

Spec	TYPE	Plug	Country	Spec
POWER CORD-EUROPE-16A / 250V	E/F		Europe	PLUG TYPE E/F, H05VV-F, CEE 7/7, 1.5mm
POWER CORD-UK-13A / 250V	G		United Kingdom	TYPE G, H05VV-F, BS 1363A, 1.5mm
POWER CORD-AUSTRALIA NEW ZEALAND-15A / 250V	I		Australia & New Zealand	PLUG TYPE I, GTSA 3G, AS/NZS 3112, 1.5mm
POWER CORD-SWISS-16A / 250V	J		Switzerland	PLUG TYPE J, H05V V-F3G, TYPE 23, 1.5mm

Maintenance

WARNING

BEFORE PERFORMING MAINTENANCE ON THE SYSTEM, READ AND UNDERSTAND THE SAFETY INFORMATION CONTAINED WITHIN THE SAFETY CHAPTER OF THE WINE GUARDIAN MANUAL.

DANGER

HIGH VOLTAGE - RISK OF SERIOUS INJURY OR DEATH

High voltages are present in the cabinets. Turn off all power. Use the Lockout/Tagout procedure before removing end panels or cover.

CAUTION

SHARP EDGES

RISK OF SEROUS INJURY

SHARP EDGES ARE PRESENT ON THE FAN WHEELS, HOUSING, AND COILS.

Maintenance on Wine Guardian system requires working with high voltage and sheet metal with possible sharp edges. Only qualified personnel should perform maintenance. Some tasks require knowledge of mechanical and electrical methods. Make sure you are familiar with all hazards, general safety related procedures, and safety labels on the system

CAUTION

EXPOSURE TO MICROBIAL GROWTH (MOLD) CAN CAUSE SERIOUS HEALTH PROBLEMS

Standing water in drain pans promote microbial growth (mold) that cause unpleasant odors and serious health-related indoor air quality problems. If mold is found, remove it immediately and sanitize that portion of the system.

The Wine Guardian is designed for minimum maintenance. The refrigerant system is hermetically sealed and requires no maintenance. The fans are permanently lubricated and require no maintenance. Some maintenance to the system may be required due to dust or dirt in the air stream.

Maintenance Schedule

Monthly or Quarterly

(depending on experience with individual cellar)

- ✓ Check for noise or vibration.
- ✓ Check for short-cycling of the system – compressor unit turning off and on more than eight (8) times/hour.

Yearly

(In addition to monthly)

- ✓ Check evaporator and condenser coils for dirt – use a vacuum with a brush attachment to clean the coils.

- ✓ Clean condensate pan under the evaporator and condenser by flushing. Be careful to keep the drain pans clear of any and all debris.
- ✓ Inspect chassis for corrosion or rusting – clean and paint.
- ✓ Inspect for dirt buildup on or inside the unit—clean system by vacuuming or wiping it down.
- ✓ Check for loose insulation, fasteners, gaskets, or connections.
- ✓ Check the wiring connections and integrity of cords.
- ✓ Examine condenser duct (if option is used) for any cracks or breaches.

Troubleshooting

Before proceeding, read and understand the safety information contained in the Safety Section of the Through-the-Wall Manual

For in-depth Troubleshooting please head to:

https://wineguardian.com/support/help/

PROBLEM	CAUSE	CORRECTION
High Pressure Switch, Alarm Display IA and LP	Condenser fan failure	Check high voltage wiring, check low voltage wiring, replace fan if necessary
	Dirty condenser coil	Remove grille and clean coil with simple green solution
	Blocked air flow to condenser	Remove any air flow restriction
	High side refrigerant flow restriction	Contact service technician
High Pressure Switch, Alarm Display LP	High pressure fault occurred four times in one hour	See above for corrections, reset alarms
Condensate Overflow, Alarm IA, LP, and GHI	Blocked external drain	Clear drain of any debris
	Blocked drain pan tube internally	Clear drain of any debris
	Float switch out of position	Access switch through service panel, verify switch is in proper orientation and location
	Float switch failed or damaged wiring	Access switch through service panel, verify switch is properly wired, or replace switch
Condensate Overflow, Alarm LP	Condensate overflow fault occurred four times in one hour	See above for corrections, reset alarms
Loss-of-Charge Switch, Alarm IA, LP, and GHI	Refrigerant leak	Contact service technician
	Refrigerant blockage	Contact service technician
	Loss-of-charge switch failed or damaged wiring	Access switch through service panel, verify switch is properly wired, or replace switch
Loss-of-Charge Switch, Alarm LP	Loss-of-charge fault occurred four times in one hour	See above for corrections, reset alarms
Temperature Sensor, Alarm rE, E1	Sensor failed or disconnected	Check wiring or replace sensor
Defrost Sensor, Alarm E2	Sensor failed or disconnected	Check wiring or replace sensor

PROBLEM	CAUSE	CORRECTION
Humidity Sensor, Alarm E5 Unit not starting	Sensor failed or disconnected	Check wiring or replace sensor
	LCDI power plug	On the LCDI power plug press the white reset button - a green indicator light will appear
	Short cycling time delay	Wait at least 3 minutes
Loss-of-Charge Switch, Alarm LP	No power to outlet	Check circuit breaker
Temperature Sensor, Alarm rE, E1	Set point parameter satisfied	Lower set point
Defrost Sensor, Alarm E2	ECO mode on	Turn ECO mode off
Water leaking	Failed condensate overflow switch	Replace switch
Unit not starting Unit running, not cooling Cellar temperature is too low, below set point when unit is running	Factory-installed plug in condensate drain tube	Remove plug
	Improper leveling of unit	Level unit
	Evaporator fan failure	Check high voltage fan wires, check low voltage fan wires, replace fan
	Loss of charge	Contact service technician
	Thermostat set too low on cooling	Reset thermostat to higher cooling temperature
Water leaking Cellar temperature is too high, above set point when unit is running	Too much heat loss to adjacent spaces	Increase insulation around the ductwork and doorways - add heater
	Not enough evaporator airflow	Remove blockage in supply or return check and clean coil
	Cellar heat loads are too high	Install additional insulation, replace with larger sized unit
Cellar temperature sensor fluctuates too much	Temperature control differential set to high	In service mode, search for parameter rd - change parameter to between 1.5 and 3.6
Control temperature sensor not reading correctly	Offset temperature parameter	In service mode, search for parameter /cA - change parameter to desired value based on external temperature sensor, service parameter needed

Warranty

For Warranty / Terms & Conditions please see

https://wineguardian.com/support/warranty/

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