Bally®

SMARTVAP ✚
Intuitive Evaporator Control Technology

OPERATING INSTRUCTIONS

Bulletin B30-SVP-OM-1
Part # 1107523

PRODUCT SUPPORT
web: **www.b-rp.ca/svp**
email: **evaps@b-rp.ca**
call: **1-844-893-3222 x520**

scan:

**For Pre-Assembled Evaporators:
includes factory installed Adaptive
Defrost Control Board, EEV, Liquid Line
Solenoid Valve and On-Board Display**

CONTENTS

IMPORTANT NOTE: Your SMARTVAP➕ Intuitive Evaporator Control is pre-programmed at the factory and will begin operating as soon as power is applied using the following **default settings : ROOM TEMP (⬛) = -10 °F (freezer) or 35 °F (cooler), REFRIGERANT (⬛) = R-404A, DEFROST TYPE (⬛) = Defrost Type (Air or Electric).** Use this manual to make any adjustments you require.

Navigation Using the Basic Display

Indicator lights
- 🔴 Red light - critical Alarm (system not running)
- 🟡 Yellow light - non-critical alarm (system running)
- 🟢 Green light - compressor on
- 🟢🟢 Green flashing - compressor waiting on timer to start/stop
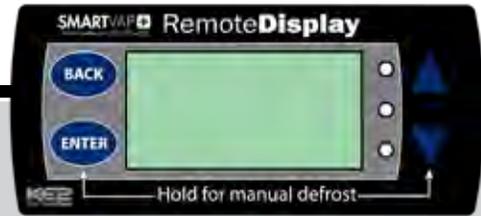
- Access Setpoint mode by pressing and holding the (ENTER) button until ⬛ (temperature setpoint) displays on the screen
- Use the ▲ up and ▼ down arrows to scroll through the available setpoints.
- Press (ENTER) to view the current setting.
- Use the ▲ up and ▼ down arrows to change the setpoint.   Press (ENTER) to move between the digits to accelerate the changes.
- Press (ENTER) and hold to confirm each setpoint change.
- Press (BACK) to escape.

User Interface

The SmartVap+ board has multiple methods of user input. Most controllers ship with the Basic Display. This display uses a familiar menu structure to allow service technicians to change the major setpoints. The setpoints may also be accessed using the controller's webpages.

The ▲ and ▼ arrows move the user through the available options for the Variables Menu. If alarms are present, they will be displayed and can be viewed using the up and down arrows.

Basic Menu:

Pressing and holding the (ENTER) button enters the **Basic Setpoints** menu. See page 3 for details.

Advanced Menu:

Pressing and holding the (BACK) button enters the **Advanced Setpoints** menu. See page 3 for details

The (ENTER) button is used to save an input option when it has been changed. **The (ENTER) button must be held for 3 seconds, to prevent accidental changes.** Changes may be discarded by waiting, to allow the controller to time-out and return to default screen, or by pressing the (BACK) button. The (BACK) button is used to return to the previous screen. Pressing the (BACK) button several times will return the controller to the default view.

Additional Setpoints

For the majority of users, the Basic Display will provide the necessary parameters to setup the controller.
From the default display, pressing the ▲ and ▼ arrows will cycle through the **Variables** menu. The (ENTER) button will toggle between the variable name and value.

Changing Setpoints

Pressing and holding the (ENTER) button will enter the **Basic Setpoints** menu. Press (ENTER) button to toggle between setpoint and value.

Pressing and holding the (BACK) button will enter the **Advanced Setpoints** menu. Press (ENTER) button to toggle between setpoint and value.

When the parameter value is displayed it may be changed by using ▲ and ▼ arrows, and (ENTER) buttons. The ▲ and ▼ arrows will increase or decrease numerical values, and will scroll through the available options, on the non-numerical setpoints.

Press and hold the (ENTER) button for 3 seconds to save the displayed value.

To abort changes, press the (BACK) button to return to the default view

Manual Valve Control

Press and hold the (BACK) button & ▼ arrow to put the EEV in **Manual Control** mode. ▲ and ▼ arrows will control the valve opening. (ENTER) will advance to the next digit, and (BACK) will exit this mode.

Manual Defrost

Pressing and holding the (ENTER) and ▼ arrow buttons will put the controller into **Manual Defrost**

Diagnostics Mode

Press and hold the (BACK) button to enter the **Advanced Setpoints** menu. Press the ▲ arrow to show ⬛. Press and hold the (ENTER) button for 3 seconds to activate the diagnostics mode

When activated, the controller energizes each relay for 60 seconds. When the compressor relay is on the EEV will regulate to the Superheat setpoint.

Display Firmware

Press and holding all 4 buttons (▲ ▼ (BACK) and (ENTER))will show the display's firmware revision **(dir – Display Revision)**

BASIC Setpoints Menu

Press and hold the ⬤ENTER button for 3 seconds to enter the **Basic Setpoints** menu.

ABR.	REMOTE DISPLAY	DASHBOARD DISPLAY	FULL NAME	MIN	MAX	DEFAULT	DESCRIPTION
tS	*tS*	ROOM TEMP	Room Temp Setpoint	-50.0 °F	90.0 °F	-10 °F or 35 °F	Walk-in freezer (-10 °F) or cooler (35 °F) room temp to be maintained
rFG	*rFG*	REFRIGERANT	Refrigerant	N/A	N/A	R-404A	Type of refrigerant used: see table below
dtY	*dtY*	DEFROST TYPE	Defrost Type	N/A	N/A	Air or Electric	Type of Defrost for Evap: ELE for Electric/ Ai for off time

ADVANCED Setpoints Menu

Press and hold the ⬤BACK button to enter the **Advanced Setpoints** menu.

ABR.	ON-BOARD DISPLAY	DASHBOARD DISPLAY	FULL NAME	MIN	MAX	DEFAULT	DESCRIPTION
tS	*tS*	ROOM TEMP	Room Temp Setpoint	-50.0 °F	90.0 °F	-10 °F or 35 °F	Walk-in freezer (-10 °F) or cooler (35 °F) room temp to be maintained
rFG	*rFG*	REFRIGERANT	Refrigerant	N/A	N/A	R-404A	Type of refrigerant used: see table on page 5
dtY	*dtY*	DEFROST TYPE	Defrost Type	N/A	N/A	Electric	Type of Defrost for Evap: ELE for Electric/ Ai for off time/ HGn for hot gas w/comp on/ HGF for hot gas w/comp off
Edt	*Edt*	VALVE TYPE	Expansion Valve Device Type	N/A	N/A	Carel	Type of valve used on system: mechanical, pre-configured electric, custom EEV configuration
ind	*ind*	DEFROST MODE	Defrost Initiation Mode	N/A	N/A	Demand	Mode to initiate a defrost: dnd=demand / SCH=Schedule / rnt=comp run time
dPd	*dPd*	DEFROSTS / DAY	Defrosts per day	0	8	4	If DEFROST MODE = SCH: Number of evenly spaced defrosts per day the controller will initiate.
dtP	*dtP*	DEFROST TERM TEMP	Defrost Term Temp	35.0 °F	90.0 °F	50.0 °F	The temperature the coil sensor(s) must exceed in order to terminate defrost. The controller's defrost mode is complete at this point.
dEF	*dEF*	DEFROST PARAMETER	Defrost Parameter	0	90	30	if DEFROST MODE = DEMAND: Coefficient to factory Defrost algorithm
dtL	*dtL*	MAX DEFROST TIME	Max Defrost Time	0 min	90 min	45 min	If DEFROST MODE = SCH: The maximum amount of time the defrost relay will be energized. (Not available if DEFROST MODE = DEMAND)
drn	*drn*	DRAIN TIME	Drain Time	0 min	15 min	2 min	Time to be in drain mode (drip time)
rFt	*rFt*	REFRIG FAN TYPE	Refrigeration Fan Type	Manage/Cycle, Permanent, On with Compressor, Title 24		On with Compressor	Manage/CYC - manage fans during refrig cycle; Permanent/PEr - fans on permanently during refrigeration cycle; On with Compressor/FoC - manage fans in OFF, then ON in refrigeration; Title 24/t24 - Cycle fans based on Title 24 regulations
FoC	*FoC*	FANS ON COMP	Fans on with Compressor	—	—	—	Manage fans in OFF, then ON in refrigeration
PEr	*PEr*	FANS PERMANENT	Permanent Fan	—	—	—	Fans on permanently during refrigeration cycle - RECOMMENDED
CYC	*CYC*	CYCLE	Cycle	—	—	—	Cycle (Managed) manage fans during refrig cycle. Not Recommended for Equipment Equipped with 2 Speed EC Motors (SmartSpeed) or Variable Speed EC Motors
t24	*t24*	TITLE 24	Title 24	—	—	—	Cycle fans based on compliance with California Title 24 regulations (Available only with Equipment Equipped with Variable Speed EC Motors)
Stt	*Stt*	SUPERHEAT	Superheat	5.0 °F	30.0 °F	8.0 °F	Target superheat value. Not available on Basic Display
LPt	*LPt*	LOW PRESSURE CUT OUT TIME	Low Pressure Cut Out Time	0 min	15 min	0 min	Only applies when non-mechanical valve selected; 0=Disabled
LPC	*LPC*	LOW PRESSURE CUT OUT	Low Pressure Cut Out	-5.0 psig	138.0 psig	8.0 psig	Displays when LOW PRESSURE CUTOUT TIME (LPt) is greater than zero. And,only applies if non-mechanical valve is selected
LPd	*LPd*	PRESS DIFF FOR LPCO	Pressure Differential for LPCO	1.0 psig	20.0 psig	15.0 psig	Displays when LOW PRESSURE CUTOUT TIME (LPt) is greater than zero. And,only applies if non-mechanical valve is selected
rnt	*rnt*	COMP RUN TIME	Compressor Run Time	0 hrs	24 hrs	6 hrs	When rnt selected, number of hours of cooling before starting defrost
Htn	*Htn*	ELECTRIC DE-FROST MODE	Electric Defrost Mode	N/A	N/A	Pulse	If DEFROST TYPE = ELE: Whether to leave the defrost relay energized during the defrost cycle or to utilize advanced defrost algorithm. PUL = Pulse, Prn = Permanent
HAo	*HAo*	HIGH TEMP ALARM OFFSET	High Temp Alarm Offset	0 °F	99.9 °F	10.0 °F	The number of degrees above ROOM TEMP for a HIGH TEMP ALARM condition.
HAd	*HAd*	HIGH TEMP ALARM DELAY	High Temp Alarm Delay	0 min	120 min	60 min	Minutes the room temperature must remain above ROOM TEMP + HIGH TEMP ALARM OFFSET before issuing a HIGH TEMP ALARM
LAo	*LAo*	LOW TEMP ALARM OFFSET	Low Temp Alarm Offset	0 °F	20.0 °F	4.0 °F	The number of degrees below ROOM TEMP for a LOW TEMP ALARM condition.
LAd	*LAd*	LOW TEMP ALARM DELAY	Low Temp Alarm Delay	0 min	30 min	10 min	Minutes the room temp must remain below ROOM TEMP-LOW-TEMP ALARM OFFSET before issuing a LOW TEMP ALARM
dAd	*dAd*	DOOR ALARM DELAY	Door Alarm Delay	0 min	180 min	30 min	If AU IN (1, 2 and/or 3) MODE = dor The amount of time, in minutes, before an alarm condition is initiated, if door is open & room temperature is 5 degrees above ROOM TEMP + AIR TEMP DIFF
AU1	*AU1*	AUX IN 1 MODE	Aux Input 1 mode	N/A	N/A	Coil Temp	See Auxiliary Input Modes table
A1A	*A1A*	AUX IN 1 STATE	Aux Input 1 state	N/A	N/A	Closed	oPn= active if input is an open / CLo=active if input is shorted
AU2	*AU2*	AUX IN 2 MODE	Aux Input 2 mode	N/A	N/A	Disabled	See Auxiliary Input Modes table
A2A	*A2A*	AUX IN 2 STATE	Aux Input 2 state	N/A	N/A	Closed	oPn= active if input is an open / CLo=active if input is shorted
AU3	*AU3*	AUX IN 3 MODE	Aux Input 3 mode	N/A	N/A	Sys Off	See Auxiliary Input Modes table
A3A	*A3A*	AUX IN 3 STATE	Aux Input 3 state	N/A	N/A	Closed	oPn= active if input is an open / CLo=active if input is shorted
tS2	*tS2*	ROOM TEMP	2nd room temp SP	-50.0 °F	90.0 °F	-50.0 °F	If AU IN (1, 2 and/or 3) MODE = (t2n) 2ND ROOM TEMP: This value becomes the ROOM TEMP setpoint when the digital input is active

ADVANCED Setpoints Menu
Press and hold the BACK button to enter the **Advanced Setpoints** menu.

ABR.	ON-BOARD DISPLAY	DASHBOARD DISPLAY	FULL NAME	MIN	MAX	DEFAULT	DESCRIPTION
Unt	Unt	TEMP UNITS	temperature units	N/A	N/A	Fahrenheit	Units for temperature's display in °F or °C; FAH = Fahrenheit, CEL = Celsius
EdF	EdF	EXTREME TEMP DIFF	Extreme Temp Diff.	0 0F	99.9 °F	20.0 °F	ADVANCED TOPIC: Call factory for assistance
CLA	CLA	CLEAR ALARMS	Clear Alarms	N/A	N/A		Press and hold to clear all active alarms
PAS	PAS	WEB PASSWORD RESET	Web password reset	N/A	N/A		Press and hold to reset the web password to the factory default
SA	SA	SMART ACCESS	Smart Access	N/A	N/A	Disabled	Turn Smart Access on or off: EnA to enable smart access / diS to disable Smart Access (CONTACT FACTORY)
dHC	dHC	DHCP	DHCP Mode	N/A	N/A	Enabled	Turn DHCP mode on or off: EnA to enable DHCP mode / diS to disable DHCP mode

ADVANCED Setpoints Menu - Available Only On Dashboard

DASHBOARD DISPLAY	FULL NAME	MIN	MAX	DEFAULT	DESCRIPTION
MOTOR TYPE	Motor Type	Unipolar or Bipolar		Unipolar	Unipolar if unipolar stepper used, Bipolar if bipolar stepper used
MOTOR STEP RATE	Motor Step Rate	30	400	40	Motor Step rate for custom valve. Not available on Basic Display
MAX VALVE STEPS	Max Valve Steps	200	6400	500	Full stroke steps for custom valve. Not available on Basic Display
MAX OPERATING PRES	Max Operating Pres	10.0 psi	150.0 psi**	150.0 psi**	**Max operating pressure. Max is 300 when R-410A selected and 500 when R-744 selected
FAN SPEED	Fan Speed	-100.0%	100.0%	0.0%	Fan speed %. Not available on Basic Display
MIN COMP RUN TIME	Min Comp Run Time	0 min	15 min	2 min	Minimum Compressor Run Time. Not available on Basic Display
MIN COMP OFF TIME	Min Comp Off Time	0 min	15 min	5 min	Minimum Compressor Off Time. Not available on Basic Display
REFRIG FAN MODE	Refrigeration Fan Mode	Manage, Permanent, ON with Compressor, Title 24		Permanent	Managed = manage fans during refrig cycle; Permanent = fans ON permanent during refrig cycle; On with Compressor = manage fans in OFF then ON in refrig; Title 24 = cycle fans based on Title 24 regulations
1ST DEFROST DELAY	1st Defrost Delay	0 min	240 min	120 min	First Defrost Delay. Not available on Basic Display
DEFROST FAN STATE	Defrost Fan State	ON or OFF		OFF(E)/ON(A)	OFF = fans off during defrost; ON = fans ON during defrost
FAN DELAY TEMP		-40.0 °F	35.0 °F	20.0 °F	Fan delay temp. Not available on Basic Display
MAX FAN DELAY TIME	Max Fan Delay Time	0 min	20 min	2 min	Max fan delay time. Not available on Basic Display
PUMP DOWN TIME	Pump Down Time	0 min	90 min	0 min	Minimum amount of time between de-energizing the liquid line solenoid/compressor relay and energizing the defrost relay.
MULTI AIR TEMP CTRL	Multi Air Temp Control	Warmest or Average		Warmest Air	Warmest air = use the warmest air temp from bonded controls; Average air = use the average air temp from bonded controls
MULTI EVAP COOL	Multi Evap Cooling	Synchronized or Independent		Synchronized	Synchronized = synchronize bonded controller in refrigeration mode; Independent = bonded controllers control temperature independently in refrigeration mode.
MULTI EVAP DEFROST	Multi Evap Defrost	Synchronized or Independent		Synchronized	Synchronized = synchronize bonded controller in defrost mode; Independent = bonded controllers defrost independently
MULTI EVAP SENSOR	Multi Evap Sensor	Shared or Unshared		Shared	Shared = share sensor readings from bonded controllers; Unshared = use local sensor readings only
SUCT PRES OFFSET	Suct Pres Offset	-5.0 °F	5.0 °F	0.0 °F	An offset added or subtracted from the suction line pressure transducer reading, if needed
SUCT TEMP OFFSET	Suct Temp Offset	-5.0 °F	5.0 °F	0.0 °F	An offset added or subtracted from the suction temperature sensor reading, if needed
COIL TEMP OFFSET	Coil Temp Offset	-5.0 °F	5.0 °F	0.0 °F	An offset added or subtracted from the coil temperature sensor reading, if needed
AIR TEMP OFFSET	Air Temp Offset	-5.0 °F	5.0 °F	0.0 °F	An offset added or subtracted from the room temperature sensor reading, if needed
AUX 1 OFFSET	AUX1 Temp Offset	-5.0 °F	5.0 °F	0.0 °F	When Aux1, Aux2, or Aux 3 are used as a temperature sensor, an offset is added or subtracted from the reading.
AUX 2 OFFSET	AUX2 Temp Offset	-5.0 °F	5.0 °F	0.0 °F	
AUX 3 OFFSET	AUX3 Temp Offset	-5.0 °F	5.0 °F	0.0 °F	
PROPORTIONAL	Proportional	0	255	3	A coefficient to the valve control algorithm that increases valve responsiveness as the value increases
INTEGRAL	Integral	0	255	5	A coefficient to the valve control algorithm that increases valve responsiveness as the value increases
DERIVATIVE	Derivative	0	255	3	Should not be adjusted unless instructed by factory
AIR TEMP DIFF	Air Temp Differential	0.1	5.0	1.0 °F	The number of degrees above ROOM TEMP before the controller will go into REFRIGERATION mode
DEFROST FAN STATE	Defrost Fan State	Off	Off	On	Fan state during the defrost cycle
MULTI AIR TEMP CTRL	Multi Evaporator Air Temp Control	Average	Warmest	Warmest	Select control method to use with multiple room temperature sensors
MULTI EVAP COOL	Multi Evaporator Cool Control	Sync	Independent	Sync	Select type of multi evaporator control - options are synchronous or independent
MULTI EVAP DEFROST	Multi Evaporator Defrost Control	Sync	Independent	Sync	Select whether to have all bonded controllers initiate defrost mode at the same time or independently.
MULTI EVAP SENSOR	Multi Evaporator Sensor Sharing	Shared	Not Shared	Not Shared	Select whether or not to share room temperature, coil temperature and suction pressure sensor data with bonded controllers.

MENUS AND PARAMETERS (cont'd)

System Modes

ABR.	ON-BOARD DISPLAY	DASHBOARD DISPLAY	FULL NAME / DESCRIPTION	
rEF	rEF	REFRIGERATE	Refrigeration	
ddF	ddF	DEFROST DELAY FAN	Defrost Delay Fans	
dEF	dEF	DEFROST	Defrost	
drn	drn	DRAIN TIME	Drain Time	
FdL	FdL	FAN DELAY	Fan Delay	
SoF	SoF	SYSTEM OFF	System Off (External System Off)	
oFF	oFF	OFF	Off (Satisfied on Temperature)	

Variables Menu

| ABR.	ON-BOARD DISPLAY	DASHBOARD DISPLAY	FULL NAME	DESCRIPTION
rtP	rtP	ROOM TEMP	Room Temp	Room Temperature as measured by controller
CLt	CLt	COIL TEMP	Coil Temp	Coil Temperature as measured by controller
SYS	SYS	SYSTEM MODE	System Mode	Current operating status
SHt	SHt	SUPERHEAT	Superheat	Superheat as calculated by the controller
PrS	PrS	SUCTION PRESSURE	Suction Pressure	Suction Pressure as measured by controller
SUt	SUt	T1 SUCTION TEMP	Suction Temp	Suction Temperature as measured by controller
SAt	SAt	SATURATION TEMP	Saturation Temp	Saturation Temperature as calculated by controller
oPn	oPn	VALVE % OPEN	Valve% Open	Percentage EEV is open
Cor	Cor	COMPRESSOR RELAY	Compressor Relay	Current status of LLS/compressor relay
dEr	dEr	DEFROST RELAY	Defrost Relay	Current Status of Defrost relay
FAr	FAr	FAN RELAY	Fan Relay	Current Status of Fan relay
AU1	AU1	DIG 1 STATUS	Aux Input 1	Current Status/Temperature as measured by controller at Aux input 1
AU2	AU2	DIG 2 STATUS	Aux Input 2	Current Status/Temperature as measured by controller at Aux input 2
AU3	AU3	DIG 3 STATUS	Aux Input 3	Current Status/Temperature as measured by controller at Aux input 3
iP1	iP1	IP OCTET 1	IP Address Part 1	First 3 digits of IP address
iP2	iP2	IP OCTET 2	IP Address Part 2	Second 3 digits of IP address
iP3	iP3	IP OCTET 3	IP Address Part 3	Third 3 digits of IP address
iP4	iP4	IP OCTET 4	IP Address Part 4	Fourth 3 digits of IP address
Fir	Fir	FIRMWARE VERSION	Firmware Version	Current Version of firmware on controller

Refrigerants

ABBREVIATION	FULL NAME
R22	R-22
134	R-134a
42d	R-422D
42A	R-422A
40C	R-407C
40A	R-407A
507	R-507
404	R-404A
513	R-513A
450	R-450A
449	R-449A
448	R-448A
744	R-744
410	R-410A
407	R-407F
409	R-409A
408	R-408A
438	R-438A
717	R-717
452	R-452A

Alarm Status Menu

ABR.	ON-BOARD DISPLAY	DASHBOARD DISPLAY	FULL NAME	DESCRIPTION
PSA	PSA	PRESSURE SENSOR	Pressure Sensor Alarm	Suction pressure sensor is shorted, open or pressure out of range
SSA	SSA	SUCTION TEMP SENSOR	Suction Sensor Alarm	Suction temperature sensor is shorted or open
ASA	ASA	AIR TEMP SENSOR	Air Sensor Alarm	Return air temperature sensor is shorted or open
CSA	CSA	COIL TEMP SENSOR	Coil Sensor Alarm	Coil temperature sensor is shorted or open
HSH	HSH	HIGH SUPERHEAT	High Superheat Alarm	Superheat above upper limit
LSH	LSH	LOW SUPERHEAT	Low Superheat Alarm	Superheat below lower limit
HtA	HtA	HIGH AIR TEMP	High Temperature Alarm	Room temperature is above ROOM TEMP + AIR TEMP DIFF + HIGH TEMP ALARM OFFSET for longer than HIGH TEMP ALARM DELAY
LtA	LtA	LOW AIR TEMP	Low Temperature Alarm	Room temperature is below ROOM TEMP - LOW TEMP ALARM OFFSET for longer than LOW TEMP ALARM DELAY
EdF	EdF	EXCESS DEFROST	Excess Defrost Alarm	32 defrosts or more within 48 hours
dtt	dtt	DEFR TERM ON TIME	Defr Term on Time Alarm	Defrost terminated on time instead of temperature for two consecutive cycles
dor	dor	DOOR SWITCH	Door Open Alarm	If door is open and room temperature is 5 degrees above ROOM TEMP + AIR TEMP DIFF for DOOR ALARM DELAY time
CoA	CoA	COMMUNICATION ERROR	Communication Error	ONLY FOR BONDED CONTROLLERS: No communication between controllers for one minute or more
EA1	EA1	EXTERNAL ALARM 1	External Alarm 1	If AU1 IN MODE = EXT ALARM: The digital input is in an active state
EA2	EA2	EXTERNAL ALARM 2	External Alarm 2	If AU2 IN MODE = EXT ALARM: The digital input is in an active state
EA3	EA3	EXTERNAL ALARM 3	External Alarm 3	If AU3 IN MODE = EXT ALARM: The digital input is in an active state
EFL	EFL	EMAIL FAILURE	Email Failure Alarm	Email alert was not confirmed by email server provided after seven consecutive attempts
A1A	A1A	AUX1 SENSOR	AU1 Temp sensors Alarm	AU1 temperature sensor is shorted or open
A2A	A2A	AUX2 SENSOR	AU2 Temp sensors Alarm	AU2 temperature sensor is shorted or open
A3A	A3A	AUX3 SENSOR	AU3 Temp sensors Alarm	AU3 temperature sensor is shorted or open
Pdt	Pdt	PUMPDOWN TIMEOUT	Pump Down Timeout	Max time for LPCO pumpdown exceeded
SCC	SCC	SHORT COMP CYCLE	Short Compressor Cycle	Compressor is started an excessive number of times to maintain suction pressure
LPA	LPA	LOW PRESSURE	Low Pressure Alarm	Suction pressure dropped below expected point excessive number of times
PrF	PrF	N/A	Process Failure	Basic Display is not communicating to the controller

QUICK START LAN SETUP

Connecting The SMARTVAP➕ To A LAN (Local Area Network) (IP Address Sticker Available)

1. **Connect Ethernet (Cat5) cable to the** SmartVap+ **controller and to an open port on a network switc**h.

2. Use the on-board display to **enable DHCP setpoint**.

   a. Hold the **BACK** button for 3 seconds to access the set point menu.

   b. Use the ▲ and ▼ arrows to find the **dHC** setpoint.

   c. Press and release the **ENTER** button to display the current setting.

   d. Use the ▲ and ▼ arrows to Enable (**EnA**).

   e. Press and hold the **ENTER** button for 3 seconds to confirm the setting and Enable DHCP.

3. Press the **BACK** button a few times to r**eturn to the default display.**

4. **Find the IP address for your** SmartVap+ **controller**.

   This can be found on the Service Parts List sticker on the inside of the access panel of the evaporator:

   IP-10.10.153.115
   MAC
   D8:80:39:80:FF:9B
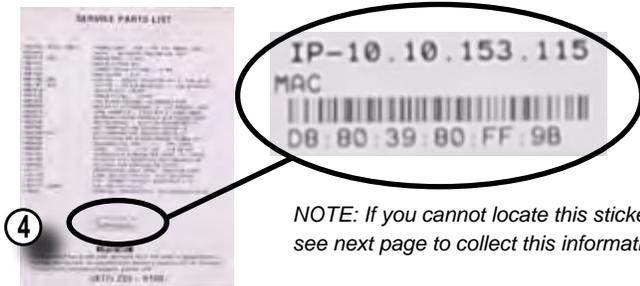
   NOTE: If you cannot locate this sticker, or the information is illegible, see next page to collect this information via the on-board display
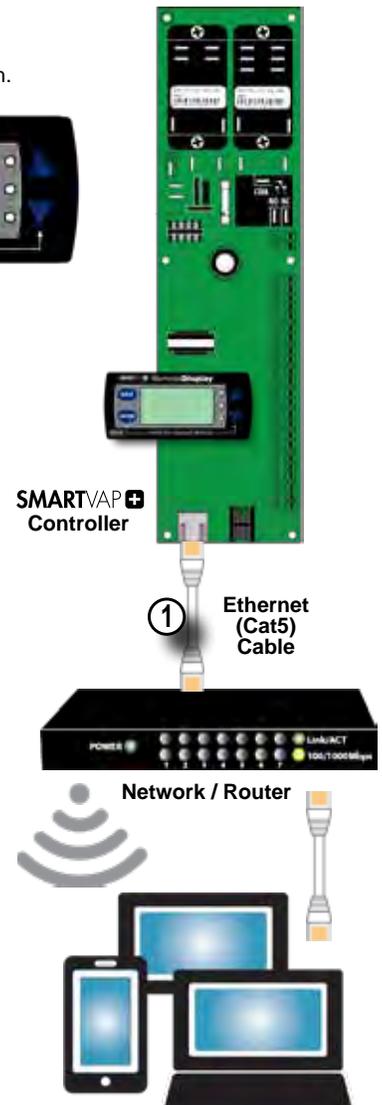
5. **On a computer connected to the same network as your** SmartVap+ **controller, open any browser** (Chrome, Firefox, Edge etc.).

6. **Enter the** SmartVap+ **controller IP Address** (from step 4 above) **into the address bar of the browser** and press enter. The controller Home page should be displayed.
   If the controller webpage does not load, additional setup support or IT support may be required

SMARTVAP➕ Controller

Ethernet (Cat5) Cable

Network / Router

10 . 10 . 153 . 115
(Example)

SMARTVAP➕ Dashboard

⑤ 10.10.153.115/index.htm

SMARTVAP➕   *Bally*
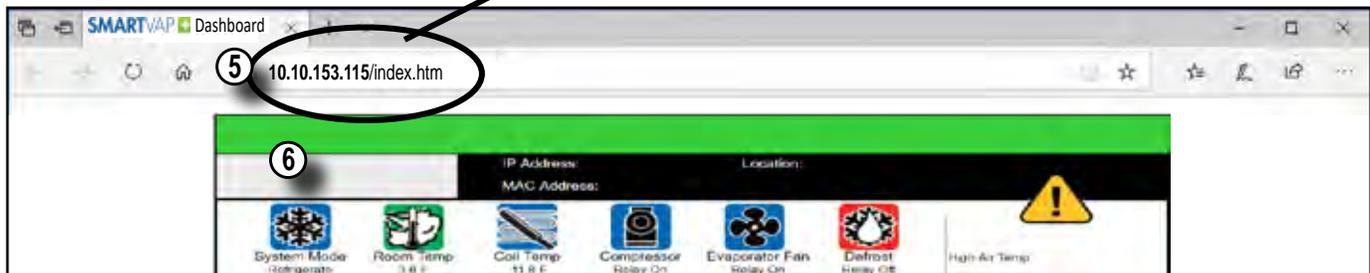
Connecting The SMARTVAP➕ To A LAN (Local Area Network) (IP Address Sticker NOT Available)

1. **Connect Ethernet (Cat5) cable to the** SmartVap+ **controller and to an open port on a network switc**h.

2. Use the on-board display to **enable DHCP setpoint.**

   a.   Hold the BACK button for 3 seconds to access the set point menu.

   b.   Use the ▲ and ▼ arrows to find the **dHC** setpoint.

   c.   Press and release the ENTER button to display the current setting.

   d.   Use the ▲ and ▼ arrows to Enable (**EnA**).

   e.   Press and hold the ENTER button for 3 seconds to confirm the setting and Enable DHCP.

3. Press the BACK button a few times to **return to the default display.**

4. Use the ▲ and ▼ arrows to **scroll through the controller variables until the IP settings are found. (iP1)**

5. **Record the four IP (iP1, iP2, iP3, iP4) values**:

   a.   Use the ▲ and ▼ arrows to find iP1 (**iP1**)

   c.   Press and release the ENTER button to display the current setting.

   d.   Record this number.

   e.   Press the BACK button.

   f.   Repeat for iP2 (**iP2**), iP3 (**iP3**) and iP4 (**iP4**),

   IP = **10** . **0** . **0** . **12**   *(Example)*
   $\quad$ iP1 iP2 iP3 iP4

6. **On a computer connected to the same network, open any browser** (Chrome, Firefox, Edge etc.).

7. **Enter the** SmartVap+ **controller IP Address** (from step 5 above) **into the address bar of the browser and press enter.** The controller Home page should be displayed.
   If the controller webpage does not load, additional setup support or IT support may be required

SMARTVAP➕ Controller

Ethernet (Cat5) Cable

Network / Router

10 . **0** . **0** . **12**
(Example)

10.0.0.12/index.htm

SMARTVAP➕

:Bally
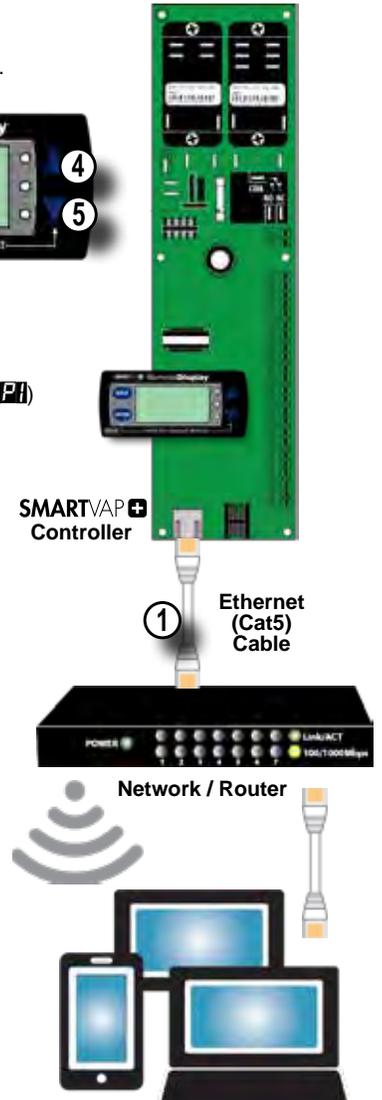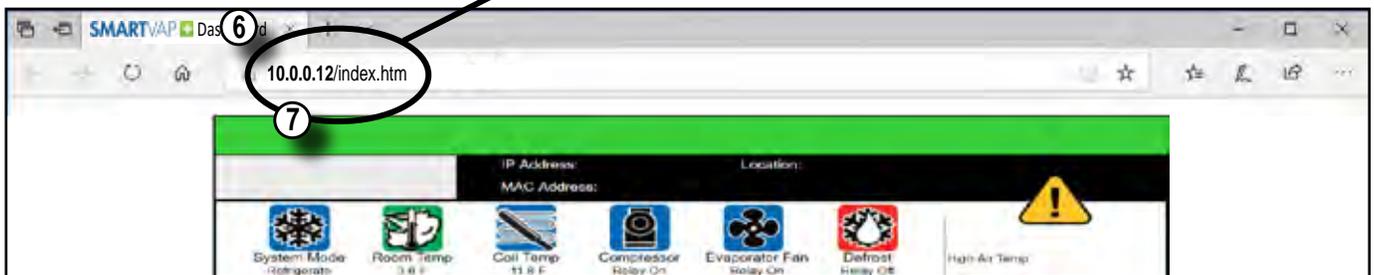
Connecting The SMARTVAP➕ To The Optional KE2 WiFi Service Tool

1. Using the RJ-45 cable (included with the KE2 WiFi Service Tool), **connect the KE2 WiFi Service Tool to the ESP+ controller.**

2. Using the power button, **turn ON the service tool**.

3. **Connect to the KE2 WIFI Service Tool**.
   If using a computer, click the wireless connection icon 🛜 , typically found in the bottom right hand corner of the computer screen. It will open a small window with a list of available networks.
   If using a mobile device, open the WIFI network settings to see available networks.

   There are 2 wireless networks available:
       a. KE2WIFIST-... : wireless network is Open, and no password is required.
       b. KE2LDA-... :wireless network is Secure, and requires the password provided on the label.

4. **Select the KE2WIFIST wireless network**.

5. Click **Connect**.

6. Once connected to the device, **launch the browser of your preference**, i.e. Google Chrome, Mozilla Firefox, Apple Safari etc.

7. **Navigate to one of the following addresses, 192.168.50.1 or https://ke2lda**.
   A list of all available connected controllers will be shown.

8. **Click on the controller you would like to view.**

9. The **browser will display the controller's home screen** (MasterView).

SMARTVAP➕
Controller

①

②

③ KE2LDA-4065C0 Secured

KE2LDA-406608 Secured

KE2WIFIST16307-010 Open ④

KE2WIFIST16307-010 Open
Other people might be able to see info you send over this network
☐ Connect automatically
Connect ⑤

⑥ ⑦ ⑧

⑨
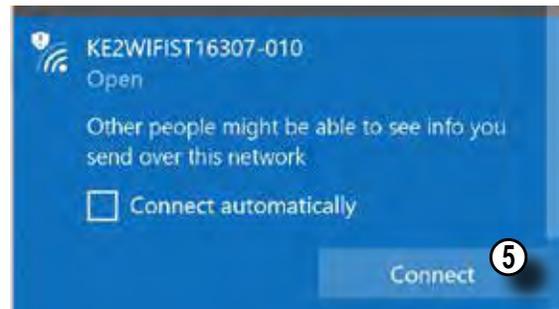
SMARTVAP➕ Multi Evaporator with Single Condenser Set-up

1. **Connect each evaporator to an Ethernet switch or a wireless router**. *

2. **Identify each evaporator unit's** SmartVap+ **IP address**. Refer to Quick Start Lan Setup Instructions presented on pages 6-7.

3. **Using the Ethernet switch or the wireless router, log in to the KE2 dashboard. Choose the Network setting tab at the bottom of the screen.**

4. **Log into the controller by selecting the Login button in the lower right corner.** A user name and password prompt will appear.
   User Name: ke2admin
   Password: ke2admin
   Select submit or press enter on your keyboard.

5. **On the Network Setup screen select Discover.** The IP address of the other controller will populate under Controller 2 - 8

6. **From the Bond State drop down, select Group 1 to bond the controllers**

7. **Select the Save/Group tab located to the right of the screen.**

8. **Select the Bond/Unbond button. The controllers will power off and then power back on automatically.**

9. To ensure the evaporator units are bonded properly, **select Home Page button at the bottom of the screen. Select Setpoints.**

10. **Locate the Bonded Controller section on the page**.

11. F**rom the drop down menu of the Multi Evap Cool: select Synchronized**.

   Multi Evap Defrost will either make all the bonded controllers go into defrost at the same time (Synchronized) or limit the system to only one evaporator at a time (Independent). Multi Evap Sensor tells the controller whether or not to share sensor information. For example, if the controllers are "Shared" and one controller was to lose its air temperature sensor, then it could continue running using the temperature read by the other bonded controllers. This should be the default mode. If the controllers are located in different spaces, therefore controlling at different temperatures, then "Independent" mode should be selected. If a controller loses a sensor, the controller will continue to run based the default safety mode for the current alarm.

12. Locate the refrigeration section on the top left of the screen. **Select the type of Multi Air Tmp Ctrl (Warmest or Average air).** This selection will determine which method is used to control the temperature.

13. **Click Save** to save the settings.

14. **Click Home Page.**

13. **The second controller and subsequent controllers must be configured to match the "Multi" settings of the first controller.** This is accomplished by entering the IP address of the second controller in the browser, and navigating to the Setpoints and repeating the process illustrated in this section.

The bonded SmartVap+ **controllers will now be operating in Synchronized mode.** You can view the current operating status for each controller by connecting to the router and navigating to the IP address of each

Note:

- **Make sure you Login before making changes, and then click Save after changing any settings on each page before navigating away from that page, otherwise your settings will not take effect.**

* **Ethernet cables used to bond the system evaporators must remain connected to the network switch. Single refrigeration circuits with two bonded evaporators that are not connected to a network must have a switch with connected Ethernet cables or at minimum an Ethernet cable connected between the two bonded evaporators at all times.**
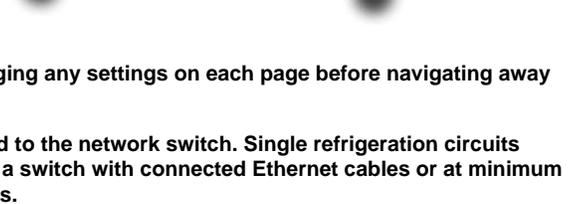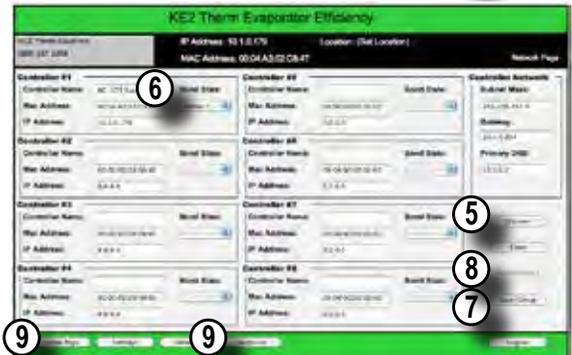
SAMPLE WIRING DIAGRAM - 208-230/1/60
AIR DEFROST MODELS w/ SMARTVAP+

SMARTVAP+   *Bally*

SAMPLE ONLY:
Refer to Product Data and Installation for details specific to your unit

SAMPLE WIRING DIAGRAM - 208-230/1/60
ELECTRIC DEFROST MODELS w/ SMARTVAP+

SAMPLE ONLY:
Refer to Product Data and Installation for details specific to your unit
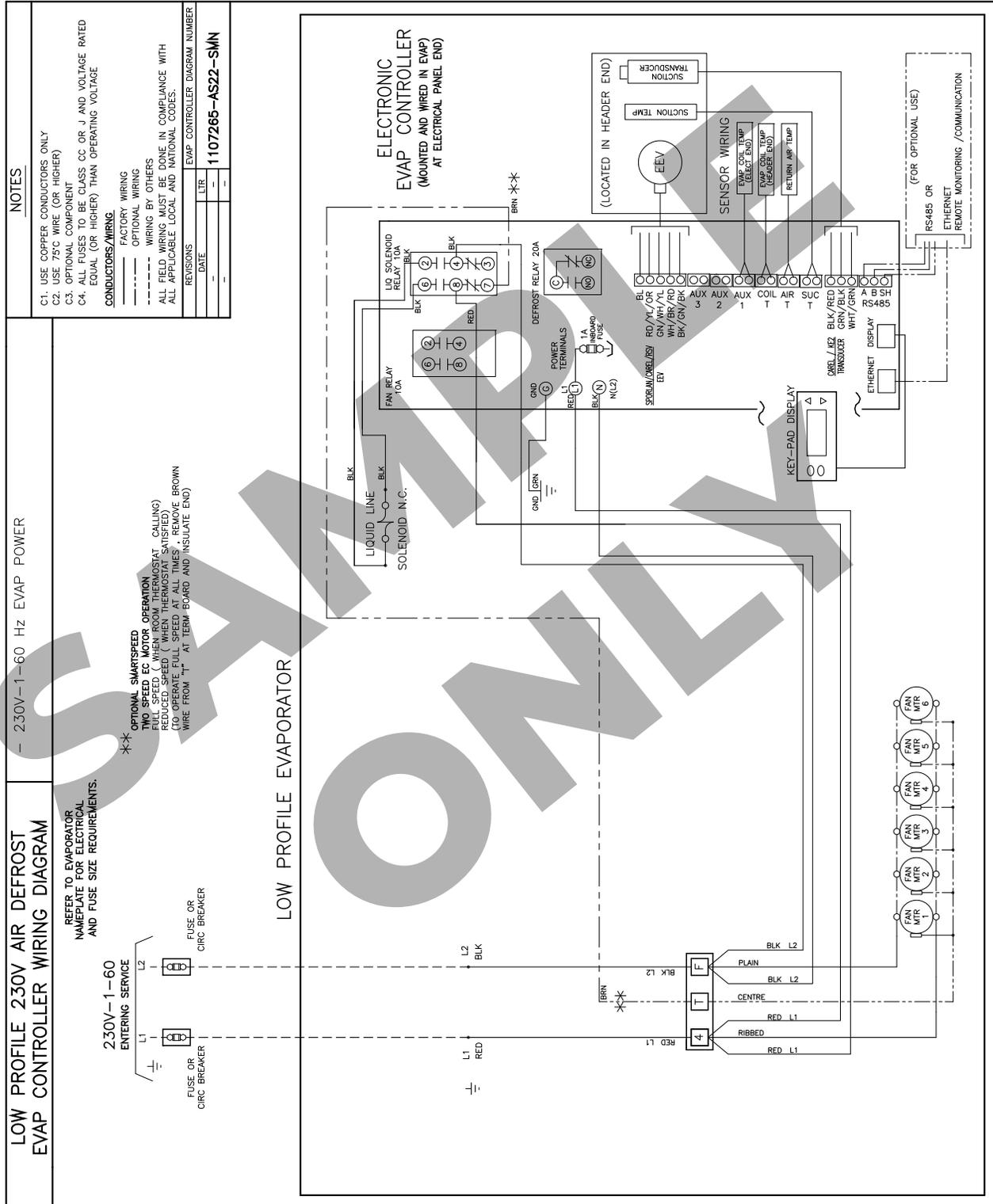
Alphabetical List of Abbreviations

ABR.	REMOTE DISPLAY	FULL NAME	TYPE	DESCRIPTION
A1A		Aux Input 1 state	Setpoint	oPn= active if input is an open / CLo=active if input is shorted
A1A		AU1 Temp sensor Alarm	Alarms	AU3 temperature sensor is shorted or open
A2A		Aux Input 2 state	Setpoint	oPn= active if input is an open / CLo=active if input is shorted
A2A		AU2 Temp sensor Alarm	Alarms	AU2 temperature sensor is shorted or open
A3A		Aux Input 3 state	Setpoint	oPn= active if input is an open / CLo=active if input is shorted
A3A		AU3 Temp sensor Alarm	Alarms	AU3 temperature sensor is shorted or open
Ad		Air Defrost w/Mechanical valve	Type of Control	System operates with default values for Air Defrost and Mechanical Valve
AdE		Air Defrost w/EEV	Type of Control	System operates with default values for Air Defrost and Electric Valve
Ai		Air Defrost (Off time)	Setpoint	Option for evaporator Defrost Type (dtY) - Air Off time Defrost is used; other options Electric (ELE), Hot Gas w Compressor On (HGN),or Hot Gas with Compressor Off
ASA		Air Sensor Alarm	Alarms	Return air temperature sensor is shorted or open
AU1		Aux Input 1	Variables	Current status/temperature as measured by controller at Aux1 input
AU1		Aux Input 1 mode	Setpoint	Options for configuring the Auxiliary Input, see Auxiliary Input Modes table
AU2		Aux Input 2	Variables	Current Status/Temperature as measured by controller at Aux2 input
AU2		Aux Input 2 mode	Setpoint	Options for configuring the Auxiliary Input, see Auxiliary Input Modes table
AU3		Aux Input 3	Variables	Current Status/Temperature as measured by controller at Aux3 input
AU3		Aux Input 3 mode	Setpoint	Options for configuring the Auxiliary Input, see Auxiliary Input Modes table
AUt		Defrost Interlock -Heaters Normal	Auxiliary Input	Inactive = defrost heaters normal
AUt		Defrost Lockout - Defrost Normal	Auxiliary Input	Inactive = defrost will occur by normal controller logic
CEL		Celsius	Setpoint	Option for the units for the temperature display in degrees - Celsius or Fahrenheit (FAH)
CLA		Clear Alarms	Setpoint	Press and hold to clear all active alarms
CLo		Closed	Setpoint	Option under Auxiliary Input State
CLt		Coil Temp	Variables	Coil temperature (TCoil Sensor) as measured by the controller
CLt		Coil Temp	Auxiliary Input	Coil Temp as measured by Aux input
CoA		Communication Alarm	Alarms	ONLY FOR BONDED CONTROLLERS: No communication between controllers for one minute or more
Cor		Compressor Relay	Variables	Current state of liquid line solenoid/compressor relay
CrL		Carel	Valve Type	Carel valve with 500 steps
CSA		Coil Sensor Alarm	Alarms	Coil temperature sensor is shorted or open
CYC		Cycle	Setpoint	Option under Refrig Fan Type (rFt) to cycle (Managed) fans during refrig cycle
dAd		Door Open Alarm Delay	Setpoint	If AU IN (1, 2 and/or 3) MODE = dor The amount of time, in minutes, before an alarm condition is initiated if door is open and room temperature is 5 degrees above ROOM TEMP + AIR TEMP DIFF
dCL		Door Switch - Door Closed	Auxiliary Input	Door switch indicates door is closed
ddF		Defrost Delay Fan	System Mode	At defrost, but prior to the defrost heaters turning on, the fans will continue running for several minutes, using stored cooling in the coil. Once the coil reaches room temp, the fans will stop, and the heaters will turn on and begin the electric defrost.
dEF		Defr Parameter	Setpoint	if DEFROST MODE = DEMAND: Coefficient to factory Defrost algorithm
dEF		Defrost	System Mode	Controller is performing a defrost cycle
dEr		Defrost Relay	Variables	Current state of the defrost relay
dFi		Defrost Interlock Switch	Auxiliary Input	Inactive=Defrost Heaters normal (AUT)/Active=Defrost Heaters Off (OFF)
dFL		Defrost Lockout Switch	Auxiliary Input	Inactive=Defrost Normal (AUT)/Active=Defrost Not Allowed (dLO)
dHC		DHCP	Setpoint	Turn DHCP mode on or off: EnA to enable DHCP mode / DiS to disable DHCP mode
diA		Diagnostics Mode	Setpoint	Energizes each relay individually for 60 seconds: fan relay, defrost relay, compressor relay
diS		Disabled	Auxiliary Input	Input is not used by the controller
dLo		Defrost Lockout - Defrost not allowed	Auxiliary Input	Active = Defrost not allowed while signal is active
dnd		Demand Defrost	Setpoint	Option for Defrost Initiation Mode (ind) - when Demand Defrost (dnd) selected, system defrosts only when dictated by decrease in evaporator efficiency; other options for (Ind) are Scheduled (SCH) or Compressor Run Time (rnt)
don		Door Switch - Door Open	Auxiliary Input	Door switch indicates door is open
dor		Door Switch	Auxiliary Input	Inactive=Door Closed (dCL)/Active=Door Open (don)
dor		Door Open Alarm	Alarms	If door is open and room temperature is 5 degrees above ROOM TEMP + AIR TEMP DIFF for DOOR ALARM DELAY time
dPd		Defrosts per day	Setpoint	If DEFROST MODE = SCH: The number of evenly spaced defrosts per day the controller will initiate.
drn		Drain Time	Setpoint	Time to be in drain mode (drip time)
drn		Drain	System Mode	Time after defrost to allow moisture to drain from coil
dtL		Max Defrost Time	Setpoint	If DEFROST MODE = SCH: The maximum amount of time the defrost relay will be energized. (Not available if DEFROST MODE = DEMAND)
dtP		Defr Term Temp	Setpoint	The temperature the coil sensor(s) must exceed in order to terminate defrost. The controller's defrost mode is complete at this point.
dtt		Defr Term on Time Alarm	Alarms	Defrost terminated on time instead of temperature for two consecutive cycles
dtY		Defrost Type	Setpoint	Type of Defrost for Evap: ELE for Electric/ Ai for off time/ HGn for hot gas w/comp on/ HGF for hot gas w/comp off
EA1		External Alarm Switch	Auxiliary Input	Active=EAo / Inactive=EAF
EA1		External Alarm 1	Alarms	If AU1 IN MODE = EXT ALARM: The digital input is in an active state
EA2		External Alarm 2	Alarms	If AU2 IN MODE = EXT ALARM: The digital input is in an active state
EA3		External Alarm 3	Alarms	If AU3 IN MODE = EXT ALARM: The digital input is in an active state

Alphabetical List of Abbreviations (continued)

EAo		External Alarm Switch Active	Auxiliary Input	External Alarm switch is receiving Active signal
EAF		External Alarm Switch Inactive	Auxiliary Input	External Alarm switch is not receiving external signal
Ed		Electric Defrost w/Mech. valve	Type of Control	System operates with default values for Electric Defrost with Mechanical Valve
EdE		Electric Defrost w/EEV	Type of Control	System operates with default values for Electric Defrost with Electric Valve
EdF		Extreme Temp Diff	Setpoint	ADVANCED TOPIC: Call factory for assistance
EdF		Excess Defrost Alarm	Alarms	32 defrosts or more within 48 hours
Edt		Valve Type	Setpoint	Type of valve used on the system: mechanical, pre-configured electric, custom EEV configuration
EFL		Email Failure Alarm	Alarms	Email alert was not confirmed by email server provided after seven consecutive attempts
ELE		Electric Defrost	Setpoint	Option for evaporator Defrost Type (dtY) - Electric defrost heaters used; other options, Hot Gas w Compressor Off (HGF), Hot Gas with Compressor On (HGn) or Air Off time Defrost (Ai)
EnA		Enabled	Setpoint	Enabled - Option to allow connection with Smart Access (CONTACT FACTORY)
FAC		Factory reset	Setpoint	Press and hold to reset the controller to the factory default setpoints
FAH		Fahrenheit	Setpoint	Option for units for the temperature display, in degrees - Fahrenheit or Celsius (CEL)
FAr		Fan Relay	Variables	Current state of the fan relay
FdL		Fan Delay	System Mode	Coming out of defrost, the LLS relay will be energized, and the coil will pulldown until it reaches 20ºF, or 2 minutes, before the fans turn on. This allows any moisture on the coil to re-freeze, keeping it from spraying and forming ice drops on the walk-in's surfaces.
Fir		Firmware Version	Variables	Current version of the firmware on the controller
FoC		Fans on with Compressor	Setpoint	Option under Refrig Fan Type (rFt) to manage fans in OFF, then turn ON in refrigeration
HAd		High Temp Alarm Delay	Setpoint	Minutes the room temperature must remain above ROOM TEMP + HIGH TEMP ALARM OFFSET before issuing a HIGH TEMP ALARM
HAo		High Temp Alarm Offset	Setpoint	The number of degrees above ROOM TEMP for a HIGH TEMP ALARM condition.
HGF		Hot Gas Defrost w. Compressor Off	Setpoint	Option for evaporator Defrost Type (dtY) - Hot Gas defrost used with the Compressor Off; other options Electric (ELE), Hot Gas w Compressor On (HGN), or Air Off time Defrost (Ai)
HGn		Hot Gas Defrost w. Compressor On	Setpoint	Option for evaporator Defrost Type (dtY) - Hot Gas defrost used with the Compressor On; other options Electric (ELE), Hot Gas w Compressor Off (HGF), or Air Off time Defrost (Ai)
HS		HSV	Valve Type	HSV, Hybrid Stepper Valve (CONTACT FACTORY)
HSH		High Superheat Alarm	Alarms	Superheat above upper limit
HtA		High Temperature Alarm	Alarms	Room temperature is above ROOM TEMP + AIR TEMP DIFF + HIGH TEMP ALARM OFFSET for longer than HIGH TEMP ALARM DELAY
Htn		Electric Defrost Mode	Setpoint	If DEFROST TYPE = ELE: Whether to leave the defrost relay energized during the defrost cycle or to utilize advanced defrost algorithm.
ind		Defrost Ini Mode	Setpoint	Mode to initiate a defrost: dnd=demand / SCH=Schedule / rnt=comp run time
iP1		IP Address Part 1	Variables	The first three digits of the IP address
iP2		IP Address Part 2	Variables	The second three digits of the IP address
iP3		IP Address Part 3	Variables	The third three digits of the IP address
iP4		IP Address Part 4	Variables	The fourth three digits of the IP address
LAd		Low Temp Alarm Delay	Setpoint	Minutes the room temperature must remain below ROOM TEMP + LOW TEMP ALARM OFFSET before issuing a LOW TEMP ALARM
LAo		Low Temp Alarm Offset	Setpoint	The number of degrees below ROOM TEMP for a LOW TEMP ALARM condition.
LPA		Low Pressure Alarm	Alarms	Suction pressure dropped below expected point excessive number of times
LPC		Low Pressure Cut Out	Setpoint	Only applies when non-mechanical valve selected
Lpd		Press Diff for LPCO	Setpoint	Only applies when non-mechanical valve selected
LPt		Max Time for LPCO	Setpoint	Only applies when non-mechanical valve selected
LSH		Low Superheat Alarm	Alarms	Superheat below lower limit
LtA		Low Temperature Alarm	Alarms	Room temperature is below ROOM TEMP - LOW TEMP ALARM OFFSET for longer than LOW TEMP ALARM DELAY
oFF		Off	System Mode	System has satisfied on temperature
oFF		Defrost Heaters Off	Auxiliary Input	Defrost heaters are being interrupted by external input
oni		Monitor Temp	Auxiliary Input	Monitoring Temp as measured by Aux Input
oPn		Valve% Open	Variables	Percentage the EEV is open (only available if EEV is selected)
oPn		Open	Setpoint	Option under Auxiliary Input State
PAS		Web password reset	Setpoint	Press and hold to reset the web password to the factory default
Pdt		Pump Down Timeout	Alarms	Max time for LPCO pumpdown exceeded
PEr		Permanent Fan	Setpoint	Option under Refrig Fan Type (rFt) to have fans on permanently during refrigeration cycle
PrF		Process Failure	Alarms	Display is not communicating to the controller
Prn		Permanent	Setpoint	Option when Defrost Type (dtY) is set for Electric (ELE) - Permanent (Prn) means defrost relay is energized during the entire defrost cycle; other option Pulse (PUL) uses the advanced defrost algorithm to cycle the relay
PrS		Suction Pressure	Variables	Suction pressure as measured by the controller (only available if suction pressure transducer installed)
PSA		Pressure Sensor Alarm	Alarms	Suction pressure sensor is shorted, open or pressure out of range
PUL		Pulse	Setpoint	Option when Defrost Type (dtY) is set for Electric (ELE) - Pulse (PUL) uses the advanced defrost algorithm to energize the defrost relay during the defrost cycle; other option Permanent (Prn)
rEF		Refrigeration	System Mode	Indicates the system is currently in Refrigeration mode
rFG		Refrigerant	Setpoint	Type of refrigerant used: see table below
rFt		Refrigeration Fan Type	Setpoint	Select how fans will be run: Manage/Cycle, Permanent, On with Compressor, Title 24

Alphabetical List of Abbreviations (continued)

ABR.	REMOTE DISPLAY	FULL NAME	TYPE	DESCRIPTION
rnt	rnt	Compressor Run Time	Setpoint	Option for Defrost Initiation Mode (ind) - when Compressor Run Time (rnt) selected, number of hours of cooling before starting defrost; other options for (Ind) are Demand Defrost (dnd) or Scheduled (SCH)
rS	rS	RSV	Valve Type	(RSV) Refrigeration Stepper Valve (CONTACT FACTORY)
rtP	rtP	Room Temp	Variables	Walk-in freezer or cooler room temperature (TAir Sensor) as measured by the controller
rtP	rtP	Room Temp	Auxiliary Input	Room temp as measured by Aux Input
SA	SA	Smart Access	Setpoint	Turn Smart Access on or off: EnA to enable Smart Access / DiS to disable (CONTACT FACTORY)
SAt	SAt	Saturation Temp	Variables	Saturation temperature as calculated by the controller (requires pressure transducer and T1 sensor)
SCC	SCC	Short Compressor Cycle	Alarms	Compressor is started an excessive number of times to maintain suction pressure
SCH	SCH	Scheduled Defrost	Setpoint	Option for Defrost Initiation Mode (ind) - when Scheduled (SCH) selected, system defrosts on a programmed schedule; other options for (Ind) are Demand Defrost (dnd) or Compressor Run Time (rnt)
SEi	SEi	SEI	Valve Type	Sporlan Valve with 1,600 Steps
SEr	SEr	SER	Valve Type	Sporlan Valve with 2,500 Steps
SHt	SHt	Superheat	Variables	Superheat as calculated by the controller (requires suction pressure transducer and TSUC sensors)
SoF	SoF	System Off Switch	Auxiliary Input	Inactive=System On (Son)/Active=System Off (SoF)
SoF	SoF	System Off	System Mode	System has been turned off by external signal
Son	Son	System Off Switch - System On	Auxiliary Input	Inactive=System On (Son)/Active=System is running normally
SSA	SSA	Suction Sensor Alarm	Alarms	Suction temperature sensor is shorted or open
Stt	Stt	Superheat	Setpoint	Superheat setpoint
SUt	SUt	Suction Temp	Variables	Suction Temperature as measured by controller
SYS	SYS	System Mode	Variables	Current operating status
t2F	t2F	2nd Room Temp Setpoint Off	Auxiliary Input	System is controlling to Room Temp setpoint
t2n	t2n	2nd Temp Switch	Auxiliary Input	Inactive=2nd room temp SP off (t2F)/Active=2nd room temp SP on (t2n)
tHr	tHr	Mechanical	Valve Type	Thermostatic Expansion Valve
t24	t24	Title 24	Setpoint	Option under Refrig Fan Type (rFt) to cycle fans based on compliance with California Title 24 regulations
tS	tS	Room Temp SP	Setpoint	Walk-in freezer or cooler room temperature to be maintained
tS2	tS2	2nd room temp SP	Setpoint	If AU IN (1, 2 and/or 3) MODE = (t2n) 2ND ROOM TEMP: This value becomes the ROOM TEMP setpoint when the digital input is active
Unt	Unt	Temperature Units	Setpoint	Units for temperature's display in °F or °C

PRODUCT SUPPORT RESOURCES

*Visit **www.b-rp.ca/svp** for product information, manuals, FAQ, and more!*

SMARTVAP+

PRODUCT SUPPORT RESOURCES

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PRODUCT SUPPORT	*web:* **www.b-rp.ca/svp** *email:* **evaps@b-rp.ca** *call:* **1-844-893-3222 x521**
TROUBLESHOOTING	*email:* **troubleshooting@b-rp.ca** *call:* **1-844-893-3222 x529**
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Bally Refrigeration
Morehead City, NC • Brantford, ON • Longview, TX
1-800-242-2559   ballysales@ballyrefboxes.com   www.ballyrefboxes.com

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