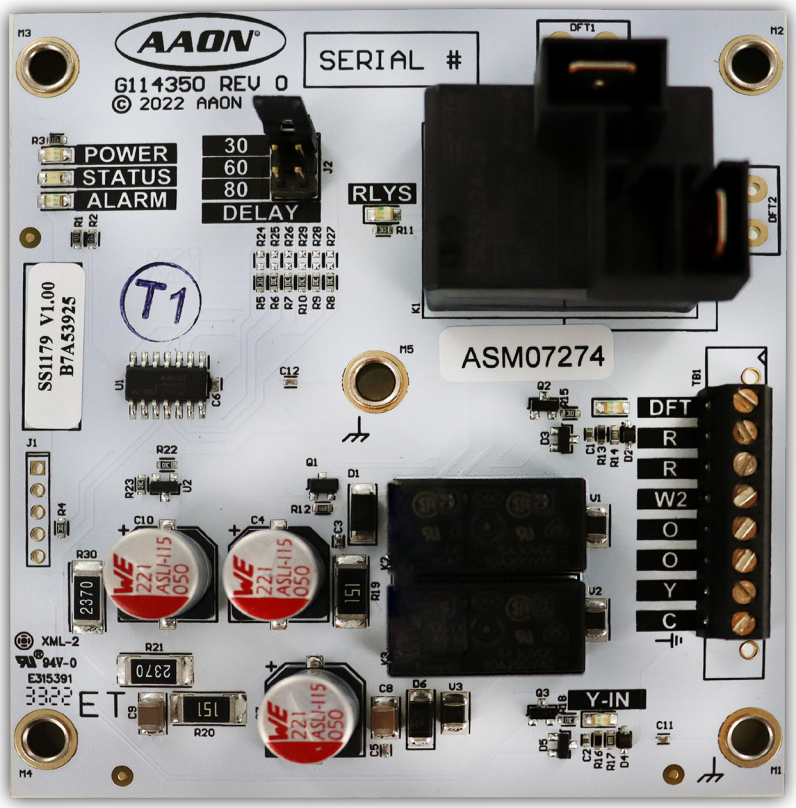
Defrost Controller Technical Guide



DEFROST CONTROLLER REVISION LOG	
REVISION AND DATE	**CHANGE**
Rev. A, September 12, 2022	Inital Release
Rev. B, April 13, 2026	Added note about the Defrost Interval Timer under the Operation Section

DEFROST CONTROLLER PARTS REFERENCE	
PART DESCRIPTION	**PART NUMBER**
Defrost Controller	ASM07274

www.aaon.com

All manuals are also available for download from www.aaon.com/library.

AAON
2425 South Yukon Ave.
Tulsa, OK 74107-2728
www.aaon.com
Factory Technical Support Phone: 918-382-6450
AAON Controls Support: 866-918-1100
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AAON P/N:G114670, Rev. B

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General Information

Overview

The Defrost Controller is used to manage the defrost cycle on a unit without AAON controls. This controller manages the timing and duration of the defrost cycle and allows for time interval configuration between each defrost cycle.

Electrical and Environmental Requirements

The Defrost Controller must be connected to a 24 VAC power source of the proper size for the calculated VA load requirements. All transformer sizing should be based on the VA rating listed in **Table 1, this page**.

Control Device	Voltage	VA Load	Temperature	Humidity (Non-Condensing)
Defrost Controller	20-30 VAC	6 VA	-40ºF to 140ºF	0%-95% RH

Table 1: Defrost Controller Specifications

Dimensions

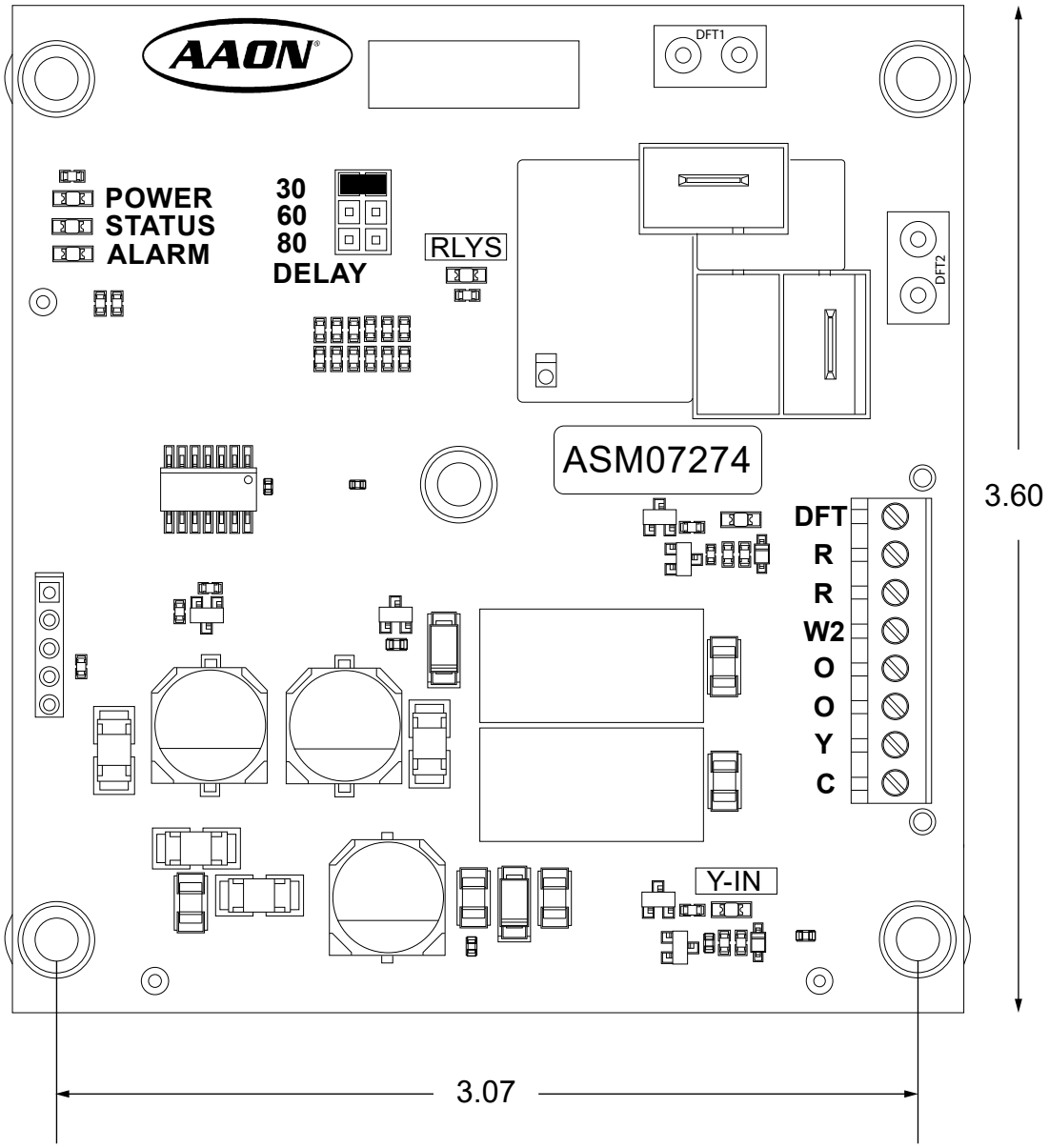
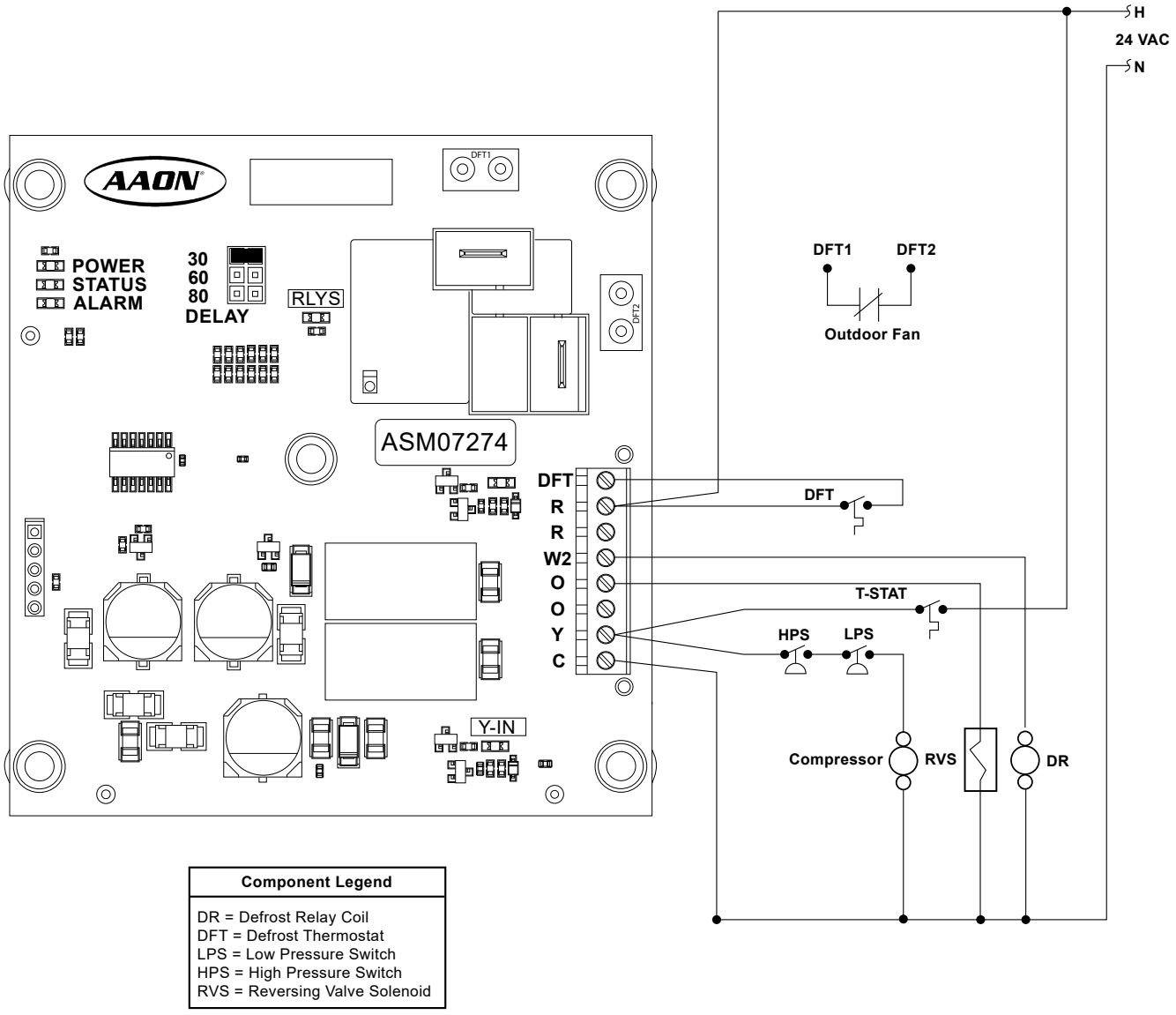


Figure 1: Defrost Controller Dimensions

Defrost Controller Wiring



Component Legend
DR = Defrost Relay Coil
DFT = Defrost Thermostat
LPS = Low Pressure Switch
HPS = High Pressure Switch
RVS = Reversing Valve Solenoid

Figure 2: Defrost Controller Wiring

Inputs and Outputs

I/O Map

See **Table 2, this page** for Defrost Controller inputs and outputs.

Defrost Controller	
Inputs	
R	24 VAC hot (power input)
R	24 VAC hot (power input)
C	24 VAC ground
Binary Inputs	
DFT	Defrost switch/thermostat (24 VAC)
Y	Compressor Call
Relay Outputs	
O	Reversing Valve Relay (24 VAC wet)
O	Reversing Valve Relay (24 VAC wet)
W2	Heat Relay (24 VAC wet)
Spade Terminals	
DFT1	Fan Relay
DFT2	Fan Relay

Table 2: Inputs and Outputs

Operation

The Defrost Controller manages the defrost cycle for the unit. The defrost cycle turns off the condenser fan, turns on the electric defrost heater, and energizes the reversing valve. The defrost cycle lasts up to 10 minutes with a configurable time interval between cycles. The time interval is 30, 60, or 80 minutes long and is set with the "DELAY" jumper.

NOTE: Only one time interval may be selected between each defrost cycle.

When the Compressor Call input (Y) is energized, the configured Defrost Controller time interval will begin. At the end of this interval, the controller will check the status of the Defrost Thermostat input (DFT). If the DFT input is energized, the controller starts the defrost cycle.

NOTE: With software version 1.01, the defrost interval timer now includes a hold feature. If the Y call is removed between defrost cycles, the timer will pause before resuming from the same point once the Y call becomes active again.

When the defrost cycle is active, the fan relay will open to de-energize the fan. Once the fan is de-energized, the Heat Relay output (W2) and the Reversing Valve Relay output (O) will energize and activate the electric heater and the reversing valve. When the defrost cycycle cycle is not active, the fan relay is normally closed.

If the DFT input de-energizes before the defrost cycle ends, the defrost cycle will terminate immediately. Otherwise, the defrost cycle will terminate after 10 minutes and the time interval between the defrost cycle will start over.

Defrost Controller LEDs

See **Figure 3, this page** for LED locations.

Power

This green LED will light up when 24 VAC power is applied to the controller.

Status

This orange LED will flash periodically to indicate that the controller is running.

Alarm

This red LED will light up when there is an invalid configuration.

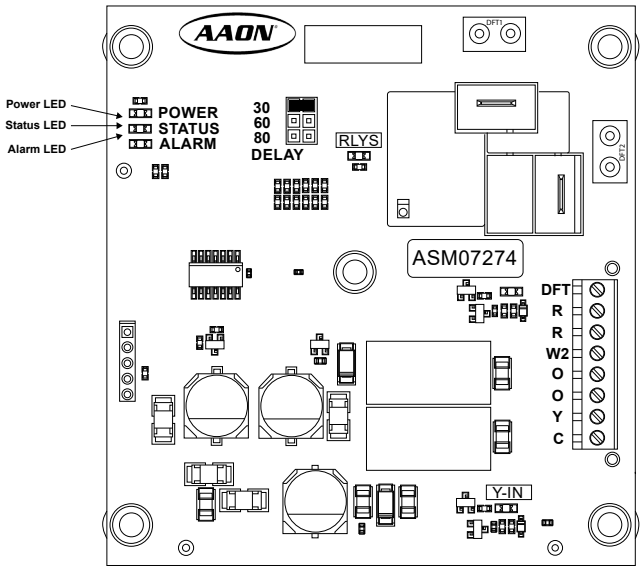


Figure 3: Defrost Controller LEDs

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AAON Controls Support: 866-918-1100
Monday through Friday, 7:00 AM to 5:00 PM
Central Standard Time

Controls Support website:
www.aaon.com/controlstechsupport

AAON Factory Technical Support: 918-382-6450
techsupport@aaon.com

NOTE: Before calling Technical Support, please have the model and serial number of the unit available.

PARTS: For replacement parts, please contact your local AAON Representative.

2425 South Yukon Ave • Tulsa, OK • 74107-2728
Ph: (918) 583-2266 • Fax: (918) 583-6094
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