Instructions

Two-Zone Enclosure Expansion Kit

3A0099D
EN

For adding two zones of heat to a warm melt supply system. For professional use only.

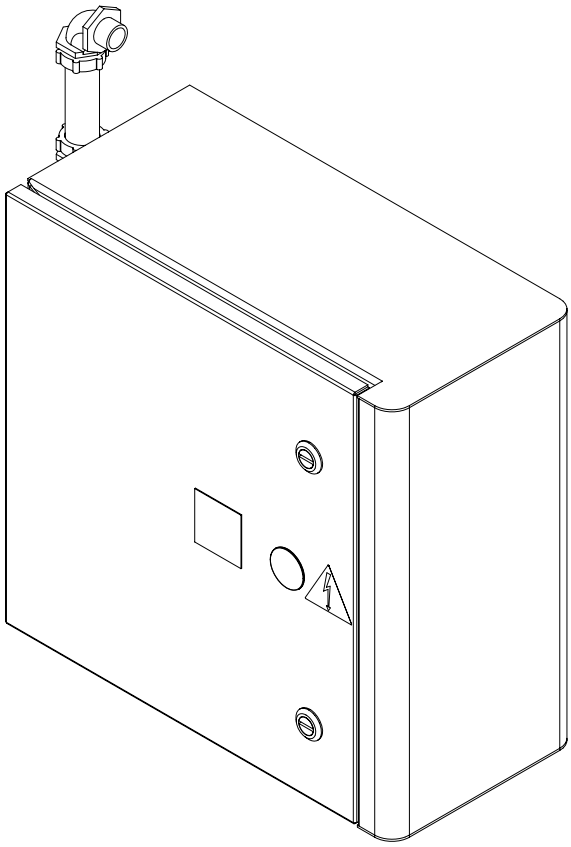
Not for use in explosive atmospheres.

Part 24C223, Series B

212° F (100° C) Maximum Control Temperature

Important Safety Instructions
Read all warnings and instructions in this manual and the Warm Melt Supply Systems manual. Save these instructions.

For complete system installation, operation, and repair instructions, see the Warm Melt Supply Systems Instructions-Parts manual.



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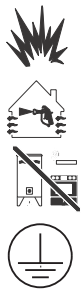
Contents

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

⚠ WARNING



FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Ground all equipment in the work area. See **Grounding** instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power at main switch before disconnecting any cables and before servicing equipment.
- Connect only to grounded power source.
- All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

BURN HAZARD

Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.
- Wait until equipment/fluid has cooled completely.

⚠ WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the **Pressure Relief Procedure** in this manual when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

Installation

Overview

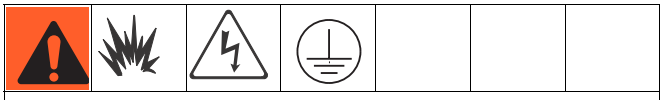
The two-zone enclosure expansion kit is typically used to add more heat zones to an existing warm melt supply system. A two-zone expansion kit can be added to the system to heat additional zones beyond the standard four zones.

When properly connected with appropriate communication cables, the warm melt supply system will recognize the zones of the main system enclosure as well as the zones of the expansion enclosure. The two-zone expansion kit is intended to heat the combination of a warm melt hose and a dispense valve.

For operation and start-up of a warm melt supply system, refer to the Warm Melt Supply System Instructions-Parts manual.

Grounding

Ground the supply system as instructed here and in the individual component manuals.



The power source conduit is not an adequate ground for the system. The unit must be bonded to either the building ground or a true earth ground. To reduce the risk of static sparking, ground the pump, the object being dispensed to, and all other dispensing equipment used or located in the dispensing area. All electrical wiring must be done by a qualified electrician and comply with local codes and regulations.

Fluid hoses: use only electrically conductive hoses.

Dispense valve: ground through connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

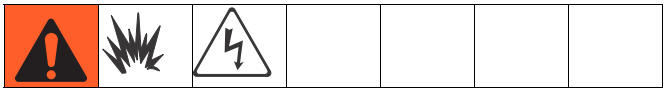
Object being sprayed: follow local code.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the dispense valve firmly to the side of a grounded metal pail, then trigger the valve.

Setup

Using ram bracket kit 24C628 or 24C660, install the two-zone enclosure expansion kit below the existing electrical enclosure on the ram. See **Parts** for installation information.

Fluid Hose and Dispense Valve



NOTICE

Only use hoses that have a maximum wattage less than or equal to 1920 watts. Using hoses with a higher maximum wattage could create a failure in the electrical circuit or a runaway temperature condition.

The two-zone enclosure expansion kit is designed for use with Graco single-circuit material hoses rated at a maximum of 1920 watts, and dispense valves rated at a maximum of 1920 watts. The two-zone enclosure can operate a maximum of one hose and one dispense valve.

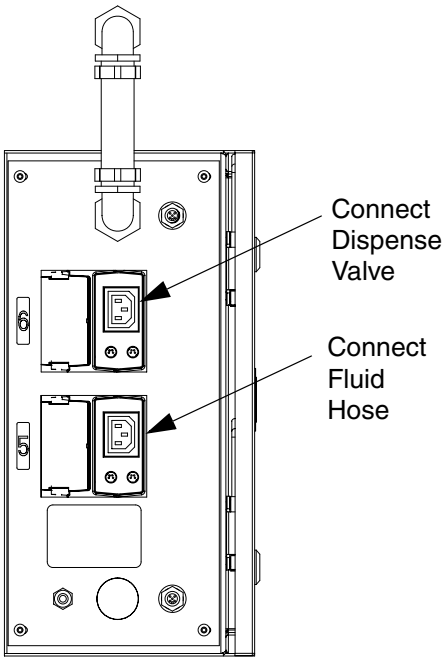
See Warm Melt Supply System Instructions-Parts manual for instructions on connecting the fluid hose to the pump.

NOTE: When installing fluid hoses, ensure they are properly sized for your system and are electrically conductive.

Electrically Connect Hoses and Dispense Valves

Assemble hose and dispense valve components as needed. Refer to the dispense valve instruction manual for instructions on connecting the hose and dispense valve components.

Electrically connect the fluid hose to zone 1 of the two-zone enclosure expansion kit. Electrically connect the dispense valve to zone 2 of the enclosure.



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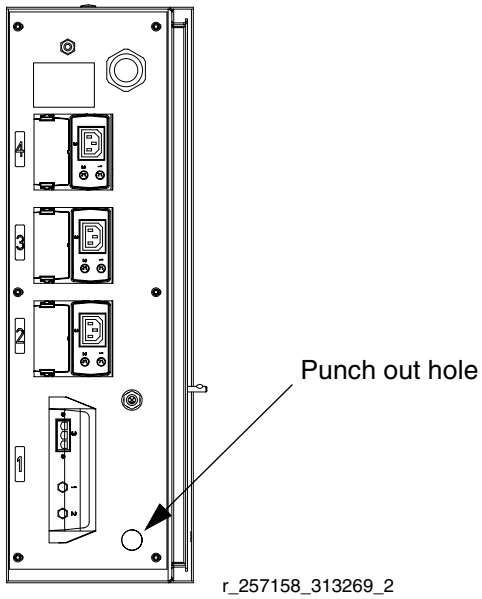
Connect Two-Zone Expansion

Have a qualified electrician connect power according to national, state, and local safety and fire codes.

The two-zone enclosure expansion kit does not have a power supply. Therefore, it must be connected to the existing electrical enclosure on the ram.

To connect the two-zone expansion:

1. Remove the power source from the warm supply system.
2. Punch out the hole in the bottom side of the existing electrical enclosure.



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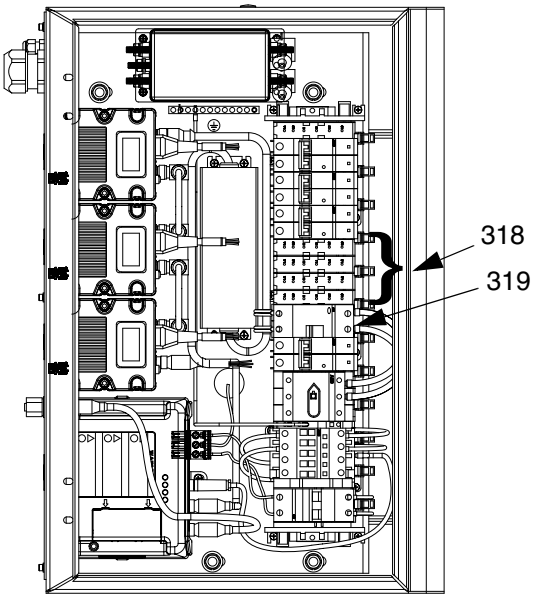
3. Remove the buss bar cover (318) from the existing electrical enclosure. Break the buss bar cover in half at the snap point.
4. Reinstall one half of the buss bar cover.

5. Install the circuit breaker (20) (included with 24C223) where one half of the buss bar cover was removed; above the GFCI circuit breaker (319).



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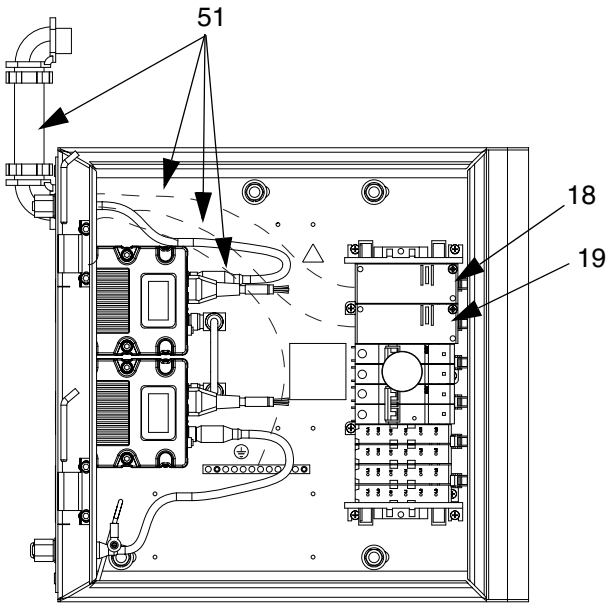
6. Route the wires from the power cord (51) through the hole that was punched out in the existing electrical enclosure. Install the conduit fitting to the power cord and tighten the nut.



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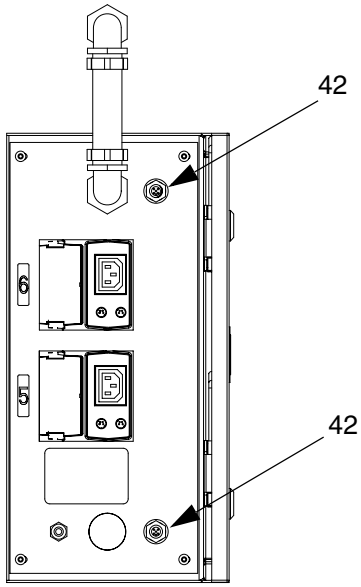
7. Connect the black wire (L1) and the white wire (L2) to the circuit breaker (20) on the load side. Connect the green wire (included with 51) to an available location on the ground buss bar.

8. Disconnect the CAN cable that runs from the existing electrical enclosure to the fluid control module (FCM) on the ram.

9. Connect the same CAN cable to the bottom connector (42) of the two-zone expansion.



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10. Connect the CAN cable (29) from top connector (42) of the two-zone expansion to the FCM.

Overview of Temperature Control Settings

Temperature controls are set in Setup mode. See the Warm Melt Supply Systems Instructions-Parts manual for information about setting temperature controls and controlling temperatures for each zone.

Alarm Codes and Troubleshooting

Warm Melt alarms alert you to a problem and help prevent system shutdown or application errors. If an alarm occurs, operation may stop and the following occurs.

- Light tower indication changes (if equipped)
- Status bar on the display shows the alarm code

Clear Alarms

Alarms are cleared by the solution(s) listed in the following table or from the screen in which they appear. See the Warm Melt Supply Systems manual for detailed information.

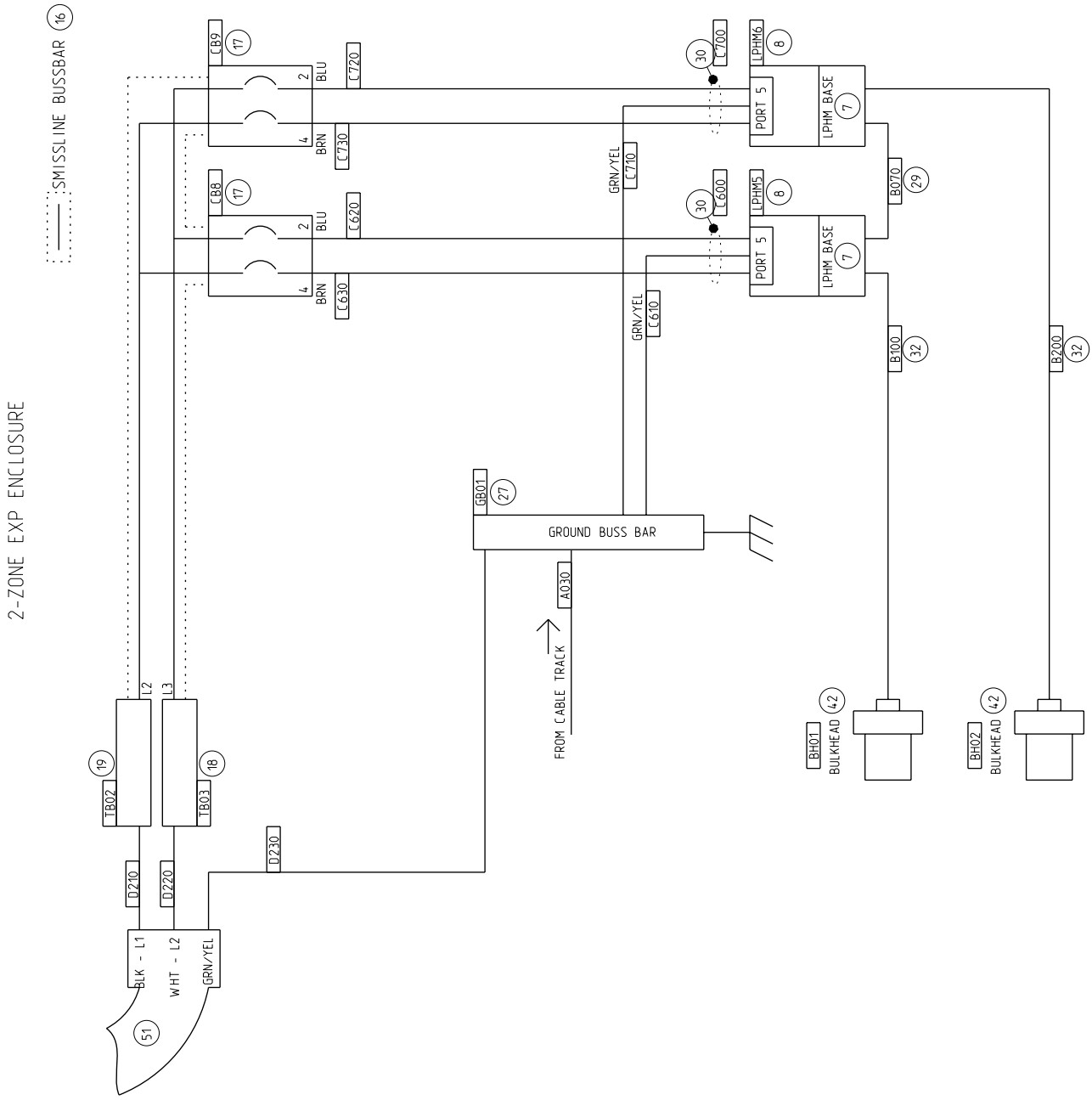
Alarm Code	Alarm Problem	Cause	Solution	Clear Alarm
T4AX	Deviation Above Setpoint	RTD on wrong module.	Verify RTD wire or heater power cord is attached to correct heat module.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Shorted module.	Replace module.	
T1AX	Deviation Below Setpoint	Tripped circuit breaker.	Visually check circuit breaker for a tripped condition.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Low power.	Measure voltage across terminals 2 and 4. Voltage should measure between 190 and 250 Vac.	
		Cable unplugged/loose wire.	Check for loose or disconnected wires and plugs.	
		Circuit breaker not set for L2 and L3.	Visually check circuit breaker for proper setting of L2 and L3.	
		Bad heaters.	Measure resistance of heater.	
		GFCI has been tripped.	Visually check GFCI for a tripped condition.	
		Main circuit breaker tripped.	Measure voltage across the disconnect switch. Voltage should measure between 190 and 275 Vac.	

Alarm Code	Alarm Problem	Cause	Solution	Clear Alarm
T6AX	No Temp Rise	Tripped circuit breaker.	Visually check circuit breaker for a tripped condition.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Low power.	Measure voltage across terminals 2 and 4. Voltage should measure between 190 and 250 Vac	
		Cable unplugged/loose wire.	Check for loose or disconnected wires and plugs.	
		Circuit breaker not set for L2 and L3.	Visually check circuit breaker for proper setting of L2 and L3.	
		Bad heaters.	Measure resistance of heater.	
		GFCI has been tripped.	Visually check GFCI for a tripped condition.	
		Main circuit breaker tripped.	Measure voltage across the disconnect switch. Voltage should measure between 190 and 275 Vac.	
A4AX	Over current	Bad heaters.	Measure resistance of heater.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Wrong zone type.	Ensure zone is set for type of hardware connected to it.	
		High voltage.	Measure voltage across the disconnect switch. Voltage should measure between 190 and 275 Vac.	
		Shorted module.	Verify for given zone that temperature does not increase when zone is disabled.	

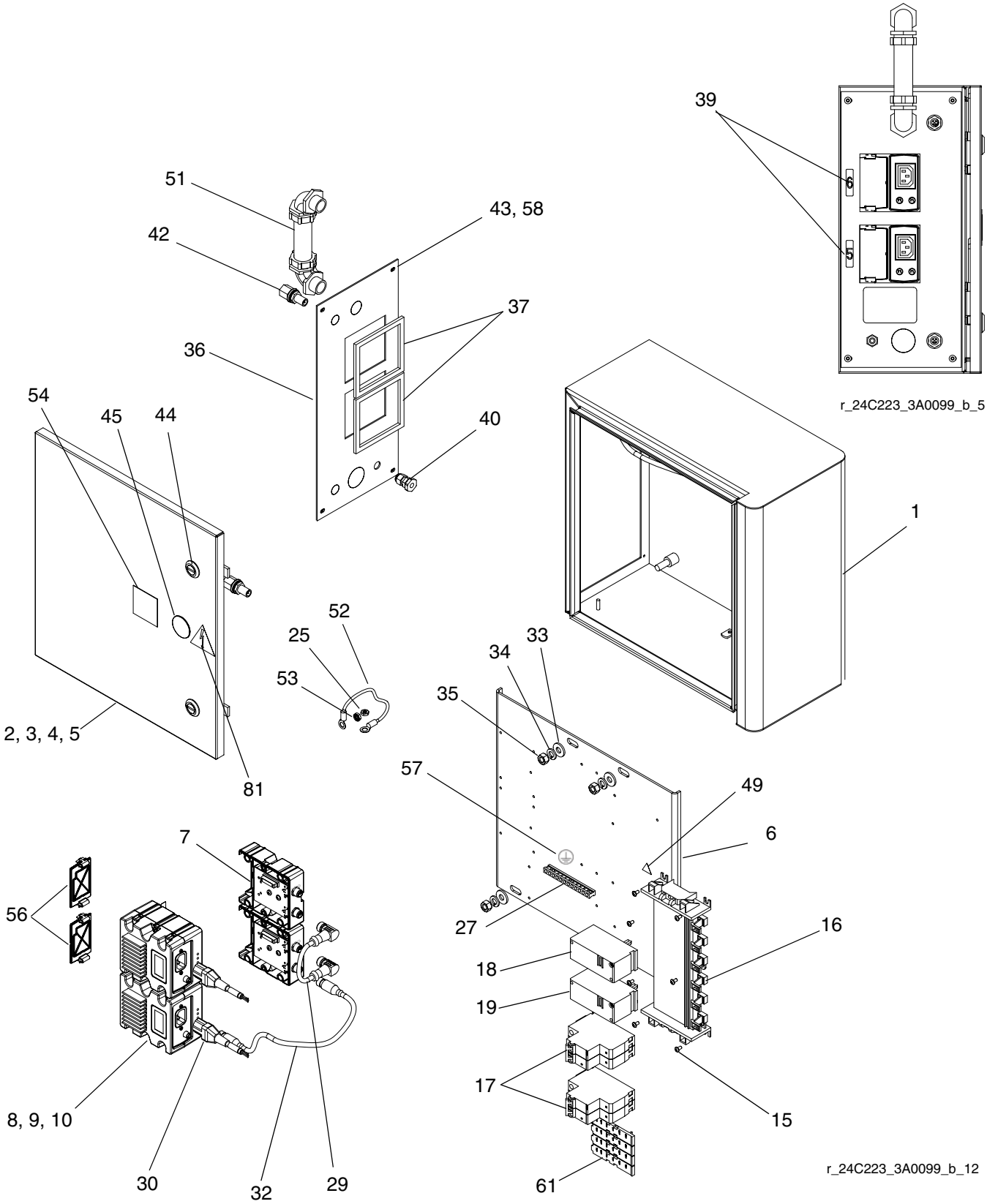
Alarm Code	Alarm Problem	Cause	Solution	Clear Alarm
A1AX	Undercurrent	Tripped circuit breaker.	Visually check circuit breaker for a tripped condition.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Low power.	Measure voltage across terminals 2 and 4. Voltage should measure between 190 and 250 Vac.	
		Cable unplugged/loose wire.	Check for loose or disconnected wires and plugs.	
		Circuit breaker not set for L2 and L3.	Visually check circuit breaker for proper setting of L2 and L3.	
		Bad heaters.	Measure resistance of heater.	
		GFCI has been tripped.	Visually check GFCI for a tripped condition.	
		Main circuit breaker tripped.	Measure voltage across the disconnect switch. Voltage should measure between 190 and 250 Vac.	
		Wrong zone type.	Ensure zone is set for type of hardware connected to it.	
A7AX	Unexpected Current	Shorted module.	Verify for given zone that temperature does not increase when zone is disabled.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
T9AX	Invalid RTD Reading	Bad RTD.	Measure resistance of RTD and verify it is within valid range.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Bad RTD connection/loose wire.	Check for loose or disconnected wires and plugs.	
		Component not plugged in.	Ensure a component is plugged into zone reporting error. If nothing is plugged in, disable zone.	
T4CX	PCB Overtemperature	Overheated Temperature Control Module.	Turn heat zone off. Wait a few minutes. If the condition does not clear on its own, replace heater module.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
V4AX	High Line Voltage	Incoming line voltage is too high.	Measure voltage across disconnect switch. Voltage should measure between 190 and 250 Vac.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
V8AX	No Line Voltage	Tripped circuit breaker.	Visually check circuit breaker for a tripped condition.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		GFCI has been tripped.	Visually check GFCI for a tripped condition.	
		Cable unplugged/loose wire.	Check for loose or disconnected wires and plugs.	

Alarm Code	Alarm Problem	Cause	Solution	Clear Alarm
V4MX	High DC Voltage	Faulty DC power supply.	Measure that DC supply output is 24V. If not, replace supply.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
V1MX	Low DC Voltage	Faulty DC power supply.	Measure that DC supply output is 24V. If not, replace supply.	Cleared from Heat Run screen. See Warm Melt Supply System manual, Appendix A.
		Broken Temperature Control Module.	If DC supply is supplying 24V when disconnected from system, check which module is causing short. Check this by connecting one module at a time and then measuring for 24V.	

Electrical Schematic



Parts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Parts

Ref.	Part	Description	Qty.
1		ENCLOSURE, electrical	1
2		DOOR, enclosure, electrical	1
3	101682	SCREW, cap, sch	4
4✻✠	100016	WASHER, lock	4
5✻✠	100015	NUT, hex	4
6	16A292	BRACKET, mounting, enclosure	1
7	289697	MODULE, cube, base	2
8■	256270	MODULE, low power temp	2
9	114417	SCREW, self tap, pan hd	8
10	121070	SCREW, machine, #8-32 x 1 3/8	2
15	100035	SCREW, machine, pan hd	10
16	121951	BUSS BAR, smissline, base	1
17	122619	CIRCUIT, breaker, 10A, smissline	2
18	123615	TERMINAL, buss bar, L3, smisline	1
19	123614	TERMINAL, buss bar, L2, smisline	1
20†★	122123	CIRCUIT, breaker, smissline, 25A	1
25	111640	WASHER, lock, internal	2
27		BAR, ground, kit	1
29	121597	CABLE,CAN, 90 female/90 female	1
30	15V999	CABLE, volex, 14 in.	2
32	121000	CABLE, CAN, female/female 0.5m	2
33	100023	WASHER, flat	4
34	100133	WASHER, lock	4
35	100307	NUT, hex	4
36		PANEL, side	1
37		GASKET, low power temp module	2
39		LABEL	1
40		CORD, grip	1
42	121612	CONNECTOR, thru, m12, mxf	2
43	112788	SCREW, cap, sch	4
44		LATCH, quarter turn	2
45		PLUG, finishing, 1 3/16 in.	1
49▲	189930	LABEL, caution	1
51	16C131	CORD, power, 12AWG, accessory box	1
52	16H441	WIRE, grounding, door	1
53★	100166	NUT, full hex	2
54▲	15J076	LABEL, read manual	1
55★	123680	CABLE, CAN, male/male; 0.5 m	1
56	277674	ENCLOSURE, cube door	2
57▲	186620	LABEL, ground	1
58	112905	WASHER, plain	4
61		COVER, buss bar	1
71		BRACKET, ram	2
✻		3 in. ram	
✠		6.5 in. ram	
72		BRACKET, bottom	1
✻		3 in. ram	
✠		6.5 in. ram	
74		BRACKET, top	1
✻		3 in. ram	
✠		6.5 in. ram	
77✻✠	110755	WASHER, plain	8
78✻✠	100058	SCREW, cap, sch	8
80★	15W355	HARNESS, hose pigtail	1
81▲	196548	LABEL, caution	1

★ *Not shown.*

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

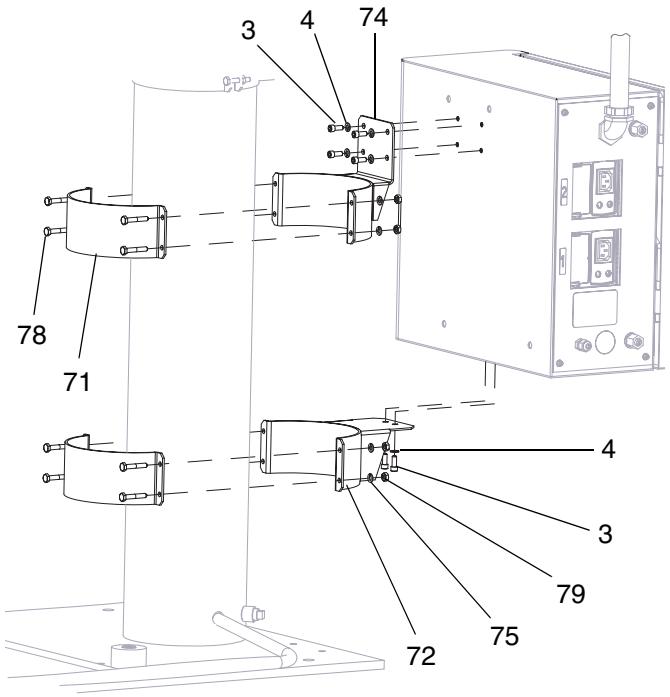
† *Packaged and shipped separately for installation.*

■ *Replacement electronic components do not have Warm Melt specific software installed. Therefore, use software upgrade token 16C027 to install software before use.*

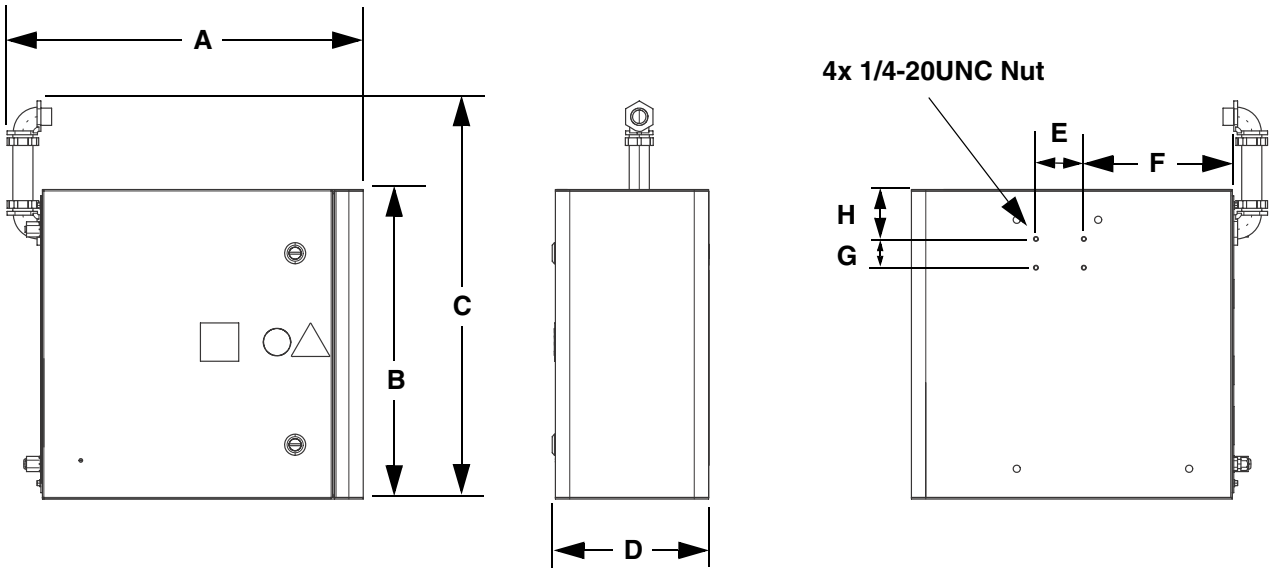
✻ *Parts included in 3 in. Ram Bracket Mounting Kit 24C628 (purchase separately).*

✠ *Parts included in 6.5 in. Ram Bracket Mounting Kit 24C660 (purchase separately).*

Bracket Mounting Parts Shown



Dimensions



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Dimension	Measurement
A	18.60 in. (472.44 mm)
B	16.16 in. (410.46 mm)
C	21.02 in. (533.91 mm)
D	8.17 in. (207.52 mm)

Dimension	Measurement
E	2.50 in. (63.50 mm)
F	6.50 in. (165.10 mm)
G	1.50 in. (38.10 mm)
H	2.50 in. (63.50 mm)

Technical Data

Maximum operating temperature	158° F (70° C)
Voltage	240 Vac
Frequency	50/60 Hz, single phase
Full Load Amps	16 amps
Weight	35 lbs (15.89 kg)

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

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In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

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Graco Information

For the latest information about Graco products, visit www.graco.com.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.
Phone: 612-623-6928 **or Toll Free:** 1-800-533-9655, **Fax:** 612-378-3590

All written and visual data contained in this document reflects the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.

For patent information, see www.graco.com/patents.

Original instructions. This manual contains English. MM 3A0099

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